STATE BOARD OF EDUCATION MEETING
October 20 - 21, 2021
Idaho State Board of Education
OSBE Conference Room
650 W State Street, Suite 307
Boise, ID 83720

Public Streaming: https://www.youtube.com/channel/UC7j4VGGyNzPa6g6a-zVTHnA
Audio Only: 1 (877) 820-7831, Passcode: 7483005 (listen only)

Wednesday October 20, 2021, 2:00 p.m. (Mountain Time)

BOARDWORK

1. Agenda Review / Approval – Action Item
2. Minutes Review / Approval – Action Item
3. Rolling Calendar – Action Item

CONSENT

BAHR

1. Boise State University – Boise City Master Services Agreement- Boise Police Services – Action Item
2. University of Idaho - Software Donation – Academic License for Petrel Software – Action Item

IRSA

3. EPSCoR Committee Appointments – Action Item

PPGA

4. Indian Education Committee Appointment – Action Item
5. Data Management Council Appointment – Action Item
6. State Rehabilitation Council Appointment – Action Item

SDE

7. Accreditation Report, 2020-2021 – Action Item
8. Professional Standards Commission Appointment – Action Item
9. Emergency Provisional Certificates – Action Item

LEWIS-CLARK STATE COLLEGE BOARD OF TRUSTEES

PLANNING, POLICY AND GOVERNMENTAL AFFAIRS

1. Lewis-Clark State College, Annual Progress Report – Information Item

WORK SESSION

PLANNING, POLICY AND GOVERNMENTAL AFFAIRS

A. K-20 Performance Measure Review and Discussion – Information Item
B. State Board Standing Committee Priorities – Information Item

Thursday, October 21, 2021, 9:00 a.m. (Mountain Time)

OPEN FORUM

INSTRUCTION, RESEARCH AND STUDENT AFFAIRS – Kurt Liebich

1. Board Policy III.N. Statewide General Education – Second Reading – Action Item
2. General Education Matriculation Committee Appointments – Action Item
3. Boise State University – Online Bachelor of Applied Science in Cyber Operations and Resilience – Action Item
4. Lewis-Clark State College – Bachelor of Science in Cybersecurity Management – Action Item
5. Idaho State University – Online Bachelor of Science Degree Completion in Respiratory Therapy – Action Item
6. Idaho State University – Online Basic Technical Certificate in Cloud Computing – Action Item
7. Idaho State University – Online Graduate Certificate in Listening and Spoken Language – Action Item
8. EPSCoR Annual Report – Information Item
9. Idaho Math Transitions Network Update – Information Item
10. Recognition of Commission on Osteopathic College Accreditation – Action Item

PLANNING, POLICY AND GOVERNMENTAL AFFAIRS – Linda Clark

2. Idaho Division of Vocational Rehabilitation – Annual Report – Information Item
3. Idaho School Safety and Security Program Update – Information Item
4. School Readiness Definition/Standards – Action Item
5. ARP ESSER SEA Set Aside Spending Request – Action Item
6. Proposed Omnibus Rule – Docket 08-0000-2100 – Action Item
7. Proposed Omnibus Rule – Docket 55-0000-2100 – Action Item
8. Proposed Omnibus Fee Rule – Docket 08-0000-2100F – Action Item
9. Board Policy I.E. Chief Executive Officers – Second Reading – Action Item
10. Board Policy IV.E. Division of Career Technical Education – Second Reading – Action Item

BUSINESS AFFAIRS AND HUMAN RESOURCES – Dave Hill

1. FY22 Sources and Uses Report – Information Item
2. Student Fee Report – Action Item
3. Boise State University – Request to Increase Intercollegiate Athletics Limits - Action Item
4. Boise State University – First Year Student Housing Project – Planning and Design – Action Item

5. Idaho State University – Library Project – Planning and Design – Action Item
6. University of Idaho – South Campus Chiller Replacement and Improvements Project – Action Item
7. Lewis-Clark State College - Seven-Year Campus Master Plan Approval – Action Item

STATE DEPARTMENT OF EDUCATION – Superintendent Ybarra

1. Developments in K-12 Education – Information Item
2. Advanced Opportunities Annual Report – Information Item
3. Mastery Based Education – Progress Report – Information Item
4. Educator Professional Development Update – Information Item
5. Learning Loss Grant September Report – Information Item
6. Idaho Content Standards – Mathematics, English Language Arts, Science – Update – Information Item
7. Less Than 10 Students in Attendance – Information Item
8. IDAPA 08.02.03, Alternate Assessment Achievement Standards Waiver – Action Item
9. ARP ESSER SEA Set Aside 2.5% Distribution Methodology, Non-Title I and Low-Title I LEA's – Action Item

If auxiliary aids or services are needed for individuals with disabilities, or if you wish to speak during the Open Forum, please contact the Board office at 334-2270 no later than two days before the meeting. While the Board attempts to address items in the listed order, some items may be addressed by the Board prior to, or after the order listed.

BOARDWORK
OCTOBER 20, 2021

1. Agenda Approval

Changes or additions to the agenda

BOARD ACTION

I move to approve the agenda as posted.

2. Minutes Approval

BOARD ACTION

I move to approve the minutes for the August 25-26, 2021, Regular Board Meeting and the September 24, 2021, Special Board Meeting.

3. Rolling Calendar

BOARD ACTION

I move to set October 19-20, 2022 as the date and Lewis-Clark State College as the location for the October 2022 regularly scheduled Board meeting.

Draft Minutes
August 25-26, 2021

STATE BOARD OF EDUCATION MEETING
August 25-26, 2021

DRAFT

Idaho State University
921 South 8th Avenue
Pocatello, ID 83209

A regular meeting of the Idaho State Board of Education was held at Idaho State University August 25 – 26, 2021. Board President Kurt Liebich presided and called the meeting to order at 1:00 p.m. (MT).

Present

Kurt Liebich, President
Dr. Dave Hill, Vice-President
Dr. Linda Clark, Secretary
Debbie Critchfield
Shawn Keough
Bill Gilbert
Sherri Ybarra, State Superintendent

Absent

None

Wednesday, August 25, 2021, 1:00 p.m. (Mountain Time)

BOARDWORK

1. Agenda Review / Approval

BOARD ACTION

M/S (Hill / Keough): I move to approve the agenda as posted. A roll call vote was taken, and the motion carried 7-0.

2. Minutes Review / Approval

BOARD ACTION

M/S (Hill / Clark): I move to approve the minutes for the June 16, 2021, Regular Board Meeting and the June 28, 2021, Special Board Meeting. A roll call vote was taken, and the motion carried 7-0.

3. Rolling Calendar

Matt Freeman, Executive Director, Idaho State Board of Education had a couple of suggestions for the Board to consider. Mr. Freeman said based on projected COVID-19 case numbers for Idaho in October he recommended the October 20-21, 2021 Regular Board meeting be virtual instead of in person at Lewis Clark State College. Also, August is an incredibly hard time for institutions to host Board meetings. The request is to flip the June and August Board meetings so that the June 2022 meeting will be in person at Idaho State University and the August 2022 meeting will be virtual.

BOARD ACTION
M/S (Hill / Keough): I move to set October 20, 2021, as the date for the October 2021 regularly scheduled Board Meeting, to occur via a videoconference originating from the Office of the State Board of Education in Boise.

M/S (Hill / Keough): I move to set June 15-16, 2022, as the date and Idaho State University as the location for the June 2022 regularly scheduled Board meeting.

M/S (Hill / Keough): I move to set August 24, 2022, as the date for the August 2022 regularly scheduled Board Meeting, to occur via a videoconference originating from the Office of the State Board of Education in Boise. A roll call vote was taken, and the motion carried 7-0.

There were no comments or questions from the Board.

4. K-20 Performance Measures
   This item was provided in the agenda materials as an information item.

Tracie Bent, Chief Policy and Planning Officer, Idaho State Board of Education said the K-20 Performance Measure document is the current data on for K-20 Education Strategic Plan performance measures. The data is provided for informational purposes. In October part of the work session will be the annual performance measure review. This performance measure data is the same as was provided at the June Regular Board meeting.

Board President Liebich asked if there was a way to have real time data flow more quickly. He felt that perhaps having this data sooner could increase the pace of change. Dr. Clark said this is a perennial issue at the school district level since many students have moved to another grade level before any data is presented. She further said a discussion is already in place to have districts use real time data, but those discussions are ongoing. Ms. Bent said part of the delay in the information being released is based on what the data is. For example, the ISAT is given only once a year so that data is only updated once a year, other data can be looked at more frequently

such as enrollment at the institutions but once again it all depends on how frequently the data is being gathered.

There were no further comments or questions from the Board.

CONSENT

BAHR

1. Boise State University – Credit Card Processing Services Contract

BOARD ACTION

M/S (Hill / Clark): I move to approve the request by Boise State University to proceed with an award to JPMorgan Chase & Co. for Merchant Services Credit Card Processing Services and authorize Boise State University's Chief Financial Officer or his designee to execute such further documents and agreements necessary to finalize the award in a form substantially similar to the Solicitation. A roll call vote was taken, and the motion carried 7-0.

2. Idaho State University – Curtis Street Property Sale

BOARD ACTION

M/S (Hill / Clark): I move to approve the request by the Idaho State University for Board approval to dispose of the subject property for a sale price of equal or greater than the appraised value, and to authorize the Chief Fiscal Officer of Idaho State University to execute all necessary transaction documents for conveying the subject property rights as described above. A roll call vote was taken, and the motion carried 7-0.

IRSA

3. Boise State University – Online, Bachelor of Art in Digital Innovation and Design

BOARD ACTION

M/S (Hill / Clark): I move to approve the request by Boise State University to create an Online Bachelor of Arts in Digital Innovation and Design, as presented in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

AND

M/S (Hill / Clark): I move to approve the request by Boise State University to charge an online program fee of $350 per credit for the Bachelor of Arts in Digital Innovation and Design, in conformance with the program budget submitted to the Board in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

4. Idaho State University – Master of Science in Homeland Security and Emergency Management – Action Item

BOARD ACTION
M/S (Hill / Clark): I move to approve the request by Idaho State University to create a Master of Science in Homeland Security and Emergency Management, as presented in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

5. Idaho State University – Discontinue Master of Arts in Theatre – Action Item

BOARD ACTION
M/S (Hill / Clark): I move to approve the request by Idaho State University to discontinue the Master of Arts in Theatre. A roll call vote was taken, and the motion carried 7-0.

6. Statewide General Education Matriculation (GEM) Committee Appointments – Action Item

BOARD ACTION
M/S (Hill / Clark): I move to appoint Dr. Candyce Reynolds, representing Boise State University, to the General Education Matriculation Committee, effective immediately. A roll call vote was taken, and the motion carried 7-0.

AND

M/S (Hill / Clark): I move to appoint Dr. Lloyd Duman, representing North Idaho College, to the General Education Matriculation Committee, effective immediately. A roll call vote was taken, and the motion carried 7-0.

PPGA

7. Indian Education Committee Appointments

BOARD ACTION
M/S (Hill / Clark): I move to appoint Ms. Shirley J. Allman, representing the Nez Perce Tribal Chair to the Indian Education Committee effective immediately and expiring June 30, 2023. A roll call vote was taken, and the motion carried 7-0.

8. State Rehabilitation Council Appointments

BOARD ACTION

M/S (Hill / Clark): I move appoint Tim Blonsky as a representative of the Disability Groups and Stephanie Taylor-Silva as a representative of Former Applicants or Recipient of Vocational Rehabilitation Services for three-year terms, effective immediately through June 30, 2024. A roll call vote was taken, and the motion carried 7-0.

SDE

9. Curricular Materials Adoption

BOARD ACTION
M/S (Hill / Clark): I move to approve the curricular materials and related instructional materials for K-12 computer science, K-12 English language learner, and driver's education, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

10. Praxis II – Content, Pedagogy, and Performance Assessments – Qualifying Scores

BOARD ACTION
M/S (Hill / Clark): I move to approve the Praxis II assessments and qualifying scores as provided in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

AND

M/S (Hill / Clark): I move to approve National Board for Professional Teaching Standards certification as an approved content, pedagogy, and performance assessment as provided in Attachment 2. A roll call vote was taken, and the motion carried 7-0.

11. Emergency Provisional Certificates

BOARD ACTION
M/S (Hill / Clark): I move to accept the recommendation of the Professional Standards Commission to issue one-year emergency provisional certificates for Nicholas Davis and Sally Hall to teach the content area and grade ranges at the specified school districts as provided herein for the 2021-22 school year. A roll call vote was taken, and the motion carried 7-0.

12. Professional Standards Commission Appointments

BOARD ACTION
M/S (Hill / Clark): I move to reappoint Karen Pyron as a member of the Professional Standards Commission, effective July 1, 2021, through June 30, 2024, representing Idaho school boards. A roll call vote was taken, and the motion carried 7-0.

M/S (Hill / Clark): I move to reappoint Peter McPherson as a member of the Professional Standards Commission, effective July 1, 2021, through June 30, 2024, representing the State Department of Education. A roll call vote was taken, and the motion carried 7-0.

M/S (Hill / Clark): I move to reappoint Kristi Enger as a member of the Professional Standards Commission, effective July 1, 2021, through June 30, 2024, representing the Division of Career Technical Education. A roll call vote was taken, and the motion carried 7-0.

13. University of Idaho – Educator Preparation Program Review

BOARD ACTION
M/S (Hill / Clark): I move to adopt the State Review Team Report for University of Idaho as submitted in Attachment 1 and to grant approval for the University of Idaho's noncareer technical education degree-based programs for educator certification purposes. A roll call vote was taken, and the motion carried 7-0.

AND

M/S (Hill / Clark): I move to accept the documentation submitted by University of Idaho and to grant conditional approval all degree-based Career Technical Education programs for certification purposes. A roll call vote was taken, and the motion carried 7-0.

14. Northwest Nazarene University – Educator Preparation Program – New Endorsement Program – Teacher Leader

BOARD ACTION
M/S (Hill / Clark): I move to accept the recommendation of the Professional Standards Commission to conditionally approve Northwest Nazarene University's Teacher Leader – Instructional Specialist and Teacher Leader – Special Education programs for certification. A roll call vote was taken, and the motion carried 7-0.

15. University of Idaho – New Program Proposal – Computer Science

BOARD ACTION
M/S (Hill / Clark): I move to conditionally approve University Idaho's computer science endorsement program for instructional staff certification purposes. A roll call vote was taken, and the motion carried 7-0.

PLANNING, POLICY AND GOVERNMENTAL AFFAIRS

1. Idaho State University – Annual Progress Report

Kevin Satterlee, President of Idaho State University, gave the Board members an update on ISUs accomplishments during the past year.

For the academic year of 2020-2021, Idaho State University focused institutional efforts and priorities around the four major themes that align with ISU's strategic plan and the State Board of Education's strategic plan. We also focused our efforts on the context of remaining open and serving our core mission during a global pandemic. This point cannot be oversold. While many institutions across the nation did not remain physically open, ISU did and did so in cooperation with our sister institutions for the benefit of all of Idaho's students.

With regard to our four primary themes, ISU made substantial progress in developing and implementing initiatives aimed to make tangible improvements in the following areas:

1. Recruitment and Retention: Commit to removing barriers to student success to ensure degree completion, while improving the go-on rate in Southeast Idaho.

2. Focus on Relationships: Build strong relationships with community and industry, creating a pipeline to employment upon graduation.

3. Promote Identity and Culture: Develop an institutional identity that attracts students and fosters a student-centric approach.

4. Efficiency and Effectiveness: Explore operational and structural efficiencies while focusing resources to support the core mission of education.

In conclusion substantial progress was made in the 2020-2021 academic year. The University has good momentum moving into this Fall semester. ISU successfully remained operational and continued to serve the students of Idaho despite tremendous challenges due to the COVID-19 pandemic. Plans to continue to move ISU forward are underway and we expect to see continued progress through 2022. Included in this is the

effort to adopt a new strategic plan in alignment with the State Board of Education's strategic goals. We are optimistic for the future and are looking forward to bringing students back to campus this fall. As always, Idaho State is dedicated to being a higher education leader with a mission of changing student lives.

Ms. Critchfield called attention to ISU's recruitment and retention efforts, and she asked how will ISU measure their success in these areas? President Satterlee said the first goal is to work on retention and ISU will work on a three percent retention rate above last fall's enrollment figure. Board President Liebich wondered what can be done to make sure more of Idaho's high school graduates get into higher learning if they want to attend. President Satterlee said conversations about the value of a college education need to happen with parents and students in the state, as well as the country. Recruiting efforts are focusing on this issue and counselors are connecting with students enrolled in dual credit classes in high school to begin that discussion.

Dr. Clark asked about the increase in graduate program enrollment that ISU has seen while enrollment in undergraduate programs is decreasing. President Satterlee said early data shows that graduate program enrollment is once again on the upswing and ISU will be using some of the same strategies used in marketing and recruitment to target the undergraduate programs for enrollment. Mr. Gilbert asked what the encapsulation is specific to ISU and what makes it unique. President Satterlee said ISU pulls students from the largest geographic footprint. Ninety percent of the students at ISU are Idaho residents.

Dr. Hill asked what the vision was for the Idaho Falls campus. President Satterlee said he, Dr. Rick Aman, President of College of Eastern Idaho, and C. Scott Green, President of the University of Idaho, have had several discussions on this issue, and they see a growing collaboration between their schools which will help students achieve their long-term goals. Instead of competing for students the schools will work collaboratively to help students get to their educational goal. For example, students can begin their education at College of Eastern Idaho and then transfer to ISU or UI to complete their degree aspirations seamlessly.

There were no further comments or questions from the Board.

IDAHO STATE UNIVERSITY COMMUNITY FORUM

Zane Webb, Student Body President; Lindsey Solomon, Staff Council President for the 2021-2022 Academic Year; and Dr. Jasun Carr, Faculty Senate Chair, all came forward to answer any questions the Board members had about ISU.

Board President Liebich asked what the campus moral has been like during the pandemic. Zane Webb said students were confused about the fee structure for online classes as it was the same as when being on campus. He did say students are very excited to be back on campus, but they were having a hard time in making friends.

Lindsey Solomon said staff is also doing well but the recruitment of new full and part-time staff is ongoing. She said the low starting wages was an issue in why those seeking employment will not accept positions at the university.

Jasun Carr said faculty were excited to be back on campus this year. While moral was high, they felt more pressure to reconnect with their students.

There were no further comments or questions from the Board.

At this time the Board recessed for 15 minutes, returning at 2:30 p.m. (MT)

STATE DEPARTMENT OF EDUCATION

1. Developments in K-12 Education

Superintendent Ybarra gave an update on the Developments in K-12 Education. There was a new superintendent orientation training for sixteen new superintendents that went very well, and the feedback was very positive. Most school districts in the state started back to school the week of August 23rd, and many districts are happy to be back in person and hope to be able to stay open. The back-to-school taskforce met and devised plans to deal with pandemic issues as they arise and discussed how to provide resources to districts as needed.

Karen Seay, Director of Federal Programs, State Department of Education provided information about the COVID-19 Elementary and Secondary School Emergency Relief (ESSER) funds expenditure. Beginning with the Coronavirus Aid, Relief and Economic Security (CARES) Act ESSER I fund, seventy-five percent of the flow-through funds have been spent, thirteen percent of ESSER II funds have been spent and thirty-seven percent of the state set aside funds have been expended. Further detailed information on the use of ESSER, CARES and the American Rescue Plan (ARP) funds can be found at the State Department of Education's website; https://www.sde.idaho.gov/federal-programs/prf/.

Dr. Clark asked what the parameters were for the unfinished learning money going to the Local Education Agencies (LEAs). Ms. Seay said there are some parameters, and the money has to be used on evidence-based research, tutoring, and to address student gaps in learning due to COVID-19. Dr. Clark informed everyone that the Board,

the Governor's office, and the State Department's review of unfinished learning is focused on three areas: K-4 reading, 5-9 math, and credit completion at the high school.

Board President Liebich asked if there was a statewide reporting system in place to know how many kids are in quarantine or out of school due to sickness. Superintendent Ybarra said currently 178 out of 3,000 students enrolled are out of school due to sickness. That information is updated regularly by the school districts and the Office of Emergency Management (OEM).

Superintendent Ybarra gave a Pandemic Electronic Benefit Transfer (P-EBT) update. She said as of August 24th, 74,600 students did receive food assistance cards. Twenty-seven million P-EBT cards have been distributed to families and that number will increase. These cards allowed students to be able to get nutritious food when schools were closed. Four thousand envelopes containing P-EBT cards were returned for incorrect addresses, and the school districts were tasked with finding those families.

2. ESSA Waiver Request

Dr. Kevin Whitman, Director of Assessment and Accountability, State Department of Education, provided an updated slide deck of information for the Board members. The ESSA Waiver data in the agenda packet was provided as an information item.

Dr. Whitman said that consistent with the approved waiver request, Idaho's accountability system following the 2020-2021 school year has the following components:

- Continued transparency and reporting
  Waiver-based updates for this year:
  - No new identifications
  - Student growth across two years made available for local use
  - School quality and student success (surveys and college/career readiness) not affected, so still reported
  - Progress toward meeting long-term goals and interim progress not reported
- Assurances to report on chronic absenteeism and technology access

Under the waiver, Idaho also assured the U.S. Department of Education that it would report on chronic absenteeism and technology access. Idaho also agreed to maintain support for all previously identified schools and to make new identifications following the 2021-2022 school year. School district and school performance is publicly reported by the Department through the Idahoschools.org website.

Dr. Whitman reported that IRI numbers for Fall 2020 and Spring 2021 were as follows:

- 65.1 percent of students in K-3 were reading at grade level across all grades. The spring results did show an increase in reading at grade level from the Fall IRI scores however overall, there was a slight decrease in scores from Spring of 2019.
- IRI results for the period of 2019 to 2021 did show a slight decrease across all grades K-3 in testing results.
- Scores for the 2021 ISAT performance for students in grades 3-8 and 10 with testing of English Language Arts, Literacy and Math showed the following.
    - English Language Arts performance scores
        - 22.4 percent of students were below basic
        - 23.5 percent of student were at basic
        - 32.5 percent of students were proficient
        - 21.6 percent of students were advanced
    - Literacy and Math performance scores
        - 32.1 percent of student were below basic
        - 28.2 percent of students were basis
        - 21.9 percent of students were proficient
        - 17.7 percent of students were advanced
    - When comparing ISAT Proficiency Trends with scores from 2015 to 2021 there is a slight increase in proficiencies with a low score rate of 51.1 percent in 2015 to a rate of 55.0 percent in 2021 for ELA scores, and a rate of 39.3 percent in 2015 to a high of 44.4 percent in Math proficiency scores in 2021.
    - The 2020 and 2021 English Learner Assessment Proficiency where students in K-12 need to take this test annually showed a decline in proficiency from a rate of 19.3 percent in 2019 to a rate of 10.1 percent in 2021.
    - English Learner Assessment Growth metric for 2020-2021 showed a high assessment number of 62.4 percent in 2019 and 48.1 percent in 2021.

Dr. Whitman said in conclusion SDE is beginning to look at districts and schools which exceled during the pandemic or performed better than expected based on the characteristics of their student groups. SDE would like to highlight those success stories.

Board President Liebich asked if there was a chart showing the top growing / performing districts. Dr. Whitman said yes, he could get that data to the Board quickly.

Dr. Clark said she had heard that 15,700 Idaho students seemed to have fallen off the grid during the pandemic and she was wondering if a strategy was in place to re-engage those students. Marilyn Whitney, Deputy Superintendent, Communications and Policy, State Department of Education, said the decline that they were aware of was closer to 10,000 students with the largest decline being students in the 6th grade. Idaho does not track homeschool students, but schools are reporting a return of those students to in-

person instruction. Ms. Critchfield mentioned the difficult time teachers are going to have in assessing students who are coming back into the classroom from homeschooling environments or online schools.

Board President Liebich asked if there was data available to assess student performance between online delivery verses brick and mortar schools. Superintendent Ybarra said a learning management system would have helped the districts in being able to gather data on students and their learning outcomes.

There were no further comments or questions from the Board.

3. Emergency Provisional Certification Process

Superintendent Ybarra said this is a process change that came from the Senate Education Committee during the last Legislative session. The Committee asked for a streamlined process for the Emergency Provisional Certification Application Process.

Lisa Colon Durham, Director, Certification and Professional Standards, State Department of Education outlined the new streamlined process, noting that number 6 is one of the newest changes to the process.

The Emergency Provisional Certificate allows a school district or charter school to request one year certification/endorsement in an emergency situation for a candidate who does not hold the required Idaho certificate/endorsement to fill a position. The process for approval of Emergency Provisional Certificate Applications are as follows:

1. As per IDEA, an Emergency Provisional Certificate shall not be used for special education.
2. The applicant must pass a background check as required by Idaho Code §33-130.
3. The applicant must have two years of college training, which is defined as 48 semester credits.
4. In order to meet emergency requirements, all applications must include the following:
    a. Date the school district or charter school declared an emergency.
    b. Date applicant was hired to serve in the position that requires certification/endorsement.
    c. Summary of recruitment efforts which lead to the emergency.
5. Applications received after January 1 of the school year must be due to the school district or charter school losing a staff member after January 1 of the school year.
6. The Emergency Provisional Certificate is approved as a one-time basis per individual except under extenuating circumstances. An explanation of extenuating circumstances must be included with a second-year application

Ms. Durham said if the Board approves the Emergency Provisional Certification Application Process changes PSC will no longer need to review and provide recommendations, LEAs will know the certification and funding status of their provisional candidates two or more months earlier than the current process presently allows.

BOARD ACTION
M/S (Ybarra / Clark): I move to approve the Emergency Provisional Certification Application Process as provided in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

Ms. Critchfield asked what was lacking in the prior process. Ms. Durham said removing the Professional Standards Committee from this process will remove an extra layer of review that is not necessary. This change should also help to highlight those instances where the same person has tried to get an Emergency Provisional Certificate to teach in different areas without continuing their education and completing their teaching certification. The same concerns were expressed around those who wished to use an EPC who wanted to be school counselors, school superintendents, and those who go outside of the instructional staff. This new process will stop those who repeatedly ask for an EPC without getting their teaching certification.

There were no further comments or questions from the Board.

EXECUTIVE SESSION (Closed to the Public)

M/S (Hill / Critchfield): I move to go into Executive Session pursuant to Section 74-206(1)(b), Idaho Code, to consider the evaluation, dismissal or disciplining of, or to hear complaints or charges brought against, a public officer, employee, staff member or individual agent, or public-school student. A roll call vote was taken, and the motion carried 7-0.

The Board moved to Executive Session at 3:40 p.m. (MT).

The Board returned from Executive Session at 4:33 p.m. (MT) Dr. Hill stated that the Board concluded its discussion and took no action on the matter discussed.

M/S (Hill / Keough): Dr. Hill made a motion to recess until 8:00 a.m. A roll call vote was taken, and the motion carried 7-0.

Thursday, August 26, 2021, 8:00 a.m. (MT)

OPEN FORUM

There was 1 participant for the Open Forum:

Rev James Wilson - Rev Wilson from Star, Idaho testified in front of the Board members and imparted his view on the topic of critical race theory saying*, "Critical thinking is associated with analysis of data, and application of analysis to arrive at creative and synthetic conclusions. Critical Theory is meant to shoehorn thinking into a predetermined groupthink conclusion that is the antithesis of critical thinking. Some primary tenets of CRT are that all people are either oppressed or oppressors, there is no identity outside group identity, no way to cross lines from one group to another, nor to resolve the perpetual warfare between groups. The only remedy for discrimination is more discrimination. One example is the requirement – for teacher certification – of a course in social justice not limiting itself to race. If we were to limit ourselves to "teaching about" racism it would be a good thing; Americans need to know the good, the bad, and the ugly about our history. But CRT conditions – as opposed to teaching. It is objectionable not because it is offensive, but because it is false. … thank you for your time."*

PLANNING, POLICY AND GOVERNMENTAL AFFAIRS

2. Board Policy I.E. Executive Officers – First Reading

Dr. Clark outlined this Board Policy. The policy as proposed splits the three levels of expedited actions identified in section 33- 3730, Idaho Code between the Executive Director, and the institution presidents, followed by Board consideration at their next Board meeting. Alternate proposals could delegate all authority to the institution presidents or to the Executive Director with follow up action for the Board either as informational reports or formal Board action to ratify the action of the institution presidents. In addition to consideration of the first reading, the Board is being asked to consider delegating the same authority to the Executive Director and the institution president at the August Board meeting, allowing them to act, if needed, prior to the second reading of the policy at the October Board meeting.

BOARD ACTION
M/S (Clark / Keough): I move to approve the first reading of proposed amendments to Board Policy section I.E. Executive Officers, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

AND

M/S (Clark / Keough): I move to delegate authority to the Board's executive director to, upon request from an institution in situations requiring immediate action, close an institution or any of its buildings or campuses or to limit its programs or activities, if needed to prevent the spread of contagious or infectious disease. Any such action taken shall be considered by the Board at its next meeting. A roll call vote was taken, and the motion carried 7-0.

AND

M/S (Clark / Keough): I move to delegate authority to the institution presidents to implement measures required to prevent the spread of contagious or infectious disease. Any such action taken shall be considered by the Board at its next meeting. A roll call vote was taken, and the motion carried 7-0.

Matt Freeman mentioned that the last sentence of the last two motions does not require the Board to ratify the decision, they can ratify or reverse the action, the language was kept open so the Board could decide how to move forward as they see fit.

There were no comments or questions from the Board.

3. Board Policy IV.E. Division of Career Technical Education (CTE) – First Reading

Tracie Bent said the proposed amendment to Board Policy IV.E concerning is regarding CTE instructional staff endorsements that go with CTE occupational specialist certificates. The language grandfathers in networking and computer support, and programming and web design endorsements and ads in degree based endorsements that were removed from administrative code by the Department a year ago.

BOARD ACTION
M/S (Clark / Hill): I move to approve the First Reading of Board Policy IV.E. Division of Career Technical Education as provided in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

Ms. Critchfield said that previously the hour requirement for folks coming from industry who wished to teach was out of sync with this policy, and asked if we were closer to where we need to be? Dr. Clay Long, Administrator, Career Technical Education (CTE) said yes, two years ago Senator Lent championed the bill reducing the hours from 12,000 to 6,000 hours, or a combination of degree or hours, or an industry certification. Dr. Clark asked if this now gets us more in line with our surrounding states. Mr. Long said it does.

There were no further comments or questions from the Board.

4. Division of Career Technical Education – Postsecondary Educator Credentialing Manual

Tracie Bent said moving forward OSBE and CTE will be taking a deeper look at how this section of policy concerning CTE is structured. If the motion today is approved this will give Board approval as OSBE and CTE staff work on restructuring this section. This manual will be incorporated by reference into Board policy when the CTE section of policy is restructured.

BOARD ACTION
M/S (Clark / Critchfield): I move to approve the Idaho Postsecondary Credentialing Manual as provided in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

Dr. Hill asked Dr. Long to give a vision of where CTE is headed. Mr. Long said the Postsecondary Educator Credentialing manual has been an internal document and has been in practice, and this Board action, if approved, will now make it Board policy. Using the manual as written was not done to reduce the qualifications of instructors but to better articulate those standards and expectations. Mr. Long stated he wants to take this internal manual and bring transparency by having this be a part of Board Policy.

There were no further comments or questions from the Board.

5. Division of Career Technical Education – Workforce Readiness Standards

Dr. Long said these standards were originally adopted in 2016 and the standards have just been updated so this update will be for the upcoming school year if the Board approves.

BOARD ACTION
M/S (Clark / Hill): I move to approve the revisions to the Workplace Skills for Career Readiness Standards as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked how these standards gets implemented. Dr. Long said these standards compliment the program standards and all concentrator students are required to take the workplace readiness assessment that directly aligns to these standards within their CTE programs. These standards are only applicable for the CTE programs.

Matt Freeman asked if the Board would be able to see global scores similar to ISAT, or IRI, to see what workplace readiness looks like at the schools. Mr. Long said yes, these outcomes are within the CTE performance measures, annual update, and annual report.

There were no further comments or questions from the Board.

6. 2022 Legislation

Tracie Bent outlined the 2022 Legislation being prepared for the Legislative session set to begin on January 10th, 2022. (See below for Legislative proposals and discussions on those items.) For any items the Board did approve there will still be additional work with Legislatures and other stakeholders and if any significant changes were to happen, they will come back to the Board for reapproval.

BOARD ACTION
M/S (Clark / Keough): I move to approve the proposed legislation in substantial conformance to the form provided in Attachments 2 through 8 and to authorize the Executive Director to make additional changes as necessary as the legislation moves forward through the legislative process. A roll call vote was taken, and the motion carried 7-0.

Full-Time / Day Kindergarten Funding

2. This legislation will amend Chapter 10, Title 33 support unit calculation for kindergarten students such that kindergarten students who attend full-time would be calculated similarly to other grades funded based on a half day or full day of attendance. Currently the funding formula caps their funding at a half day rate.

Board President Liebich asked if this was needs-based legislation. Ms. Bent said this would be open to all students whose parents wanted them to attend full day kindergarten subject to space facility restrictions at the schools. Board President Liebich asked how this legislation was created. Ms. Bent said meetings were held between the Department of Education and a few legislators during the last session who were interested in moving forward legislation that would adjust the formula to fund full day kindergarten. Mr. Gilbert asked how this legislation fits in with the Governor's priorities for the next legislative session as it pertains to education. Ms. Bent said all of this legislation has been reviewed with the Governor's office, and the Division of Financial Management. Through the executive agency legislative process, the Governor has the option of rejecting any legislation that does not align with his goals for the next session.

Matt Freeman asked if this legislation would make it mandatory for school districts to offer full-day kindergarten. Dr. Clark said this was not mandatory legislation and parents can opt out. This legislation would provide the school districts with the resources needed to offer all-day kindergarten.

Ms. Keough asked where the language in the bill came from concerning parent participation. Ms. Bent said staff drafted the language based on a request from Sen. Thayn that we include a provision for parent engagement. Ms. Bent said it will be up to each school district for how they will move the parent participation component forward. Superintendent Ybarra said Title I schools should already have a parent involvement component in place.

Shift to FTE Enrollment to Calculate Support Units

3. Amend Chapter 10, Title 33, moving the support unit calculation from one based on FTE student enrollment rather than daily student attendance. This will legislate the temporary rule the Board had in place earlier this year. School district feedback said they would like to use the FTE enrollment calculation to be used moving forward even outside the pandemic environment. Ms. Bent also noted that the Board is authorized to set how attendance is used for calculating average daily attendance in rule already which is why we were able to use FTE enrollment this past year.

Board President Liebich asked for clarification; does this legislation put into code what we had as a temporary rule last year. Dr. Clark said yes, and she clarified that with an attendance-based system the district never receives money for all of its students. Conversion to an enrollment-based system would give the districts money for one hundred percent of their students. Superintendent Ybarra said school districts really want this legislation to move forward and the Board could make this retroactive.

Rural Educator Incentive Program

4. This proposed legislation started out as a loan forgiveness program. This legislation would provide an incentive to all educators – even those who do not have a student loan to repay. The funding amounts are the same, but teachers can use the funding for other things such as educational costs, paying student loans, or taking additional courses.

Ms. Critchfield asked if this legislation could be a benefit to the school district in putting together a more competitive salary package for teachers. Ms. Bent said this proposal does not do that, but what the funds can be used for could be expanded to include things such as housing in rural areas. It is funding to the individual teachers' for educational loan repayment or reimbursement for education costs. Matt Freeman mentioned that since this funding is administered through an LEA, they could include this as part of their compensation incentive package by making sure teachers are aware that this program is available.

Career Technical School Added Cost Funding Eligibility

5. Currently, career technical school added cost funding is based on an annual appropriation. That annual appropriation is then divided by the eligible career

technical schools on a student enrollment basis pursuant to IDAPA 55.01.03. Amending Idaho Code 33-1002G gives added cost funding for career technical schools that meet specific criteria and gives funding for different kinds of facilities and equipment that is needed for these to be high quality programs. Current Education Service Agencies (ESA's) are not eligible for this funding. This proposal will amend the existing section of code to allow for ESA's to be eligible for the funding if they have a facility.

Board President Liebich asked how many ESA's there are in the state. Dr. Long said for CTE there are three in existence right now that operate career technical school facilities.

Charter School Authorization

6. Charter School Authorization – Provides technical and administrative amendments adding definitions and providing clarification to existing provisions. Ms. Bent said this is mostly clean up language due to the increase in companies who provide services for charter schools. In addition, language will be added to clarify what their responsibilities are as an authorizer.

Board President Liebich asked if this language had been vetted by the Public Charter School Commission (PCSC). Ms. Bent said yes, the majority of the language did come from PCSC staff. Dr. Clark asked if it was true that the vast majority of authorization is now being done by the commission and very few districts who did charter school authorization originally have switched over. Ms. Bent said yes, that was true, the majority have switched.

Postsecondary Scholarship for Dual Credit Students

7. The purpose of this legislation would be to amend Section 33-4605, Idaho Code, Postsecondary Credit Scholarship. Currently, this scholarship requires students to also earn an academic merit-based scholarship from business or industry to match the state award. Due to the challenge it is for students to find merit-based scholarships from business and industry, it has been very difficult for students to qualify for the full amount available and the scholarship has been undersubscribed. The proposed amendment would remove the requirement that the matching scholarship be merit based. Students would still need a matching scholarship from business or industry, but it would not need to have an academic merit-based component to that scholarship.

Ms. Critchfield asked how many students are currently taking advantage of this and will other students benefit from this change. Ms. Bent said so far nineteen students have used this scholarship, and this change should allow more students to participate. These changes have been discussed with the sponsor of the bill and he is supportive.

Armed Forces and Public Safety Officer Scholarship

8. The purpose of this legislation is to make a technical correction updating the language in Section 33-4302(7), Idaho Code, regarding the determination of disability for members of the Armed Forces. Currently, the statute references the disability determinations made by the United States Social Security Administration. The proposed amendment would change this language to the disability determinations for this class of awardees to the entity used by the Office of Veterans Affairs. The Armed Forces and Public Safety Officer Scholarship is a full ride scholarship for those who would be eligible such as someone in the armed forces, a policeman or fireman who is disabled and their dependents.

Looking at all of the proposed legislation Ms. Critchfield suggested that the Board have a fuller discussion on the Full-Day Kindergarten proposal.

There were no further comments or questions from the Board.

At this time the Board recessed for 10 minutes, returning at 9:30 a.m. (MT).

7. Proposed Rule – Docket 08-0102-2101 – Rules Governing the Postsecondary Credit Scholarship

Ms. Bent said the approval of this proposed rule sets out the administrative procedures and requirements for the Postsecondary Credit Scholarship. Further, many of the rule changes the Board will be considering today were made following Governor Little's directive, Executive Order 2020-01, Zero Based Regulations, which directs all agencies who do rulemaking to reduce the number of rules and remove anything that is duplicative. To that end all education administrative rules need to be reviewed by 2026. The rules being presented today are the ones that need to be reviewed for this year.

Rule 08-0102-2101 is the rule that accompanies the legislation discussed earlier. The proposed amendment includes those things that were deemed duplicative in the section of code that authorized this rule to begin with. There were a number of processes that were identified in the rule that were deemed not to be necessary and those were also removed.

BOARD ACTION
M/S (Clark / Hill): I move to approve the proposed rule docket number 08-0102-2101, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

There were no comments or questions from the Board.

8. Proposed Rule 08-0110-2101 – Idaho College Work Study Program

Ms. Bent said 08-0110-2101 removes provisions that are duplicative as to what is in Idaho Code. This rule establishes the administrative procedures necessary to implement a student financial and educational aid program, Idaho College Work Study Program, as called for by Chapter 44, Title 33, Idaho Code. Funds appropriated to the Office of the State Board of Education for the Idaho College Work Study Program are allocated to participating institutions based on enrollment data submitted by each institution on the Student Enrollment Form (PSR-1) for the fall semester prior to the previous fiscal year of participation. The allocation is based on the appropriation for that fiscal year multiplied by an enrollment factor. The enrollment factor is calculated by dividing the headcount of resident degree-seeking students at the participating institutions by the total headcount of resident degree-seeking students for all participating institutions.

BOARD ACTION
M/S (Clark / Keough): I move to approve the proposed rule docket number 08-0110-2101, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

There were no comments or questions from the Board.

9. Proposed Rule – Docket 08-0201-2102 – Rules Governing Administration

This section of rule includes requirements for college and career advising plans, literacy intervention plans and how we report full time enrollment. The changes highlighted were:

1. Changes the reporting agency of altering school district boundaries from the State Board of Education directly to the Department of Education.
2. The removal of duplicative language dealing with Pupil Accounting and Required Instructional Time.
3. Removal of older language under Required Attendance, which said that all pupils will complete four (4) years of satisfactory attendance in grades nine through twelve (9-12) to graduate from an accredited high school, except those who are approved for early graduation. With mastery-based learning in place this language was outdated.
4. Streamlining language dealing with Full-Time Equivalent (FTE) Enrollment reporting. Completely redoing the section dealing with FTE enrollment in how it is articulated but not calculated.
5. The data collection and validity category is being removed from 08-0203 and placed here. It is new in this rule, but it is not new language in rule.

6. Unique Education Identifier is being removed from 08-0203 and being placed here. What was removed was the indicator for schools to collect social security numbers which is not allowed by statute.
7. The language under Funds Withheld was cleaned up to remove the October 15th date. Reporting dates are established in statute.
8. Legislation that passed this last year removed the requirement for individual plans for college and career advising and mentoring plans, and literacy intervention plans. School districts still need to report these plans in their continuous improvement plan however they no longer need to send them to the Board.

BOARD ACTION
M/S (Clark / Keough): I move to approve the proposed rule docket number 08-0201-2102, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

There were no comments or questions from the Board.

10. Proposed Rule – Docket 08-0202-2101 – Rules Governing Uniformity

Ms. Bent explained the changes in this pending rule.

- Idaho Standards for the Initial Certification of Professional School Personnel approved date has been changed to October 2021. This recommendation was made at the Planning, Policy and Governmental Affairs committee meeting who wanted more time to make changes to the incorporated by reference document. The Department was asked to amend the language to the three new State Specific Requirements. This item will be brought forward at the October Board meeting.
- Semester credit hours was added and provides that two (2) semester credit hours are equivalent to three (3) quarter credit hours.
- A definition of Teacher of Record was added: the teacher who is primarily responsible for planning instruction, delivering, or supervising the instruction provided to a class of students, assessing student performance, and designating final grades.
- A tightening up of the language concerning Certification of Teachers Trained in Foreign Institutions. An educator having graduated from a foreign institution educator preparation program shall be considered an out of state applicant for certification purposes and may be issued a nonrenewable, three (3) year interim certificate. The applicant must provide transcripts and/or credentials that have been translated and evaluated by an approved evaluation service.
- One of the largest changes made was in moving the endorsements currently in Administrative Rule into Board policy. CTE endorsements are

already in Board Policy and that is working well. This change would move the endorsements attached to instructional certificates also into Board policy. Treating both instructional certificate and occupational specialist certificates the same.

BOARD ACTION
M/S (Clark / Critchfield): I move to approve the proposed rule docket number 08-0202-2101, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

Board Member Keough asked what the difference of a rule vs. policy is and what is the recourse if we do not follow our policy. Tracie Bent said the Board has a requirement for setting policy which allows for two readings and to allow for public comment. This process is very similar to the rulemaking process, but the Board can review these at any time of the year while the rulemaking process takes a year to complete and can only be started during a limited time frame. Dr. Clark asked if there was an appeal process and how does the policy fit. Jenifer Marcus, Deputy Attorney General, State Board of Education, said the Board can govern through policy. If the Board did not follow its policies, then the recourse would be to take legal action against the Board to get it to follow that policy.

There were no further comments or questions from the Board.

11. Proposed Rule – Docket 08-0203-2101 – Rules Governing Thoroughness

Ms. Bent reviewed this rule and the proposed amendments.

- The career technical education content standards were moved to rule many years ago and the recommendation is to remove them from rule and into Board policy.
- Updating the WIDA English Language Development Standards. This is an update in the standards used in these assessments brought forward by SDE and their assessment team.
- Adding computer science to the list of high school science courses. This change does not state that every student is required to take a computer science class to fulfil their science course requirement, but this gives them the option.
- Removing the college entrance exam from the high school graduation requirements while maintaining the assessment as one of the required assessments schools must administer annually.
- Moving the administration of the high school ISAT testing from 10th to 11th grade. This change came after a unanimous decision by the Accountability Oversight Committee (AOC). This rule change will now move to public comment.

- Add Chronic Absenteeism to the state accountability framework and replace the engagement surveys with chronic absenteeism. This change came after work with the AOC and finding that the surveys were not working to address this issue.

M/S (Clark / Critchfield): I move to approve the proposed rule docket number 08-0203-2101, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked Ms. Bent to confirm that one of the biggest changes reflected in this rule change would be the action to remove the college entrance exam from the graduation requirement and add a computer science class as an option for the science requirement. Ms. Bent said that was correct. Board President Liebich asked if any of the changes mentioned today would go into effect this school year. Ms. Bent said no, these changes will begin with the 2022-2023 school year.

Dr. Clark mentioned the changes to this proposed rule pertaining specifically to the chronic absenteeism reporting is the program most states have in their plan. Superintendent Ybarra said the correlation between attendance and academics is clear.

There were no further comments or questions from the Board.

12. ESSER State Education Agency State Plan – Amendment

Ms. Bent gave an update on the ESSER State Plan. The federal government asked for clarification and what was submitted to them is presented here. The amendments to the ARP ESSER SEA Plan provided in PPGA TAB 12 Attachment 1 include:

- Added language on SDE's efforts to reach out to the various stakeholder groups in Section C.1.
- A restructuring of Section D.1. to help clarify how the funds are going to be used, including the addition of section titles to help organize the information. Additionally, language was added to demonstrate Idaho recognizes that groups are disproportionately affected by the pandemic.
- A restructuring of Section D.2.i. to make it consistent with the order and subsection titles used in section D.1.i. and added additional language around plans for data collection.
- Additional language in Section D.3. identifying the intended use of funds, the Board has already taken preliminary actions on (2.5 percent for no and low Title I schools).
- Addition of Idaho's General Education Provision Act (GEPA) Statement; and
- Addition of Appendix I to incorporate the Board approved Idaho Back to School Framework.

The U.S. Department of Education requested more specific language be added showing that we were aware of how the funding dollars can be spent. For example, only 3 percent of the funds can be used for summer school programs so that language was added but overall none of the changes are substantive from what the Board originally approved.

BOARD ACTION
M/S (Clark / Keough): I move to approve the Idaho ARP ESSER SEA State Plan as provided in Attachment 1 and authorize the Board President to sign the ARP ESSER SEA State Plan as the representative of the State Education Agency. A roll call vote was taken, and the motion carried 7-0.

There were no comments or questions from the Board.

13. Research Findings – Impact of COVID-19 on High School Grades
This item was provided in the agenda materials as an information item.

Dr. Cathleen McHugh, Chief Research Officer, State Board of Education, gave the Board members detailed information on the impact COVID-19 had on high school student outcomes.

Some of the research findings were that COVID-19 unequally altered the instructional environments of Idaho's K-12 local education agencies (LEAs) in the 2020-2021 school year. Further, the LEAs that offered either a hybrid or online instructional delivery model did have a decrease in 9th grade GPAs. Ninth grade GPA dropped by 0.13 points in LEAs that offered a hybrid model and by 0.09 points in LEAs that offered an online model.

This decrease did affect the share of 9th grade students with GPAs that would meet the Opportunity Scholarship or the Direct Admissions requirements. The share of 9th grade students with GPAs meeting the Opportunity Scholarship threshold dropped by 5 percentage points both in LEAs offering a hybrid model and in LEAs offering an online model. The share of 9th grade students with GPAs meeting the Direct Admission threshold dropped by 5 percentage points in LEAs offering a hybrid model and by 4 percentage points in LEAs offering an online model.

Unless these 9th graders raise their GPA before graduation, it is projected there will be decreases in the number of students eligible for the Opportunity Scholarship and Direct Admissions. Not being eligible to participate in these programs could impact the rate at which different groups of students attend college.

Ms. Critchfield asked if the data also looked at pass/fail reporting. Dr. McHugh said her data does consider pass/fail as well as GPAs for the 2020-2021 school years. Dr. Hill

asked to clarify the finding from one of the charts in the attachment that according to the data a white student and a Hispanic student in the same school suffered similarly academically. Dr. McHugh confirmed that was what the data showed. Dr. Hill said the data reinforces the notion that student learning outcomes were hurt during the pandemic. It will be through standardized testing where we will find how bad those outcomes will be for students moving forward.

Ms. Critchfield said this is now the new benchmark where student gaps in learning outcomes will be measured. Board President Liebich said the intervention with high school students will need to begin quickly. With lower grades there is time to work on bringing students back up to achievement levels.

There were no further comments or questions from the Board.

At this time the Board recessed for 15 minutes, returning at 11:15 a.m. (MT).

BUSINESS AFFAIRS AND HUMAN RESOURCES

1. FY 2023 Budget Requests

Todd Kilburn, Chief Financial Officer, State Board of Education, outlined how the budget requests came to be.

1. In June the Division of Financial Management gave the institutions a 3.1 percent cap on any further requests.
2. When the cap was put into place that included the enrollment workload adjustment calculation, occupancy costs and a 1 percent employee compensation placeholder.
3. This change to the cap sped up the timeline for the institutions to get their calculations in place so they could set their budgets.
4. Once approved by the Board the budget requests go to the Governor's office and then to the Legislature for funding.

BOARD ACTION
M/S (Hill / Clark): I move to approve the Line Items for the agencies and institutions as listed in Attachments 1 and 2, and to authorize the Executive Director to approve the maintenance of current operations and Line-Item budget requests for agencies and institutions due to the Division of Financial Management and Legislative Services Office on September 1, 2021. I further move to authorize the Executive Director to approve any additional supplemental requests as necessary. A roll call vote was taken, and the motion carried 6-0. Superintendent Ybarra was absent from voting.

Board President Liebich asked for clarification on this budget request issue. Schools are simply responding through this Board Action to how they are going to spend the money allocated to them each year. Mr. Kilburn, said yes, this is how state schools respond to the legislative process. Board President Liebich asked why the Board is looking at two-year schools since they have governing bodies. Mr. Kilburn said this is part of the appropriation process. Budget requests go through our office to the Governor's office and then to the Legislature. The State Board of Education is a pass through for community colleges for this process.

There were no further comments or questions from the Board.

2. FY 2023 Capital Budget Requests and Six Year Capital Plans

Todd Kilburn said there are two portions to this request. The first one is the capital budget requests from each institution and the other is the projected six-year capital project plans from the four-year institutions. Only Board approved major capital projects can be forwarded first to the Governor's office and then to the Legislature for funding.

BOARD ACTION
M/S (Hill / Keough): I move to approve the capital projects listed in the table in Attachment 1 from Boise State University, Idaho State University, University of Idaho, and Lewis-Clark State College, and to submit projects requesting Permanent Building Funds to the Permanent Building Fund Advisory Council for the FY2023 budget cycle. A roll call vote was taken, and the motion carried 6-0. Superintendent Ybarra was absent from voting.

AND

M/S (Hill / Keough): I move to approve the Six-Year Capital Improvement Plans for FY2023 through FY2028 for Boise State University, Idaho State University, the University of Idaho, and Lewis-Clark State College, as provided in attachments 2-5. A roll call vote was taken, and the motion carried 6-0. Superintendent Ybarra was absent from voting.

Board President Liebich said many of the schools have major capital project needs. Should we be looking at current projects or bringing existing physical plant needs up to date. Mr. Kilburn said there are repair and alteration request procedures that institutions can make to the Division of Public Works (DPW) for projects not approved by the Board. In June Governor Little issued an Executive Order asking for a facilities assessment of all state buildings to find out how much deferred maintenance there is. The deadline to get that information to the Governor is the end of August 2021. This is a state initiative to address the issue of deferred maintenance. Each institution has a point person who is supplying this data to the Governor.

Board President Liebich asked how the process will work after the data is received in the Governor's office. Mr. Kilburn said that was still unclear at this point. Mr. Kilburn also informed the Board that this capital project needs assessment does not include K-12 but only higher education institutions.

There were no further comments or questions from the Board.

3. Intercollegiate Athletic Reports – NCAA Academic Progress (APR) Scores
   This item was provided in the agenda materials as an information item.

Dr. Hill said the NCAA requires this report from the three Idaho colleges are who are part of the NCAA. They provide data concerning how student athletes are fairing concerning academic achievement.

There were no comments or questions from the Board.

4. Appointment of Idaho Public Television General Manager

Dr. Hill said Ron Pisaneschi, General Manager of IdahoPTV retired back in June and a committee was established to find his replacement. After a national search was conducted the Committee hereby unanimously recommends Jeff Tucker be the next General Manager of Idaho Public TV.

BOARD ACTION
M/S (Hill / Clark): I move to appoint Jeff Tucker as General Manager of Idaho Public Television at the rate of $62.50/hour effective August 26, 2021. A roll call vote was taken, and the motion carried 7-0.

There were no comments or questions from the Board.

5. System Optimization Update – Falcon High Performance Computer
   This item was provided in the agenda materials as an information item.

Chet Herbst, System Optimization Project Manager, State Board of Education, informed everyone about the Idaho National Laboratory (INL) offering to transfer (via a property loan agreement) its Falcon high performance computer to the State Board of Education for use by the Idaho public research universities to support research and education throughout the state and improve the lives and economic well-being of Idaho's citizen's. This supercomputer would represent a six-fold increase in capacity in the use of core hours used by universities each year and will place Idaho in the top 20 university systems with supercomputer capacity for our research institutions. The property transfer should be finalized by January of 2022.

Matt Freeman asked if there will be an action item on this topic at a future Board meeting. Mr. Kilburn said yes, the action item should be coming at the October Board meeting.

There were no further comments or questions from the Board.

6. Student Fee Update
   This item was provided in the agenda materials as an information item.

Todd Kilburn said as part of the Legislative intent language this year the Legislature required three things be done by the Board. They were:

1. Create a breakout of student activity fees on the university websites.
2. Create a common naming convention for similar activity fees across all institutions.
3. Evaluate the current activity fees assessed to students and determine how fees supporting clubs and activities and organizations can be structured for access, affordability, and choice.

Regarding the first requirement, the institutions have committed to creating a webpage at each institution that is convenient for students to find and provide a link to be placed on the State Board of Education website. These webpages will be developed and implemented once the final fee structure is completed.

Regarding the second requirement, this working group has developed the following four overarching categories into which all student fees would be placed. They are:

- Institutional Operations, Services, and Support
- Student Recruitment, Success, and Engagement
- Student Clubs and Organizations
- Student Health and Wellness

As the first two processes are completed, that will allow a more thorough discussion of what fees can then be structured to "address the need for access, affordability, and choice."

Board President Liebich asked Mr. Kilburn about the challenges institutions will face with this new student fee structure. Mr. Kilburn said if students get to pick and choose the fees they want to pay, every student could have a different financial aid package which would be an administrative hardship for the schools. The schools are looking at a total opt-in or a total opt-out for fees for clubs, organizations, and activities.

There were no further comments or questions from the Board.

7. Idaho State University – HOLT Arena Seating Project – Construction and Financing

Dani Dunstan, Vice President for Operations and Chief of Staff, ISU, outlined the funding request. Ms. Dunstan said the proposal before the Board is to renovate Holt Arena, which celebrated its 50th anniversary last year. This request is asking for a project budget of $1 million in monies above the amount fundraised for the project. This upgrade will replace the 11,700 seats, provide essential ADA upgrades, and add hospitality suites.

BOARD ACTION
M/S (Hill / Keough): I move to approve the request by Idaho State University to proceed with bidding and construction of the Holt Arena Renovation, and to expend up to $1 million above the amount fundraised for the project. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked what the timing of construction was. Ms. Dunstan said if the Board approves the expenditure, she will then be able to pin down a timeline for construction making sure it does not conflict with fall sports.

There were no further comments or questions from the Board.

Board President Liebich acknowledged Senator David Lent had entered the room.

8. Idaho State University – Mitchell+Palmer Master Service Agreement

Kevin Satterlee, President of ISU, outlined the expenditure request asking to extend the service agreement with Mitchell + Palmer. President Satterlee said under their services ISU saw a significant admission rate of new students. This current agreement is the next phase of ISU's enrollment strategy and that requires a longer-term investment in marketing and advertising.

BOARD ACTION
M/S (Hill / Clark): I move to approve the request by Idaho State University to enter into a master marketing and advertising contract with Mitchell + Palmer LLC for an amount not to exceed $1.5 million per year for a three-year total not to exceed of $4.5 million. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked how much of this expenditure request was focused on recruiting Idaho students vs. out of state students. President Satterlee said the focus of the marketing and advertising campaign is for recruiting Idaho students.

There were no further comments or questions from the Board.

9. Idaho State University – EAMES Phase III Project – Financing

Dani Dunstan, Vice President for Operations and Chief of Staff, ISU, outlined the funding request. Ms. Dunstan said due to cost overruns and the inflation happening in the construction market the winning bid came in $1 million dollars over the monies approved for this project by the Board in February of 2020. Board Policy V.K.5 states, "If a project budget increases above the total Board authorized amount by the lesser of 5% or $500,000, then the institution or agency shall be required to seek further authorization." ISU is therefore bringing this request forward to the Board in compliance with that policy for authorization to increase the budget in alignment with the lowest project bid.

BOARD ACTION
M/S (Hill / Critchfield): I move to approve the request by Idaho State University to proceed with the construction of EAMES Phase III for a total cost not to exceed $4,639,335. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked if ISU has already broken ground and did the bids come back over the amount already approved. Ms. Dunstan said bids have come back and there is a bit of time to get back to the winning bidder and to confirm the project, but they have been waiting for Board approval. And yes, the winning bid came in over $1 million dollars over what was expected.

There were no further comments or questions from the Board.

10. University of Idaho – Huron Contract

Todd Kilburn said the contract being proposed will allow the four Idaho Universities to work with Jaggaer's E-Procurement system along with Jaggaer's contact management software and other systems. The contract asks for Huron Consulting to implement the software at the institutions and build an interface with Luma software so the state can get reporting.

BOARD ACTION
M/S (Hill / Critchfield): I move to approve the request by the University of Idaho to execute the attached contract with Huron Consulting Group and to authorize the University of Idaho Vice-President for Finance and Administration, or designee, to execute the necessary contractual documents in substantial conformity to the documents attached to this motion. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked how the institutions will spearhead this program. C. Scott Green, President of the University of Idaho, said Huron has a lot of implementation experience with this issue to help the institutions succeed and thirty percent of the cost will be split between three institutions and ten percent will be paid by Lewis-Clark State College.

There were no further comments or questions from the Board.

11. University of Idaho – Ellucian Renewal Agreement

Todd Kilburn said the enterprise resource planning (ERP) software agreements have been reviewed at the institutions. BSU and LSCS have both in the last year had approval from the Board for their renewals. This is UI's time for a renewal, and all of this is being done to maintain their systems. The UI requests a contract renewal for five-years for Banner and three years for CRM Advance and ChromeRiver. This agreement aligns with the timing and term length of similar agreements signed between BSU, ISU, LCSC, and their respective ERP providers. This furthers the Board of Regents' mission of improving purchasing coordination and centralization among the four-year institutions, in addition to creating the opportunity for ERP alignment among the institutions in the future.

BOARD ACTION
M/S (Hill / Keough): I move to approve the request by the University of Idaho to execute the attached contracts with Ellucian and to authorize the University of Idaho Vice-President for Finance and Administration, or designee, to execute the necessary contractual documents in substantial conformity to Attachments 1 and 2. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked if there was one clear winner since every institution has their own Enterprise Resource Planning (ERP) software or are they all basically the same, using a functionality perspective. President Green said educational institutions have unique needs and they cannot use just any enterprise software.

Mr. Gilbert asked if this would then become a situation of build or buy in the next few years. President Green said he did not see the build or buy option being feasible, but any software will have to be customized for use by the institutions.

There were no further comments or questions from the Board.

At this time the Board recessed for 30 minutes, returning at 12:50 p.m.

INSTRUCTION, RESEARCH AND STUDENT AFFAIRS

1. Graduate Medical Education Committee Annual Report
   This item was provided in the agenda materials as an information item.

Todd Kilburn introduced the Graduate Medical Education annual report. Some of the report highlights are:

1. In three years, the plan has grown new GME (residency) programs from nine to twelve and has also expanded the number of residents and fellows in training from 134 to 217.
2. Idaho has moved from 49th in the United States for the number of primary care physicians per 100,000 people to 45th. Additionally Idaho has moved from 49th for the number of GME resident physician positions per 100,000 to 47th.
3. With the support of the Idaho State Board of Education, Governor Little, and the Idaho Legislature, the FY 2023 Budget Plan will fund 14 new residents and fellows in existing programs and will develop two new residency/fellowship programs in the next year.
4. All programs are meeting the goals of accreditation, which includes 100 percent resident position fill rates, as well as having over 50 percent of their graduates staying in Idaho, with 30 percent or more of their graduates staying in rural and urban underserved communities.
5. There are three programs under consideration for the near future: a Psychiatry residency, a Pediatrics residency and growth of a new rural training track program.

In summary, Idaho's GME plan has been a success despite shifting funding priorities and a global pandemic. With the approval of the 2023 budget there will be twelve core programs and six Fellowships in place. As a direct consequence of these programs there has been increased access to timely care. Additionally, these programs have provided many jobs and economic benefits to their communities and the state of Idaho.

Board President Liebich asked what the track record is for keeping people in Idaho after we train them. Mr. Gilbert said the retention rate was reportedly above sixty percent and that number keeps increasing.

There were no further comments or questions from the Board.

2. Semi-Annual Report of Approved Program Requests

Dr. TJ Bliss, Chief Academic Officer, State Board of Education, said the only highlight he wanted to address was how the pandemic affected certificates being earned.

1. A significant spike in program modification requests in FY20-21 resulting from institutions adding online options to existing programs, likely in response to the pandemic.
2. A steep drop in new undergraduate program requests over the past five years – 1 request in FY20-21 down from 13 requests in FY19-20 and 19 requests in FY16-17.
3. A significant spike of new academic undergraduate certificates – 34 in FY19-20 but dropping to more historical levels (10 new certificates) in FY20-21.
4. Fairly consistent numbers of new graduate certificate requests over the past five years.
5. A significant uptick in the number of new career technical certificates, AAS degrees, discontinued certificates, and discontinued degrees in FY19-20.

BOARD ACTION
M/S (Critchfield / Hill): I move to accept the Semi-Annual Report of Approved Program Requests, as presented in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked if any of the online ads promoting online learning at our institutions will continue after we return to in-person learning. Dr. Bliss said he believes that more and more courses will be offered online which would give more flexibility in acquiring new and incoming students, so the ads will most likely continue.

There were no further comments or questions from the Board.

3. Three-Year Program Plan

Ms. Critchfield said there are some notable highlights this year and she wished to note them in the minutes.

1. Food truck management associates degree offered by North Idaho College is being offered in response to the explosion in the food truck market.
2. UI's proposed associate of applied science offerings in Forest Harvesting, Wildland Fire Technology and Nursery Technology seem duplicative to other offerings from other institutions. IRSA is asking UI to work with Dr. Long at CTE to come up with a plan to help UI move forward with the programs they wish to offer. After those meetings take place, these updates will be brought back to the Board.

BOARD ACTION
M/S (Critchfield / Clark): I move to approve the Three-Year Program Plan as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked for clarification about the nursing program as outlined in LCSC's three-year plan. Dr. Cynthia Pemberton, President, Lewis-Clark State College answered the Board question explaining the pipeline between two-year and four-year nursing programs across the state which will allow for a seamless transfer of students while also allowing online opportunities across the entire state to flourish. While there is an unmet need for nurses Idaho has put into place a mechanism to make this happen, but it needs to be given time to implement. Further, the limited number of nurses coming from the programs is based on the number of clinical placements in the workforce, not by the number of people interested in, or training to become nurses.

Ms. Keough asked what the timeframe is to get these programs up and running. Dr. Bliss said he is actively communicating with the university contacts to see who they want to be a part of this conversation. IRSA hopes to schedule the first set of meetings sometime next week. Board President Liebich asked if there was any Board action required once these plans are finalized. Dr. Bliss said he would have more information by the end of next week. Dr. Long said CTE will be following up with UI early next week to discuss their specific items and will have further information then.

There were no further comments or questions from the Board.

4. Board Policy III.N. General Education – First Reading

Ms. Critchfield said the resulting changes will streamline and clarify GEM competency requirements and intended outcomes for students, and this is a first reading.

BOARD ACTION
M/S (Critchfield / Hill): I move to approve the first reading of proposed amendments to Board Policy III.N., Statewide General Education, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

There were no comments or questions from the Board.

5. Board Policy III.G. Postsecondary Program Approval and Discontinuance and Board Policy III.H. Program Review – Second Reading

Ms. Critchfield said this is a second reading and the following changes were made between the first and second reading of these policy amendments:

- Removal of micro certification requests from the Career Technical Short Proposal subsection (4.b).
- Creation of a new subsection (4.d) requiring requests for micro certifications to be submitted via a template developed by the Division of Career Technical Education

- Addition of "State" to the title of "Administrator" throughout the policy and clarification that the Executive Director or designee, in addition to the State Administrator, shall approve requests related to career technical programs.
- Addition of modifications to academic instructional or administrative units to the Short Proposal section.
- Removal of the deviation from program credit definitions from the Career Technical Short Proposal subsection (4.b.)
- Removal of three actions related to online format and delivery from the Career Technical Letter of Notification subsection (4.c.) to the Career Technical Short Proposal subsection (4.b.)
- One or two minor technical corrections.

The updates to III.G. precipitated the removal of III.H.

BOARD ACTION
M/S (Critchfield / Clark): I move to approve the second reading of proposed amendments to Board Policy III.G, Program Approval and Discontinuance, as submitted in Attachment 1. A roll call vote was taken, and the motion carried 7-0.

AND

M/S (Critchfield / Hill): I move to approve the second reading of Board Policy III.H. Program Review, repealing the policy in its entirety, as submitted in Attachment 3. A roll call vote was taken, and the motion carried 7-0.

Board President Liebich asked who drove the changes between the first and second readings. Dr. Bliss said the changes came from the technical college deans and CTE.

There were no further comments or questions from the members of the Board.

6. Boise State University – Institute for Advancing American Values

Dr. Marlene Tromp, President of Boise State University, came before the Board members to outline the request for a new Institute for Advancing American Values. As outlined in the proposal:

"The Institute for the Advancement of American Values encourages conversation between opposing viewpoints to spur engagement, understanding, and human connection. Institute activities will include public events to encourage dialogue about central issues facing Idaho and the nation, research and projects that approach complex and contested issues through the prism of American values and evidenced-based research, and education programming supporting the development of new courses across the disciplines that chart how the values of freedom and opportunity

have shaped the triumphs and challenges of American life and history. Through these commitments, the Institute inspires us to talk and listen to each other respectfully about the issues and values that have shaped America and Americans from all walks of life."

BOARD ACTION
M/S (Critchfield / Clark): I move to approve the request by Boise State University to create an Institute for Advancing American Values. A roll call vote was taken, and the motion carried 7-0.

Mr. Gilbert asked if BSU has the funds to initiate this Institute. Dr. Tromp said initial programming costs will be covered by the Idaho Listens grant of $1 million over ten years and the new and existing institutional funding of at least $130,000 per year.

Board President Liebich asked if BSU expected to find interest in this Institute from outside the BSU campus. Dr. Tromp said this Institute will lead the national conversation and they expect to see wide ranging interest from across the country. Board President Liebich asked when the first event was being planned for. Dr. Tromp said they hoped to have the first event in October of this year.

There were no further comments or questions from the Board.

7. Program Prioritization Five-Year Reports
   This item was provided in the agenda materials as an information item.

Ms. Critchfield said this is a combined Program Prioritization Report for all of the four Universities for the Board's review. The Board heard ISU's report yesterday at the meeting and over the next year we will hear from the other three institutions as well, but this report gives the Board members an opportunity to review this data prior to it being presented.

Board President Liebich asked if the reports are due annually and should they be done less frequently. Matt Freeman said the actual effort to do a comprehensive review is done every five years. What the institutions report on is included in the President's annual report, but they are not going through a comprehensive program prioritization every year.

Mr. Gilbert asked if we are consolidating into a single report across institutions the impact of all of the program prioritizations that have occurred. Dr. Bliss said for more clarification and context the university presidents provide as part of their annual report updates on their program prioritization efforts, and every five years they provide the report seen here today. There will not be a report like this every year. The idea of doing a one-page summary across the five-year reports is a good idea and he will have his office look into doing this in an ongoing basis.

There were no further comments or questions from the Board.

Board President Liebich closed the meeting by thanking Debbie Critchfield for her service to the State Board of Education and her seven years of service as a Board member and Past President.

There being no further business a motion to adjourn was entertained.

M/S (Critchfield / Keough): I move to adjourn the meeting at 1:42 p.m. (MT). A roll call vote was taken, and the motion carried 7-0.

Draft Minutes
September 24, 2021

STATE BOARD OF EDUCATION MEETING
September 24, 2021

DRAFT

Office of the State Board of Education
Len B. Jordan Building
650 W State Street, 3rd Floor
Boise, Idaho

A special meeting of the Idaho State Board of Education was held via Zoom teleconference on September 24, 2021, with the call originating from the Office of the State Board of Education in Boise. Board President Kurt Liebich presided and called the meeting to order at 4:00 p.m. (MT). A roll call of Board members was taken.

Present

Kurt Liebich, President
Dr. Dave Hill, Vice-President
Dr. Linda Clark, Secretary
Shawn Keough
Bill Gilbert
Cally J. Roach
Cindy Siddoway
Superintendent Sherri Ybarra

Absent

None

Friday, September 24, 2021, 4:00 p.m. (MT)

PLANNING, POLICY AND GOVERNMENTAL AFFAIRS

1. Impact of Delta Variant on Public Education (K-20)

Board President Liebich opened the meeting by stating that he convened this Special Board meeting to open the discussion, and to give everyone on the Board updated information, on where Idaho is in regard to COVID-19 since the state went into Crisis Standards of Care. Speakers for today's meeting will be:

- Dr. Kathryn Turner, Deputy State Epidemiologist, Idaho Division of Public Health
- Dr. Andy Grover, Executive Director, Idaho Association of School Administrators, and
- Representatives from Boise State University, Idaho State University, University of Idaho, and Lewis-Clark State College who were asked to present data on how COVID-19 is impacting their respective schools.

Dr. Kathryn Turner presented the following updated information concerning COVID-19 and the Delta variant as it pertains to Idaho.

- On September 21, 2021 1,800 COVID-19 cases were reported in one day, a record high for Idaho.
- The daily average case count is over 1,000 and that trend line is moving upward.
- A record number of cases in school age children between the ages of 5-17 were reported for the week ending 9/18/2021. All of this data is displayed on the school resources page at coronavirus.idaho.gov.
- The incidence rate among those 18-29 was 585 cases per 100,000 last week which was the highest weekly rate during 2021.
- Projections done in summer of 2021 was that Idaho would achieve 28,000 COVID-19 cases a week by October; projections currently show 21,000 cases a week in Idaho by mid-November. Assumption is that there is no vaccine for children under 12 years of age and the Delta variant is still circulating.
- Modelers are suggesting that cases may have peaked nationwide but Idaho has been trending toward the higher end of the model estimates for three months.
- Increased pediatric covid numbers are being monitored as well. Right now, over 40 children are in the hospital week to week with confirmed COVID-19.

Board President Liebich said the previous estimate was calling for 28,000 cases a week by mid-October and asked if the worst-case scenario now was 20,000 and why has the peak been pushed out to mid-November. Dr. Turner said these projections are developed by a coalition of universities and other entities and they all submit models and then aggregates are created. The modelers believe that because of the number of those who have received the vaccine combined with those who were infected but who may have natural immunity, the case counts could come down about 10,000 cases based on the sheer number of people who were infected in the last two months.

Board President Liebich asked if things are likely to get worse before they get better. Dr. Turner did not wish to speculate but she has not seen a decrease in case counts week over week, so she is not confident that we have plateaued based on that trend. The number of reports they are receiving would suggest that we are not seeing a decrease in case counts, but a plateau might be in play, and she will know in a week or so.

Mr. Gilbert asked if test positivity ratio was being built into the case numbers. Dr. Turner said the time between when a person takes a COVID-19 test and gets their results is increasing so the current weeks positivity is preliminary. Mr. Gilbert asked if the data looks at the three distinct geographies in the state and are there any differences in the data in the trend lines as it pertains to the three distinct geographies. Dr. Turner said the northern part of the state and southwest Idaho were seeing very high case rates but there are lower-case numbers in the eastern part of the state. The very far eastern part of the state does not seem to be having the large spike in cases as the rest of the state, perhaps due to the fact that they were hit very hard last winter, and they might have higher rates of natural immunity.

There were no further comments or questions for Dr. Turner from the Board members.

Dr. Andy Grover reported on conditions in our schools / districts from around the state.

- Schools that opened in early August said the number of students enrolled was high and schools reported attendance was near 90 percent. Three weeks into the school year and attendance fell to the low 80 percentile. The reason for this decline in attendance is being attributed to more COVID testing of students taking place and some kids are simply just sick with other things besides COVID. Students have been gone from two days to two weeks. These absences highlighted the ADA vs. enrollment attendance issue around the state. The hybrid model also makes it hard to count enrollment.
- Districts cannot find classified staff. Pay for classified employees begins at $9.50 an hour up to $11.00 an hour. Pay at the local McDonalds starts at $13.00 - $15.00 an hour. Sixty classified staff positions are open around the state: including custodians, bus drivers, and paraprofessionals. Substitute teachers - districts who used to have 200 substitute teachers now have 30-35. In the first five weeks of the school year three districts had to shut down due to a labor shortage. One of those districts is now in hybrid mode. Labor shortages are going to shut our schools down if the pandemic continues, there just are not enough people to keep our schools open.
- Last year we did not have mass testing for COVID-19, and this year people are testing more so the positive test results are high.
- Conflict in the districts is at an all-time high. Communities have taken over Board meetings and a huge split is developing around the state between administrators, teachers, and parents over whether to mask or not mask, vaccinate or not vaccinate.
- Eight teachers / administrators have passed away since the school year began. Some teachers are returning to work sick because they have no sick time and there are no substitutes to take over their classes. Administrators are finding they are subbing due to the lack of teachers which leads to them

not having time to do evaluations of their teachers, and their other administrative duties.

- Dr. Glover said we really need to find ways to support local school boards and our schools since they are taking a beating right now from families. There will be more contested races in November for Board spots in the next election than ever before. This may change the culture in many of the schools throughout the state.

Ms. Keough asked if there was a guestimate of the COVID-19 cases schools are tracking. Dr. Glover said many schools do not find out until 10 days past the administering of a COVID-19 test that a student or their parent may have tested positive for COVID-19, so it is hard to track true COVID-19 numbers. Because there are 115 districts and 77 charters, and they can all do what they do differently, it is hard to track at any level on how, or if, we are testing students.

Superintendent Ybarra said the State Department of Education (SDE) recently received $10 million in money which will be available to help pay for classified staff and to help bring in other people who want to substitute and help the districts. The Governor has also freed up state agencies and their employees who wish to substitute teach. Superintendent Ybarra mentioned that she is going to go back out and substitute teach, and she has over 100 employees who are also interested in substitute teaching to help the districts. COVID-19 Testing is an issue and SDE is working with the Department of Health and Welfare to deal with this topic in the districts. The attendance vs enrollment issue is a huge concern so moving away from attendance to an enrollment-based system for funding is becoming more important.

There were no further comments or questions for Dr. Glover from Board members.

Higher Education Report on current COVID-19 case numbers.

Dr. Cynthia Pemberton, President, Lewis-Clark State College gave an update on current infection rates at LCSC.

- LCSC is tracking reported infection rates daily. They are currently reporting that there were 90 total infections since school began, 9 cases are active with 1 individual in school-based isolation.
- LCSC is tracking daily vaccination rates and overall, the employee vaccination rate is at 67-68 percent, face to face student population vaccination rate is at 34 percent, residence life students at 46 percent, student athletes at 50 percent, and part-time students are at 15 percent.
- LCSC does weekly surveillance testing. Students can opt out due to medical or religious exemption or vaccination proof. Weekly testing is working pretty

well. Many students forget to test weekly and LCSC follows up to remind people they must check in.

- COVID-19 test results are sent directly to the student and the State Department of Health, not to the school. They do not collect personal health information for any individual.
- Masking is required for all interior spaces on the campus. The mandate will stay in place until October 15th at which time it will be reevaluated.
- If students get vaccinated by October 1, LCSC students were offered an incentive of $100 Warrior bucks to spend as they wish on the campus.

Dr. Hill asked about LCSC's faculty and other staff and wondered if LCSC was suffering the same type of issues as discussed earlier during Dr. Glover's presentation. Dr. Pemberton did say classified staff salaries are a problem in higher education. She needs custodians and they pay $11.00 an hour and the local McDonald's is paying $15.00 an hour. Enrollment is down and the largest enrollment decline is in the CTE program, and they believe that is due to the ongoing pandemic. Dr. Pemberton said students and faculty really want to be in the classroom and they are willing to work with the COVID-19 safety protocol restrictions to make that happen.

There were no further comments or questions for Dr. Pemberton from the Board.

Toni Broyles, Special Assistant to the President, University of Idaho, spoke about UI's COVID-19 protocols.

- UI is focusing on vaccinations versus testing.
- Incentives to students include drawings for $1,000 and $5,000 tuition credits and 3,500 students have participated in that program thus far and that number continues to climb. UI will offer that incentive until November.
- The local Moscow hospital is not at crisis standards of care but in contingent standards of care.
- When school began UI averaged five students a week in quarantine and three per week in isolation and currently today only 1 student is in isolation.
- UI has been consistent in their requirement and use of hand sanitizer and masking.

Board President Liebich asked about the protocols for the upcoming Ribbon Cutting / homecoming event at UI. Ms. Broyles said masking requirements for all indoor activities is in place and they are reviewing that every three weeks. Masking will be required for the Homecoming game. As far as UI is aware only one student has withdrawn from classes due to the mask requirement.

There were no further comments or questions for Toni Broyles from the Board.

Dani Dunstan, Vice President of Operations and Chief of Staff, Idaho State University, spoke on behalf of ISU and their COVID-19 protocols.

- Four operational levels are in place. Orange – low risk, white – increased risk, gray – moderate risk, and black – high risk. ISU is currently at the white level with increased risk.
- Face coverings are required indoors and outdoors for events of over 150 people where distancing cannot be maintained.
- Asymptomatic screening is in place for students in housing and athletics who are unvaccinated. They can opt out of the screening if they get vaccinated.
- ISU is planning to vaccinate 1,000 students a week who are asymptomatic.
- Have seen an increased number of on campus case rates since school began. That number equates to 69 cases each week for the last two weeks for all of ISU's five campuses. Positivity rate was at 1 percent when the semester began and is now at 4 percent for the asymptomatic screening. Positivity rate for symptomatic cases is between 15-25 percent.
- ISU's contact tracing program is in place, and they are contacting those exposed to COVID-19 within 48 hours.
- Data on current COVID-19 cases is reviewed weekly.

Board President Liebich asked if there was one indicator they are looking at that would push ISU to a hybrid model. Ms. Dunstan said they use a number of metrics to gather information such as campus case rates, the current community situation, the health system situation, but what weighs heaviest is ISU's educational mission. Students want in person instruction so all of those factors help to determine ISU's course of action.

There were no further comments or questions for Dani Dunstan from the Board.

Dr. Marlene Tromp, President of Boise State University gave an update on BSU's COVID-19 protocols.

- Masking is required in indoor settings and in crowded outdoor gatherings.
- There is ongoing surveillance testing for high-risk groups such as student athletes, club sports and childcare center teachers.
- BSU has an isolation hall for residential students who test positive, so they have a place to isolate for 10 days.
- BSU's testing center has done over 46,000 COVID-19 tests for the region to date.
- A contact tracing clinic is in place.
- A vaccine clinic established February 2021 has now administered over 7,000 doses of vaccine in the region.

- Campus positivity rate for the past week was 3 percent which is a 46 percent drop-in positivity rate in one week. That is a 64 percent drop-in positivity rates since the peak in early September.
- Average rate of positivity rate on campus is 1 percent and that is being attributed to a campus wide survey from faculty, staff and students that suggests there is an 88 percent vaccination rate on campus.

Mr. Gilbert asked how this data will impact the upcoming football game. Dr. Tromp said after consulting with the health care CEO's and Central District Health they feel it would be an unfair burden on the health care system to use that testing for game days since BSU's case numbers are so low. BSU will still offer testing prior to entering a game in case anyone wishes to take the test, and there will be a vaccination tent for those who want to receive the vaccine. The large-scale testing or vaccination requirement for attending a game will no longer be in place.

There were no further comments or questions for Dr. Tromp from the Board.

Board Member Gilbert left the meeting at 5:00 p.m. (MT)

Board President Liebich thanked all of the University's for their updated information and asked for them to keep the Board updated on any changes in how COVID-19 is impacting their campuses.

Ms. Keough asked if there was a timeline to begin discussions about some of the issues brought up during the meeting. Some of these issues seem to be urgent such as the ADA enrollment issue. Tracie Bent, Chief Policy and Planning Officer, State Board of Education, said a timeline is in place and they are currently waiting for the October upload of attendance and enrollment data so they can look at that data.

Dr. Clark said the unfinished learning work group is ready to bring forward some recommendations. Support for teachers is a focus with resources for professional development, and mentoring. For the new Board members Dr. Clark mentioned that the Board's focus will also be on K-4 literacy, 5-9 Math, and credit recovery at the high school level. Dr. Clark echoed the need for a meeting to deal with these issues quickly.

Superintendent Ybarra said perhaps taking student teachers out of the classroom and making them substitute teachers to help during the crisis should be explored. Dr. Clark said that request has already been put into motion and a discussion with representatives from the Universities will happen next week concerning this issue. Ms. Bent confirmed to Dr. Clark that Board policies and procedures are already in place to allow this to happen under work-based learning. Dr. Clark said there are between 170

and 200 student teachers currently in our universities right now who might be able to help.

There were no further comments or questions from the Board.

There being no further business, a motion to adjourn was entertained.

BOARD ACTION
M/S (Hill / Keough): I move to adjourn the meeting at 5:06 p.m. (MT). The motion carried 6-0. Board Member Bill Gilbert was absent from voting.

TAB	DESCRIPTION	ACTION
1	BAHR - BOISE STATE UNIVERSITY - BOISE CITY MASTER SERVICES AGREEMENT – BOISE POLICE SERVICES	Action Item
2	BAHR – UNIVERSITY OF IDAHO – SOFTWARE DONATION – ACADEMIC LICENSE FOR PETREL SOFTWARE	Action Item
3	IRSA – EPSCoR COMMITTEE APPOINTMENTS	Action Item
4	PPGA – INDIAN EDUCATION COMMITTEE APPOINTMENT	Action Item
5	PPGA – DATA MANAGEMENT COUNCIL APPOINTMENT	Action Item
6	PPGA – STATE REHABILITATION COUNCIL APPOINTMENT	Action Item
7	SDE – ACCREDITATION REPORT, 2020-2021	Action Item
8	SDE – PROFESSIONAL STANDARDS COMMISSION APPOINTMENT	Action Item
9	SDE – EMERGENCY PROVISIONALS CERTIFICATES	Action Item

BOISE STATE UNIVERSITY

SUBJECT

Campus Master Services Agreement with Boise City for law enforcement related services

REFERENCE

October 2004	Idaho State Board of Education (Board) approved contract with Boise City Police Department to provide campus law enforcement services.
June 2008	Board approved renewal of contract with Boise City Police Department to continue to provide campus law enforcement services through September 2012.
June 2012	Board approved renewal of contract with Boise City Police Department to continue to provide campus law enforcement services through September 2016.
June 2014	Board approved a revision of contract with Boise City Police Department to increase the cost of the contract through September 2016.
December 2016	Board approved contract with Boise City Police Department to provide campus law enforcement services for a nearly five year period, expiring September 30, 2021.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section V .1.3.a
Section 67-9225, Idaho Code

BACKGROUND/DISCUSSION

Since October 2004, Boise State University (BSU) has contracted with the Boise City Police Department ("BPD") to provide law enforcement services on campus. In June 2014, the Board approved a revised contract that expired in September 2016, and later, a three-month extension to provide for an expiration at the end of December 2016.

In December 2016, the Board approved an up to five year (three year fixed, two year optional) Agreement with Boise City for law enforcement services to be provided by Boise Police officers assigned at BSU.

BSU wishes to enter into an agreement with the City for BPD's continued services for a five year term. In addition to Board approval, Boise City Council approval will be required. The proposed contract term is for November 1, 2021, through December 2026, an approximate five year and two month term (shifting from a fiscal year end for the City to a calendar year-end). In order to bridge the gap between the end of the existing five year term and the beginning of the new five

year term, a letter agreement is anticipated which would extend the current agreement by one month - the month of October - to bridge the agreement over to the start of the new contract beginning November 1.

The University's continuing overarching goal is to provide effective police and security services to campus constituencies in a transparent, professional, friendly, and collaborative manner. It is important that all student, staff, faculty, and visitors feel safe and, in fact, are safe while on the Boise State University campus. Student success is critical to the University, and a safe learning environment for all students is foundational to that success.

The proposed agreement anticipates a Lieutenant and six officers will be assigned for the BSU specialty unit, and they will receive specialty training for Title IX, Jeanne Clery Act, and other issues unique to University policing that may be provided or recommended by the University. In addition, the Special Events held at BSU will continue to be covered by the Agreement, including, but not limited to, BSU football games and Extra Mile Arena concerts.

Boise Police has developed a new Training, Education, and Development Division, currently led by Captain Spencer Fomby. In collaboration with Captain Fomby, the Agreement contemplates increased campus engagement, transparency, collaboration, and training opportunities, alongside the University's Campus Safety Advisory Committee.

IMPACT

The parties have reached agreement with regard to costs. In addition to costs related to personnel assigned to BSU, Boise City has developed an indirect cost formula for reimbursement of other costs – maintenance and operational costs - associated with the unit.

Year	Personnel costs	Indirect costs	Total
2021-2022	$ 1,625,243	$ 323,353	$ 1,948,596
2022-2023	$ 1,690,252	$ 333,053	$ 2,023,305
2023-2024	$ 1,757,862	$ 343,053	$ 2,100,906
2024-2025	$ 1,828,176	$ 353,344	$ 2,181,520
2025-2026	$ 1,901,303	$ 363,944	$ 2,265,247

ATTACHMENTS

Attachment 1 – Master Services Agreement

STAFF COMMENTS AND RECOMMENDATIONS

The positive relationship between the Boise City Police Department and Boise State University has led to this five-year extension of the agreement of these

partners. This extension provides continuity and stability for the University and its students and solidifies a long-standing, successful partnership.

Staff recommends approval.

BOARD ACTION

I move to approve the request by Boise State University to enter into the Master Services Agreement with Boise City as proposed in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

MASTER SERVICES AGREEMENT

BETWEEN BOISE CITY AND BOISE STATE UNIVERSITY

This Master Services Agreement (hereinafter, the "Agreement") is entered into on this _____ day of October, 2021, between the city of Boise City, an Idaho municipal corporation, by and through the Boise Police Department ("Boise City" or "BPD"), and Boise State University, a public institution of higher education, organized and existing under the Constitutional authority of the State Board of Education, acting as the Board of Trustees for Boise State University, and the laws of the State of Idaho, by and through the Department of Public Safety ("University"), (collectively, the "Parties").

RECITALS

WHEREAS, University desires to contract with Boise City for the performance of law enforcement functions and police services by BPD, as described herein; and

WHEREAS, Boise City is agreeable to rendering such services on the terms and conditions set forth herein, and agrees to provide law enforcement services at and for the benefit of the University, its students, faculty and staff, and those in the campus community; and

WHEREAS, the parties wish to state more fully their rights and responsibilities regarding such functions and services.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties agree as follows:

1. Scope of Services. Boise City will provide and perform such services described herein, with the standard of care and skill customarily provided in the performance of such services, upon the Main Campus of Boise State University and those University properties within the Area of Service defined below.
    a. Boise City agrees to employ, furnish, and supply all necessary personnel, together with their equipment, supplies and supervision, records and record-keeping, vehicles, communication equipment, along with maintenance, and such other items as are reasonable, customary and necessary.

b. Services will include, but not be limited to: the investigation and enforcement of state criminal and traffic laws, coordination of investigations and responses related to sexual assaults or other gender-based violence in a manner consistent with the law and this Agreement, filing investigative and other required reports or documents, patrolling and maintaining building security, traffic control and enforcement (but not parking control), accident investigation and assistance to other law enforcement agencies as appropriate, and the preservation of peace upon campus properties and within its buildings as set forth herein. Boise City will also provide certain non-law enforcement services, but directly related to the safety and security of the campus community, including but not limited to participation in University's Campus Assessment, Resource and Education ("CARE") Team related to threat assessments and behavioral intervention; participation in the University's Campus Safety Advisory Committee ("CSAC"), related to campus public safety issues generally, including but not limited to identifying training initiatives for campus security officers and/or BPD officers to bolster campus engagement, collaboration, transparency, and communication.

2. Area of Service. Boise City will provide the services upon the Boise State University Main Campus and within buildings at the Main Campus, shown by Exhibit A, along with University-owned, controlled or maintained buildings and properties which lie within the BPD jurisdiction areas, which properties will be updated from time to time and provided to the assigned Lieutenant. Calls for service that are for University properties not located on the Main Campus may be answered by the Patrol Division assigned to the area the properties are located in.

3. Law Enforcement Unit. The parties agree and intend to establish Boise Police Department (BPD) as a campus law enforcement unit in accordance with the definition of a law enforcement unit contained in 34 CFR § 99.8(a)(1)(i)-(ii). As such, BPD is a law enforcement unit made up of officers or officials authorized or designated by University to:

   a. enforce any local, State, or Federal law, or refer to appropriate authorities a matter for enforcement of any local, State, or Federal law against any individual or organization other than the agency or institution itself; and

b. maintain the physical security and safety of the University, and its patrons, students, and employees.

4. Term. Unless sooner terminated as provided for herein, this Agreement shall be effective for a term of five (5) years and two (2) months starting on November 1, 2021 and expiring on December 31, 2026. Each new year for the purposes of this Agreement will begin on November 1, with Year 5 consisting of one (1) year and two (2) months.

5. Cancellation. Either party may cancel this Agreement for nonperformance, or inadequate or poor performance with ninety (90) days written notice. Any cancellation of this Agreement based upon inadequate or poor performance or service expectations not being met must be in good faith and any amounts due under this Agreement shall be calculated through the actual date of termination of this Agreement rather than the date of notice of termination.

6. Consideration. University, in consideration of the functions and police services provided under the terms of this Agreement, will pay (in monthly installments) to the City the total annual sum set forth below. The first column represents Personnel Costs reimbursement to the City (with a 4% escalator annually). The second column represents reimbursement of Indirect Cost reimbursements to the City (with a 3% escalator annually) associated with the Boise Police unit assigned to Boise State University.

Year #	Personnel	+	Indirects	=	Total Annual Payment
Year One:	1,625,243	+	323,353	=	1,948,596
Year Two:	1,690,252	+	333,053	=	2,023,305
Year Three:	1,757,862	+	343,053	=	2,100,906
Year Four:	1,828,176	+	353,344	=	2,181,520
Year Five:	1,901,303	+	363,944	=	2,265,247

7. Additional Consideration.

a. From time to time, University requires additional law enforcement presence at University or non-University events (those events held by outside individuals, corporations or agencies at which the outside entity or person requests additional BPD officer staffing or involvement) taking place at Main Campus venues or on other properties owned, managed or controlled by Boise State.

b. University events are defined as those events held or sponsored by University officials, departments, or organizations, including student organizations, or those events for which the Department of Public Safety requests additional BPD staffing or involvement. Non-University events are defined as those events held by outside individuals, corporations or agencies at which the outside entity or person requests additional BPD officer staffing or involvement.

c. For these events, Boise City will assign additional officers in uniform at a rate as follows:

YEAR	**UNIVERSITY EVENT**	**NON-UNIVERSITY EVENT**
Year One	$64 per hour	$72 per hour
Year Two	$66 per hour	$74 per hour
Year Three	$68 per hour	$76 per hour
Year Four	$70 per hour	$78 per hour
Year Five	$72 per hour	$80 per hour

8. Regulated Environment. Boise City is aware of University's reporting, investigation, record-keeping and compliance obligations and the measures undertaken pursuant to *Family Educational Rights and Privacy Act* ("FERPA") (20 U.S.C. § 1232g), the *Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act* and its amendments within the *Higher Education Opportunity Act* (the "Clery Act"), *Title IX of the Education Amendments of 1972* (34 CFR Part 106) ("Title IX") and Section 304 of the *Violence Against Women Reauthorization Act of 2013* ("VAWA"), and as such, will aid and support University in meeting its obligations under these laws, as the same may be amended from time to time, including but not limited to providing access to or copies of LE Records necessary to meet its obligations.

9. Types of Records.

a. Law Enforcement Records (LE Records) are:

i. created by Boise City;

ii. created for a law enforcement purpose; and

iii. maintained by Boise City. See 34 CFR § 99.8(b)(1) LE Records.

b. LE Records do not include records created and maintained by a law enforcement unit exclusively for a non-law enforcement purpose, such as a disciplinary action or proceeding conducted by the Human Resources department or Dean of Students at University. See 34 CFR § 99.8(b)(2).

c. Education Records:

   i. Are directly related to a student; and

   ii. Are maintained by the University;

   iii. Include but are not limited to grades, transcripts, class lists, student course schedules, student financial information, and student discipline files.

   iv. May be held and maintained by the University in any way, including, but not limited to, handwriting, print, computer media, videotape, audiotape, film, microfilm, microfiche, and e-mail. See 34 CFR § 99.2.

10. Access to LE Records by University and Information Sharing.

a. Recognizing the University responsibility to respond promptly and effectively to protect the campus community from and investigate hate crimes, violent crimes, or crimes of gender based or sexual violence, and the University's urgent need to receive information that affects the campus students, faculty, and staff safety, Boise City will disclose LE Records, information and investigatory records to University officials as soon as practicable and under confidential stamp. In instances where immediate sharing of records is not possible, Boise City will actively and promptly communicate with University Public Safety or Title IX officials to ensure the safety of the campus community, including, if known, the name and description of the victim and perpetrator, a description of the incident, including location and date and time, and any DR or other report number assigned to the police incident report documenting the investigation being conducted. Pending the release of records, the Lieutenant or his/her designee assigned to the University will verbally communicate with the Associate Vice President of the Department of Public Safety (or his/her designee) or the University Title IX Representative with as much information as is possible to aid and support the University in its investigation.

b. Routing for Screening Decisions. LE Records, DRs, or other reports that contain evidence meeting the elements of hate crimes, violent crimes, and crimes of gender based or sexual violence alleged to have occurred on the Main Campus or

University-owned, controlled or maintained buildings and properties within the Boise Police jurisdiction areas will be routed to the Ada County Prosecuting Attorney's Office, Boise City Attorney's Office, or other special prosecutor as assigned, for a charging or "screening" decision unless the relevant prosecuting agency has been consulted and has indicated otherwise.

c. LE Records. LE Records related to University business, regardless of format, will be freely shared with the University and may be utilized for any lawful purpose, including but not limited to Title IX, Clery Act, Student Conduct, or Human Resource disciplinary proceedings, but will not be released by the University to any outside party, nor will LE Records created and maintained by Boise City be held by the University as a record of the University. LE Records are not records belonging to the University and must be requested by the public through the Boise Police Department. Boise City is the custodian of LE Records produced by City personnel and any persons requesting LE Records will be referred to City to submit a public record request.

11. Access to Education Records by BPD and Information Sharing.

a. BPD officers and staff assigned to University:

i. perform an essential institutional service and function for which the University would otherwise use employees;

ii. are designated as "school officials;"

iii. possess a "legitimate educational interest" in student educational records. See 34 CFR § 99.31(a)(1)(i)(B); and

iv. may view or have access to student education records in order to perform their professional duties, subject to certain limitations.

v. Limitations.

1. FERPA still applies to the student education records and information from those records. BPD officers and employees, with whom Education Records and information from Education Records are shared, are employees are subject to:

a. FERPA's redisclosure requirements in 34 CFR § 99.33(a);

b. FERPA's consent requirements in 34 CFR§ 99.31;

c. Are under the direct control of the University with respect to the use and maintenance of the Education Records; and

d. Meeting the criteria established by the University's annual notification of FERPA rights, as required by 34 CFR § 99.7 in order to maintain designation as school officials with a legitimate educational interest.

2. BPD officers participating in the CARE Team functions may only use Personally Identifiable Information (PII) from Education Records to conduct threat assessments. For the sake of clarity and the avoidance of doubt, a BPD officer serving on the CARE Team may not share any PII with BPD from a student's education records to which he or she was privy to as a member of the CARE Team.

3. A BPD officer may disclose PII from a student's education records, on behalf of the University, to appropriate officials where a CARE Team determination finds that a health or safety emergency exists. See §§ 99.31(a)(10) and 99.36.

vi. By allowing BPD officers, as school officials, to have appropriate access to a student's Education Records, BPD and University can work cooperatively to detect warning signs and determine whether a particular student poses a risk or a threat to him/herself and/or the campus community. To allow this communication to occur, both BPD and University must comply with the confidentiality requirements of FERPA for education records as set forth above.

12. Independence and Performance of Duties. BPD personnel are employees of Boise City, and are not the employees of University. Nothing in this Agreement shall be deemed or construed to: (i) create a partnership, joint venture, or employer-employee relationship between University and Boise City personnel; or (ii) constitute or authorize BPD or Boise City employees, officers, or agents acting as University employees, officers or agents. Boise City is retained by the University only for the purposes and to the extent set forth in this Agreement, and Boise City's relationship to the University shall during the term of this Agreement be that of an independent contractor. Boise City employees shall not be considered as having an employee status or as being entitled to

participate in any plan, arrangements, or distributions by the University pertaining to or in connection with any qualified pension plan or providing any other health or welfare plan with similar benefits for regular employees. Boise City shall be responsible for the payment of any taxes due, if any, on any monies received from University. Except as provided below and herein, Boise City reserves the right to determine the deployment and dispatch method(s) for officers performing duties under this Agreement in the direction of, and carrying out of their work, and the manner in which the services described in this Agreement shall be provided.

a. The parties agree that deployment of services will be accomplished by foot, bicycle, and/or vehicle patrols.
b. Required Staffing Levels will be determined by the parties and will be set forth in a Standard Operating Procedure.
c. Dispatch personnel employed by Boise City will provide support services in parallel fashion to Public Safety officials and BPD alike.

13. Controlling Procedures. The procedures of Boise City personnel will be governed by the Boise Police Policy Manual ("Manual") except as specifically set forth in this Agreement. Where University procedure directly conflicts with the procedures set forth in the Manual, the provisions of the Manual shall prevail. The Associate Vice President for Public Safety (or his/her designee) will be consulted regarding Boise Police Standard Operating Procedures (SOPs) that mutually affect BPD and University or Public Safety officers and officials.

14. Open Dialogue. Boise City will maintain an open dialogue with University and exchange information regarding scheduling needs, public safety concerns, and matters of mutual interest; provided however, that no special relationship or duty is created or contemplated herein. In emergency situations or when there is an ongoing threat to the campus community or a member of the campus community, the Associate Vice President for Public Safety (or his/her designee) and the assigned Lieutenant or his/her designee will ensure information sharing occurs as quickly and as often as the situation will allow for, given the constraints that may exist.

15. Clery Act Requirements. Pursuant to the Clery Act, each Boise City officer is considered a "Campus Security Authority," meaning each has a responsibility for campus security and has a duty to follow Clery Act requirements, including but not

limited to: maintaining the daily log, providing appropriate information for timely warnings or emergency notifications, completing the appropriate Clery Act paperwork when crimes are reported to them, and completing Clery Act training provided by the University. BPD is the primary law enforcement agency to which University would refer crimes to be investigated and reported. As such, Boise City will be required to provide annual Clery Act statistics for the Annual Security Report. Boise City will have the primary responsibility to ensure the accuracy of the crime log, as well as ensuring it is available in accordance with this Agreement and Clery Act requirements. Clery Act training and education for officers specially assigned to the University or who may be deployed to the University for replacement or backfill will be determined by the University Clery Compliance Officer, in consultation with the assigned Lieutenant.

16. Title IX Requirements. Boise City will ensure that officers who are regularly assigned to work on the Main Campus or within the Area of Service, as well as personnel who may be assigned to provide support, including replacement or backfill for University-assigned officers, are aware of their responsibilities under Title IX of the Education Amendments of 1972 and Section 304 of the Violence Against Women Reauthorization Act of 2013 and ensure compliance under these federal acts. Boise City personnel assigned to the University will complete an annual Title IX training module provided by the University.

17. Peace Officer Standards and Training and Personnel. Boise City will utilize P.O.S.T.-certified officers in meeting its obligations under this Agreement. Six (6) officers will be assigned to the University in addition to one (1) Lieutenant and four and two-tenths (4.2) Police Admin Specialists. Boise City agrees to consult with the University in the scheduling of personnel. Appropriate University Public Safety officials will be consulted in the selection process of any BPD officer or dispatcher being considered for a new assignment to the University. Boise City retains its discretion to make officer assignments to University; provided, however, that BPD agrees to consult with the Associate Vice President for Public Safety (or his/her designee) in the selection and placement of BPD officers on assignment to the University.

18. Backfill and Replacement. BPD reserves the right to assign officers from different units to the University campus. However, BPD may give preferred assignment for extra

shifts to regularly assigned University officers to ensure consistency of the operational philosophy of BPD and University. All non-University officers with a temporary work assignment at University will be required to complete training related to University BPD Unit operating procedures.

19. Assigned BPD Lieutenant. Taking into consideration the operational needs of BPD, the Lieutenant assigned to the University Unit will be considered for a rotational position every four years. Absent budgetary constraints, a newly assigned Lieutenant will be trained and transitioned into the University assignment by the departing Lieutenant for a period no less than four weeks. The Lieutenant assigned to manage the University Unit will participate as a member of University's:
    a. Campus Assessment, Resource and Education ("CARE") Team. As a member of the CARE Team, and within Boise City budgetary constraints, the Lieutenant will maintain an ATAP membership and will attend appropriate training sessions and conferences to maintain a competency in the best practices for the threat assessment.
    b. Campus Safety Advisory Committee ("CSAC"), a committee yet to be formed in order to:
        i. bolster community engagement, collaboration, transparency and communication with the campus community representatives to be selected by the Office of the President, and
        ii. heighten campus community awareness regarding the University's hybrid model of campus safety.
20. Contract Management and Administration; Problem Solving. BPD and Public Safety will each designate an employee to be its administrator of this Agreement for the purpose of coordinating the efforts of University employees and the employees of BPD.
    a. For the City and BPD, the administrator shall be the person serving in the Lieutenant position.
    b. For the University, the administrator shall be the Associate Vice President for Public Safety (or his/her designee).
    c. Each party agrees to provide its full cooperation and assistance to the other, so as to facilitate the performance of this Agreement. Matters of dispute shall be resolved through good faith negotiations within the Chain of Command, and whenever

possible, in a face-to-face meeting or series of meetings. Where those persons cannot resolve a disputed matter to their mutual satisfaction, they will be joined in the resolution process by their immediate superiors, the COD Captain for Boise City, and the Vice President of University Affairs for the University. Where the matter remains in dispute, and without a satisfactory resolution, the parties may, if both parties are in agreement that mediation is necessary, seek to mediate the dispute through a shared cost mediation process.

21. Key Personnel. Key Personnel consists of the Lieutenant position and the Police Admin Specialist(s). Boise City shall not substitute Key Personnel to the performance of this Agreement without consultation with the Associate Vice President for Public Safety (or his/her designee), which consultation shall require the express consent of the University, which may be withheld in its reasonable discretion.

22. BPD Officers Assigned to Boise State. Boise City and the University will consult with each other to ensure that the BPD officers who are regularly assigned to the University are well-suited to the assignments. In reaching toward that important goal, the Associate Vice President for Public Safety (or his/her designee) shall be a required participant in the selection process for BPD officers to be assigned to the University, including participation in BPD officer selection boards.

23. Assignments or Substitutions. Boise City shall not assign or substitute any BPD personnel involved in the performance of this Agreement without consulting the Associate Vice President for Public Safety. BPD will prioritize the preferences of the University in personnel assignments; however, personnel assignments for BPD officers who are not Key Personnel remain in the sole discretion of BPD.

    i. Boise City personnel positions at Boise State may not languish unfilled. Unless otherwise agreed to by the parties, any anticipated or unanticipated absence of more than 30 days shall require the unfilled personnel position(s) to be replaced with a candidate chosen in consultation with the University who has received training necessary to serve in the University law enforcement position. In the event that a position must be filled for public safety needs but the officer has not received that necessary training, the training will be scheduled at the earliest possible opportunity.

24. Training. In addition to University-specific training (e.g. Clery Act, Title IX), the University may provide or recommend supplemental training for personnel assigned to provide services on the Main Campus or within the Area of Service. Any supplemental training must be approved by the assigned Lieutenant, in consultation with BPD's Training, Education, and Development Division (TEDD), to ensure that it does not conflict with BPD's standardized officer training program.

25. Service Hours. Boise City will provide the services, staffing and operation as specified herein on a twenty-four (24) hour-a-day, seven (7) day-a-week basis.

26. Police Admin Specialist Hours and Training. Boise City will provide Police Admin Specialist personnel at the Campus Substation as specified herein on a twenty-four (24) hour-a-day, seven (7) day-a-week basis.

    a. Individual shift scheduling of Police Admin Specialists shall be at the discretion of Boise City; provided, however, that the Campus Substation office hours of staffing and operation shall be on a twenty-four (24) hour-a-day, seven (7) day-a-week basis.

    b. Training for Police Admin Specialists will be determined by the assigned Lieutenant, in consultation with the Associate Vice President for Public Safety (or his/her designee). The Associate Vice President for Public Safety (or his/her designee) will assign a liaison to the assigned Lieutenant and Police Admin Specialists to ensure the needs of the University are met.

27. University Policies. The University may from time to time adopt policies governing the conduct of students and other persons present on the Main Campus or upon University properties in the Area of Service. To the extent that violation of University policies also constitutes a violation of applicable law, including a breach of the peace, or a threat to public health or safety, Boise City will take the appropriate law enforcement actions as Boise City determines in its sole discretion to be proper under the circumstances. To the extent that violation of those policies does not constitute a violation of applicable law, Boise City is not required to take any law enforcement action and may leave the enforcement of policies to the University.

28. Vehicles, Equipment, Facilities. All vehicles, equipment, and facilities are and shall be owned and maintained by the purchasing party.

a. Vehicles. City, at its sole cost and expense, shall provide, maintain and repair appropriate vehicles as may be reasonably required to perform any of the duties assigned hereunder. Boise City agrees at a minimum to provide:
    i. two (2) suitable patrol vehicles equipped with appropriate law enforcement equipment, such as lights, sirens, approved weapons and radio; and
    ii. one (1) unmarked patrol vehicle, as well as any law enforcement equipment approved to be carried by the officers.

b. Equipment.
    i. City. Boise City shall, at its sole cost and expense, provide to its officers all equipment required or necessary to perform their duties, including uniforms, badges and other accoutrements, weapons, manuals, report forms, and such other equipment and materials as Boise City routinely issues to its police officers and upon the terms in the Collective Labor Agreement. All equipment provided by the Boise City (or provided by the police officers at their expense) shall remain the property of the City (or the police officer, as the case may be). Additionally, as part of the Agreement price, Boise City agrees to provide computers and printer equipment for BPD as part of its law enforcement and campus policing purposes.
    ii. University. University shall, at its sole cost and expense, provide such other specialized equipment as it shall require for police officers assigned to University, if any. Such University-supplied equipment shall remain the property of University, to be returned at the conclusion of the assignment. Any such specialized equipment will be identified and inventoried as such, with the City signing acknowledgment of receipt of such equipment and returning the same as soon as the equipment is no longer needed by Boise City. Any equipment belonging to University may only be used in connection with the service provided herein and may not be removed from the Main Campus of the University without the authorization of the Associate Vice President for Public Safety (or his/her designee), unless necessary to assist a Boise City officer or Public Safety officer in providing emergency response and assistance. Cost of repairs related to abusive

damage to University-provided equipment, caused by the City, will be the responsibility of the City.

c. Facilities.

i. University. University hereby grants to City a revocable license to occupy and utilize certain office space ("Non-leased Space") upon the Main Campus of University or at other locations on University property in order to perform the Police Services. The Non-Leased Space shall be rent free but occupancy shall be pursuant to and conditioned upon the terms and conditions set forth in Exhibit B (attached hereto and incorporated herein). Additionally, City shall enter into a lease for any facility utilized by the City for purposes outside of the Police Services provided hereunder.

ii. University shall provide office space, furniture, and equipment, including but not limited to: telephones, computers/monitors/printers for the BPD dispatch center, and a radio communication system deemed sufficient by BPD for the purposes of this Agreement.

iii. University will provide four (4) reserved parking stalls for BPD vehicles and substation employees. Curb parking for marked police vehicles will be located in front of the substation. Properly identified police vehicles may park anywhere on campus within legal zones and restrictions. Additional parking for BPD personnel will be managed consistent with University Department of Public Safety policy and practice.

iv. Boise City will pay University for parking and use of any private vehicles for officers or other employees, using parking rates and rules applicable to University employees.

29. Indemnification.

a. To the extent permitted by Idaho law, City shall indemnify, defend, and hold harmless University, its officers, agents, and employees from any and all liability, loss, damage or claims, of any description, which results directly or indirectly from the negligent acts or omissions or other tortious conduct of City, its officers, agents or employees in performing the services and duties described in this Agreement except those which arise out of the negligent acts or omissions or other tortious conduct of University, its officers, agents, and employees. Such indemnification

and defense shall be limited to only those claims, and only to the extent that, City itself could be liable under state and federal statutes, regulations, common law, and other law. In no event will the indemnification provisions herein alter or waive the protections afforded and/or defenses that may be available to the City under the Idaho Tort Claims Act, including any defenses, burdens of proof, immunities, and limitations on damages to which City would be entitled if the claims were asserted against City.

b. To the extent permitted by Idaho law, University shall defend, indemnify, and hold City, its officers, agents, and employees harmless from any and all liability, loss, damage or claims, of any description, which results directly or indirectly from the negligent acts or omissions or other tortious conduct of University, its officers, agents or employees in performing the duties described in this Agreement, except those which arise out of the negligent acts or omissions or other tortious conduct of City, its officers, agents, and employees. Such indemnification and defense shall be limited to only those claims, and only to the extent that, University itself could be liable under state and federal statutes, regulations, common law, and other law. In no event will the indemnification provisions herein alter or waive the protections afforded and/or defenses that may be available to the University under the Idaho Tort Claims Act, including any defenses, burdens of proof, immunities, and limitations on damages to which University would be entitled if the claims were asserted against University.

c. Nothing herein shall be deemed to constitute a waiver by City or University of any privilege, protection, or immunity otherwise afforded to it under the Idaho Constitution, or other applicable law. Nothing contained herein shall be deemed a waiver of University's sovereign immunity, which is hereby expressly retained.

30. Insurance. City will, at its sole cost and expense, procure and maintain throughout the term of this Agreement:

a. Commercial general liability insurance with limits not less than $500,000.00 as is required by the Idaho Tort Claims Act with combined property damage and bodily injury liability, including blanket contractual and personal injury liability;

b. Automobile liability, including property damage and bodily injury with combined limits of not less than $500,000.00; and

c. Worker's compensation insurance in amounts as required by statute, regardless of the number of employees, or lack thereof, to be engaged in the completion of this Agreement.

31. Use of Marks or Logos. Except as authorized by the Associate Vice President for Public Safety (or his/her designee), in consultation with the Office of Trademark and Licensing, BPD shall not, prior to, in the course of, or after performance under this Agreement, use University's name or marks, including but not limited to its logos, in any advertising, badging, promotional media or vehicle wraps. Likewise, unless University is authorized by the Chief of Police, it shall not use BPD's or the City's name, marks, or logos in any advertising, badging, promotional media or vehicle wraps.

32. Entire Agreement. This Agreement constitutes the entire Agreement of the parties, and shall supersede all prior agreements, oral or written, between the parties, on the subject matter. Any conflicts or inconsistencies shall be resolved through a meeting between the administrators for the parties.

33. Anti-Discrimination/Equal Employment Opportunity. Acceptance of this Agreement binds the City to the terms and conditions of Section 601, Title VI, Civil Rights Act of 1964, in that 'No person in the United States shall, on the grounds of race, color, national origin, or sex, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance.' In addition, 'No otherwise qualified handicapped individual in the United States shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance' (Section 504 of the Rehabilitation Act of 1973). Furthermore, for contracts involving federal funds, the applicable provisions and requirements of Executive Order 11246 as amended, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974, Section 701 of Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act of 1967 (ADEA), 29 U.S.C. Sections 621, *et seq*., the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, U.S. Department of Interior regulations at 43 CFR Part 17, and the Americans with Disabilities Action of 1990, are also incorporated into this Agreement. The City shall comply with pertinent amendments to such laws made

during the term of the Agreement and with all federal and state rules and regulations implementing such laws.

34. Default; Notice and Opportunity to Cure; Notice of Termination. Where performance has been deemed, in the sole discretion of either party to this agreement, to be substandard, or does not meet the service levels or expectations of either party, or Key Personnel or BPD officers do not meet the expectation of the University, then either party may choose to notify the other with reasonable specificity, of the deficiency, or the failure to meet expectations, or the Key Personnel issues requiring resolve. Upon receipt of the notice, the party shall be provided a thirty-day period of time to communicate with the other party to seek clarity and cure or adjust its performance or Key Personnel in accordance with expectations. If, at the conclusion of such thirty-day period, the notifying party is not satisfied with the other party's efforts to cure or adjust performance, then the notifying party shall issue a second notice, a notice of cancellation or termination, which shall be effective sixty (60) days following receipt of the notice of cancellation. Amounts due under this Agreement shall be calculated through the actual date of cancellation or termination of this Agreement on a *pro rata* basis rather than the date of notice.

35. Appropriation by Legislature Required. University is a government entity, and this Agreement shall in no way or manner be construed so as to bind or obligate it or the State of Idaho beyond the term of any particular appropriation of funds by the State's Legislature as may exist from time to time. University reserves the right to terminate this Agreement in whole or in part if, in its sole judgment, the Legislature of the State of Idaho fails, neglects, or refuses to appropriate sufficient funds as may be required for University to continue such payments, or if the Executive Branch mandates any cuts or hold backs in spending. All affected future rights and liabilities of the parties hereto shall thereupon cease thirty (30) calendar days after notice to BPD. Amounts due under this Agreement shall be calculated through the actual date of termination of this Agreement on a pro rata basis rather than the date of notice of termination.

36. Notice. Notices required or contemplated under this Agreement shall be in writing and mailed or hand-delivered to the respective parties at the following addresses, or such other addresses as the parties hereto may, by notice, designate in writing to each other.

BOISE STATE UNIVERSITY	BOISE POLICE DEPARTMENT
Alicia Estey VP of University Affairs Boise State University 1910 University Drive Boise, Idaho 83725 Phone: (208) 426-1417	Chief Ryan Lee Chief of Police Boise City Police Department 333 N. Mark Stall Place Boise, Idaho 83704 Phone: (208) 570-6000

37. No Waiver of Future Breach. The failure of a party hereto to insist upon strict performance or observation of this Agreement shall not be a waiver of any breach or of any terms or conditions of this Agreement by any other party.

38. Severability. In the event any provision or section of this Agreement conflicts with applicable law, or is otherwise held to be unenforceable, the remaining provisions shall nevertheless be enforceable and carried into effect.

39. Attorney Fees. In the event of any litigation arising under or as a result of this Agreement or arising from all of the acts to be performed hereunder or the alleged breach of this Agreement, the prevailing party shall recover its costs and reasonable attorney fees.

40. Governing Law. This Agreement shall be governed and interpreted pursuant to the laws of the State of Idaho.

41. Amendment. No amendment, altercation, or modification of this Agreement shall be effective unless made in writing and duly executed by the parties hereto.

42. Counterparts. The parties will execute five (5) counterparts of this Agreement and each such counterpart shall be deemed an "original" for all purposes.

THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK

[SIGNATURE PAGE FOLLOWS]

DATED this ____ day of October, 2021.

BOISE CITY	**BOISE STATE UNIVERSITY**
_____	_____
Ryan Lee	**Mark Heil**
Chief of Police	**CFO & Vice Pres., Finance & Admin.**
BOISE CITY MAYOR	**ATTEST:**
_____	_____
Lauren McLean	**Boise City Clerk**

EXHIBIT A – Depiction of Main Campus

EXHIBIT B

TERMS AND CONDITIONS

Occupancy of any Non-Leased Space shall be subject to the following terms and conditions:

No expansion of the utilized space will be allowed without the express written consent of the University.

All Non-Leased Space shall be utilized only for the purposes described in the Agreement as of the date of this Agreement and for no other purposes without the express written consent of the University.

University reserves the right to relocate BPD to other suitable and comparable Main Campus space to the extent the Non-Leased Space is required for other educational or University operational purposes. Prior to initiating any relocation, the University will review functionality and any response time concerns with BPD.

BPD will keep and maintain the Non-Leased Space in a neat, clean and orderly condition.

City will not operate the Non-Leased Space in such a fashion as to incur extraordinary utility costs and will use best practice efforts to minimize lighting and HVAC utility costs.

BPD shall comply with all present and future laws and regulations relating to regulated materials, including hazardous materials and agrees to abide by the Environmental Regulations of the University. BPD shall not use or store Hazardous Materials upon or within the Non-Leased Space and shall not dispose of any Hazardous Materials upon surrounding lands or waters.

BPD shall not make any improvements or do any other construction work on the Non-Leased Space or alter, modify, or make additions, improvements, or major repairs to the Non-Leased Space or install any fixtures or personal property therein or thereto without the prior written permission of the University.

Cost of repairs related to abusive damage to Non-Leased Space caused by BPD will be the responsibility of the City.

There shall be no assignment or subletting of the Non-Leased Space.

Any right to occupancy will terminate commensurate with the termination or expiration of this Agreement.

BOISE STATE UNIVERSITY - OWNERSHIP MAP

- CURRENT EXPANSION AREA BOUNDARY
- 2005 EXPANSION AREA BOUNDARY
- 02.28.2008 SBOE APPROVED EXPANSION
- UNIVERSITY OWNED PROPERTY
- OFF-CAMPUS PROPERTY

AREA UNDER CONSTRUCTION FOR FUTURE FINE ARTS

AREA UNDER CONSTRUCTION FOR MATERIALS SCIENCE

BOISE RIVER

GAGE
5475 W. Gage Street

DONA LARSEN PARK
150 S. BROADWAY

CITY CENTER PLAZA Boise State University
777 W. Main St., Suite 380

BODO
301 S. Capitol

BOAS Tennis & Soccer Center
1507 Oakland

YANKE FAMILY RESEARCH Park
220 Park Center Blvd

PARK CENTER BLVD.

UNIVERSITY OF IDAHO

SUBJECT
Schlumberger gift – Academic License for Petrel Software

APPLICABLE STATUTE, RULE, OR POLICY
Idaho State Board of Education Governing Policies & Procedures, Section V.E.5
Idaho Code § 47-201

BACKGROUND/DISCUSSION
The Idaho Geological Survey (IGS) is a state agency administered as a special program by the University of Idaho (UI) per Idaho Code § 47-201. Schlumberger Technology Corporation ("Schlumberger") is a global technological company that specializes in oil, gas and mineral sciences. Schlumberger has offered to renew a donation of highly technical and specialized software to UI for the use and benefit of IGS.

The donation is a renewal of a long-standing academic license for a suite of industry grade software known as "Petrel" and associated modules. The original donation was initiated several years ago by a former IGS director to foster the Oil and Gas program at IGS. The software allows for analytical interpretation of various datasets related to subsurface geology with a focus on oil and gas data.

Schlumberger values the total software donation at $12,882,241.80, with no expense incurred by UI or IGS. The UI's Director of Office of Technology Transfer signed a form accepting the donation on June 28, 2021, not realizing that since the value of this donation exceeds $500,000 the acceptance of the gift must be approved by the Board of Regents, per Board Policy V.E.5.

IMPACT
Neither UI nor IGS incurs any costs by accepting the Schlumberger donation.

The Petrel software and its associated modules, is industry standard and highly specialized. The software will be used primarily for academic research. The use of the software will significantly enhance the UI's and IGS's academic and research mission, and better enable the IGS to fulfill its statutory mission as the state's lead agency for the collection, interpretation, and dissemination of geological and mineral data for the state of Idaho.

ATTACHMENTS
Attachment 1 – Schlumberger Quote 1-1RI8KS9 Revision 1 UI Software Renewal

STAFF COMMENTS AND RECOMMENDATIONS
The donation proposed by Schlumberger provides the University with enhanced access to geological services at no cost. The software provides greater

opportunity for student research and allows the University of Idaho to continue the use of this valuable software. Staff recommends approval.

BOARD ACTION

I move to authorize the University of Idaho to accept the Petrel software donation as set forth in the attached documents, and to authorize the University of Idaho Vice-President for Research and Economic Development, or designee, to execute and ratify the necessary documents to accept the donation in substantial conformity to the documents attached to this motion.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Schlumberger

Quote
1-1RI8KS9 Revision 1
University of Idaho Software Renewal (June 2021)
Offer Valid 6/21/2021 To 7/21/2021

Company
Schlumberger Technology Corporation
5599 San Felipe, Suite 100
Houston, TX 77056-2722
USA

Company Contact
Taegire Akpotaire
TAkpotaire@exchange.slb.com

Customer
UNIVERSITY OF IDAHO
P.O. Box 443022
MOSCOW, ID
83844-3022

Shipping Address
elabombarda@uidaho.edu
UNIVERSITY OF IDAHO
P.O. Box 443022
MOSCOW, ID
83844-3022

Pricing Schedule

Part Number	Description	Unit Price	Quantity	Total Unit Price	Total Net Price	Ref.	Months
ACCS-B1-UNIV	Combined Core System	82,151.00	5	410,755.00	0.00	C	
ARSA-B1-UNIV	Petrel Guru	8,191.00	5	40,955.00	0.00	C	
APVW-B1-UNIV	Data and Results Viewer	31,299.00	5	156,495.00	0.00	C	
ASVI-B1-UNIV	Seismic Interpretation	20,262.00	5	101,310.00	0.00	C	
ASWT-B1-UNIV	Seismic Well Tie	9,210.00	5	46,050.00	0.00	C	
AMAT-B1-UNIV	Multitrace attributes	22,931.00	5	114,655.00	0.00	C	
AASI-B1-UNIV	Structural Interpretation	36,473.00	5	182,365.00	0.00	C	
AKON-B1-UNIV	Petrel Quantitative Interpretation	48,006.00	5	240,030.00	0.00	C	
ASVR-B1-UNIV	Seismic Volume Rendering and Extraction	20,905.00	5	104,525.00	0.00	C	
ASCS-B1-UNIV	Seismic Sampling	8,106.00	5	40,530.00	0.00	C	
AGDC-B1-UNIV	Domain Conversion	10,132.00	5	50,660.00	0.00	C	
AWCR-B1-UNIV	Well Correlation	10,132.00	5	50,660.00	0.00	C	
APSQ-B1-UNIV	Exploration Geology	23,445.00	5	117,225.00	0.00	C	
ASFA-B1-UNIV	Structural and Fault Analysis	15,156.00	5	75,780.00	0.00	C	
AFMD-B1-UNIV	Facies Modeling	20,262.00	5	101,310.00	0.00	C	
APHM-B1-UNIV	Petrophysical Modeling	24,314.00	5	121,570.00	0.00	C	
AFRD-B1-UNIV	Discrete Fracture Modeling	25,119.00	5	125,595.00	0.00	C	
AAGR-B1-UNIV	Advanced Gridding and Upscaling	20,262.00	5	101,310.00	0.00	C	
AWLP-B1-UNIV	Production Interpretation	0.00	5	0.00	0.00	C	
APFS-B1-UNIV	FrontSim Locked	38,497.00	5	192,485.00	0.00	C	

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Quote
1-1RI8KS9 Revision 1
University of Idaho Software Renewal (June 2021)
Offer Valid 6/21/2021 To 7/21/2021

Part Number	Description	Unit Price	Quantity	Total Unit Price	Total Net Price	Ref.	Months
ARGM-B1-UNIV	Petrel Geomechanics	17,035.00	5	85,175.00	0.00	C	
ACAP-B1-UNIV	Petrel Combined HMA and PFO	34,413.00	5	172,065.00	0.00	C	
AHMA-B1-UNIV	History Match Analysis	10,132.00	5	50,660.00	0.00	C	
ARSM-B1-UNIV	Production Forecasting Optimization	24,281.00	5	121,405.00	0.00	C	
AWPD-B1-UNIV	Trajectory Planning	19,257.00	5	96,285.00	0.00	C	
AUCP-B1-UNIV	Shale Suite	14,313.00	5	71,565.00	0.00	C	
ADAS-B1-UNIV	Data Analysis	10,132.00	5	50,660.00	0.00	C	
AECL-B1-UNIV	Classification and Estimation	20,262.00	5	101,310.00	0.00	C	
AMSA-B1-UNIV	Uncertainty	15,156.00	5	75,780.00	0.00	C	
ASIM-B1-UNIV	Surface Imaging (Satellite Images)	8,106.00	5	40,530.00	0.00	C	
AVGC-V1-UNIV	VISAGE Geomechanics Simulator	88,583.00	5	442,915.00	0.00	C	
WPM1-W1-UNIV	PetroMod - PetroMod 1D	15,337.00	5	76,685.00	0.00	C	
W2DB-W1-UNIV	PetroMod 2D Core	86,078.00	5	430,390.00	0.00	C	
W3DB-W1-UNIV	PetroMod 3D Core	110,333.00	5	551,665.00	0.00	C	
W2DA-W1-UNIV	PetroMod 2D Advanced Migration	82,982.00	5	414,910.00	0.00	C	
W3DA-W1-UNIV	PetroMod 3D Advanced Migration	114,529.00	5	572,645.00	0.00	C	
WSGE-W1-UNIV	PetroMod Structural Geology	73,381.00	5	366,905.00	0.00	C	
WPFR-W1-UNIV	PetroMod Fluid Risk	47,320.00	5	236,600.00	0.00	C	
WSRG-W1-UNIV	PetroMod Advanced Geochemistry	22,631.00	5	113,155.00	0.00	C	
WPUC-W1-UNIV	PetroMod Uncertainty	56,921.00	5	284,605.00	0.00	C	
WPPP-W1-UNIV	PM_Parallel (per CPU-core)	9,391.00	5	46,955.00	0.00	C	
WPOS-W1-UNIV	PETROMOD OPEN SIMULATOR	34,290.00	5	171,450.00	0.00	C	
WPI2-W1-UNIV	PetroMod Model Builder 2D	12,521.00	5	62,605.00	0.00	C	
WP12-W1-UNIV	PM2D_Multi-1D PressureTemperature	7,825.00	5	39,125.00	0.00	C	
WP2P-W1-UNIV	PM2D_Full-2D PressureTemperature	29,735.00	5	148,675.00	0.00	C	
WP2C-W1-UNIV	PM2D_2-Component	6,260.00	5	31,300.00	0.00	C	
WP2M-W1-UNIV	PM2D_Multi-Component	20,346.00	5	101,730.00	0.00	C	
WP2F-W1-UNIV	PM2D_Flowpath	9,391.00	5	46,955.00	0.00	C	
WP2N-W1-UNIV	PM2D_Invasion Percolation	29,735.00	5	148,675.00	0.00	C	
WP2Y-W1-UNIV	PM2D_Hybrid	53,247.00	5	266,235.00	0.00	C	
WPI3-W1-UNIV	PetroMod Model Builder 3D	15,650.00	5	78,250.00	0.00	C	
WP13-W1-UNIV	PM3D_Multi-1D PressureTemperature	10,955.00	5	54,775.00	0.00	C	
WP3P-W1-UNIV	PM3D_Full-3D PressureTemperature	41,472.00	5	207,360.00	0.00	C	
WP3C-W1-UNIV	PM3D_2-Component	6,260.00	5	31,300.00	0.00	C	
WP3M-W1-UNIV	PM3D_Multi-Component	23,475.00	5	117,375.00	0.00	C	
WP3F-W1-UNIV	PM3D_Flowpath	12,521.00	5	62,605.00	0.00	C	
WP3N-W1-UNIV	PM3D_Invasion Percolation	39,124.00	5	195,620.00	0.00	C	
WP3Y-W1-UNIV	PM3D_Hybrid	75,404.00	5	377,020.00	0.00	C	
ATLB-G1-UNIV	Techlog BASE	32,083.00	5	160,415.00	0.00	C	
PTAO-G1-UNIV	TECHLOG ALL-IN-ONE WIRELINE SUITE	31,750.00	5	158,750.00	0.00	C	

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Quote

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University of Idaho Software Renewal (June 2021)
Offer Valid 6/21/2021 To 7/21/2021

Part Number	Description	Unit Price	Quantity	Total Unit Price	Total Net Price	Ref.	Months
PPPS-G1-UNIV	PETROPHYSICS SUITE	12,700.00	5	63,500.00	0.00	C	
PWLU-G1-UNIV	UNCONVENTIONAL RESERVOIRS SUITE	12,700.00	5	63,500.00	0.00	C	
PNMS-G1-UNIV	NMR SUITE	12,700.00	5	63,500.00	0.00	C	
PABG-G1-UNIV	ADVANCED BOREHOLE GEOLOGY SUITE	12,700.00	5	63,500.00	0.00	C	
PFOR-G1-UNIV	Formation Testing Suite	12,700.00	5	63,500.00	0.00	C	
PIAP-G1-UNIV	Wellbore Integrity Suite	12,700.00	5	63,500.00	0.00	C	
ATDP-G1-UNIV	TechData Plus	14,085.00	5	70,425.00	0.00	C	
ATPY-G1-UNIV	Techlog Python	23,475.00	5	117,375.00	0.00	C	
ATST-G1-UNIV	TechStat	14,085.00	5	70,425.00	0.00	C	
ATDV-G1-UNIV	Advanced Plotting	19,202.00	5	96,010.00	0.00	C	
ATRT-G1-UNIV	Techlog Real Time	23,475.00	5	117,375.00	0.00	C	
ATQT-G1-UNIV	Quanti	14,085.00	5	70,425.00	0.00	C	
ATQM-G1-UNIV	Quanti.Elan	39,124.00	5	195,620.00	0.00	C	
ATCR-G1-UNIV	TechCore	28,171.00	5	140,855.00	0.00	C	
ATPS-G1-UNIV	Ipsom	18,780.00	5	93,900.00	0.00	C	
ATKM-G1-UNIV	K.mod	18,780.00	5	93,900.00	0.00	C	
ATGP-G1-UNIV	Geophy	18,780.00	5	93,900.00	0.00	C	
ATBM-G1-UNIV	Wellbore Imaging	43,554.00	5	217,770.00	0.00	C	
AT3P-G1-UNIV	Pore Pressure Prediction	14,085.00	5	70,425.00	0.00	C	
ATFP-G1-UNIV	FPress	23,475.00	5	117,375.00	0.00	C	
ATNM-G1-UNIV	NMR	18,780.00	5	93,900.00	0.00	C	
ATTB-G1-UNIV	Thin-Bed Analysis	23,475.00	5	117,375.00	0.00	C	
ATFC-G1-UNIV	Fluid Contact	20,346.00	5	101,730.00	0.00	C	
ATSM-G1-UNIV	Saturation-Height Modelling	23,475.00	5	117,375.00	0.00	C	
ATAC-G1-UNIV	Acoustics	36,762.00	5	183,810.00	0.00	C	
ATMM-G1-UNIV	Wellbore Stability	31,299.00	5	156,495.00	0.00	C	
AT3B-G1-UNIV	3DP - Petrophysics for High Angle and Horizontal Wells	43,554.00	5	217,770.00	0.00	C	
AT3D-G1-UNIV	Techlog 3DP SLB Forward Models	0.00	5	0.00	0.00	C	
ATLK-G1-UNIV	SLB Tool Lock	0.00	5	0.00	0.00	C	
ATUN-G1-UNIV	Unconventionals	28,790.00	5	143,950.00	0.00	C	
ATPN-G1-UNIV	Cased Hole	14,085.00	5	70,425.00	0.00	C	
ATFM-G1-UNIV	Field Map	15,650.00	5	78,250.00	0.00	C	
ACPI-G1-UNIV	Cement and Pipe Integrity	24,133.00	5	120,665.00	0.00	C	
PLOG-G1-UNIV	PRODUCTION LOGGING	12,700.00	5	63,500.00	0.00	C	
ATCB-G1-UNIV	CoreDB	39,124.00	5	195,620.00	0.00	C	
ATTA-G1-UNIV	Techlog C Data API	7,825.00	5	39,125.00	0.00	C	

Net Total: USD 0.00

Grand Total: USD 0.00

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Quote
1-1RI8KS9 Revision 1
University of Idaho Software Renewal (June 2021)
Offer Valid 6/21/2021 To 7/21/2021

REFERENCE

A. LICENSED OR LEASED (MAINTENANCE COMPULSORY FOR 12 MONTHS)
B. RENTED (MAINTENANCE INCLUDED THROUGHOUT)
C. TEMPORARY LICENSE (NO MAINTENANCE)
D. PRE-COMMERCIAL (NO MAINTENANCE)
E. THIRD PARTY LICENSE
F. SERVICE

Terms and Conditions

This is a Quotation which contains indemnity provisions and warranty exclusions, please read it carefully. Upon execution of this Quotation by both parties Company agrees to provide, and Customer agrees to pay the fees, for the software products, services, and/or hardware set out in the Pricing Schedule in this Quotation. The fees indicated in this Quotation are valid until the validity date shown at the top right of the Quotation. If there are existing terms and conditions signed between the parties for software, services or equipment and it is referenced in this Quotation, the parties agree to be bound by that agreement; otherwise the parties agree to be bound by the terms and conditions attached to this Quotation and, if applicable, any additions or changes thereto set out in this Quotation. Terms and conditions on any Customer purchase order or other document are not valid unless included in this Quotation or otherwise explicitly accepted in writing by Company.

Attached Terms and Conditions

EXTERNAL PLUG-IN TERMS AND CONDITIONS

Additional/Amended Terms and Conditions

TOTAL SOFTWARE DONATION VALUE TO UNIVERSITY OF IDAHO - IDAHO GEOLOGICAL SURVEY

TOTAL DONATION VALUE IN USD: $ 12,882,241.80

CONTRACT ID: 1-1RI8KS9

LICENSES WILL BE ISSUED AS A " ONE-YEAR RIGHT TO USE "

Schlumberger

Quote
1-1RI8KS9 Revision 1
University of Idaho Software Renewal (June 2021)
Offer Valid 6/21/2021 To 7/21/2021

General Comments

TO ENSURE PROPER PROCESSING OF YOUR ORDER PLEASE PROVIDE OR VERIFY THE FOLLOWING INFORMATION.

Host ID and/or Hardware Key #: 2-2922347, 2-2922354, 2-2922357, 2-2922381, 2-2922549, & 989096D5B76C

City & Region Host ID resides in: Boise, Idaho, USA

Software Version: DBV

University 1st Line of Software Support:

Name: Eric LaBombarda

Title: IT & Facilities Manager

Email Address: elabombarda@uidaho.edu

Phone Number: (208)364-4089

License Deliver To Email address: cberti@uidaho.edu

Note: All license keys required for the products and/or services listed on this quotation/contract will be delivered to the above email address.

Customer Authorization

I represent that I have signatory authority of the Customer to accept all terms and conditions listed within this contract.

Name: Jeremy Tamsen Title: Director, Office of Technology Transfer

Signature: Digitally signed by Jeremy Tamsen (tamsen@uidaho.edu) Date: 2021.06.28 14:09:29 -07'00' Date: June 28, 2021

Schlumberger Authorization

Company's Authorized Signatory

Name: _____ Title: _____

Signature: _____ Date: _____

Schlumberger

TERMS AND CONDITIONS FOR SOFTWARE USE AND MAINTENANCE, SUPPORT PORTAL, AND REMOTE SUPPORT FOR UNITED STATES PUBLICLY FUNDED EDUCATIONAL INSTITUTIONS

These terms and conditions together with a Quotation executed by both Parties form an agreement between the Parties (the "**Agreement**").

1. Definitions

1.1. **Affiliate:** any legal entity controlling, controlled by or under common control with an entity, where "control" is defined as the legal or beneficial ownership of more than fifty percent (50%) of the voting rights at the assembly of owners of such entity, or in the case of a foreign domiciled affiliate where the prevailing law of the foreign country prohibits majority ownership by a foreign parent organization, an ownership interest by such entity which reflects the maximum controlling interest allowable under the laws of such foreign country, or such other relationship as, in fact, constitutes actual control.

1.2. **Agreement**: these terms and conditions together with a Quotation executed by both parties plus the terms and conditions applicable to additional optional elements included in the Quotation.

1.3. **Amendment:** any addendum, modification or supplement to the Agreement signed by the authorised representatives of both Parties.

1.4. **Authorized User**: Customer's students, faculty, and information technology personnel: (a) who are authorized by the Customer to access and/or use the Software; (b) who are the Customer's students, faculty, and/or employees at the time the Software is accessed and/or used by such person; and (c) that the Customer will effectively control and ensure compliance with the terms of the Agreement.

1.5. **Business Day(s):** the standard days of business excluding official local and national holidays in the country of deployment.

1.6. **Business Hours:** the standard open hours for business during Business Days.

1.7. **Concurrent User(s):** the number of individual Authorized Users with a right to access and/or use the Software at the same time. The maximum number of Concurrent Users allowed to access and/or use the Software at any time may not exceed the number of units of the Software in the Quotation. One unit is required for each instance of Software run at any time.

1.8. **Confidential Information:** non-public and proprietary information, including: Software, information related to third party vendors that Schlumberger works with to provide the Software and/or Support Portal, information related to any security vulnerabilities of the Software and/or Support Portal, and information about Schlumberger's and its Affiliates' products and services. Except as required by applicable law or regulation, Confidential Information will not include information that:

1.8.1. at the time of the disclosure is, or thereafter becomes, generally available to and known by the public other than as a result of, directly or indirectly, any breach of the Agreement, act, or omission by the recipient or any of the recipient's representatives;

1.8.2. at the time of the disclosure is, or thereafter becomes, available to the recipient on a non-confidential basis from a third-party source, provided that such third party is not and was not prohibited from disclosing such Confidential Information to the recipient by any legal, fiduciary, or contractual obligation;

1.8.3. was known by or in the possession of the recipient, as established by documentary evidence, before being disclosed by or on behalf of the disclosing party pursuant to the Agreement;

1.8.4. was or is independently developed by recipient, as established by documentary evidence, without reference to or use of, in whole or in part, any of the disclosing party's Confidential Information; or

1.8.5. that the parties have entered into the Agreement.

1.9. **Customer:** the United States publicly funded educational institution indicated in the Quotation.

1.10. **Customer Liaison:** means an Authorized User who is a point of contact appointed by the Customer that is a full time staff member of Customer (e.g., full professor, senior manager, etc.) and will function as the liason between the Customer and Schlumberger concerning the Agreement, Software, and Maintenance matters.

1.11. **Delivery:** for Software, unless otherwise specified in the Quotation, means the day when the Software's authorization key is made available for download by Customer. Delivery for Maintenance will be deemed to occur simultaneously with the Delivery of the Software for which it is obtained or on the renewal date.

1.12. **Documentation:** specifications, manuals, handbooks, maintenance libraries, and other publications or media in whatever form supplied or made available to Customer or to which Customer has been given access to in connection with the Software.

1.13. **Embedded Software:** third party software included as part of the Software.

1.14. **Geographic Unit:** limited to the specific country identified in the Quotation.

1.15. **Group:** Affiliates, contractors, subcontractors of any tier, co-interest owners, joint venturers, co-lessees, invitees and their Affiliates, shareholders, directors, officers, employees, agents, consultants and servants.

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1.16. **Intellectual Property:** all trademarks or trade names (whether common-law or registered), logos, icons, patents, mask works, patents, patent applications, copyrights (whether published or unpublished), trade secrets, know-how, designs, methods, processes, work-flow(s), inventions, proprietary information and transferable rights under written agreements relating to the Software, Maintenance, Services and Support Portal.

1.17. **Interpretations:** (i) processing, review, and analysis of data; (ii) the making of models, workflows, and estimates; (iii) descriptions of data, wells, and reservoirs; and (iv) any other explanation, evaluation, recommendation, or description provided to Customer under the Agreement.

1.18. **Maintenance:** maintenance and support services for the Software provided by Schlumberger.

1.19. **Maintenance Term:** the period of maintenance set out in the Quotation.

1.20. **Party**: Schlumberger or Customer; "**Parties**" means Schlumberger and Customer.

1.21. **Personal Data**: any information submitted by Customer and/or Authorized User that is directly or indirectly related to an identified or identifiable natural person and that is processed to provide the Online Services to the Customer.

1.22. **Personal Data Breach**: an accidental or unlawful destruction, loss, alteration, unauthorised disclosure of, or access to, personal data transmitted, stored or otherwise processed in connection with this Agreement.

1.23. **Quotation:** Schlumberger's contract form listing the Software to be used by Customer and/or any Maintenance and any optional elements selected by Customer.

1.24. **Remote Support:** certain support services provided via remote access.

1.25. **Rented/Rental Licence:** a licence to use the Software subject to payment of the periodic fees set out in the Quotation.

1.26. **Schlumberger:** the legal entity indicated in the Quotation, and its Affiliates, providing the Software and Support Portal.

1.27. **Security Incident:** any actual damage to the integrity or security of: (i) the Support Portal available to Customer or others; or (ii) the infrastructure or systems on which the Support Portal operate or rely upon. A Security Incident includes a Personal Data Breach and any other unlawful or unauthorized access to any data resulting in loss, disclosure, or alteration of the data.

1.28. **Software:** the Schlumberger software identified in the Quotation, including, where Customer is entitled to Maintenance, new releases, updates, patches, bug fixes, enhancements and other modifications and where applicable, application software, systems software, Embedded Software, microcode and firmware, and, where included, Documentation related thereto. Software also includes any Schlumberger plug-ins listed in a Quotation. Software does not include external software (including plug-ins) licensed by a third party owner under separate terms.

1.29. **Support Portal:** the Schlumberger website made accessible to the Customer Liaison(s) where Customer can report certain maintenance issues and access other content, tools, and other services (e.g., discussion forums) , as available, including information and support related software.

1.30. **Term:** the time period the Customer is granted access and/or use of the Software and/or Maintenance in the Agreement as specified in the Quotation. If the Quotation states that the term is perpetual, that must be interpreted to mean no greater than three (3) years.

2. License Grant and Scope of Use

2.1. Schlumberger grants to the Customer a non-exclusive, non-assignable, non-transferable, limited term, right to access and use the Software, Support Portal, and Remote Support during the Term of the Agreement solely by Authorized Users for permitted uses in Section 2.2 (Permitted Use) within the Geographic Unit on a Concurrent User basis.

2.2. Permitted Use. Customer and Authorized Users' access and/or use the Software, Support Portal, and Remote Support must be consistent with this Agreement, with such access and/or use only by: (a) Customer's faculty to provide instruction to Customer's students for the purpose of classroom instruction; (b) Customer's students while enrolled in Customer provided educational courses where the student is receiving instruction from Customer's faculty and the Software and/or Support Portal is relevant to the delivered instruction; (c) Customer's faculty and/or students for non-commercial and non-profit academic research projects; and/or (d) Customer's information technology personnel for purposes of providing Customer's faculty and/or students information technology services to facilitate access and/or by the Customer's faculty and/or students use of the Software and/or Support Portal.

3. Customer Obligations and Limitations on Use

3.1. Customer must notify Schlumberger in writing the identity up to two (2) Customer Liaison(s) each calendar year and ensure that Schlumberger has the Customer Liaison(s) contact information up to date at all times;

3.2. Customer must procure, maintain, and secure the computing resources, network connections, and telecommunications it uses to access and/or use the Software, Support Portal, and/or Remote Support.

3.3. Customer must permit Schlumberger to conduct a site assessment of Customer's facilities before Software delivery to confirm the appropriate facilities and computer hardware;

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3.4. Customer must retain qualified domain experts for each Software domain licensed under the Agreement (for example, Geology, Petrophysics, Geophysics, and Reservoir Engineering);

3.5. Customer must retain qualified information technology personnel who will support the facilities and computer hardware hosting the Software;

3.6. Customer must ensure Authorized Users', including the Customer Liaison, compliance with the Agreement;

3.7. Customer and its Authorized Users must systematically back-up all applications and data files stored in or utilized by the Software in accordance with industry standards, to protect against the loss of Customer's data. Customer is entirely responsible for the integrity of its data.

3.8. If Schlumberger is provided with Customer data, Customer and the relevant Authorized Users must only provide Schlumberger with copies of Customer data for which it has the legal and contractual right to do so, and agrees that Customer and the relevant Authorized Users must retain all originals and/or backup copies of all Customer data provided.

3.9. Customer must promptly notify Schlumberger, and maintain as confidential any information about: (i) a possible Security Incident caused by the act or omission of Customer and/or an Authorized User; (ii) any security vulnerability of the Software and/or Support Portal of which Customer and/or an Authorised User become aware; and/or (iii) suspected misuse of the Software and/or Support Portal by Customer and/or an Authorized User

3.10. The Software provided to Customer may contain certain features (such as premium modules), the access to and/or use of which is not covered in the Agreement unless specifically licensed by Customer and for which additional fees are applicable. Customer and its Authorized Users must not attempt to disable or hinder any security functionality protecting such features.

3.11. If Customer or any of its Authorized Users is or becomes a denied party or otherwise subject to any sanctions legislation, then Customer must notify Schlumberger and must take reasonable steps to suspend Authorized Users's access and use of the Software, Support Portal, and Remote Support.

3.12. No copies of the Software, including Documentation, is permitted unless authorized by Schlumberger. If any authorized Software copies are made, then those copies must retain all Intellectual Property rights notices. If the Software is installed on a virtual machine, Customer and its Authorized Users must not to duplicate or make copies of the license file in order to run more copies of the Software than the Customer has licensed and is entitled to run.

3.13. Prohibited Use. All access and/or use of the Software, Support Portal, and/or Remote Support not expressly permitted in Section 2.2 (Permitted Use) is prohibited, including doing or assisting another in doing any of the following:

3.13.1. performing consulting services, research, or other services for third parties;

3.13.2. any purpose where the Customer receives any direct or indirect benefit from third parties using the Software or the outputs generated by the Software, whether commercial, financial, or otherwise;

3.13.3. using the Software or outputs generated by the Software for government funded purposes where the government could claim any interest in the Software;

3.13.4. exporting and/or facilitating the access and/or use of the Software outside the Geographical Unit;

3.13.5. permitting anyone who is not an Authorized User to access and/or use the Software, Support Portal, and/or Remote Support;

3.13.6. publishing or displaying the Software and/or Support Portal in any manner except as provided herein;

3.13.7. accessing or using the Software and/or Support Portal in any manner contrary to the Documentation;

3.13.8. accessing or using the Software and/or Support Portal to aid in the development of the science, technology, or product content of another software product similar in function or capability to a commercially available Schlumberger software product without Schlumberger's express written consent;

3.13.9. reverse engineering, decompiling, or disassembling the Software and/or Support Portal;

3.13.10. performing a benchmark or performance analysis of the any version of the Software and/or Support Portal;

3.13.11. developing or creating illegitimate versions, modifications, improvements, and/or derivative works of the Software without Schlumberger's prior written approval unless such are made using properly licensed Schlumberger software specifically designed for such purpose;

3.13.12. introducing into Support Portal or otherwise providing to Schlumberger any third party data and/or software or using the Software and/or Support Portal in any manner that could impose on Schlumberger and terms associated with third party software that require any portion of the Software and/or Support Portal to be disclosed, licensed, or redistributed to any third party;

3.13.13. violating the rights of others (including other Schlumberger's customers or subcontractors using the services);

3.13.14. to stalk, harass, threaten or harm another;

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3.13.15. to pretend to be any person or entity they are not;

3.13.16. to post, send, transmit or otherwise make available any unsolicited communication or any communication that may be libellous, defamatory, disparaging, pornographic, obscene, or otherwise illegal;

3.13.17. to plan or engage in any illegal or infringing activity, including activity intended to cause harm to another;

3.13.18. to gather or store Personal Data of any other user or customer of the Software and/or Support Portal;

3.13.19. to gain or try to gain unauthorized access to or disrupt any service, device, data, account or network;

3.13.20. to distribute malicious software; or otherwise in a way that could harm the Software and/or Support Portal, or impair anyone else's use of same

4. General Payment Terms

4.1. Customer must notify Schlumberger in writing, within five (5) days from the entry into effect of the Agreement, of all pre-requisites and information that Schlumberger must provide with or include in an invoice in order to enable Customer to acknowledge and settle the invoice (e.g. legal entity, billing address, purchase order number, pro forma invoice, etc.). If there are any additional or any other specific information that must be provided with or included in an invoice following delivery of the Software, Customer must, within five (5) days of such delivery, notify Schlumberger of any such additional or specific information. If Customer fails to notify Schlumberger as prescribed above, the following will apply:

4.1.1. an invoice supported by reasonable evidence of delivery of the Software will be deemed a valid invoice, and Customer will be considered to have waived its right to reject or refuse to acknowledge such valid invoice on any ground other than failure to deliver the Software or Maintenance; and

4.1.2. the payment terms and remedies for nonpayment set forth in this Agreement will apply to any such invoice. New or varied invoice pre-requisites or requirements will not take effect and will not become binding upon Schlumberger unless and until they are duly notified to and agreed by Schlumberger in writing prior to the issuance of the invoice.

5. Payment and Disputes

5.1. Payment Terms. Unless otherwise agreed in a Quotation: (a) Customer will pay Schlumberger's published list price for Software, Support Portal, and Remote Support; and (b) Customer will pay all invoices issued under an Agreement within thirty (30) days of the invoice date in United States currency. If the amount due in the Quotation is zero dollars ($0.00), then the amount normally due will be deemed donated to the Customer such that payment will be deemed to have been received upon formation of the Agreement.

5.2. Invoice Dispute. If Customer disputes any portion of an invoice in good faith, Customer must: (a) pay the undisputed portion of the invoice; (b) notify Schlumberger of the basis for the dispute and the specific items disputed (along with all supporting evidence) and; (c) provide a proposed resolution. Customer must not set off or withhold payments due for one billing period against a disputed invoice.

5.3. Late Payment Interest. Unpaid invoiced amounts will begin to accrue interest thirty (30) days after payment is due. Interest will accrue at the maximum amount permitted by law, unless another rate is provided in the applicable Quotation. Customer agrees to pay all reasonable and documented costs and attorneys' fees Schlumberger may incur in collecting any unpaid fees.

5.4. Discount Cancellation. Schlumberger reserves the right to rescind any discounts provided in the Agreement if Customer fails to pay an undisputed portion of an invoice when due or Schlumberger prevails in a dispute resolution process regarding any portion of a disputed invoice. If such discount is rescinded by Schlumberger, Customer must pay Schlumberger the amounts owed for the Software and/or Support Services had the discount never been provided.

6. Term, Suspension, and Termination

6.1. Customer's and its Authorized Users' right to access and/or use the Software, Support Portal, and Remote Support begins on delivery of the Software to Customer and, unless otherwise terminated, expires at the end of the Term.

6.2. Customer will be in material breach for failure to meet its payment obligations and breaches of Section 3.13 (Prohibited Use) and/or 11.2 (Customer Security Obligations).

6.3. If Customer believes Schlumberger has breached this Agreement, Customer agrees to provide written notice to Schlumberger setting out the alleged default. If Schlumberger fails to cure an undisputed default within the thirty (30) day period, Customer may terminate the agreement. Any action brought against Schlumberger under this Agreement must be brought within twelve (12) months after the cause of action arises.

6.4. Schlumberger may suspend or terminate the Agreement, access rights, and/or use rights to the Software, Support Portal, and or Remote Support as Customer will be in breach of the Agreement for: (a) any breach or violation of Section 9.3 (Forum/Chat Room Conduct Guildelines), Section 12 (Compliance with Laws and Export Regulations), Section 14 (Schlumberger Proprietary Rights), Section 15 (Confidentiality), Section 16.1 (Mutual Representations and Warranties), Section 16.3 (Customer Representations and Warranties); (b) for failure to pay any amounts invoiced by Schlumberger, which have not been disputed by Customer in good faith and which are more than thirty (30) days overdue; (c) upon Customer becoming subject to a change of control; or (d) unless otherwise expressly agreed in the Agreement, upon violation of any prohibited use in Section 3.16 (Prohibited Use).

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6.5. If Customer and/or any Authorized User is or becomes a denied party or otherwise the subject to any sanctions legislation that, in Schlumberger's reasonable opinion, restricts or prohibits Customer's and/or Authorized Users' access to or use of the Software, Support Portal, and/or Remote Support, such access will be immediately suspended. If legally permitted, Schlumberger will promptly notify Customer of any such suspension, data retention, or data deletion. Nothing herein shall restrict Schlumberger's ability to comply with any legal requirements relating to the retention or deletion of Customer data that may arise in connection with sanctions legislation.

6.6. In addition to the other remedies set out in an Agreement, a Party may immediately terminate this Agreement by written notice to the other Party if:

6.6.1. the other Party commits a material breach of any term of the Agreement and fails to remedy the same within thirty (30) days of the date of the written notice of breach;

6.6.2. the other Party suspends, or threatens to suspend, payment of its debts;

6.6.3. the other Party is deemed insolvent, unable to pay its debts, or enters into any arrangement with its creditors (other than for the sole purpose of a solvent reorganization); or

6.6.4. the other Party files a petition for or becomes subject to an order for winding up, bankruptcy, dissolution, an administrator or receiver is appointed, or anything of similar effect in any country.

6.7. Upon termination or expiration:

6.7.1. Customer and its Authorized Users must: (a) discontinue all access and use of the Software, Support Portal, and Remote Support; and, (b) immediately remove, return or destroy, all copies of the Software and information obtained from the Support Portal and/or Remote Support; and

6.7.2. any rights, remedies, obligations or liabilities that have accrued up to the date of termination or expiration will remain unaffected.

7. Customer Data

7.1. Customer is solely responsible for the legality, reliability, integrity, accuracy, and quality of data that Customer and its Authorized Users provides to Schlumberger or makes available to Schlumberger, including through the Support Portal and/or Remote Support. Customer acknowledges that by providing Customer data to the Support Portal, third parties may be able to access and/or export the Customer data from the Support Portal.

7.2. Schlumberger may use Customer's and its Authorized Users' data to provide the Software, Support Portal, and Remote Support, and to secure and improve Schlumberger's products and services. Schlumberger may use information about Authorized Users' interaction with the Software, Support Portal, and/or Remote Support to provide the Software, Support Portal, and/or Remote Support, secure and improve Schlumberger's products and services, and comply with its third-party service provider's consumption reporting requests and requirements.

7.3. Schlumberger may use cloud computing service providers and other third party service providers in connection with the Software, Support Portal, and/or Remote Support. Schlumberger, the cloud computing service providers, or the third party service providers may transmit, maintain, and/or store Customer data using third party computers and equipment in locations around the world, including locations outside the country of operation or incorporation of Customer, or outside the country of origin of the Customer data. Customer may request Schlumberger to maintain and store Customer data in a specified location. Schlumberger shall endeavour to comply with such request, but will be under no obligation to do so.

7.4. If Schlumberger provides Customer with feedback or suggestions about Customer data, then Customer may use that information without obligation to Schlumberger, and Schlumberger hereby irrevocably assigns to Customer all right, title, and interest in that feedback or suggestions; however, Schlumberger retains all right, title, and interest in any feedback or suggestions related to development of, improvements to, or security enhancements to Schlumberger's products and/or services (including the Software and/or Support Portal).

7.5. Schlumberger reserves the right to modify, enhance or remove any feature or functionality of the Software, Support Portal, and/or Remote Support, or suspend or improve the Software, Support Portal, and/or Remote Support without the need for any consent from the Customer.

8. Maintenance.

8.1. Maintenance is included and includes new versions of the Software as it becomes available.

8.2. All Maintenance request must be submitted through the Support Portal and may only be submitted by a Customer Liaison. These requests may be referred to as a "**Ticket**". No more than six (6) Tickets may be submitted by a Customer Liaison in any calendar quarter (i.e., January through March; April through June; July through September; October through December). No Authorized User other than a Customer Liaison is permitted to support a Ticket.

8.3. All content submitted by Customer and/or its Authorized Users and posted on the Support Portal's public areas is non-confidential and may be accessible by third parties ("**Public Content**").

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8.4. Customer and its Authorized Users grants Schlumberger a perpetual, non-revocable, world-wide, non-exclusive, transferrable, assignable, license to exploit Public Content and anonymized Ticket information for any purpose.

8.5. If the Customer Liaison submits any proprietary datasets in connection with a Ticket, that dataset must be provided through use of Schlumberger's secure file transfer protocol area in the Support Portal (the "**Data Exchange**"), which will be deemed Customer's Confidential Information.

8.6. Error Corrections. Maintenance includes commercially reasonable efforts to correct reproducible failures in the Software that are reported by a Customer Liaison through the Support Portal, and only if Schlumberger deems the alleged failure to cause a substantially detrimental effect on the Software's performance.

8.7. All modifications made to the Software as part of Maintenance will be made available through the Schlumberger's software download center as part of future versions of the Software. Customer is responsible for the integration and implementation of any such modifications or updates and enhancements, including loading any applicable media in accordance with Schlumberger's instructions.

8.8. New versions, updates, and enhancements to the Software may not be compatible with previous Software versions and data may not function properly in a mixed version environment.

8.9. Exclusions from Maintenance.

8.9.1. Customer will render void the Maintenance and Schlumberger will not be liable to Customer for any errors, losses, or damage resulting from modifications made to Software by Customer or any third party.

8.9.2. Maintenance does not include application development, Software programming support, or step by step instructions for Software configuration above and beyond general usage questions.

8.9.3. In addition to the above, Maintenance excludes the following: (a) problems resulting from Customer's fault or negligence; (b) problems that do not significantly impair or affect the operation of the Software; (c) problems resulting from hardware malfunction; (d) software not licensed by Schlumberger under the Agreement, including that which Schlumberger stops selling; and (e) installation of the Software on Customer's computer system or training on the use or benefits of the Software (such services may be purchased under a separate Services agreement).

8.9.4. The Software is provided only for standard hardware platforms and operating systems as indicated in the Documentation. Customer is responsible for providing interfaces for non-standard devices, software, or custom applications.

9. Support Portal

9.1. The Support Portal contains electronic content, tools, and other services including discussion forums. Schlumberger may change or update information available through the Support Portal at any time, but makes no commitment to do so.

9.2. Support Portal Registration

9.2.1. Authorized Users may be required to register before accessing portions of the Support Portal, which may require providing personally identifiable information ("**Registration**"). Customer will ensure all information provided for Registration will be true, accurate, current, and complete information.

9.2.2. Authorized Persons: (i) will maintain only one active Registration at all times (iii) must keep their Registration current, including reflecting the country of residence and the country from where they access the Support Portal; (iv) keep their access credentials secret and prevent any other person accessing the Support Portal with their access credentials; and (v) promptly report suspected unauthorized access to the Support Portal by emailing Schlumberger at customercarecenter@slb.com

9.2.3. Schlumberger may suspend or terminate a Registration and access to the Support Portal without prior notice if it discovers: (i) any information in the Registration is not true, accurate, current, or complete; or (ii) a violation of the Agreement.

9.3. Forum/Chat Room Conduct Guidelines

9.3.1. Customer must notify its Authorized Users and enforce compliance with the conduct guidelines for accessing and using forums or chat rooms in the Support Portal.

9.3.2. The forms and/or chat rooms must not be used (a) for or to promote illegal purposes (b) to transmit unlawful, harassing, invasive of another person's privacy, harmful, vulgar, obscene or otherwise objectionable content. Violation of Section 9.3 (Forum/Chat Room Conduct Guidelines) may result in removal of the posted content, termination of a Registration, legal action by Schlumberger and/or a third party, and/or Schlumberger's termination of the Agreement.

9.3.3. Customer assumes the entire risk of use from using forums and/or the content contained therein, including harm to Customer's systems, environment, and/or data. Customer waives all rights against and liability from Schlumberger and its Affiliates for use of forums and/or the content contained therein. Customer should exercise all discretion before relying on any information in forums and/or messages, as the information may be incorrect or misleading.

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9.3.4. Customer and its Authorized Users are prohibited from violating or attempting to violate the security of this Support Portal, including without limitation:

9.3.4.1. accessing data not intend for Customer or accessing or attempting to access a server or account the Customer is not authorized to access;

9.3.4.2. performing any stress, vulnerability, penetration, availability, performance testing on, or otherwise attempt to access, any network, system, server, or computer hosting the Support Portal or introduce any virus or malicious software or similar into the Support Portal;

9.3.4.3. sending unsolicited electronic mail or advertising to other users, including promotions or advertising of products or services

9.3.5. Violations of these security rules may result in civil or criminal liability. Schlumberger and its Affiliates have the right to investigate occurrences that they suspect as involving such violations and will have the right to involve, and cooperate with, law enforcement authorities in prosecuting users who are involved in such violations.

9.3.6. Customer agrees that neither it nor its Authorized Users will engage in any activity on the Support Portal which is in breach of any intellectual property rights.

9.3.7. Customer agrees that neither it nor its Authorized Users will collect or store personal data about other users.

9.4. Third Party Support Providers. Schlumberger may use third party service providers to provide or assist in providing the Support Portal.

9.5. Communications through Support Portal. Except for the Data Exchange, communications through the Support Portal are non-confidential.

9.6. **SUPPORT PORTAL RELEASE AND WAIVER. IN ADDITION TO SECTION 18 (LIMITATIONS ON LIABILITIES AND REMEDIES), CUSTOMER AND ITS AUTHORIZED USERS RELEASE SCHLUMBERGER FROM AND WAIVE ALL CLAIMS, DEMANDS, LOSSES, OR DAMAGE OF ANY KIND RELATED TO ACCESS TO, USE OF, AND/OR ANY CONTENT SUBMITTED TO THE SUPPORT PORTAL, INCLUDING THOSE RELATED TO: NEGLIGENCE; PRIVACY; ACCESS AND/OR USE OF THE SUPPORT PORTAL; TIMELINESS OF RESPONSES BY SCHLUMBERGER OR THIRD PARTIES TO TICKETS; AND/OR UNAUTHORIZED ACCESS TO OR ALTERATION OF CUSTOMER SUBMISSIONS TO THE SUPPORT PORTAL.**

10. Remote Support Use

10.1. While receiving support from Schlumberger related to a Ticket, a Customer Liaison may request Remote Support after all reasonable attempts to resolve a support issue have been exhausted through the Customer's and Authorized User's research on the internet and utilization of the Support Portal.

10.2. By requesting Remote Support:

10.2.1. Customer and the relevant Authorized User must grant remote access to the relevant computers or other devices to Schlumberger, its Affiliates, and/or subcontractors (the "**Support Team**") for the purpose of providing Remote Support. Before granting such remote access, Customer and the relevant Authorized User are responsible for ensuring: (a) all data, applications, or other content is backed-up before granting remote access; (b) the relevant computer will not have any Confidential Information not otherwise subject to the Agreement displayed to the Support Team; (c) the relevant computer will be attended by the Customer Liaison and relevant Authorized User during the Remote Support session

10.2.2. Customer and the relevant Authorized User grants the Support Team a world-wide, royalty-free, license to use, modify, publicly display, reproduce, and distribute content of all visual, written, or audible communications and any other material ("**Remote Content**") displayed, uploaded, exchanged, or transmitted as a result of providing the Remote Support for the limited purpose and to the extent necessary for providing the Remote Support.

10.2.3. As part of the Remote Support session, Schlumberger may advise Customer and the relevant Authorized User on solutions to (a) certain features that are undesirable or (b) issues that have arisen due to third party products. Such advice must not be deemed as acknowledgement by Schlumberger that these issues or features constitute errors in Schlumberger's products or services.

10.2.4. If Customer or its relevant Authorized User is granted access to other Schlumberger software ("**Other Software**") not subject to the Agreement for the purpose of the Remote Support, Customer agrees that the terms of the Agreement apply for the Other Software and rights in the Other Software terminate upon termination of the Remote Support session.

10.2.5. Remote Support is provided with no warranty that the Customer and/or relevant Authorized User's support concerns will be resolved.

10.2.6. The Support Team may not be physically located in the Geographic Unit.

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11. Data Privacy and Security.

11.1. Schlumberger provides the Support Portal and Remote Support consistent with its Privacy Statement (http://www.slb.com/about/privacy.aspx), and all laws regarding Personal Data.

11.2. Customer Security Obligations. Neither Customer nor Authorized Users, nor anyone on their behalf, will perform any stress, vulnerability, penetration, availability, benchmark, performance testing on, or otherwise attempt to access, any network, system, server, or computer hosting the Software, Support Portal, and/or Remote Support, or introduce any virus or malicious software or similar into the Software, Support Portal, and/or Remote Support.

12. Compliance with Laws and Export Regulations

12.1. Customer and Authorized Users will comply with all laws and regulations applicable to the respective party related to the access and/or use of the Software, Support Portal, and/or Remote Support, including data transmission, storage, processing, privacy, data residency, import/export controls, and international sanctions.

12.2. Customer has been licensed to use the Software, Support Portal, and/or Remote Support in the Geographical Unit. The exportation to or use in Cuba, North Korea, North Sudan, Syria, Iran or other countries that are subject to United States, United Nations, European Union or similar trade sanctions/embargoes is prohibited. Customer shall comply with all applicable export control, trade sanctions and other foreign trade control laws, rules and regulations. Customer's use, export, transfer, assignment, or other movement of the Software or information from the Support Portal and/or Remote Support in violation of any requirements set forth in Section 12 (Compliance with Laws and Export Regulations) will result in the automatic termination of the Agreement, and all rights granted therein.

13. **Assignment.** No rights or obligations under the Agreement may be assigned or transferred by Customer in any manner, whether voluntary, by merger, operation of law, or otherwise without the other party's prior written agreement form Schlumberger. Schlumberger may assign its rights and obligations under the Agreement to any Schlumberger Affiliate or to any successor in interest in the event of a merger, corporate reorganization, or sale of all or substantially all of its assets relating to its business to which the Agreement pertains.

14. **Schlumberger Proprietary Rights.**

14.1. All title, ownership, and right in and to the Software, Support Portal, Remote Support, and Intellectual Property rights embedded therein, as well as any modifications or derivative works of the Software, Support Portal, and/or Remote Support (even if created by Customer or by an Authorized User), and any media or infrastructure on which the Software, Support Portal, and/or Remote Support is provided, remain with Schlumberger and/or its licensors.

14.2. If Customer or its Authorized Users provides Schlumberger feedback or suggestions about the Software, Support Portal, and/or Remote Support, then Schlumberger may exploit that information without obligation to Customer or its Authorized Users; and Customer and its Authorized Users irrevocably assigns Schlumberger all rights, title, and interest in that feedback and/or those suggestions.

14.3. Except as expressly stated in Section 2 (License Grant and Scope of Use), this Agreement does not grant the Customer and/or its Authorized Users any rights to or in patents, know how, copyright, database right, trade secrets, Schlumberger's Confidential Information, trade names, trademarks (whether registered or unregistered), or any other rights or licenses to any portion of Schlumberger's products, or services.

15. Confidentiality.

15.1. Each party agrees to maintain all Confidential Information received from the other party in secrecy and confidence during the Term of this Agreement, and for a period of five (5) years after the termination or expiry of the last agreement entered incorporating these terms and conditions or such terms substantially similar, using the same degree of care as it used to protect its own confidential information. In no event will the receiving party use less than a commercially reasonable degree of care.

15.2. If a third party requests Confidential Information from a receiving party pursuant to a legal requirement, the receiving party will do the following, if legally permitted:

15.2.1. promptly notify the disclosing party of the request;

15.2.2. reasonably assist the disclosing party in seeking a protective order or similar remedy if the disclosing party requests such assistance;

15.2.3. inform the disclosing party of the Confidential Information provided to the third party; and

15.2.4. endeavor to maintain the confidentiality of Confidential Information disclosed to the third party.

15.3. Communications through the Support Portal and/or Remote Support may be available to other parties. All information provided by Customer and/or its Authorized Users through the Support Portal and/or Remote Support will be deemed non-confidential; however, information provided by Schlumberger may be Confidential Information.

16. Representations and Warranties

16.1. **Mutual Representations and Warranties.** Each party represents and warrants to the other party that:

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16.1.1. if a legal person, the party is a validly existing and in good standing as a corporation or other entity under the laws of the jurisdiction of the party's incorporation or other organization;

16.1.2. the party has the full right, power and authority to enter into and perform the party's obligations and grant the rights, licenses, consents, and authorizations the party grants or is required to grant under the Agreement; and

16.1.3. the acceptance of the Agreement has been duly authorized by all necessary individuals, corporate, or organizational entities.

16.2. **Schlumberger Representation**. When Software contains Embedded Software, Schlumberger represents that it has the authority to license the Embedded Software belonging to Schlumberger's licensors to Customer.

16.3. **Customer Representation and Warranties**. Customer represents and warrants to Schlumberger that:

16.3.1. all information about Customer and Authorized Users provided by Customer or Authorized Users is accurate will be kept current;

16.3.2. Customer and/or Authorized Users are not barred from using the Software and/or Support Portal under the laws of the United States, United Kingdom, or any other applicable jurisdiction, including the countries Authorized Users (i) are citizens, (ii) reside, or (iii) access the Software and/or Support Portal;

16.3.3. data provided by Customer and/or Authorized User via the Support Portal and/or Remote Support does not infringe any Intellectual Property right of any third party or violate any applicable laws, rules or regulations.

16.4. **DISCLAIMER OF WARRANTIES. THE (A) SOFTWARE, (B) SUPPORT PORTAL, (C) REMOTE SUPPORT, (D) EXTERNAL SOFTWARE TO THE EXTENT SUCH IS PROVIDED, (E) ACCESS AND/OR USE OF THIRD PARTY SERVICES AND/OR CONTENT, TO THE EXTENT SUCH IS PROVIDED, IS PROVIDED "AS IS" WITHOUT ANY WARRANTIES. EXCEPT AS AGREED ELSEWHERE IN THE AGREEMENT, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW SCHLUMBERGER DISCLAIMS AND EXCLUDES ALL WARRANTIES, REPRESENTATIONS, CONDITIONS, AND ALL OTHER TERMS OF ANY KIND WHATSOEVER IMPLIED BY STATUTE, REGULATIONS, DIRECTIVES, OR COMMON LAW, INCLUDING:**

16.4.1. ALL WARRANTIES OR CONDITIONS OF QUALITY, MERCHANTABILITY, NON-INFRINGEMENT, FITNESS FOR A PARTICULAR PURPOSE, AND ALL WARRANTIES THAT MAY ARISE FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE;

16.4.2. THAT THE USE OR ACCESS TO THE SOFTWARE AND/OR EXTERNAL SOFTWARE WILL BE TIMELY, UNINTERRUPTED, ERROR-FREE, COMPLETE, SECURE, OR WILL MEET CUSTOMER'S AND/OR ITS AUTHORIZED USERS' REQUIREMENTS OR EXPECTATIONS;

16.4.3. THAT INFORMATION OBTAINED OR DERIVED FROM THE SOFTWARE AND/OR EXTERNAL SOFTWARE IS ACCURATE, CORRECT, COMPLETE, OR RELIABLE;

16.4.4. THAT THE SOFTWARE AND/OR EXTERNAL SOFTWARE WILL BE FREE FROM LOSS, CORRUPTION, ATTACK, MALICIOUS CODE, INTERFERENCE, HACKING, OR OTHER INTRUSION;

16.4.5. REGARDING ANY NON-CONFORMANCE CAUSED BY USE OF THE SOFTWARE AND/OR EXTERNAL SOFTWARE CONTRARY TO SCHLUMBERGER'S DOCUMENTATION, OR BY MODIFICATION, ALTERATION, OR INTERFACE WITH SOFTWARE, MAINTENANCE, DOCUMENTATION, AND/OR EXTERNAL SOFTWARE BY ANYONE OTHER THAN SCHLUMBERGER; AND

16.4.6. THAT ANY INTERPRETATIONS GENERATED BY OR USING THE SOFTWARE AND/OR EXTERNAL SOFTWARE ARE ACCURATE, CORRECT, OR COMPLETE.

17. Patent and Copyright Indemnity

17.1. Schlumberger will have no liability or obligation to Customer for any intellectual property claim.

17.2. If Customer receives a claim for violation of a third party's Intellectual Property right based on the access or use of the Software, Schlumberger must promptly notify Schlumberger and provide a copy of the third party claim. Customer must not make any declaration, arrangement, or admission in respect to liability of any such infringement claim without Schlumberger's approval. Schlumberger reserves the right to conduct any litigation and/or negotiate the infringement claim to the extent such claim relates to the Software and/or Maintenance; and, if Schlumberger informs Customer that Schlumberger will conduct the proceedings, then Customer must take all necessary actions to enable Schlumberger to conduct on Customer's behalf any litigation or negotiations related to the claims raised.

17.3. If the Software or Maintenance become, or in Schlumberger's opinion are likely to become, the subject of a claim for violation of a third party's Intellectual Property right, Customer must permit Schlumberger, at Schlumberger's option, to either: (a) procure for Customer the right to continue using the Software and/or Maintenance; (b) replace or modify the Software and/or Maintenance, so that it becomes non-infringing; or (c) terminate the Agreement.

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18. Limitations on Liabilities and Remedies

18.1. Schlumberger's aggregate liability limit to the Customer and the Authorized Users whether in contract, tort (including negligence), for breach of a statutory duty or otherwise arising out of or in connection with the Agreement must be limited to the amount of fees paid by Customer for access and use of the Software over the twelve (12) month period preceding the claim under the Agreement. Nothing in this Section 18.1 will exclude or limit any liability that cannot be excluded or limited at law. Customer will release and hold harmless Schlumberger of and from any loss, cost, damage, or expense, including attorneys' fees, above Schlumberger's limit of liability.

18.2. **CONSEQUENTIAL DAMAGES. WITHOUT REGARD TO THE SOLE, JOINT, OR CONCURRENT ACTIVE OR PASSIVE NEGLIGENCE OR BREACH OF DUTY (STATUTORY OR OTHERWISE) OF THE OTHER PARTY, UNLESS OTHERWISE AGREED, TO THE FULLEST EXTENT PERMITTED BY LAW, NEITHER PARTY MAY RECOVER, INCLUDING UNDER ANY INDEMNITY, ANY PUNITIVE, INCIDENTAL, INDIRECT, CONSEQUENTIAL, SPECIAL, OR ENHANCED DAMAGES, REGARDLESS OF WHETHER SUCH PARTY AS ADVISED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGES OR SUCH LOSSES OR DAMAGES WERE OTHERWISE FORESEABLE, AND NOTWITHSTANDING THE FAILURE OF ANY AGREED OR OTHER REMEDY OF ITS ESSENTIAL PURPOSE.**

18.3. **LOSS AND SUBSTITUTE. TO THE FULLEST EXTENT PERMITTED BY LAW, NEITHER CUSTOMER NOR ANY THIRD PARTY MAY RECOVER ANY (I) SPECIAL, EXEMPLARY, PUNITIVE, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, OR (II) ANY DAMAGES RESULTING FROM: (A) LOSS OF USE; (B) LOSS OF DATA; (C) LOSS OF REVENUE, PROFIT, ANTICIPATED PROFIT, OR LOSS OF BUSINESS; (D) LOSS OF INVESTMENT; (E) LOSS OF RIG TIME OR OTHER BUSINESS INTERRUPTION; OR (F) COST OF SUBSTITUTE SOFTWARE OR SUPPORT PORTAL, OR THE PROCUREMENT THEREOF; AND/OR (G) LOSS, DAMAGE, CORRUPTION, OR REPLACEMENT OF COMPUTING SYSTEMS. IN ALL CASES, SCHLUMBERGER, AND ITS SUPPLIERS AND DISTRIBUTORS, WILL NOT BE LIABLE FOR ANY LOSS OR DAMAGE THAT IS NOT REASONABLY FORESEEABLE. THE LIMITATIONS OF SECTION 18.3 (LOSS AND SUBSTITUTE) APPLY:**

18.3.1. WHETHER ARISING OUT OF OR IN CONNECTION WITH THE ACCESS, USE, AND/OR PERFORMANCE OF THE SOFTWARE, MAINTENANCE, SUPPORT PORTAL, REMOTE SUPPORT OR ANY DELIVERABLES (AND ANYTHING PRODUCED THEREFROM), REGARDLESS OF THE FORM OF ACTION UPON WHICH A CLAIM FOR SUCH DAMAGES MAY BE BASED, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT PRODUCT LIABILITY OR ANY OTHER LEGAL OR EQUITABLE THEORY;

18.3.2. EVEN IF REPAIR, REPLACEMENT, OR A REFUND FOR THE SOFTWARE, SUPPORT PORTAL, REMOTE SUPPORT, OR ANY DELIVERABLE DOES NOT FULLY COMPENSATE CUSTOMER FOR ANY LOSSES AND REGARDLESS OF: (I) WHETHER SCHLUMBERGER KNEW OF OR SHOULD HAVE KNOWN ABOUT THE POSSIBILITY OF DAMAGES; (II) IF ANY LIMITED REMEDY FAILS IN ITS ESSENTIAL PURPOSE; AND/OR REGARDLESS OF THE FORM OF ACTION UPON WHICH A CLAIM FOR SUCH DAMAGES MAY BE BASED, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE OR BREACH OF STATUTORY DUTY), STRICT PRODUCT LIABILITY, OR ANY OTHER LEGAL OR EQUITABLE THEORY.

18.4. **DMCA.** Customer releases Schlumberger from Schlumberger's compliance with take-down notices for removing material from the Support Portal pursuant to the U.S. Digital Millennium Copyright Act, or similar law.

18.5. Notwithstanding any other provision of the Agreement, under no circumstances will Schlumberger have any obligation to re-create, re-acquire, process or re-process, re-shoot any data damaged within or lost from the Software or Support Portal, or to re-drill or re-log any well or well section or be liable for any costs associated therewith, including as may be caused by any third party, in each case whether direct or indirect.

18.6. All Interpretations and decisions resulting from use of the Software and/or Support Portal are opinions and decisions based on inferences from measurements and empirical relationships, which are not infallible and may involve individual opinions and judgments, data, or computer analysis with respect to which competent specialists may differ. Such Interpretations and decisions may involve information and data furnished by the Customer or third parties, the accuracy and reliability of which are not the responsibility of Schlumberger. Customer takes full responsibility for relying on Interpretations or decisions resulting from use of any of the Software and/or Support Portal.

18.7. Under no circumstances should Customer treat or rely upon the use of the Software, Support Portal, or any deliverables, including any Interpretation, as the sole basis for any decision, be it operational, technical, financial, commercial or otherwise, relating to the wellbore, the reservoir or the field, including, but not limited to, any decision relating to well planning, drilling safety and performance, field development, well control, production optimization, contingency planning, and infrastructure and systems design and optimization.

18.8. Schlumberger will have no liability for any damage caused by errors or omissions in any information, instructions or scripts provided to Schlumberger by the Customer in connection with the Software and/or Support Portal, or any actions taken by Schlumberger at the Customer's direction.

18.9. Customer acknowledges that the Software is designed and intended for use only in accordance with the Documentation. Any other use may result in defects, errors or damage to the Software, hardware or data, including loss of data. Schlumberger shall have no liability or obligation to Customer for such defects, errors or damage to the Software, data or hardware attributed to such use.

18.10. Force Majeure. Neither Party will be responsible for delays or failures in performance resulting from events or circumstances beyond the control of such Party and which, by the exercise of reasonable due diligence of such Party, could not reasonably have been avoided from the following events: acts of God; fire; floods; lightning; blizzards; tornadoes; earthquakes; ice storms; named tropical storms and hurricanes; embargos; epidemics; pandemics; infectious disease outbreaks; terrorism; insurrection; revolution; piracy; war; strikes,

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lockouts, labor disputes (other than those strikes, lockouts and labor disputes of the Party claiming Force Majeure which are within such Party's reasonable control and may be resolved through reasonable efforts); compliance with any law, rules, and/or regulations of any governmental or public authorities having or asserting jurisdiction the Party; inability to procure material; industry wide shortages or soaring commodity, equipment, or necessary labor costs despite reasonable efforts; utility, network, or device failure external to the Party; third-party attacks, including distributed denial of service, directed, or other malicious attacks targeting Schlumberger or in any way impacting the delivery, access, or use of Software or the Support Portal; or, similar causes (except financial) beyond the control of the affected Party and which, through the exercise of diligent effort, such Party cannot overcome.

19. **Audit Rights.** From time to time, and with reasonable notice and during Business Hours, Schlumberger may audit Customer's books and records, facilities and any authorized computers where the Software may be located to confirm the appropriate use of the Software in accordance with the terms of this Agreement, including that there has been no unauthorised distribution of the Software. Audit rights shall also extend to ensure the proper use of any Embedded Software contained within the Software. Audit rights are not intended to extend to the review of any confidential or proprietary information that belongs to Customer.

20. **Governing Law and Venue**. If Customer acquired the Software in the United States, the state law where the Customer is founded and principally operated governs the interpretation of this Agreement, regardless of the governing state's conflicts of law principals. If no such state law applies, then the law of Texas state law governs the interpretation of this Agreement, regardless of its conflicts of law principles.

21. **Publicity.** Neither party will make, or permit any person to make, any public announcement concerning the Agreement without the prior written consent of the other Party, except: 1) as required by law or any court or other authority of competent jurisdiction; or 2) where Schlumberger uses the Customer's name and/or logo(s) in its marketing material to notify others and/or make public that Customer is a user of the Software and/or Support Portal.

22. **Third Party Links**. Certain content, components or features in or made available by the Software and/or Support Portal may include links to third party resources, including, but not limited to, hyperlinks to other websites, resources, or content ("**Third Party Resources**"). Schlumberger may have no control over suchThird Party Resources and is not responsible for the availability of such Third Party Resources. **SCHLUMBERGER DOES NOT MAKE, AND THEREBY DISCLAIMS: (I) ANY WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THE USE OF THE LINKS PROVIDED ON, OR TO, A THIRD PARTY RESOURCES; (II) GUARANTEE THE ACCURACY, COMPLETENESS, USEFULNESS, OR ADEQUACY OF ANY THIRD PARTY RESOURCE OR SERVICES, GOODS, OR ADVERTISEMENTS THAT MAY BE RELATED TO A THIRD PARTY RESOURCE; OR (III) MAKE ANY ENDORSEMENT, EXPRESS OR IMPLIED, OR ANY OTHER THIRD PARTY RESOURCE .** Links to Third Party Resources may also contain third party advertisements which contain embedded hyperlinks to websites operated by third parties. The third party advertiser is solely responsible for any representations or offers made by it and for the delivery of goods or services you agree to purchase from a Third Party Resource. Schlumberger is not liable for or responsible for the content of any Third Party Resources or for any damages incurred or alleged to have been incurred, either directly or indirectly, as a result of Customer's reliance on anything associated with such Third Party Resources.

23. **Third Party Rights**. The Agreement does not confer any rights on any person or party (other than the parties to the Agreement and, where applicable, their successors and permitted assigns), including under English law pursuant to the Contracts (Rights of Third Parties) Act 1999 or any other applicable law or regulation.

24. **Taxes.**

24.1. Prices for the Software and Support Portal do not include any local, state, provincial, federal or national sales, use, excise, personal property, value-added, import/export, or other similar taxes or duties, which may be assessed in connection with the Software or Support Portal. If any such taxes or duties are applicable they will be added to Schlumberger's invoices to Customer. If Schlumberger must initially pay such assessments, Customer agrees to reimburse Schlumberger within thirty (30) days after receipt of Schlumberger's invoice. Taxes based upon Schlumberger's income are the sole responsibility of Schlumberger.

24.2. The prices, rates and charges set forth in the Agreement are completely net of any amounts in respect of any withholding taxes that may be applicable upon payments by Customer. If any withholding taxes are deemed to be applicable on settlements made by Customer to Schlumberger, Customer agrees that it must on its own accord gross-up the access fee or any other charges due under this agreement in a fashion that net amounts received after such withholding yield back the prices and rates under the Agreement. In such case, Customer must deduct the withholding taxes from such grossed-up amounts and pay such withholding taxes directly to the appropriate governmental authority.

24.3. If any tax is imposed on Schlumberger, outside its country of incorporation and fiscal residence, as a consequence of the performing under the Agreement or due to an act of the Customer that is outside the control of Schlumberger or due to the Customer accessing and storing data in a particular country, such taxes will be for the sole account of Customer and be paid by Customer irrespective of how it is levied. Should Schlumberger have to pay such taxes, Customer must promptly reimburse Schlumberger such amounts that eliminate any incremental tax burden on Schlumberger due to the above stated factors. Schlumberger undertakes to provide the Customer documents evidencing the imposition of such tax.

24.4. If as a result of any new legislation or extension/change in application of the existing law or interpretation thereof, any additional sums become payable by Schlumberger in respect to personal, corporate taxes, custom duties, or any other duties or levies, to any authorities of country of operation or elsewhere, not enacted at the submission of the Agreement, then Schlumberger will be entitled to adjust its rates and prices with Customer, in a way that Schlumberger does not incur an additional economic burden directly attributable to the Agreement and associated with such tax change.

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25. **Relationship of the Parties**. The relationship between the parties is that of independent entities. Nothing contained in the Agreement will be construed as creating any agency, partnership, joint venture, or other form of joint enterprise, employment or fiduciary relationship between the parties, and neither party will have authority to contract for or bind the other party in any manner whatsoever.

26. **Waiver**. No failure or delay by a party to exercise (partially or completely) any right or remedy provided under the Agreement or by law will constitute a waiver or restriction of that or any other right or remedy.

27. **Notices**. Schlumberger may provide Customer with information about the Software and/or Support Portal electronically, including, but not limited to the Customer Liaison's email address, a forum, or a web site that Schlumberger identifies. Notice is effective as of the date made available by Schlumberger. Notices expressly required under the Agreement will be in writing, (a) sent electronically to the other party's email address identified in the Quotation, or (b) sent physically to the other party's registered address by courier, registered mail, or certified mail return receipt requested, or by a firm regularly engaged in the business of delivery of documents or packages.

28. **Severability**. If any term or provision of the Agreement is found by any court or administrative body of competent jurisdiction to be invalid, unenforceable, or illegal, such invalidity, unenforceability, or illegality shall not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction.

29. **Entire agreement**. The Agreement constitutes the sole and entire agreement between Schlumberger and Customer regarding the subject matter contained herein, and supersedes all prior and contemporaneous understandings, agreements, representations, and warranties, both written and oral, regarding such subject matter. An Agreement may only be amended, modified, or supplemented by an agreement in writing signed by each party hereto.

30. **Headings.** The section headings contained in the Agreement are for reference purposes only and will not affect the meaning or interpretation of the Agreement.

31. **English Language**. The text of this Agreement, as well as the documents associated therewith have been written in English in multiple locations around the world. Consideration has been taken to harmonize the particular dialect of English being used herein, all versions being deemed authentic. For legal purposes, any typographical or grammatical errors originating in non-US English dialects will be deemed to be given a proper interpretation under the US English dialect, which shall be given priority of any interpretation.

32. **Survival**. The following provisions are intended to survive the termination or expiration of this Agreement: Section 6 (Term, Suspension, and Termination); Section 7 (Customer Data); Section 9.6 (Support Portal Release and Waiver); Section 11 (Data Privacy and Security); Section 12 (Compliance with Laws and Export Regulations); Section 13 (Assignment); Section 14 (Schlumberger Proprietary Rights); Section 15 (Confidentiality); Section 16 (Representations and Warranties); Section 17 (Patent and Copyright Indemnity); Section 18 (Limitations on Liabilities and Remedies); Section 19 (Audit Rights); Section 20 (Governing Law and Venue); Section 21 (Publicity); Section 22 (Third Party Rights); Section 24 (Taxes); Section 25 (Relationship of the Parties); Section 26 (Waiver); Section 28 (Severability); Section 29 (Entire Agreement); Section 30 (Headings); and this Section 32 (Survival).

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SUBJECT

Idaho Established Program to Stimulate Competitive Research (EPSCoR) Committee Appointments

REFERENCE

October 2014	Board appointed Dr. Todd Allen as the INL Representative to the Idaho EPSCoR Committee (replacing Dr. Hill)
February 2015	Board appointed Senator Tippits to the Idaho EPSCoR Committee (replacing Senator Goedde)
April 2015	Board appointed Dr. Cornelis J. Van der Schyf to the Idaho Established Program to Stimulate Competitive Research (replacing Dr. Howard Grimes)
October 2015	Board reappointed Representative Maxine Bell and Doyle Jacklin and appointed Gynii Gilliam and Senator Roy Lacey (replacing Doug Chadderdon and Senator Tippits, respectively)
June 2016	Board appointed Dr. Kelly Beierschmitt to the committee (replacing Todd Allen)
December 2016	Board reappointed Laird Noh, and appointed Dr. David Hill and Skip Oppenheimer to the committee.
April 2017	Board appointed Senator Mark Nye to the Idaho EPSCoR Committee (replacing Senator Lacey).
June 2017	Board reappointed David Tuthill and Leo Ray to Idaho EPSCoR Committee, both representing the private sector.
October 2018	Board appointed Dr. Harold Blackman and Dr. Todd Combs to the Idaho EPSCoR Committee (replacing Dr. Mark Rudin and Dr. Kelly Beierschmitt, respectively).
June 2019	Board appointed David Barneby and reappointed Gynii Gyllian to the Idaho EPSCoR Committee, both representing the private sector.
February 2021	Board reappointed Mark Nye, Doyle Jacklin, and Dennis Stevens, and appointed Donna Lybecker, Christopher Nomura, and Marianne Walck to Idaho EPSCoR Committee.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies and Procedures, Section III.W. Higher Education Research

BACKGROUND/DISCUSSION

The Established Program to Stimulate Competitive Research (EPSCoR) represents a federal-state partnership to enhance the science and engineering research, education, and technology capabilities of states that traditionally have received smaller amounts of federal research and development funds. As a

participating state, Idaho EPSCoR is subject to federal program requirements and policies established by the Idaho State Board of Education. The purpose of EPSCoR is to build a high-quality academic research base to advance science, technology, engineering, and mathematics (STEM) to stimulate sustainable improvements in research and development capacity and competitiveness.

Idaho EPSCoR is guided by a committee of sixteen (16) members appointed by the Board for five (5) year terms. The membership of this committee is constituted to provide for geographic, academic, business, and state governmental representation as specified in Board Policy III.W., and includes the vice presidents of research from the University of Idaho, Boise State University, and Idaho State University who serve as voting ex-officio members. Ex-officio members serve without term limits. Members are allowed to serve up to three (3) consecutive terms.

The Idaho EPSCoR Committee is recommending the reappointments of Laird Noh and Skip Oppenheimer as private sector representatives, and the new appointment of Dr. Nancy Glenn as ex-officio representative from Boise State University.

ATTACHMENTS

Attachment 1 – Laird Noh Bio
Attachment 2 – Laird Noh Letter of Interest
Attachment 3 – Skip Oppenheimer Bio
Attachment 4 – Skip Oppenheimer Letter of Interest
Attachment 5 – Nancy Glenn Statement of Qualifications
Attachment 6 – Nancy Glenn Letter of Interest
Attachment 7 – EPSCoR Current Committee Membership

STAFF COMMENTS AND RECOMMENDATIONS

Staff recommends approval.

BOARD ACTION

I move to reappoint Laird Noh to the Established Program to Stimulate Competitive Research – Idaho Committee to serve as a representative of the Idaho State Senate, for a term effective from July 1, 2021 through June 30, 2026.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to reappoint Skip Oppenheimer to the Established Program to Stimulate Competitive Research – Idaho Committee to serve as a representative of the private sector, for a term effective from July 1, 2021 through June 30, 2026.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to appoint Dr. Nancy Glenn to the Established Program to Stimulate Competitive Research – Idaho Committee to serve as an ex-officio member representing Boise State University.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Bio—Laird Noh, September, 2021

Born, 1938, in the original stone hospital in Twin Falls
Lived at Artesian, 1938-1942, on a ranch against the foothills on Dry Creek
In 1942, the family moved to Addison Avenue.

Married to Kathleen Farnsworth
Two children, John, who is the vice president and manager of Noh Sheep Company, and Susan, who is a research scientist in veterinary pathology and infectious diseases with the USDA Agricultural Research Service, the WSU College of Veterinary Medicine and the Paul Allen school of World Animal Health, Pullman, WA.

Education: Kimberly public schools
BS, Business and Animal Science, Univ. of Idaho, 1960
MBA (finance emphasis), Univ. of Chicago, 1963
Doctor of Natural Resources, *Honoris Causes*, 2007, Univ. of Idaho
Taught Economics at Boise Jr. College, 1963-64

Currently

President of Noh Sheep Company

Chairman of Rocky Mountain Sheep Marketing Association, a producer-owned lamb and sheep marketing cooperative, doing business in 7 states. Since establishment in 1975, it has marketed 3.1 million head of sheep.

Chair of the Idaho EPSCoR Committee, which oversees The Experimental Program to Stimulate Competitive Research, a National Science Foundation funded partnership with 27 of the smaller states, and includes Idaho's three universities, state government, and industry. The goal of EPSCoR is to build the long-term capacity of paricipating states to conduct nationally competitive science, math, and engineering research. Since 1989, Idaho has received over $200 million in highly competitive, peer reviewed, direct grants. This year, Idaho completed a $3M per year, five year grant to advance the science of forecasting surface and groundwater flows in the Snake River Basin. In October, Idaho was awarded a $4 M per year, five year grant to enhance the capacity of mid-sized cities to manage economic growth on a sustainable basis. Each grant included an additional $2 M for building cyber infrastructure.

Member of the Dean's Advisory Board, University of Idaho College of Agriculture and Life Sciences

Member of the Liaison Committee of the USDA, Agricultural Research Service Laboratory in Kimberly

Past activities
Student body President, U/I
Chair of Twin Falls County Red Cross
Chair of TF County Republican Central Committee
President, Twin Falls Toastmasters 149
Idaho Co-Chair of Farmers for Gerald Ford
Chair, National Woolgrowers Association Predatory Animal Committee
President of the National Lamb Feeders Association
Member of the National Forest Advisory Committee to the Chief of the Forest Service
Idaho State Senate, 1980-2004
Chair, Senate Resources and the Environment Committee, 1982-2004
Trustee, the Idaho Nature Conservancy, 1986-2009
Director of The Common Interest

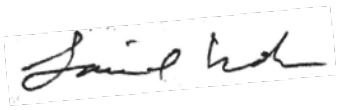
July 26, 2021

Idaho State Board of Education
PO Box 83720
Boise, ID 83720-0037

To Whom it May Concern:

This is to confirm my interest in being reappointed to the Idaho EPSCoR Committee. Your consideration will be appreciated.

Sincerely yours,



Laird Noh



BIOGRAPHICAL INFORMATION

Arthur F. (Skip) Oppenheimer

Skip Oppenheimer is currently Chairman/CEO of Oppenheimer Companies, Inc., and President of Oppenheimer Development Corporation and Chairman of several affiliated corporations. Oppenheimer Companies, Inc. is a national food processing, sales, marketing and distribution organization. Oppenheimer Development Corporation is a commercial real estate development and property management company.

Personal:
Mr. Oppenheimer graduated from Harvard Graduate School of Business Administration with an MBA in 1972; the University of Idaho with a BA in history in 1968; and received a Degree Elementaire and a Certificat De Langue Francaise - Niveau Elementaire in 1967 from the Sorbonne, University of Paris, France. He resides in Boise with his wife Esther Brollier Oppenheimer, a licensed professional counselor and artist. They have two sons, Joshua, a graduate of College of Idaho and Lesley University, and an elementary school teacher in Boise, Idaho and Matthew, a graduate of Dartmouth College and Harvard Graduate School of Business Administration; CEO of Remitly, an international mobile/internet remittance startup.

Civic and Board Activities – Current:
- **Chair St. Lukes Health System Board** (2014-); $1.4 billion in revenues with 13,000 employees**.**
- **Director of the Federal Reserve Bank San Francisco (Salt Lake Branch)** (2016-2019).
- **Member of Boy Scouts of America National Executive Board** (2009-); National VP/HR and Executive Commmittee (2015-); **Member, Boy Scouts of America, National Nominating Committee** (2012-2014).
- **Board Member University of Washington Medicine** (2014-).
- **Board of Advisors** (2001-); **Chairman**, **Board of Directors** (1993-1994); **Chairman**, **Chamber PAC** (1997-2000); **Board of Directors** (1992-1996); **Boise Metro Area Chamber of Commerce**.
- **Board of Directors**, **Clear Springs Foods** (1998-).
- **Member**, **University of Washington Medicine School Board of Directors (2015-); Member of Executive Committee** (2010-); Chairman, Strategy Committee (2015-).
- **Member**, **President's Special Advisors Group – University of Idaho** (2010-).
- **Board Member (Founding Chair)**, **Idaho Business Coalition for Education Excellence** (2003-). Membership includes 115 CEO's and Senior Executives from major Idaho Corporations and includes mid-sized and smaller corporations. Purpose is to enhance education quality in the State of Idaho.
- **Member**, **Senator Frank Church Chair Advisory Board**, **Boise State University** (1994-).
- **Co-Chairman for Idaho** (1990-); **Member of the National Executive Committee** (1992-); **American Israel Public Affairs Committee (AIPAC)**.
- **Member**, **Advisory Board**, **College of Social Sciences and Public Affairs, Boise State University** (2003-).
- **Member**, **Advisory Board**, **Log Cabin Literary Center,** Boise, Idaho (2003-).
- **Member** (1986-); **Founding Chairman** (1986-1993); **Idaho Business Council.**

Civic and Board Activities – Past:
- **Chair/Founder**, **Idaho Business Coalition for Education Excellence** (2003-2015). Membership includes 115 CEO's and Senior Executives from major Idaho Corporations and includes mid-sized and smaller corporations. Purpose is to enhance education quality in the State of Idaho.
- **Initial Chair of St. Luke's Health System Board** (2006-2009); **Chair, St. Luke's Health System Governance Committee** (2009-2012); **Chair, St. Luke's Quality, Safety and Service Excellence Committee** (2013 -).
- **Chair St. Luke's Regional Medical Center;** (predessor to SLHS 2003 – 2006)
- **Board Member** (1996 – Present)
- **President Western Region** (all Western States, 1 million youth), **Boy Scouts of America** (2009-2012).

- **Trustee** (2003-2011), (1986-1993); **Member Governance Committee** (2003- 2011); **Member of the Executive Committee** (1989-1993); **Chairman**, **Albertson School of Business Committee** (1989-1993); **Albertson College**, Caldwell, Idaho.
- **Chair**, **appointed by Governor of Idaho**, **Behavioral Health Transformation Workgroup** (2009-2011). Transform Mental Healthcare delivery system in the State of Idaho. Group comprised of all related State Department Directors and other Stakeholders.
- **President**; **Area I-Western Region** (Area I consists of WA, OR, AK, western ID, portion of northern CA, and the Far East Council), **Boy Scouts of America** (2007- 2009).
- **Co-Chair**, **Community College Yes Campaign** (2007). Favorable vote – achieved 68.4% to create Community College District – College of Western Idaho, now 10,000 students.
- **Co-Chair**, **Governor's Coordinating Council for Families and Children** (2005-2007).
- **Chairman of the Board** (2004-2006); **Vice Chair of the Board and Treasurer**; **Chair**, **Finance**, **Audit** and **Development Committee** (2000-2003); **St. Luke's Regional Medical Center.**
- **President** (2004-2006); **Board of Directors**, **Boy Scouts of America Ore-Ida Council** (2003-2005).
- **Chair**, **Idaho Governor's Council on Adolescent Pregnancy Prevention** (1994-2004).
- **Member**, **Idaho Governor's 2020 Blue Ribbon Task Force** (2002-2003).
- **Commissioner**, **Accreditation Commission on Colleges and Universities**, Northwest Assoc. of Schools and Colleges (1993-2002).
- **Member**, **Advisory Board of College of Business and Economics, Boise State University** (1999-2004).
- **Co-Chair**, **St. Luke's Children's Hospital Capital Campaign** (2002-2003).
- **Honorary Co-Chair**, **Fred Hutchison Cancer Research Center's E. Donnall Thomas Award Medal of Achievement Award Dinner, Seattle, WA** (2000-2002).
- **Secretary**, **Boise Future Foundation** (1996-2002).
- **President**, **Board of Directors**, **Congregation Ahavath 'Beth Israel** (1998-2001); **Board of Directors**, **Congregation Ahavath 'Beth Israel** (1985-1987).
- **Co-Chair**, **Boise City Mayor Brent Coles Reelection Committee** (2001).
- **National Vice Chair**, **Business Leaders for Gore/Lieberman** (2000)
- **Idaho State Chair**, **U.S. Olympic Committee** (1998-2000).
- **Board of Directors**, **Boise Public Schools Foundation** (1996-2000).
- **Trustee**, **Boise State University Foundation** (1992-1995).
- **Board of Directors**, **The Children's School**, Boise, Idaho (1992-1994).
- **Chairman**, Finance Council, **LaRocco for Congress** (1992-1994).
- **Member**, **Advisory Council of the College of Letters and Science,** University of Idaho (1990-1993).
- **Member**, **Leadership Council of the Northwest Policy Center**, University of Washington, Graduate School of Public Affairs, Institute for Public Policy and Management, Seattle, Washington (1989-1993).
- **Member**, **Boise State University, Ad Hoc Committee** (1992).
- **Member**, **Governor's Task Force on the Future of Education in Idaho** (1989-1991).
- **Board of Directors** (1985-1991); **Chairman** (1988-1990), **Children's Home Society of Idaho, d.b.a. Warm Springs Counseling Center**.
- **Board of Directors**, **Northern Lights Institute** (1982-1990).
- **Executive Committee**, **Northwest Business Coalition** (1987-1989).
- **Board of Directors**, **Junior Achievement of Boise** (1986-1989).
- **Member**, **Idaho Committee for the U.S. Holocaust Memorial Museum Commission** (1987).
- **Member**, **State of Idaho Private Industry Council** (1981-1982).
- **Governor-Appointed Member**, **State of Idaho Advisory Council to the Division of Economic Development and Community Affairs** (1980-1982).
- **Member** and **President** (two terms), **Boise Public Library Board** (1974-1982).
- **Elected Section Representative**, **Harvard Business School** (1970-1972).

Memberships:

- **American Business Conference**, Washington, D.C. (1993-2002); Board of Directors (1997-2002).
- **Chief Executives' Organization** (1996-2012).
- **World Presidents' Organization** (1996-).
- **Harvard Club of New York.** (1972 -).
- **AOPA Member**, (1984-).

- **Arid Club**, Member of the Executive Committee (1992-1995); Chairman Membership Committee; Chairman House Committee (1995).
- **Boise Committee on Foreign Relations**, Executive Committee Member.
- **Young Presidents' Organization**, Oregon Chapter Member (1979-1985), Idaho Chapter Member (1982-1996). Past Chapter Chairman and other positions.

Honors:

- **First Annual St. Luke's Legacy Award** recipient, ***along with Ed Dahlberg*** (2016).
- **Boise Metro Chamber of Commerce Hall of Fame Award** recipient (2015).
- **Silver Buffalo Award** upon nomination of the National Executive Board, Boy Scouts of America (2015).
- **Idaho Voices for Children's Champion Award (2014).**
- **Rotary Ethics in Business Honoree (2013).**
- **University of Idaho Commencement Speaker (2012).**
- **Honorary Doctor of Humane Letters** by the University of Idaho (2012).
- **The Silver Antelope Award** upon nomination by the Western Region Board, Boy Scouts of America (2012).
- **Association of Fundraising Professionals, Idaho Chapter Award, Honor Roll Recipient for Support and Volunteerism** (2011).
- Ralph J. Comstock Jr**., Light of Philanthropy Award** by St. Luke's Foundation (2010).
- **Idaho Hospital Association Trustee of the Year** (2009).
- **The Silver Beaver Award** upon nomination by the Ore-Ida Council, Boy Scouts of America (2007).
- **Idaho Association for the Education of Young Children, Annual – Stick Your Neck Out For Idaho's Children - Award** with Esther Oppenheimer (2006).
- **March of Dimes Real Estate Award for Community Service** (2003).
- **Entrepreneur of the Year Award**, **Northwest Finalist** (1996).
- **Silver and Gold Award**, for professional achievement; University of Idaho Alumni Association (1995).
- Named as one of Idaho's **"Movers & Shakers"** by Industry Week magazine, (January 1988).
- Named **Distinguished Citizen** by the Idaho Statesman, a Gannett newspaper in Boise, Idaho (February 1987).
- Named **Outstanding Young Man of the Year** for Boise by the Idaho Jaycees (1979).
- Named **Outstanding Young Man of the Year** for the State of Idaho by the Idaho Jaycees (1979).
- **Eagle Scout Award** for Boy Scouts of America (1963).

Publications:

- "A Businessman Looks at the Values of Liberal Arts," ADE Bulletin, (Association of Departments of English, New York). June 1982.
- A chapter on food products published in Doing Business with China, American Trade Opportunities in the 1970's. Praeger Publishers, New York. 1976.
- "It Will All Work Out", *A Life History in Jane Falk Oppenheimer's Words* as told to Arthur F. "Skip" Oppenheimer. 2012.

Miscellaneous Certifications:

- Flying C-650 Jet PIC Type Rating, (Commercial Pilot's License and Instrument Rating), private pilot since 1974.
- Scuba (PADI Certified Advanced Open Water Diver).
- Sailing (US Sailing Association, Cruising and Bareboat Charter Certifications).

From: Skip Oppenheimer <skip-oppenheimer@oppcos.com>
Date: Thursday, September 9, 2021 at 9:13 AM
To: Rick Schumaker UI <rschumak@uidaho.edu>
Cc: Laird noh <lnoh@earthlink.net>
Subject: Epscor

Per my conversations with Laird Noh, I am interested in being reappointed to the Idaho EPSCoR Board. I have found the work most interesting and believe it is an important effort that will continue to create meaningful results around stimulating research and development in needed scientific areas.

Thanks for the consideration.

Best,

Skip

Arthur F (Skip) Oppenheimer

Nancy Glenn
August 6, 2021
Idaho EPSCoR Committee
Statement of Qualifications

Dear Chairman Noh and Members of the Board:

My qualifications for the nomination to the Idaho EPSCoR Committee are supported by my current position, as well as my other leadership roles as professor, director, department chair, federal relations liaison, and a joint appointment with the Department of Energy. I co-developed the interdisciplinary Human-Environment Systems initiative at Boise State, which includes innovative structures and policies. I have received funding from NASA, NSF, NOAA, the US Department of Defense, Department of Energy, Department of Agriculture and the Department of the Interior.

I serve on the editorial board of several journals, as well as National Academies of Sciences, Engineering, and Medicine study reviews, and several steering committees for NASA and the National Science Foundation.

I earned a master's in Civil Engineering from UC Berkeley and my Ph.D. in Geo-Engineering from University of Nevada, Reno.

BOISE STATE UNIVERSITY
DIVISION OF RESEARCH AND ECONOMIC DEVELOPMENT

August 6, 2021

Dr. Laird Noh
Chair, Idaho EPSCoR Committee
875 Perimeter Drive, MS 3029
Moscow, ID 83844-3029

Dr. Noh:

Please accept this letter as confirmation of my interest in a membership appointment to the Idaho EPSCoR Committee.

As Interim VP for Research and Economic Development at Boise State, I am very familiar with the EPSCoR structure, mission and objectives, as evidenced by my statement of qualifications.

Thank you for consideration of this request. Please do not hesitate to contact me should you have questions or concerns.

Sincerely,



Nancy Glenn
Interim Vice President

1910 University Drive Boise, Idaho 83725-1139
Phone (208) 426-5732 NancyGlenn@boisestate.edu boisestate.edu/research
This letter is an electronic communication from Boise State University

State Committee



Laird Noh, Chairman

President of Noh Sheep Company; Idaho State Senator (retired)



David Barneby

Vice-President of Nevada Power and Sierra Pacific Power Companies (retired)



Matthew J. Borud

Chief Business Development Officer, Idaho Department of Commerce



Gynii Gilliam

President of Jobs Plus Inc.



Nancy Glenn

Interim Vice-President for Research and Economic Development, Boise State University



Doyle Jacklin

Partner, Riverbend Commerce Park



Laurie Lickley

Idaho State Representative



Donna Lybecker

Acting Vice President for Research, Idaho State University



Christopher Nomura

Vice President of Research & Economic Development, University of Idaho



Mark Nye

Idaho State Senator



Skip Oppenheimer

Chairman/CEO of Oppenheimer Companies, Inc.



Leo Ray

President of Fish Breeders of Idaho, Inc.



Jean'ne Shreeve

Professor of Chemistry, University of Idaho



Dennis Stevens

Chief of Research and Development, Infectious Disease Section, Veterans Affairs Medical Center



David Tuthill Jr.

Founder of Idaho Water Engineering, LLC.



Marianne Walck

Deputy Laboratory Director, Science & Technology and Chief Research Officer



Greg Wilson

Senior Policy Advisor, Governor's Office

SUBJECT

Idaho Indian Education Committee Appointment

REFERENCE

June 20, 2019	The Board approved the appointment of Leslie Webb, Jaime Barajas-Zepeda, and Effie Hernandez.
February 13, 2020	The Board approved the appointment of Jesse LaSarte.
April 16, 2020	The Board approved the appointment of Dr. Rex Force.
August 26, 2020	The Board approved the appointment of Dr. Mary Jane Miles.
April 2021	The Board approved reappointments for Mr. Sobotta, Dr. Force, Ms. James, Dr. Meyer, and Mr. LaSarte.
June 2021	The Board approved the reappointment of Tina Strong.
August 2021	The Board approved the appointment of Ms. Shirley Allman.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section I.P.

BACKGROUND/DISCUSSION

The Idaho Indian Education Committee serves as an advisory committee to the State Board of Education (Board) and the State Department of Education (Department) on educational issues and how they impact Idaho's American Indian student population. The committee also serves as a link between Idaho's American Indian tribes. Pursuant to Board Policy I.P. the Idaho Indian Education Committee consists of 19 members appointed by the Board. Each member serves a term of five years. Appointments to vacant positions during a previous incumbent's term are filled for the remainder of the open term. The membership consists of:

- One representative from each of the eight public postsecondary institutions
  - Nominations are submitted from the institution president
- One representative from each of the five tribal chairs or designee
- One representative from each of the five tribal education departments
- One representative from each of the two Bureau of Indian Education schools
  - Representatives must be a school board member, administrator, or designee
- One representative from the State Board of Education

All members are voting members.

Boise State University (BSU) has forwarded Dr. Eric Scott's name for consideration as their representative on the Idaho Indian Education Committee. Dr. Scott is Associate Vice President for Student Affairs at BSU. Prior to this position, he was dean of students and campus life at the University of Alaska Southeast in Juneau. He also served three terms as president of the Juneau Arts and Humanities

Council in Juneau. Dr. Scott earned his Bachelor of Arts and a Master of Education from the University of South Carolina and his doctorate in education from Oregon State University in adult and higher education leadership. His doctoral research focused on intersecting dimensions of rural identity and postsecondary outcomes with a focus on rural Alaskan Native college students. A letter of support from Boise State President Marlene Tromp is provided.

IMPACT

The proposed appointment replaces BSU's representative on the committee.

ATTACHMENTS

Attachment 1 – Current Committee Membership
Attachment 2 – Letter of support

BOARD STAFF COMMENTS AND RECOMMENDATIONS

Boise State University has identified Dr. Eric Scott to replace Dr. Leslie Webb and serve as BSU's representative on the committee. If approved, Dr. Scott would complete Dr. Webb's term, which runs through June 30, 2023.

BOARD ACTION

I move to appoint Dr. Eric Scott, representing Boise State University to the Indian Education Committee effective immediately and expiring June 30, 2023.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

STATE BOARD OF EDUCATION
Idaho Indian Education Committee

Tribal Representatives

Dr. Chris Meyer is the Director of Education for the Coeur d'Alene Tribal Education Department and serves as the Tribal Chairperson's designee for the Coeur d'Alene Tribe. Term: July 1, 2021 – June 30, 2026.

Jesse LaSarte is the Family Engagement Specialist for the Coeur d'Alene Tribe and serves as their Tribal Education Department representative. Term: July 1, 2021 – June 30, 2026.

Gary Aitken, Jr is the Tribal Chairman for the Kootenai Tribe of Idaho and serves as their Tribal Chair representative. Term: immediately – June 30, 2022.

Pending Recommendation – Tribal Education Department representative for the Kootenai Tribe.

Shirley J. Allman - Nez Perce Tribal Executive committee representative and serves as the Tribal Chairperson's designee. Term: immediately – June 30, 2023.

Joyce McFarland is the Education Manager for the Nez Perce Tribe and serves as their Tribal Education Department representative. Term: July 1, 2018 – June 30, 2023.

Ladd Edmo is the Tribal Secretary of the Fort Hall Business Council and serves as their Tribal Chairperson representative. Term: immediately - June 30, 2022.

Jessica James is the Tribal Youth Education Program Manager for the Shoshone-Bannock Tribes and serves as their Tribal Education Department representative. Term: July 1, 2021 – June 30, 2026.

Pending Recommendation - Tribal Chairperson's designee for the Shoshone-Paiute Tribes. Term: July 1, 2018 – June 30, 2023.

Pending Recommendation – Tribal Education Department representative for the Shoshone-Paiute Tribes.

Bureau of Indian Education Representatives

Tina Strong is the Bureau of Indian Education school representative. Term: July 1, 2021 – June 30, 2026.

Hank McArthur is the Bureau of Indian Education school representative. Term: July 1, 2018 – June 30, 2023.

ATTACHMENT 1

State Board of Education Representative

Dr. Linda Clark is the State Board of Education member of the Indian Education Committee.

Institutions of Higher Education Representatives

Dr. Yolanda Bisbee is the Chief Diversity Officer and Executive Director of Tribal Relations at the University of Idaho. Term: July 1, 2017 – June 30, 2022.

Dr. Eric Scott – Associate Vice President for Student Affairs at Boise State University. Term: immediately – June 30, 2023. **Pending Board approval**

Dr. Rex Force is the Senior Vice Provost and Vice President for Health Sciences at Idaho State University. Term: July 1, 2021 – June 30, 2026.

Bob Sobotta, Jr. is the Director for Native American, Minority, and Veteran's Services at Lewis-Clark State College. Term: July 1, 2021 – June 30, 2026.

Jason Ostrowski is the Dean of Students at the College of Southern Idaho. Term: July 1, 2018 - June 30, 2023.

Jaime Barajas-Zepeda is the Assistant Director of Admissions and Recruitment at the College of Western Idaho. Term: immediately - June 30, 2024.

Effie Hernandez is the Multicultural Coordinator at College of Eastern Idaho. Term: immediately – June 30, 2022.

Dr. Graydon Stanley is the Vice President for Student Services at North Idaho College. Term: July 1, 2017 – June 30, 2022.

BOISE STATE UNIVERSITY
OFFICE OF THE PRESIDENT

August 26, 2021

Ms. Patty Sanchez
Idaho State Board of Education
Indian Education Committee
650 West State Street #307
Boise, ID 83720-0037

Dear Ms. Sanchez,

Please accept this letter of support recommending Dr. Eric Scott for the Idaho Indian Education Committee. Dr. Scott presently serves as the Associate Vice President for Student Affairs and Enrollment Management, a position that is highly relevant to the work of your committee. Moreover, Dr. Scott has a rich history of working with Native American Indian communities and striving to connect them to higher education.

Indeed, his doctoral research, "Roadless and Remote: Intersecting Dimensions of Rural Identity and Alaskan Higher Education" focused on serving people living in rural communities, particularly indigenous Alaskan students. He carried this profound commitment to advocate for and engage opportunities for American Indian students with him to Idaho.

Dr. Scott's engagement will strengthen Boise State University's efforts to recruit and retain students from the tribal nations. We are committed to furthering that critical work and appreciate the opportunity to support these endeavors.

Sincerely,

Dr. Marlene Tromp
President

cc: Matt Freeman, Executive Director of the Idaho State Board of Education

1910 University Drive Boise, Idaho 83725-1000
Phone (208) 426-1491 Fax (208) 426-3779 www.boisestate.edu

This letter is an electronic communication from Boise State University

SUBJECT

Data Management Council Appointments

REFERENCE

June 2018	The Board reappointed Chris Campbell, Don Coberly, Matthew Rauch, and Georgia Smith to the Data Management Council. The Board appointed Cathleen McHugh to the Data Management Council.
August 2018	The Board appointed Dale Pietrzak and Dianna J. Renz to the Data Management Council.
April 2019	The Board appointed Scott Thomson and Grace L. Anderson to the Data Management Council.
February 2020	The Board appointed Marcia Grabow to the Data Management Council.
April 2020	The Board reappointed Matthew Rauch, Georgia Smith, and Dianna Renz to the Data Management Council. The Board appointed Chris Bragg to the Data Management Council.
August 2020	The Board appointed Leslie Odom and Kevin Whitman to the Data Management Council.
February 2021	The Board reappointed Chris Campbell and Todd King to the Data Management Council.
April 2021	The Board reappointed Cathleen McHugh, Grace Anderson, Tami Haft, Scott Thomson, Heather Luchte, and Spencer Barzee to the Data Management Council.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section I.O.

BACKGROUND/DISCUSSION

The Data Management Council (Council) was established by the Board through Board policy I.O. to make recommendations to the Board on the oversight and development of Idaho's Statewide Longitudinal Data System (SLDS) and to oversee the creation, maintenance and usage of said system. Section 33-133, Idaho Code, defines the state "data system" to include the state's elementary, secondary, and postsecondary longitudinal data. The SLDS consists of three areas of data and is referred to as EASI (the Education Analytics System of Idaho). EASI is a P-20W system consisting of P-12, postsecondary, and workforce data. The P-12 data is commonly referred to as the Idaho System for Educational Excellence (ISEE), the postsecondary data is referred to as the Postsecondary Measures of Academic Progress (PMAP), and the labor data (managed by the Department of Labor) is referred to as the Idaho Labor Market Information (ILMI).

There are 13 seats on the Council representing the following constituencies:

a. Two representatives from the Office of the State Board of Education;

b. Three representatives from public postsecondary institutions, of whom at least one shall be from a community college and no more than one member from any one institution;
c. One representative who serves as the registrar at an Idaho public postsecondary institution, which may be from the same institution represented above;
d. One representative from the State Department of Education;
e. Three representatives from a school district, with at least one from an urban district and one from a rural district, and no more than one member from any one district;
f. One representative from the Division of Career Technical Education;
g. One representative from the Department of Labor;
h. One at-large member.

The seat representing a community college became vacant due to the resignation of Chris Bragg. The Data Management Council sought applications of individuals who would be willing to fill this role and considered those applications during a meeting in September.

IMPACT

Appointment of Mr. Sharpe will result in all seats on the Data Management Council being filled.

ATTACHMENTS

Attachment 1 – Current Data Management Council Membership
Attachment 4 – Resume from Thomas Sharpe

STAFF COMMENTS AND RECOMMENDATIONS

For the open seat, Board staff reached out to constituents to solicit applicants. Board staff emailed community colleges and notified them of the opening. One nomination was received.

The Data Management Council met and voted to recommend Thomas Sharpe to the Board for appointment on the Data Management Council. Mr. Sharpe is currently Senior Research Analyst at the College of Southern Idaho.

Staff recommends approval.

BOARD ACTION

I move to appoint Thomas Sharpe to the Data Management Council serving as a representative of a community college for a term commencing immediately and ending June 30, 2022.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Data Management Council Membership

September 2021

Office of the Idaho State Board of Education

Dr. Cathleen McHugh
Chief Research Officer
Idaho State Board of Education
Member since 2018
Term: July 1, 2019 – June 30, 2023

Chris Campbell
Chief Technology Officer
Idaho State Board of Education
Member since 2015
Term: February 17, 2021 – June 30, 2023

Public Postsecondary Institutions

Four Year Institution

Dr. Grace Anderson
Director of Institutional Research
Lewis-Clark State College
Member since 2019
Term: July 1, 2019 – June 30, 2023

Dr. Leslie Odom
Associate Director for Reporting and Data Quality
Boise State University
Member since 2020
Term: August 26, 2020 – June 30, 2022

Community College

Vacant

Public Postsecondary Institution Registrar

Tami Haft
Registrar/Director of Admissions – Enrollment Services
North Idaho College
Member since 2011
Term: July 1, 2019 – June 30, 2023

State Department of Education

Kevin Whitman
Director for Assessment and Accountability
Idaho State Department of Education
Member since 2020
Term: August 26, 2020 – June 20, 2022

K-12 School Districts

At-Large School District

Dr. Spencer Barzee
Superintendent
West Side School District
Member since 2021
Term: April 21, 2021 – June 30, 2023

Rural District

Scott Thomson
Executive Director
North Idaho STEM Charter Academy
Member since 2019
Term: July 1, 2019 – June 30, 2023

Urban District

Matthew Rauch
Database Manager
Kuna School District
Member since 2015
Term: July 1, 2020 – June 30, 2022

Division of Career Technical Education

Heather Luchte
Director, Performance Management
Division of Career Technical Education
Member since 2014
Term: July 1, 2019 – June 30, 2023

Department of Labor

Georgia Smith
Deputy Director of Communications, Research and Determination Services
Idaho Department of Labor
Member since 2014
Term: July 1, 2020 – June 30, 2022

At-Large Representative

Todd King
Education Data Systems Reporting Manager
Idaho State Board of Education
Member since 2013
Term: February 17, 2021 – June 30, 2023

Thomas Sharpe

(412) 961 – 1318
twsharpe8@gmail.com
873 Grizzly Dr, Twin Falls, ID 83301

Work Experience

Senior Research Analyst *College of Southern Idaho* *July 2018 to Present*

- Served as a data mentor and supervisor for two research analysts
- Contributed to various institution-wide data governance and integrity initiatives
- Developed and maintained an Institutional Effectiveness data mart
- Provided cross-department leadership as the institutions' IPEDS keyholder
- Continued all the functions of a Research Analyst (see below)

Research Analyst *College of Southern Idaho* *August 2016 to June 2018*

- Supported stakeholders across the institution to make data informed decisions
- Performed both quantitative and qualitative research and analysis
- Automated federal and state reporting with SQL and R
- Developed internal reports and dashboards with R Markdown and Power BI

Senior Project Manager *Research and Business Development Center* *August 2014 to July 2016*

- Managed 50+ research-based consulting projects
- Hired, trained and supervised 60+ junior analyst interns and 10+ project managers
- Improved and accelerated multiple processes with Excel
- Assisted and instructed junior analyst interns in research design, execution, analysis and presentation

Junior Analyst Intern *Research and Business Development Center* *April 2014 to July 2014*

- Led two research-based consulting projects for a venture capital firm and private equity organization
- Research included market size estimation, segmentation, value chain, pricing, and competitive analyses

Education

Bachelor of Science: Financial Economics *Brigham Young University-Idaho* *Graduated July 2014*

- Minor: Accounting
- GPA: 3.83
- First place in Research & Creative Works Conference for analysis of the Efficient Market Hypothesis

Technical Skills

- Programing: SQL (very proficient), DAX (very proficient), VBA (proficient), R (proficient)
- Software: Power BI (very proficient), Excel (very proficient), R Studio (proficient)

IDAHO DIVISION OF VOCATIONAL REHABILITATION

SUBJECT

Idaho State Rehabilitation Council Membership (Council) Membership

REFERENCE

April 2018	Board appointed two current members to the Council and one new member.
June 2018	Board appointed two members to the Council.
August 2018	Board appointed one new member and re-appointed a former member to the Council.
June 2019	Board appointed three new members to the Council.
August 2019	Board appointed one new member to the Council.
October 2019	Board appointed one new member to the Council.
April 2020	Board appointed one new member and re-appointed two members to the Council.
June 2020	Board appointed four new members and re-appointed one member to the Council.
October 2020	Board appointed two new members to the Council.
June 2021	Board appointed one new member and re-appointed four members to the Council
August 2021	Board appointed two new members to the Council.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies and Procedures, Section IV.G.
Idaho Code § 33-2202
Idaho Code § 33-2303
Code of Federal Regulations 34 CFR § 361

BACKGROUND/DISCUSSION

Code of Federal Regulations (34 CFR § 361.17) sets out the requirements for the State Rehabilitation Council, including the appointment and composition of State Rehabilitation Councils. The regulations require members of state councils to be appointed by the Governor or, in the case of a state that under State law vests authority for the administration to an entity other than the Governor, the chief officer of that entity. Idaho Code § 33-2303 designates the State Board for Career Technical Education as that entity. Idaho Code § 33-2202 designates the State Board of Education as the State Board for Career Technical Education "for the purpose of carrying into effect any acts by Congress "affecting vocational rehabilitation."

Further federal regulations establish that the Council must be composed of at least fifteen (15) members, including:

i. At least one representative of the Statewide Independent Living Council, who must be the chairperson or other designee of the Statewide Independent Living Council;
ii. At least one representative of a parent training and information center established pursuant to section 682(a) of the Individuals with Disabilities Education Act;
iii. At least one representative of the Client Assistance Program established under 34 CFR part 370, who must be the director, or another individual recommended by the Client Assistance Program;
iv. At least one qualified vocational rehabilitation counselor with knowledge of, and experience with vocational rehabilitation programs who serves as an ex officio, nonvoting member of the Council if employed by the designated State agency;
v. At least one representative of community rehabilitation program service providers;
vi. Four representatives of business, industry, and labor;
vii. Representatives of disability groups that include a cross section of (A) Individuals with physical, cognitive, sensory, and mental disabilities; and (B) Representatives of individuals with disabilities who have difficulty representing themselves or are unable due to their disabilities to represent themselves;
viii. Current or former applicants for, or recipients of, vocational rehabilitation services;
ix. In a State in which one or more projects are carried out under section 121 of the Act (American Indian Vocational Rehabilitation Services), at least one representative of the directors of the projects;
x. At least one representative of the State educational agency responsible for the public education of students with disabilities who are eligible to receive services under this part and part B of the Individuals with Disabilities Education Act;
xi. At least one representative of the State workforce investment board; and
xii. The director of the designated State unit as an ex officio, nonvoting member of the Council.

Additionally, Federal Regulations specify that a majority of the council members must be individuals with disabilities who meet the requirements of 34 CFR § 361.5(b)(28) and are not employed by the designated State unit. Members are appointed for a term of no more than three (3) years, and each member of the Council may serve for not more than two consecutive full terms. A member appointed to fill a vacancy occurring prior to the end of the term must be appointed for the remainder of the predecessor's term. A vacancy in membership of the Council must be filled in the same manner as the original appointment, except the appointing authority may delegate the authority to fill that vacancy to the remaining members of the Council after making the original appointment.

The Council currently has one (1) appointment for Board consideration. The

Council is nominating Jami Davis as a representative of the State Independent Living Council.

IMPACT

The one (1) appointment will bring the Council membership to 18.

ATTACHMENTS

Attachment 1 – Current Council Membership
Attachment 2 – Jami Davis Nomination with Resume

STAFF COMMENTS AND RECOMMENDATIONS

The requested appointment meets the provisions of Board policy IV.G. State Rehabilitation Council, and the applicable Federal regulations.

Staff recommends approval

BOARD ACTION

I move appoint Jami Davis as a representative of the Idaho Independent Living Council for a three-year term, effective immediately through October 21, 2024.

Moved by _____ Seconded by _____ Carried Yes_____ No_____

Members Shall Represent	Representation Required	Name	Region	Term	Term Ends	Voting Member	#
Former Applicant or Recipient of VR services	Minimum 1	Danielle Reff	Treasure Valley	1st	08/31/2023	Yes	1
		Stephanie Taylor-Silva	Idaho Falls	1st	08/25/2024	Yes	2
Parent Training & Information Center	Minimum 1	Sarah Tueller	Treasure Valley	2nd	06/30/2024	Yes	3
Client Assistant Program	Minimum 1	Christine Meeuwsen	Treasure Valley	1st	Effective 7/12/2019 No term limit	Yes	4
Vocational Rehabilitation Counselor	Minimum 1	David White	Treasure Valley	1st	06/30/2024	**No**	5
Community Rehabilitation Program	Minimum 1	Pam Harris	Couer d'Alene	1st	06/30/2024	Yes	6
Business, Industry and Labor	Minimum 4	Vacant					
		Darin Lindig	Treasure Valley	2nd	05/31/2024	Yes	7
		Ron Oberleitner	Treasure Valley	2nd	08/31/2023	Yes	8
		Paul Tierney	Treasure Valley	1st	08/31/2023	Yes	9
Disability Groups	No minimum or maximum	Janice Carson	Moscow	2nd	05/31/2023	**No**	10
		Tim Blonsky	Treasure Valley	1st	08/25/2024	Yes	11
		Dave Maxwell	Treasure Valley	1st	06/30/2022	Yes	12
		Nathan Ogden	Treasure Valley	1st	08/31/2023	Yes	13
State Independent Living Council	Minimum 1	Vacant					
Department of Education	Minimum 1	Randi Cole	Treasure Valley	1st	08/31/2023	**No**	14
Director of Vocational Rehabilitation	Minimum 1	Jane Donnellan	Treasure Valley	No end date		**No**	15
Idaho's Native American Tribes	Minimum 1	Ramona Medicine Horse	Blackfoot	No end date		Yes	16
Workforce Development Council	Minimum 1	James Pegram	Treasure Valley	1st	06/30/2024	Yes	17

UPDATED: 9/16/2021

Idaho Division of Vocational Rehabilitation

STATE REHABILITATION COUNCIL APPLICATION FORM

Name: Jami Davis

Mailing Address: 120 S Cole Rd Boise, Idaho 83709

Home/Cell Phone: 208-334-3800 Work Phone: 208-334-3800

E-Mail: jami.davis@silc.idaho.gov

Please explain why you would like to serve on the State Rehabilitation Council

TO REPRESENT THE STATE INDEPENDENT LIVING COUNCIL AND HELP TO CONTINUALLY IMPROVE THE QUALITY OF VR SERVICES TO IDAHOANS

What Boards, Commissions, Councils, or Task Forces, etc., have you previously, or currently served on?

Name: Term Date:

Name: Term Date:

Name: Term Date:

Name: Term Date:

It is the expectation for members is to be able to commit to 1 day per quarter and 1 hour per month to dedicate to State Rehab Council activities. Do you have commitments or conflicts that might prevent you from attending quarterly Council meetings?

[X] **No** [ ] **Yes If "Yes" please explain:**

CFR 361.17(c)(1) Requires a majority of the Council members be individuals with disabilities. While your disclosure is voluntary, it would be a benefit to the Council in determining membership compliance.

Disability

[X] **Yes** [ ] **No**

Please attach a resume so that the Council may learn about employment history, educational background, group affiliations, community involvement and interests.

RETURN TO:

IDAHO STATE REHABILITATION COUNCIL
ATTN: Council Secretary
650 West State Street, Room 150
P.O. Box 83720
Boise, Idaho 83720-0096

Jami Davis

Boise, Idaho
[redacted]

Experience

Jannus Inc ***February 2019 – Present***

Idaho Suicide Prevention Hotline **Backup Hotline Supervisor**

- Supervise volunteer phone responders using clinical decision making skills
- Developed programs to educate and train community leaders and residents on suicide prevention and awareness
- Completed over 60 hours of training on suicide prevention and ASIST training
- Extensive research surrounding disability and suicide risk factors, prevention and postvention

State of Idaho ***November 1999 - Present***

State Independent Living Council **Program Specialist**

- Technical assistance for ABLE (Achieving a Better Life for Everyone) Savings Account
- Community and partner agency outreach for emergency preparedness
- Community and partner agency outreach on COVID-19 vaccine information and clinics
- Built a Statewide Youth Advisory Committee to help youth with disabilities become advocates and leaders in their community
- Implemented a week-long Youth Leadership Forum for youth with disabilities to teach about the political process, education, and vocational training available to them
- Monitor grant budget for compliance programmatically and budgetarily
- Serve as liaison for partner agencies on projects and committees
- Helped facilitate and develop the State Plan for Independent Living in 2012, 2015 and 2018
- Meet with Legislators to educate about disability issues in the State
- Participate in committees and workgroups to help ensure accessibility and fair treatment of individuals with disabilities

Public Employee Retirement System of Idaho **Administrative Assistant and Disability Specialist**

- Served as the only disability specialist for the State of Idaho and managed the disability program from pre-application to applicant service retirement at age 65
- Explained PERSI disability program and initiated disability application for PERSI members
- Liaison between member and Third Party Administrator for disability
- Developed retirement workshops for PERSI members
- Supported PERSI survey program; data entry, tracking, reporting and distribution

Jami Davis

Boise, Idaho
[redacted]

Department of Health & Welfare **AABD Office Specialist**

- Provided high level support functions for the Aid to Aged, Blind and Disabled programs including, reviewing and processing documents, explaining complex laws, policies, procedures, and determining program eligibility criteria
- Performed extensive research and analysis of sensitive issues, including accessing interfaces with outside sources/agencies to independently determine an appropriate course of action
- Used a variety of computer applications to create professional correspondence and reports, enter and retrieve data and maintain records systems

Idaho State School and Hospital - H&W **Disability Technician Lead**

- Supervised 21 employees to ensure a safe environment for clients and staff
- Provided direct care to individuals with disabilities
- Taught and supervised individualized Activities of Daily Living (ADL) and worked with individuals to meet their personal goals
- Advocated on behalf of individuals to transition into the community
- Worked individually with clients on vocational skills that would be needed to be successful in the community

Education

Western New Mexico University, Bachelor of Social Work **2016 – 2018**

- Magna Cum Laude
- President's List

College of Western Idaho **2014 – 2016**

- Liberal Arts classes

STATE DEPARTMENT OF EDUCATION

SUBJECT
2020-2021 Accreditation Report

REFERENCE

October 2018	Board accepted the 2017-2018 Accreditation Report.
October 2019	Board accepted the 2018-2019 Accreditation Report.
October 2020	Board accepted the 2019-2020 Accreditation Report.

APPLICABLE STATUTE, RULE, OR POLICY
Section 33-119, Idaho Code
Idaho Administrative Code, IDAPA 08.02.02.140 – Accreditation

BACKGROUND/DISCUSSION
Pursuant to IDAPA 08.02.02.140, "All public secondary schools, serving any grade(s) 9-12, will be accredited pursuant to Section 33-119, Idaho Code. Accreditation is voluntary for elementary schools, grades K-8, and alternative schools not identified in Subsection 140.02.a. through 140.012.e. of this rule…." Section 33-119, Idaho Code authorizes the Board to establish the accreditation standards. The Board, through administrative rule, requires schools to meet the accreditation standards of the Northwest Accreditation Commission (NWAC), a division of AdvancED. AdvancED recently changed its name to Cognia.

The attached annual accreditation report is submitted to the State Board of Education in accordance with IDAPA 08.02.02.140.05. This report outlines the accreditation status of Idaho's schools that serve any grade(s) 9-12 as well as those elementary schools, schools serving grades K-8, that voluntarily seek accreditation and parochial and private schools.

ATTACHMENTS
Attachment 1 – 2020-2021 Accreditation Summary Report of Idaho Schools

STAFF COMMENTS AND RECOMMENDATIONS
Section 33-119, Idaho Code, requires all public, private, and parochial secondary schools to meet minimum accreditation standards set by the State Board of Education. Those standards are set in Idaho Administrative Code, IDAPA 08.02.02.140.02, as the accreditation standards of the Northwest Accreditation Commission, a division of AdvancED, now Cognia. Additionally, IDAPA 08.02.02.140.04 requires an annual accreditation report to be submitted to the Board identifying each accredited school and school district in the state and the status of their accreditation.

Cognia accredits both individual schools as well as school systems (school district). Once a school becomes accredited, it may have one of two accreditation

statuses. The accreditation status is based on the performance of a school in areas related to the accreditation standards, policies, assurances, student performance results and stakeholder feedback. The two statuses are “accredited” or “accredited under review.” The term “accredited under review” has replaced the term “accredited probation.”

All schools that are accredited conduct a five year External Review during their final year of the accreditation cycle facilitated by Cognia. In addition, all schools have a mid-term accreditation progress report that is done through Cognia’s online accreditation application. This report is done at the end of the second (2nd) year in the cycle for all schools with “accredited” status.

Those schools with “accredited under review” status have a more frequent reporting cycle. The “accredited under review” cycle can be every year, or more often dependent on the situation. All “accredited under review” schools conduct an onsite accreditation progress report review facilitated by Cognia. The Accreditation Progress report specifically addresses the required actions given by the External Review Team at the five-year onsite review. A school may be placed in “accredited under review” status under two circumstances. The first is based on the school scoring in the bottom fifth percentile of Cognia’s Index of Education Quality. The second circumstance is based on the school not meeting Cognia’s standards, a complaint has been filed against the school, the school is in violation of Cognia’s accreditation policies and procedures, or based on an onsite team review. The attached report includes accredited schools, school districts, and educational programs serving students in elementary through high school.

Of all 295 accredited schools and six districts, only six have accredited under review status, three are private schools and three are public charter schools.

Staff recommends adoption of the report.

BOARD ACTION

I move to accept the 2020-2021 Accreditation Summary Report of Idaho Schools as submitted in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Customer Number	Account Name	District/Authorizer	School Type	Mailing City	Accreditation Status	Initial Accreditation Date	Expiration Date
227812	A. B. McDonald Elementary	Moscow School District	Elementary	Idaho Falls	Accredited	4/17/2020	6/30/2025
228698	Aberdeen High School	Aberdeen District	High School	Aberdeen	Accredited	6/20/2017	6/30/2022
311489	Alturas International Academy	ID Public Charter Comission	Elementary	Idaho Falls	Accredited	6/19/2019	6/30/2024
227893	Alzar School	Private	Wilderness	Cascade	Accredited	6/20/2018	6/30/2023
228764	American Falls High School	American Falls Joint District	High School	American Falls	Accredited	4/17/2020	6/30/2025
260976	American Heritage Charter School	ID Public Charter Comission	Unit School	Idaho Falls	Accredited	4/17/2020	6/30/2025
228070	Another Choice Virtual Charter School	ID Public Charter Comission	Digital Learning	Nampa	Accredited	6/20/2018	6/30/2023
228810	ARTEC Regional Professional Technical Charter School	Minidoka County Joint District	Career Technical	Twin Falls	Accredited	1/28/2016	6/30/2022
228869	Bear Lake High School	Bear Lake County District	High School	Montpelier	Accredited	6/20/2018	6/30/2023
261035	Bennett Mountain High School	Mountain Home School District 193	High School	Mountain Home	Accredited	4/17/2020	6/30/2025
261103	Bingham Academy	ID Public Charter Comission	High School	Blackfoot	Accredited	6/20/2017	6/30/2022
50159	Bishop Kelly High School	The Roman Catholic Diocese of Boise	High School	Boise	Accredited	11/14/2017	6/30/2023
228920	Black Canyon Alternative High School	Emmett Independent District	High School	Emmett	Accredited	6/15/2021	6/30/2026
310777	Blackfoot Charter Community	Blackfoot Charter Community Learning Center Inc.	Elementary	Blackfoot	Accredited	6/19/2019	6/30/2024
228922	Blackfoot High School	Blackfoot District	High School	Blackfoot	Accredited	3/31/2021	6/30/2026
228926	Bliss School	Bliss Joint School District	Unit School	Bliss	Accredited	6/20/2017	6/30/2022
236415	Boise Girls Academy	Private	High School	Nampa	Accredited	6/15/2021	6/30/2026
228932	Boise High School	Boise Independent District	High School	Boise	Accredited	6/20/2018	6/30/2023
227952	Boise State University TRIO Upward Bound	Boise State University	Supplementary	Boise	Accredited	11/2/2016	6/30/2022
228936	Bonners Ferry High School	Boundary County District	High School	Bonners Ferry	Accredited	1/23/2020	6/30/2025
228937	Bonneville High School	Bonneville Joint District	High School	Idaho Falls	Accredited	6/19/2019	6/30/2024
227965	Bonneville Online School	Bonneville Joint District	Digital Learning	Idaho Falls	Accredited	8/7/2018	6/30/2023
228941	Borah High School	Boise Independent District	High School	Boise	Accredited	6/20/2018	6/30/2023
228944	Boulder Creek Academy	Private	High School	Bonners Ferry	Accredited	6/19/2019	6/30/2024
228983	Buhl High School	Buhl Joint District	High School	Buhl	Accredited	6/15/2021	6/30/2026
228986	Burley Junior High School	Cassia County Joint District	Middle School	Burley	Accredited	6/20/2018	6/30/2023
228985	Burley Senior High School	Cassia County Joint District	High School	Burley	Accredited	6/20/2018	6/30/2023
228994	Butte County Middle/High School	Butte County Joint District	High School	Arco	Accredited	6/19/2019	6/30/2024
229007	Caldwell High School	Caldwell District	High School	Caldwell	Accredited	6/19/2019	6/30/2024
229010	Calvary Chapel Christian School-Nampa	Private	Unit School	Nampa	Accredited Under Review	6/22/2016	6/30/2022
229012	Camas County High School	Camas County District	High School	Fairfield	Accredited	1/28/2021	6/30/2026
229015	Cambridge Junior/Senior High School	Cambridge Joint District	High School	Cambridge	Accredited	6/15/2021	6/30/2026
268598	Camelot Elementary School	Lewiston Independent School District No. 1	Elementary	Lewiston	Accredited	6/20/2017	6/30/2022
227865	Canyon Ridge High School	Twin Falls School District	High School	Twin Falls	Accredited	6/20/2018	6/30/2023
229023	Canyon Springs High School	Caldwell District	High School	Caldwell	Accredited	6/15/2021	6/30/2026
229027	Capital High School	Boise Independent District	High School	Boise	Accredited	6/19/2019	6/30/2024
229033	Carey School	Blaine County District	Unit School	Carey	Accredited	6/19/2019	6/30/2024
229049	Cascade Jr./Sr. High School	Cascade District	High School	Cascade	Accredited	6/19/2019	6/30/2024
229057	Cassia Jr/Sr High School	Cassia County Joint District	High School	Burley	Accredited	6/20/2018	6/30/2023
268803	Cassia Regional Technical Center	Cassia County Joint District	Career Technical	Burley	Accredited	6/20/2018	6/30/2023
229059	Castleford Public Schools	Castleford District	Unit School	Castleford	Accredited	6/20/2017	6/30/2022
312461	Cavendish-Teakean Elementary School	Orofino Joint School District 171	Elementary	Lenore	Accredited	6/15/2021	6/30/2026
227847	Centennial Baptist School	Private	Unit School	Caldwell	Accredited	10/31/2019	6/30/2025
268595	Centennial Elementary School	Lewiston Independent School District No. 1	Elementary	Lewiston	Accredited	6/20/2017	6/30/2022
229078	Centennial High School	West Ada Joint School District	High School	Boise	Accredited	6/20/2017	6/30/2022
229084	Central Academy High School	West Ada Joint School District	High School	Meridian	Accredited	6/15/2021	6/30/2026
229091	Central High School	Madison School District 321	High School	Rexburg	Accredited	1/23/2020	6/30/2025
229102	Century High School	Pocatello/Chubbuck District 25	High School	Pocatello	Accredited	6/19/2019	6/30/2024
227808	Challis Jr/Sr High School	Challis Joint District	High School	Challis	Accredited	6/19/2019	6/30/2024
229117	Cherry Gulch	Private	High School	Emmett	Accredited	6/20/2018	6/30/2023

Customer Number	Account Name	District/Authorizer	School Type	Mailing City	Accreditation Status	Initial Accreditation Date	Expiration Date
237162	Christian Center School	Private	Unit School	Hayden	Accredited	3/31/2021	6/30/2025
229166	Clark County Jr/Sr High School	Clark County School District	High School	Dubois	Accredited	6/19/2019	6/30/2024
229167	Clark Fork Junior Senior High School	Lake Pend Oreille District	High School	Clark Fork	Accredited	6/15/2021	6/30/2026
229179	Clearwater Valley Junior/Senior High School	Mountain View School District	High School	Kooskia	Accredited	4/17/2020	6/30/2025
317601	Coeur d' Alene Hockey Academy	Private	High School	Coeur d' Alene	Accredited	6/15/2021	6/30/2026
229182	Coeur d'Alene Charter Academy School	Coeur D'Alene Charter Academy Inc.	Unit School	Coeur D Alene	Accredited	6/20/2017	6/30/2022
229183	Coeur d'Alene High School	Coeur D'Alene District	High School	Coeur d'Alene	Accredited	6/20/2017	6/30/2022
228192	Coeur d'Alene Tribal School	Bureau of Indian Affairs	Elementary	Desmet	Accredited	6/15/2021	6/30/2026
229186	Cole Valley Christian School (Grade 7-12)	Private	High School	Meridian	Accredited	6/22/2016	6/30/2023
229185	Cole Valley Christian Schools (PK-Grade 6)	Private	Elementary	Boise	Accredited	11/14/2017	6/30/2021
229203	Columbia High School	Nampa School District	High School	Nampa	Accredited	6/22/2016	6/30/2022
311211	Community School	Private	Unit School	Sun Valley	Accredited	11/14/2017	6/30/2025
231937	Compass Academy	Idaho Falls School District 91	High School	Idaho Falls	Accredited	6/19/2019	6/30/2024
229213	Compass Public Charter School	ID Public Charter Comission	Unit School	Meridian	Accredited	3/31/2021	6/30/2026
229234	CornerStone Christian Academy	Private	Elementary	Post Falls	Accredited	3/31/2021	6/30/2026
229083	COSSA Academy	Canyon-Owyhee School Service Agency (COSSA)	Career Technical	Wilder	Accredited	3/31/2020	6/30/2025
229249	Council Jr/Sr High School	Council District	High School	Council	Accredited	6/19/2019	6/30/2024
229287	Culdesac School	Culdesac Joint District	Unit School	Culdesac	Accredited	6/20/2018	6/30/2023
229317	Deary School	Whitepine Jt School District	Unit School	Deary	Accredited	1/28/2021	6/30/2026
268804	Declo Elementary School	Cassia County Joint District	Elementary	Declo	Accredited	6/20/2018	6/30/2023
229320	Declo Jr High School	Cassia County Joint District	Middle School	Declo	Accredited	6/20/2018	6/30/2023
229319	Declo Sr High School	Cassia County Joint District	High School	Declo	Accredited	6/20/2018	6/30/2023
229341	Dietrich School	Dietrich District	Unit School	Dietrich	Accredited	6/19/2019	6/30/2024
317634	Doral Academy of Idaho	Doral Academy Of Idaho Inc.	Elementary	Meridian	Accredited	10/30/2020	6/30/2024
268805	Dworshak Elementary School	Cassia County Joint District	Elementary	Burley	Accredited	6/20/2018	6/30/2023
229377	Eagle Academy High School	West Ada Joint School District	High School	Eagle	Accredited	6/20/2017	6/30/2022
229379	Eagle High School	West Ada Joint School District	High School	Eagle	Accredited	6/20/2017	6/30/2022
229395	East Junior High School	Boise Independent District	Middle School	Boise	Accredited	6/20/2017	6/30/2022
314171	Elevate Academy Inc	ID Public Charter Comission	High School	Boise	Accredited	1/28/2021	6/30/2026
227695	Emerson Alternative High School	Idaho Falls School District 91	High School	Idaho Falls	Accredited	6/15/2021	6/30/2026
229449	Emmett High School	Emmett Independent District	High School	Emmett	Accredited	3/31/2020	6/30/2025
229485	Fairmont Junior High School	Boise Independent District	Middle School	Boise	Accredited	6/20/2017	6/30/2022
229492	Falcon Ridge Public Charter School	ID Public Charter Comission	Unit School	Kuna	Accredited Under Review	6/20/2018	6/30/2023
229517	Filer High School	Filer District	High School	Filer	Accredited	3/31/2021	6/30/2026
229521	Firth High School	Firth District	High School	Firth	Accredited	6/20/2017	6/30/2022
317724	Foothills School of Arts and Sciences	ID Public Charter Comission	Unit School	Boise	Accredited	10/30/2020	8/30/2024
227821	Forrest M. Bird Charter School	ID Public Charter Comission	High School	Sandpoint	Accredited	6/20/2018	6/30/2023
227905	Frank Church High School	Boise Independent District	High School	Boise	Accredited	3/31/2021	6/30/2026
227866	Franklin County High School	Preston School District 201	High School	Preston	Accredited	6/20/2017	6/30/2022
229562	Fruitland High School	Fruitland District	High School	Fruitland	Accredited	4/17/2020	6/30/2025
229573	Garden Valley Public School	Garden Valley District	Unit School	Garden Valley	Accredited	3/31/2021	6/30/2026
311106	Gem Prep - Pocatello	Gem Innovation	Elementary	Pocatello	Accredited	10/31/2018	6/30/2024
310610	Gem Prep: Nampa	Gem Innovation	Unit School	Nampa	Accredited	10/31/2018	6/30/2024
229824	Gem Prep: Online	Gem Innovation	Digital Learning	Deary	Accredited	6/20/2018	6/30/2023
229590	Genesee School	Genesee Joint District	Unit School	Genesee	Accredited	6/19/2019	6/30/2024
229591	Genesis Preparatory Academy	Private	Unit School	Post Falls	Accredited	3/31/2021	6/30/2025
229619	Glenns Ferry High School	Glenns Ferry Joint District	High School	Glenns Ferry	Accredited	6/22/2016	6/30/2022
229630	Gooding High School	Gooding Joint District	High School	Gooding	Accredited	1/28/2021	6/30/2026
229636	Grace Jr/Sr High School	Grace Joint District	High School	Grace	Accredited	6/22/2016	6/30/2022
268563	Grace Lutheran School	Private	Unit School	Pocatello	Accredited	10/30/2020	7/31/2025

Customer Number	Account Name	District/Authorizer	School Type	Mailing City	Accreditation Status	Initial Accreditation Date	Expiration Date
229644	Grangeville High School	Mountain View School District	High School	Grangeville	Accredited	6/20/2017	6/30/2022
229663	Greenleaf Friends Academy	Private	Unit School	Greenleaf	Accredited	6/15/2021	6/30/2026
229676	Hagerman School	Hagerman Joint District	Unit School	Hagerman	Accredited	6/18/2020	6/30/2024
229686	Hansen Junior/Senior High School	Hansen District	High School	Hansen	Accredited	6/15/2021	6/30/2026
268107	Heartland High School	McCall-Donnelly School District	High School	McCall	Accredited	6/15/2021	6/30/2026
231475	Heritage Community Charter School	ID Public Charter Comission	Unit School	Caldwell	Accredited	6/19/2019	6/30/2024
228237	High Desert High School	Shoshone Joint District	High School	Shoshone	Accredited	6/20/2018	6/30/2023
229740	Highland School	Highland Joint District	Unit School	Craigmont	Accredited	3/31/2020	6/30/2025
50161	Highland Senior High School	Pocatello/Chubbuck District 25	High School	Pocatello	Accredited	6/15/2021	6/30/2026
229745	Hillcrest High School	Bonneville Joint District	High School	Ammon	Accredited	6/15/2021	6/30/2026
229749	Hillside Junior High School	Boise Independent District	Middle School	Boise	Accredited	6/20/2017	6/30/2022
229775	Homedale High School	Homedale Joint District	High School	Homedale	Accredited	4/17/2020	6/30/2025
229789	Hope Christian Academy	Private	High School	Marsing	Accredited Under Review	6/20/2018	6/30/2023
229800	Horseshoe Bend Middle/Sr High	Horseshoe Bend School District	High School	Horseshoe Bend	Accredited	1/28/2021	6/30/2026
227915	ICON (Idaho Connects Online School)	ID Public Charter Comission	Digital Learning	Star	Accredited	6/20/2018	6/30/2023
229821	Idaho Arts Charter School	Nampa School District	Unit School	Nampa	Accredited	6/15/2021	6/30/2026
229822	Idaho City Middle/High School	Basin School District	High School	Idaho City	Accredited	6/19/2019	6/30/2024
259423	Idaho Connects Online (Alt)	ID Public Charter Comission	Digital Learning	Star	Accredited	6/20/2017	6/30/2022
229823	Idaho Digital Learning Academy	IDLA - Idaho Legislature	Digital Learning	Boise	Accredited	3/31/2021	6/30/2026
229825	Idaho Falls High School	Idaho Falls School District 91	High School	Idaho Falls	Accredited	3/31/2021	6/30/2026
228814	Idaho Fine Arts Academy	West Ada Joint School District	High School	Eagle	Accredited	1/29/2019	6/30/2024
312706	Idaho Home Learning Academy	Oneida County District	Digital Learning	Malad City	Accredited	6/15/2021	6/30/2026
229827	Idaho School for the Deaf and Blind	State Department of Education	Unit School	Gooding	Accredited	6/20/2018	6/30/2023
268682	Idaho Science and Technology Charter School	ID Public Charter Comission	Middle School	Blackfoot	Accredited	6/22/2016	6/30/2022
261186	Idaho Technical Career Academy	ID Public Charter Comission	Digital Learning	Meridian	Accredited	6/15/2021	6/30/2026
229828	Idaho Virtual Academy	ID Public Charter Comission	Digital Learning	Meridian	Accredited	3/29/2019	6/30/2024
260140	Idaho Youth Challenge Academy	Orofino Joint School District 171	Tutoring	Orofino	Accredited	6/15/2021	6/30/2026
229840	Independence High School	Blackfoot District	High School	Blackfoot	Accredited	3/31/2021	6/30/2026
227975	Initial Point High School	Kuna Joint District	High School	Kuna	Accredited	6/20/2018	6/30/2023
229852	Innercept Academy	Private	High School	Coeur d'Alene	Accredited	6/19/2019	6/30/2024
229857	INSPIRE, The Idaho Connections Academy	ID Public Charter Comission	Digital Learning	Boise	Accredited	6/20/2017	6/30/2022
227814	iSucceed Virtual High School	ID Public Charter Comission	Digital Learning	Boise	Accredited	6/20/2018	6/30/2023
227809	J. Russell Elementary	Moscow School District	Elementary	Moscow	Accredited	4/17/2020	6/30/2025
229904	Jefferson High School	Jefferson County Jt District	High School	Menan	Accredited	3/31/2021	6/30/2026
229908	Jenifer Middle School	Lewiston Independent School District No. 1	Middle School	Lewiston	Accredited	6/20/2017	6/30/2022
229911	Jerome High School	Jerome Joint District	High School	Jerome	Accredited	4/17/2020	6/30/2025
227811	Juniper Hills - Nampa	Idaho Department of Juvenile Corrections	Adjudicated Students	Nampa	Accredited	6/15/2021	6/30/2026
229941	Juniper Hills High School-St. Anthony	Idaho Department of Juvenile Corrections	Adjudicated Students	St. Anthony	Accredited	6/15/2021	6/30/2026
229942	Juniper Hills School - Lewiston	Idaho Department of Juvenile Corrections	Adjudicated Students	Lewiston	Accredited	6/15/2021	6/30/2026
229949	Kamiah High School	Kamiah Joint District	High School	Kamiah	Accredited	6/22/2016	6/30/2022
229960	Kellogg High School	Kellogg Joint District	High School	Kellogg	Accredited	1/28/2021	6/30/2026
229964	Kendrick Jr/Sr High School	Kendrick Joint School District	High School	Kendrick	Accredited	6/19/2019	6/30/2024
229983	Kimberly High School	Kimberly District	High School	Kimberly	Accredited	6/15/2021	6/30/2026
227861	Kootenai Bridge Academy	ID Public Charter Comission	High School	Coeur D Alene	Accredited	6/20/2018	6/30/2023
230013	Kootenai Jr Sr High School	Kootenai District	High School	Harrison	Accredited	6/19/2019	6/30/2024
230017	Kuna High School	Kuna Joint District	High School	Kuna	Accredited	3/31/2020	6/30/2025
230026	Lake City High School	Coeur D'Alene District	High School	Coeur d'Alene	Accredited	6/20/2017	6/30/2022
228095	Lake Pend Oreille High School	Lake Pend Oreille District	High School	Sandpoint	Accredited	1/28/2021	6/30/2026
230042	Lakeland High School	Lakeland School District	High School	Rathdrum	Accredited	1/28/2021	6/30/2026
230048	Lakeside High School	Plummer-Worley Joint District	High School	Plummer	Accredited	6/20/2017	6/30/2022

Customer Number	Account Name	District/Authorizer	School Type	Mailing City	Accreditation Status	Initial Accreditation Date	Expiration Date
230059	Lapwai Middle/High School	Lapwai School District	High School	Lapwai	Accredited	6/15/2021	6/30/2026
230078	Leadore School	South Lemhi District	Unit School	Leadore	Accredited	6/15/2021	6/30/2026
228271	Legacy Charter School	ID Public Charter Comission	Elementary	Nampa	Accredited	6/19/2019	6/30/2024
227810	Lena Whitmore Elementary	Moscow School District	Elementary	Moscow	Accredited	4/17/2020	6/30/2025
230092	Les Bois Jr. High	Boise Independent District	Middle School	Boise	Accredited	6/20/2017	6/30/2022
230097	Lewiston High School	Lewiston Independent School District No. 1	High School	Lewiston	Accredited	6/20/2017	6/30/2022
230110	Liberty Charter School	ID Public Charter Comission	Unit School	Nampa	Accredited	6/20/2017	6/30/2022
230124	Lighthouse Christian School	Private	High School	Twin Falls	Accredited	6/20/2018	6/30/2023
230132	Lincoln High School	Bonneville Joint District	High School	Idaho Falls	Accredited	3/31/2021	6/30/2026
230177	Mackay Junior Senior High School	Mackay Joint District	High School	MacKay	Accredited	1/23/2020	6/30/2025
230179	Madison High School	Madison School District 321	High School	Rexburg	Accredited	1/28/2021	6/30/2026
227822	Madison Junior High School	Madison School District 321	Middle School	Rexburg	Accredited	6/20/2017	6/30/2022
230184	Magic Valley High School	Twin Falls School District	High School	Twin Falls	Accredited	6/19/2019	6/30/2024
230186	Malad High School	Oneida County District	High School	Malad	Accredited	3/29/2019	6/30/2024
230214	Marsh Valley High School	Marsh Valley Joint District	High School	Arimo	Accredited	1/28/2021	6/30/2026
230221	Marsing High School	Marsing Joint District	High School	Marsing	Accredited	1/28/2021	6/30/2026
230236	McCall-Donnelly High School	McCall-Donnelly School District	High School	McCall	Accredited	4/17/2020	6/30/2025
268601	McGhee Elementary School	Lewiston Independent School District No. 1	Elementary	Lewiston	Accredited	6/20/2017	6/30/2022
268602	McSorley Elementary School	Lewiston Independent School District No. 1	Elementary	Lewiston	Accredited	6/20/2017	6/30/2022
230260	Meadows Valley School	Meadows Valley District	Unit School	New Meadows	Accredited	6/20/2018	6/30/2023
230264	Melba Middle/High School	Melba Joint District	High School	Melba	Accredited	6/15/2021	6/30/2026
227902	Meridian Academy High School	West Ada Joint School District	High School	Meridian	Accredited	4/17/2020	6/30/2025
230270	Meridian Medical Arts Charter High School	West Ada Joint School District	High School	Meridian	Accredited	3/31/2021	6/30/2026
230272	Meridian Senior High School	West Ada Joint School District	High School	Meridian	Accredited	6/20/2017	6/30/2022
230273	Meridian Technical Charter High School	West Ada Joint School District	High School	Meridian	Accredited	6/20/2017	6/30/2022
228311	Middleton Academy	Middleton School District	High School	Middleton	Accredited	6/19/2019	6/30/2024
311484	Middleton Heights Elementary	Middleton School District	Elementary	Middleton	Accredited	6/19/2019	6/30/2024
230286	Middleton High School	Middleton School District	High School	Middleton	Accredited	6/19/2019	6/30/2024
230287	Middleton Middle School	Middleton School District	Middle School	Middleton	Accredited	6/19/2019	6/30/2024
230288	Midvale School	Midvale District	Unit School	Midvale	Accredited	3/31/2020	6/30/2025
311485	Mill Creek Elementary	Middleton School District	Elementary	Middleton	Accredited	6/19/2019	6/30/2024
317576	Mini-Cassia Online Learning Academy	Cassia County Joint District	Digital Learning	Burley	Accredited	10/30/2020	6/30/2023
230299	Minico High School	Minidoka County Joint District	High School	Rupert	Accredited	6/19/2019	6/30/2024
230331	Moscow High School	Moscow School District	High School	Moscow	Accredited	4/17/2020	6/30/2025
230332	Moscow Middle School	Moscow School District	Middle School	Moscow	Accredited	4/17/2020	6/30/2025
230349	Mountain Home High School	Mountain Home School District 193	High School	Mountain Home	Accredited	1/28/2021	6/30/2026
230358	Mountain View Alternative High School	Lakeland School District	High School	Rathdrum	Accredited	6/15/2021	6/30/2026
268806	Mountain View Elementary	Cassia County Joint District	Elementary	Burley	Accredited	6/20/2018	6/30/2023
230362	Mountain View High School	West Ada Joint School District	High School	Meridian	Accredited	6/20/2018	6/30/2023
230376	Mt. Harrison Junior/Senior High School	Minidoka County Joint District	High School	Heyburn	Accredited	6/20/2017	6/30/2022
230388	Mullan School	Mullan District	Unit School	Mullan	Accredited	6/20/2018	6/30/2023
230393	Murtaugh Schools	Murtaugh Joint District	Unit School	Murtaugh	Accredited	4/17/2020	6/30/2025
230398	Nampa Christian Schools, Inc.	Private	Unit School	Nampa	Accredited	6/20/2018	6/30/2023
230399	Nampa High School	Nampa School District	High School	Nampa	Accredited	6/15/2021	6/30/2026
230429	New Horizon High School	Pocatello/Chubbuck District 25	High School	Pocatello	Accredited	6/22/2016	6/30/2022
50174	New Plymouth High School	New Plymouth District	High School	New Plymouth	Accredited	6/19/2019	6/30/2024
259243	New Vision High School	Post Falls School District	High School	Post Falls	Accredited	6/19/2019	6/30/2024
230452	Nezperce School	Nezperce Joint District	Unit School	Nez Perce	Accredited	6/20/2018	6/30/2023
230472	North Fremont Jr/Sr High School	Fremont County Joint District	High School	Ashton	Accredited	6/20/2017	6/30/2022
230475	North Gem Senior High School	North Gem District	High School	Bancroft	Accredited	1/28/2021	6/30/2026

Customer Number	Account Name	District/Authorizer	School Type	Mailing City	Accreditation Status	Initial Accreditation Date	Expiration Date
231603	North Idaho Christian School	Private	Unit School	Hayden	Accredited	3/31/2021	6/30/2025
260107	North Idaho Stem Charter Academy	ID Public Charter Comission	Unit School	Rathdrum	Accredited	4/17/2020	6/30/2025
230476	North Junior High School	Boise Independent District	Middle School	Boise	Accredited	6/20/2017	6/30/2022
230494	North Star Charter School	ID Public Charter Comission	Unit School	Eagle	Accredited	1/23/2020	6/30/2025
227830	North Valley Academy	North Valley Academy Inc.	Unit School	Gooding	Accredited	6/20/2017	6/30/2022
230512	Northwest Children's Home Education Center	ID Department of Health and Welfare	Adjudicated Students	Lewiston	Accredited	6/15/2021	6/30/2026
230522	Notus Jr/Sr High School	Notus District	High School	Caldwell	Accredited	6/20/2018	6/30/2023
261338	Novitas Academy	Private	High School	Emmett	Accredited	10/29/2019	6/30/2022
268807	Oakley Elementary School	Cassia County Joint District	Elementary	Oakley	Accredited	6/20/2018	6/30/2023
227806	Oakley Jr/Sr High School	Cassia County Joint District	High School	Oakley	Accredited	6/20/2018	6/30/2023
268603	Orchards Elementary School	Lewiston Independent School District No. 1	Elementary	Lewiston	Accredited	6/20/2017	6/30/2022
312462	Orofino Elementary School	Orofino Joint School District 171	Elementary	Orofino	Accredited	6/15/2021	6/30/2026
230606	Orofino High School	Orofino Joint School District 171	High School	Orofino	Accredited	6/15/2021	6/30/2026
230648	Paradise Creek Regional High School	Moscow School District	High School	Moscow	Accredited	4/17/2020	6/30/2025
230660	Parma High School	Parma District	High School	Parma	Accredited	6/15/2021	6/30/2026
230670	Payette High School	Payette Joint District	High School	Payette	Accredited	6/20/2017	6/30/2022
228131	Payette River Regional Technical Academy	Emmett Independent District	Career Technical	Emmett	Accredited	6/19/2019	6/30/2024
312463	Peck Elementary School	Orofino Joint School District 171	Elementary	Peck	Accredited	6/15/2021	6/30/2026
50149	Pocatello High School	Pocatello/Chubbuck District 25	High School	Pocatello	Accredited	6/20/2018	6/30/2023
230728	Post Falls High School	Post Falls School District	High School	Post Falls	Accredited	3/31/2021	6/30/2026
230730	Potlatch Jr/Sr High School	Potlatch School District 285	High School	Potlatch	Accredited	6/20/2017	6/30/2022
230737	Prairie Jr/Sr High School	Cottonwood Joint District	High School	Cottonwood	Accredited	6/20/2018	6/30/2023
230738	Preston High School	Preston School District 201	High School	Preston	Accredited	6/20/2017	6/30/2022
230741	Priest River-Lamanna High School	West Bonner County District	High School	Priest River	Accredited	6/20/2017	6/30/2022
312879	Project Impact STEM Academy	ID Public Charter Comission	Unit School	Kuna	Accredited	3/31/2021	6/30/2026
311487	Purple Sage Elementary	Middleton School District	Elementary	Caldwell	Accredited	6/19/2019	6/30/2024
268809	Raft River Elementary School	Cassia County Joint District	Elementary	Malta	Accredited	6/20/2018	6/30/2023
230767	Raft River Jr/Sr High School	Cassia County Joint District	High School	Malta	Accredited	6/20/2018	6/30/2023
261238	Rebound School of Opportunity	West Ada Joint School District	High School	Meridian	Accredited	3/31/2021	6/30/2026
227958	Renaissance High School	West Ada Joint School District	High School	Meridian	Accredited	6/20/2018	6/30/2023
230803	Richard McKenna Charter High School	ID Public Charter Comission	Digital Learning	Mountain Home	Accredited	6/20/2018	6/30/2023
230807	Richfield School	Richfield District	Unit School	Richfield	Accredited	3/31/2020	6/30/2025
269495	Ridgevue High School	Vallivue School District	High School	Nampa	Accredited	6/20/2017	6/30/2022
230816	Rigby High School	Jefferson County Jt District	High School	Rigby	Accredited	6/19/2019	6/30/2024
230818	Rimrock Jr/Sr High School	Bruneau-Grand View Joint School District	High School	Bruneau	Accredited	1/28/2021	6/30/2026
230819	Ririe Jr/Sr High School	Ririe Joint School District 252	High School	Ririe	Accredited	6/15/2021	6/30/2026
230829	Riverglen Junior High	Boise Independent District	Middle School	Boise	Accredited	6/20/2017	6/30/2022
230837	Riverstone International School	Private	Unit School	Boise	Accredited	1/23/2014	8/30/2022
230843	Robert Janss School	ID Department of Corrections	Adjudicated Students	Boise	Accredited	1/19/2017	6/30/2022
230853	Rockland Public School	Rockland District	Unit School	Rockland	Accredited	6/20/2017	6/30/2022
227829	Rocky Mountain High School	West Ada Joint School District	High School	Meridian	Accredited	6/20/2017	6/30/2022
230856	Rocky Mountain Middle School	Bonneville Joint District	Middle School	Idaho Falls	Accredited	6/20/2018	6/30/2023
230892	Sacajawea Middle School	Lewiston Independent School District No. 1	Middle School	Lewiston	Accredited	6/20/2017	6/30/2022
231578	Sage International School of Boise	ID Public Charter Comission	Unit School	Boise	Accredited Under Review	6/20/2018	6/30/2023
230912	Salmon Jr.-Sr. High School	Salmon District	High School	Salmon	Accredited	6/20/2017	6/30/2022
230914	Salmon River High School	Salmon River Joint School Dist	High School	Riggins	Accredited	6/15/2021	6/30/2026
230927	Sandcreek Middle School	Bonneville Joint District	Middle School	Ammon	Accredited	6/19/2019	6/30/2024
230928	Sandpoint High School	Lake Pend Oreille District	High School	Sandpoint	Accredited	6/19/2019	6/30/2024
259914	SEI Tec Southeastern Idaho	Preston School District 201	Career Technical	Malad City	Accredited	10/31/2018	6/30/2024
231397	Sequel Three Springs	Private	Adjudicated Students	Mountain Home	Accredited Under Review	6/20/2017	6/30/2022

Customer Number	Account Name	District/Authorizer	School Type	Mailing City	Accreditation Status	Initial Accreditation Date	Expiration Date
230989	Shelley High School	Shelley Joint District	High School	Shelley	Accredited	6/19/2019	6/30/2024
231008	Shoshone High School	Shoshone Joint District	High School	Shoshone	Accredited	6/20/2018	6/30/2023
231007	Shoshone-Bannock Jr./Sr. High School	Bureau of Indian Affairs	High School	Fort Hall	Accredited	6/19/2019	6/30/2024
228068	Silver Creek High School	Blaine County District	High School	Hailey	Accredited	6/20/2018	6/30/2023
231034	Skyline High School	Idaho Falls School District 91	High School	Idaho Falls	Accredited	3/31/2020	6/30/2025
231038	Skyview High School	Nampa School District	High School	Nampa	Accredited	6/22/2016	6/30/2022
231043	Snake River High School	Snake River District	High School	Blackfoot	Accredited	4/17/2020	6/30/2025
231051	Soda Springs High School	Soda Springs Joint District	High School	Soda Springs	Accredited	6/20/2018	6/30/2023
231062	South Fremont High School	Fremont County Joint District	High School	St. Anthony	Accredited	6/20/2017	6/30/2022
231065	South Junior High School	Boise Independent District	Middle School	Boise	Accredited	6/20/2017	6/30/2022
231261	St. John Bosco Academy	Private	Unit School	Cottonwood	Accredited	6/15/2021	6/30/2027
231169	St. Maries High School	St Maries Joint District	High School	Saint Maries	Accredited	6/19/2019	6/30/2024
231259	Sugar-Salem High School	Sugar-Salem District 322	High School	Sugar City	Accredited	8/7/2018	6/30/2023
232014	Sugar-Salem Junior High School	Sugar-Salem District 322	Middle School	Sugar City	Accredited	6/19/2019	6/30/2024
260112	Tammany Alternative Center	Lewiston Independent School District No. 1	High School	Lewiston	Accredited	6/20/2017	6/30/2022
231328	Taylor's Crossing Public Charter School	ID Public Charter Comission	Unit School	Idaho Falls	Accredited	6/20/2017	6/30/2022
259846	Technical Careers High School	Bonneville Joint District	Career Technical	Idaho Falls	Accredited	3/29/2019	6/30/2024
231337	Teton High School	Teton County District	High School	Driggs	Accredited	6/19/2019	6/30/2024
231338	Teton Middle School	Teton County District	Middle School	Driggs	Accredited	6/19/2019	6/30/2024
231364	The Learning Academy of Teton Valley, Inc.	Private	Unit School	Driggs	Accredited	6/22/2016	6/30/2022
231372	The North Fork School	Private	Supplementary	McCall	Accredited	4/17/2020	6/30/2025
231378	The Patriot Center	Emmett Independent District	Adjudicated Students	Emmett	Accredited	1/19/2018	6/30/2022
231391	Thomas Jefferson Charter School	Thomas Jefferson Charter School Inc.	Unit School	Caldwell	Accredited	6/20/2017	6/30/2022
312885	Thunder Ridge High School	Bonneville Joint District	High School	Idaho Falls	Accredited	6/19/2019	6/30/2024
231408	Timberlake Senior High School	Lakeland School District	High School	Spirit Lake	Accredited	3/31/2021	6/30/2026
312464	Timberline Elementary	Orofino Joint School District 171	Elementary	Weippe	Accredited	6/15/2021	6/30/2026
231409	Timberline High School	Boise Independent District	High School	Boise	Accredited	6/20/2018	6/30/2023
231410	Timberline High School	Orofino Joint School District 171	High School	Weippe	Accredited	6/15/2021	6/30/2026
311422	Treasure Valley Leadership Academy	Nampa School District	High School	Nampa	Accredited	6/19/2019	6/30/2024
227510	Troy School	Troy School District	Unit School	Troy	Accredited	4/17/2020	6/30/2025
227521	Turning Winds Academic Institute	Private	High School	Bonners Ferry	Accredited	6/15/2021	6/30/2026
260781	Twin Falls Christian Academy	Private	Unit School	Twin Falls	Accredited	3/31/2021	6/30/2025
227526	Twin Falls High School	Twin Falls School District	High School	Twin Falls	Accredited	1/28/2021	6/30/2026
230813	Union High School	Nampa School District	High School	Nampa	Accredited	6/20/2017	6/30/2022
227805	Valley High School	Valley District	High School	Hazelton	Accredited	3/31/2020	6/30/2025
310814	Valley View Alternative High School	Sugar-Salem District 322	High School	Sugar City	Accredited	10/31/2018	6/30/2024
227828	Vallivue Academy	Vallivue School District	High School	Caldwell	Accredited	6/20/2017	6/30/2022
227580	Vallivue High School	Vallivue School District	High School	Caldwell	Accredited	6/20/2017	6/30/2022
230744	Venture High School	Coeur D'Alene District	High School	Coeur d'Alene	Accredited	6/20/2017	6/30/2022
227824	Victory Charter School	ID Public Charter Comission	Unit School	Nampa	Accredited	6/20/2017	6/30/2022
317439	Virtual School House	West Ada Joint School District	Digital Learning	Meridian	Accredited	6/15/2021	6/30/2026
227917	Vision Charter School	ID Public Charter Comission	Unit School	Caldwell	Accredited	6/20/2018	6/30/2023
227617	Wallace Jr./Sr. High School	Wallace School District 393	High School	Wallace	Accredited	6/20/2018	6/30/2023
228063	Watersprings School	Private	High School	Idaho Falls	Accredited	6/15/2021	6/30/2026
268604	Webster Elementary School	Lewiston Independent School District No. 1	Elementary	Lewiston	Accredited	6/20/2017	6/30/2022
227649	Weiser High School	Weiser School District	High School	Weiser	Accredited	6/20/2018	6/30/2023
227656	Wendell High School	Wendell District	High School	Wendell	Accredited	3/29/2019	6/30/2024
227669	West Jefferson High School	West Jefferson District	High School	Terreton	Accredited	1/28/2021	6/30/2026
227671	West Junior High School	Boise Independent District	Middle School	Boise	Accredited	6/20/2017	6/30/2022
227676	West Park Elementary School	Moscow School District	Elementary	Moscow	Accredited	4/17/2020	6/30/2025

Customer Number	Account Name	District/Authorizer	School Type	Mailing City	Accreditation Status	Initial Accreditation Date	Expiration Date
227681	West Side High School	West Side Joint District	High School	Dayton	Accredited	6/19/2019	6/30/2024
268808	White Pine Elementary	Cassia County Joint District	Elementary	Burley	Accredited	6/20/2018	6/30/2023
268605	Whitman Elementary School	Lewiston Independent School District No. 1	Elementary	Lewiston	Accredited	6/20/2017	6/30/2022
227718	Wilder High School	Wilder District	High School	Wilder	Accredited	6/19/2019	6/30/2024
227752	Wood River High School	Blaine County District	High School	Hailey	Accredited	1/28/2021	6/30/2026
227823	Xavier Charter School	ID Public Charter Comission	Unit School	Twin Falls	Accredited Under Review	6/20/2018	6/30/2023
Systems Accredited							
227401	Cassia County Joint District	Cassia County Joint Distirct		Burley	Accredited	6/20/2018	6/30/2023
312783	Idaho Department of Juvenile Corrections	State Department of Corrections		Boise	Accredited	6/15/2021	6/30/2026
228322	Lewiston Independent School District No. 1	Lewiston Independent District		Lewiston	Accredited	6/20/2017	6/30/2022
228827	Middleton School District	Middleton School District		Middleton	Accredited	6/19/2019	6/30/2024
228355	Moscow School District	Moscow School District		Moscow	Accredited	4/17/2020	6/30/2025
228430	Orofino Joint School District 171	Orofino Joint School District		Orofino	Accredited	6/15/2021	6/30/2026

Accredited School by Category	Public / Charter	Private / Agency	Total
High School/Career Techincal	165	12	177
Middle School	20	0	20
Elementary	30	2	32
Unit (k-12) School	39	13	52
Digital School	14	0	14
Supplementary School	1	1	2
Special Purpose (Adjudicated, Tutoring	7	2	9
Early Childhood	0	0	0
District	6	0	6
Total	**282**	**30**	**312**

PROFESSIONAL STANDARDS COMMISSION

SUBJECT

Appointment to the Professional Standards Commission

REFFERENCE

April 2017	Board approved one (1) appointment and three (3) reappointments to the Professional Standards Commission.
August 2017	Board approved one (1) appointment to the Professional Standards Commission.
April 2018	Board approved seven (7) appointments/reappointments to the Professional Standards Commission.
June 2018	Board approved one appointment to the Professional Standards Commission.
April 2019	Board approved seven (7) appointments to the Professional Standards Commission.
April 2020	Board approved four appointments to the Professional Standards Commission.
June 2020	Board approved one (1) appointment to the Professional Standards Commission.
April 2021	Board approved four (4) appointments to the Professional Standards Commission.

APPLICABLE STATUTE, RULE, OR POLICY

Section 33-1252, Idaho Code

BACKGROUND/DISCUSSION

Section 33-1252, Idaho Code, sets forth criteria for membership on the Professional Standards Commission (PSC). The Commission consists of eighteen (18) members including one (1) from the State Department of Education (SDE) and one (1) from the Idaho Division of Career Technical Education (IDCTE). The remaining members shall be representative of the teaching profession of the state of Idaho, and not less than seven (7) members shall be certificated classroom teachers in the public school system and shall include at least one (1) teacher of exceptional children and at least one (1) in pupil personnel services. The Idaho School Superintendents' Association, the Idaho Association of Secondary School Principals, the Idaho Association of Special Education Administrators, the Idaho School Boards Association, the education departments of private colleges, and the colleges of letters and sciences of the institutions of higher education may submit nominees for (1) position each. The community colleges and the education departments of the public institutions of higher education may submit nominees for two (2) positions.

A PSC member representing certificated classroom teachers has taken an out -of-state position, resulting in a vacancy on the PSC. A nominee appointed to fill the vacancy will fill the remainder of the vacated term which ends June 30, 2023. Nominations to fill the vacancy were sought from the Idaho Education Association (IEA), Northwest Professional Educators, and the Idaho Indian Education Committee (IIEC).

Resumes of the following interested individuals were submitted by the IEA for consideration:

Lindsey McKinney
Stacey Jensen
Julie Morris

Resumes of the following interested individuals were submitted by the IIEC for consideration:

Georgia Sobotta
Taylor Chanel Harming

In consideration of professional qualifications and the makeup of current PSC membership, PSC Administrator Lisa Colón Durham recommends the appointment of Taylor Chanel Harming to the Professional Standards Commission.

IMPACT

Board action allows for appropriate representation of certificated classroom teachers on the Professional Standards Commission in compliance with Section 33-1252, Idaho Code.

ATTACHMENTS

Attachment 1 – Current Professional Standards Commission Membership

STAFF COMMENTS AND RECOMMENDATIONS

Pursuant to Section 33-1252(2), Idaho Code, "Except for the member from the staff of the State Department of Education, and the member from the staff of the Division of Career Technical Education, three (3) nominees for each position on the commission shall be submitted to the State Superintendent of Public Instruction, for the consideration of the State Board of Education. Any state organization of teachers whose membership is open to all certificated teachers in the state may submit nominees for positions to be held by classroom teachers; the Idaho Association of School Superintendents may submit nominees for one (1) position, the Idaho Association of Secondary School Principals may submit nominees for one (1) position; the Idaho association of elementary school principals may submit nominees for one (1) position; the Idaho School Boards Association may submit nominees for one (1) position; the Idaho Association of Special Education Administrators may submit nominees for one (1) position; the education departments of the private colleges of the state may submit nominees for one (1)

position, the community colleges and the education departments of the public institutions of higher education may submit nominees for two (2) positions, and the colleges of letters and sciences of the institutions of higher education may submit nominees for one (1) position."

Additionally, Section 33-1252, Idaho Code, requires not less than seven (7) members be certificated classroom teachers in the public schools system and shall include at least one (1) teacher of exceptional children and at least one (1) teacher in pupil personnel services. While not required, historical practice has been to identify whether a teacher serving on the commission is an elementary or secondary school teacher to assure a balance in the representation on the Commission.

At the June 2016 Regular Board meeting, the Board requested the SDE amend its practices when requesting nominations to the PSC. The new practice would be for the SDE to reach out not only to the statutorily identified stakeholder groups, but to also reach out to other education community groups to allow individuals who are not connected to the standard communications process an opportunity to apply or submit nominations for open positions. Specifically, it was discussed that there was a need for educators who work with underserved populations to have an opportunity to serve on the PSC. The Board's Indian Education Committee expressed an interest in nominating individual educators to the Commission if notified in advance of openings.

Original appointments are made for a term of three years. Appointments to fill vacant positions are made for the remainder of the term they are filling. This process helps to limit the number of new appointments that have to be made in a single year and helps to assure some continuity of membership on the PSC.

BOARD ACTION

I move to appoint Taylor Chanel Harming, representing certificated classroom teachers, to the Professional Standards Commission, effective immediately through June 30, 2023.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

2021-2022 Member Roster

Chair, Kathy Davis
Classroom Teacher
St. Maries Joint School District #041
Term 7/1/19 – 6/30/22

Tate Castleton, Elementary Principal
Homedale Joint School District #370
Term 7/1/21 – 6/30/24

Kristi Enger, Educator Certification Director
Idaho Career Technical Education
Term 7/1/21 – 6/30/24

Angela Gillman, Classroom Teacher
Idaho Falls School District #091
Term 7/1/21 – 6/30/24

Mark Gorton, Classroom Teacher
Lakeland Joint School District #272
Term 7/1/19 – 6/30/22

Mark Haynal, Public Teacher Education
Lewis-Clark State College
Term 7/1/19 – 6/30/22

Katie Horner, Classroom Teacher
Murtaugh School District #418
Term 7/1/21 – 6/30/24

Paula Kellerer, School Superintendent
Nampa School District #131
Term 7/1/20 – 6/30/23

Ramona Lee, Special Education Administrator
West Ada School District #002
Term 7/1/20 – 6/30/23

Vice Chair, Steve Copmann
Secondary Principal
Cassia County School District #151
Term 7/1/19 – 6/30/22

Peter McPherson, Chief Deputy Superintendent
State Department of Education
Term 7/1/21 – 6/30/24

Jamee Nixon, College of Letters and Sciences
Northwest Nazarene University
Term (Partial) 7/1/20 – 6/30/22

Karen Pyron, School Board Member
Butte County School District #111
Term 7/1/21 – 6/30/24

Lori Sanchez, Private Teacher Education
Northwest Nazarene University
Term 7/1/21 – 6/30/24

Marianne Sletteland, Exceptional Child Teacher
Moscow School District #281
Term 7/1/19 – 6/30/22

Mike Wilkinson, Pupil Service Staff
Twin Falls School District #411
Term 7/1/19 – 6/30/22

Emma Wood, Public Teacher Education
Idaho State University
Term 7/1/20 – 6/30/23

VACANT, Classroom Teacher

STATE DEPARTMENT OF EDUCATION

SUBJECT
Emergency Provisionals Certificate Approval

REFERENCE

February 2021	Board approved fifty-two (52) provisional certificates for the 2020-21 school year.
April 2021	Board approved thirteen (13) provisional certificates for the 2020-21 school year.
June 2021	Board reviewed six (6) provisional certificates for the 2020-21 school year. Five (5) applications were approved and one (1) application was not approved.
August 2021	Board approved two (2) provisional certificates for the 2021-22 school year. Board approved Emergency Provisional Certificate Application Process.

APPLICABLE STATUTE, RULE, OR POLICY
Sections 33-1201 and 33-1203, Idaho Code.

BACKGROUND/DISCUSSION
Nineteen (19) complete emergency provisional applications were received by the State Department of Education by August 27, 2021 from the school districts listed below. These applications, for the 2021-22 school year, were reviewed by the Certification staff of the State Department of Education using the State Board approved Emergency Provisional Certificate Application Process. The Emergency Provisional Certificate allows a school district or charter school to requrest one-year certification/endorsement in an emergency situation for a candidate who does not hold the required Idaho certifcate/endorsement to fill a position. While the candidate is under emergency provisional certification, no financial penalties will be assessed to the hiring district.

Kuna School District #3
Applicant Name: Melissa Millward
Endorsement(s): All Subjects (K-8)
College Training: Associate degree
Declared Emergency Date: 6/8/2021
Hire/Assignment Date: 8/1/2021
Summary of Recruitment Efforts: Ms. Millward has been used as the long term sub in 1st grade during the last few years at this particular school. Ms. Millward is finishing her bacalaurette degree and her K8 endorsement. No other applicants matched her qualification for this particular job.

Applicant Name: Lisa Uitdwilligen-Wood
Endorsement(s): Family and Consumer Science

College Training: Baccalaureate degree
Declared Emergency Date: 6/8/2021
Hire/Assignment Date: 7/1/2021
Summary of Recruitment Efforts: The school district had no applicants for this job after more than two weeks. The job is still currently posted and there are still no applicants. Lisa is in her final year in the Family and Consumer Science program at Montana State University.
Comments: CTE reviewed.

Cassia County Joint School District #151
Applicant Name: Natalie Buck
Endorsement(s): All Subjects (K-8)
College Training: Associate degree
Declared Emergency Date: 9/16/21
Hire/Assignment Date: 8/14/21
Summary of Recruitment Efforts: There were three vacancies, two were interviewed and Ms. Buck was the best fit.

Applicant Name: Alison Burgess
Endorsement(s): All Subjects (K-8)
College Training: 87 credits
Declared Emergency Date: 5/20/21
Hire/Assignment Date: 6/11/21
Summary of Recruitment Efforts: Ms. Burgess originally applied for an alternative authorization, content specialist route. Student teaching is not being assigned until Fall 2023.

Applicant Name: Kimberly Hammond
Endorsement(s): All Subjects (K-8)
College Training: 88 credits
Declared Emergency Date: 8/19/21
Hire/Assignment Date: 8/19/21
Summary of Recruitment Efforts: Posted two positions on 8/9/2021 with two applicants and interviewed both applicants. Ms. Hammond was the best fit for this position.

Applicant Name: Candace Hobson
Endorsement(s): Family and Consumer Science (6-12)
College Training: Baccalaureate degree
Declared Emergency Date: 8/19/21
Hire/Assignment Date: 7/13/21
Summary of Recruitment Efforts: Ms. Hobson was the most qualified and seemed like a great fit for our district. There were two applicants and two interviews conducted.
Comments: CTE reviewed.

Applicant Name: Brandon Hosteen
Endorsement(s): Natural Science (6-12)
College Training: 131 credits
Declared Emergency Date: 9/16/21
Hire/Assignment Date: 5/18/21
Summary of Recruitment Efforts: There were two vacancies, two people were interviewed and Mr. Hosteen was the best fit.

Joint Hagerman School District #233
Applicant Name: Micah Pope
Endorsement(s): Mathematics (6-12), Phyiscal Education (K-12)
College Training: 111 credits
Declared Emergency Date: 6/14/21
Hire/Assignment Date: 8/9/21
Summary of Recruitment Efforts: The position was adverstised from March 16, 2021 through June 14, 2021. Of the three applicants, two were certified and two were not. One of the applicants withdrew his application the day of the scheduled interview and the other refused the position upon realizing it was for high school, not middle school. Based on lack of certified candidates, the district considered the situation to be an emergency.

Mountain View School District #244
Applicant Name: Jana Kroupa
Endorsement(s): All Subjects (K-8)
College Training: Associate degree
Declared Emergency Date: 8/16/21
Hire/Assignment Date: 8/23/21
Summary of Recruitment Efforts: There were fourteen vacancies and six people were interviewed. The district indicated it is very difficult to find certified teachers who are willing to move to a rural area. They picked the most qualified person out of a limited pool of candidates that will do the job and work well with the school culture and staff.

Minidoka County Joint School District #331
Applicant Name: Josua Anderson
Endorsement(s): All Subjects (K-8)
College Training: Baccalaureate degree
Declared Emergency Date: 6/21/21
Hire/Assignment Date: 6/14/21
Summary of Recruitment Efforts: The position was open for 18 days and had two candidates apply. One of the candidates was hired at a different elementary school. The school district felt Mr. Anderson would be great in the position, especially with his bilingual background.

Applicant Name: Natalie Chandler
Endorsement(s): All Subjects (K-8)

College Training: Associate degree
Declared Emergency Date: 8/16/21
Hire/Assignment Date: 5/17/21
Summary of Recruitment Efforts: The position was opened March 19th and closed May 13th. The administration completed many interviews for the 14 positions available. All of the qualified, certified and reference checked applicants were hired in the district. This year, the district will need to fill more than 55 certified positions.

Applicant Name: Akayla Garner
Endorsement(s): All Subject (K-8)
College Training: 51 credits
Declared Emergency Date: 9/27/21
Hire/Assignment Date: 8/14/21
Summary of Recruitment Efforts: Three applicants, two were interviewed. Ms. Garner was the most qualified.

Applicant Name: Shaylee Gilchrist
Endorsement(s): All Subjects (K-8)
College Training: 88 credits
Declared Emergency Date: 6/14/21
Hire/Assignment Date: 6/14/21
Summary of Recruitment Efforts: The position posted April 1st and is still posted. Ms. Gilchrist worked in the building as a paraprofessional and has done a great job. This year, the district will need to fill more than 55 certified positions.

Applicant Name: Kristy Herbert
Endorsement(s): Mathematics (6-12)
College Training: Baccalaureate degree
Declared Emergency Date: 8/16/21
Hire/Assignment Date: 8/6/21
Summary of Recruitment Efforts: One applicant.

Applicant Name: Heather Murphy
Endorsement(s): All Subjects (K-8)
College Training: Baccalaureate degree
Declared Emergency Date: 7/19/21
Hire/Assignment Date: 7/19/21
Summary of Recruitment Efforts: Position was posted May 13th and is still posted. Need to fill 55 positions.

Applicant Name: Kallie Stanger
Endorsement(s): All Subjects (K-8)
College Training: 58 credits
Declared Emergency Date: 9/27/21
Hire/Assignment Date: 6/14/21

Summary of Recruitment Efforts: Thirty-one applicants, twenty-five were hired.

Applicant Name: San Juana Valero Acosta
Endorsement(s): All Subjects (K-8)
College Training: 88 credits
Declared Emergency Date: 8/16/21
Hire/Assignment Date: 8/16/21
Summary of Recruitment Efforts: Advertised for four positions, interviewed three, hired two.

Teton School District #401
Applicant Name: Nathalie Pena-Trujillo
Endorsement(s): All Subjects (K-8)
College Training: Associate degree
Declared Emergency Date: 6/14/21
Hire/Assignment Date: 06/01/21
Summary of Recruitment Efforts: Five vacancies and two candidates were interviewed. No applicants were fluent in Spanish and properly endorsed. Ms. Pena-Trujillo has substituted in the district and is fluent in Spanish.

Cascade School District #422
Applicant Name: Kristina Rowley
Endorsement(s): Visual Arts (K-12)
College Training: 83 credits
Declared Emergency Date: 6/16/21
Hire/Assignment Date: 8/28/21
Summary of Recruitment Efforts: Our K-12 Art teacher retired this school year and we have had this one applicant since the vacancy was posted over a month ago. This art teacher position makes up 25% of the elective courses that we are able to offer our students and satisfies two credits that are required to meet a graduation requirement.

IMPACT

If an emergency provisional certificate is not approved, the school district will have no certificated staff to serve in the position as required by Idaho Code § 33-1201 and the position will be filled by a long-term substitute teacher. Substitute teachers are not funded at the certificated staff rates.

STAFF COMMENTS AND RECOMMENDATIONS

Pursuant to Section 33-1201, Idaho Code, "every person who is employed to serve in any elementary or secondary school in the capacity of teacher, supervisor, administrator, education specialist, school nurse or school librarian shall be required to have and to hold a certificate issued under the authority of the State Board of Education…." Section 33-1203, Idaho Code, prohibits the Board from authorizing standard certificates to individuals who have less than four (4) years accredited college training, except in "the limited fields of trades and industries,

and specialists certificates of school librarians and school nurses." In the case of emergencies, which must be declared, "the State Board may authorize the issuance of provisional certificates based on not less than two (2) years of college training."

Section 33-512(15), Idaho Code, defines substitute teachers as "as any individual who temporarily replaces a certificated classroom educator…." Neither Idaho Code, nor administrative rule, limits the amount of time a substitute teacher may be employed to cover a classroom. In some cases, school districts use a long-term substitute prior to requesting provisional certification for the individual. In some cases, the individual that the school district is requesting emergency certification for has been in the classroom as a long-term substitute for the entire term. Salary Based Apportionment is calculated based on school district employee certification. A school district or charter school receives a lesser apportionment for noncertificated/classified staff than it receives for certificated staff. Substitute teachers are calculated at the lesser-classified staff rate.

A process for approving provisional certificates was approved by the Board at the April 2019 Regular Board meeting to limit the timeline for emergency provisional certificates to come to the Board. The approved provisions required requests, for the current school year, to come to the Board at no later than the April Regular Board meeting. The process was amended at the August 2019 Regular Board meeting to provide an extension of this timeframe "subject to extenuating circumstances" such as when an LEA loses a staff member after the January Commission meeting deadline. In order to meet the April Board meeting agenda material deadline in March of each year, the certification request is required to be submitted in January to make it through the Commission/Department process. Due to the length of time it took to process the requests when commission recommendations were included in the process, the Board amended the process again at the August 2021 Regular Board meeting.

BOARD ACTION

I move to approve one-year emergency provisional certificates in the endorsement area(s) at the specified school districts as provided herein for the 2021-22 school year for the following individuals: Melissa Millward, Lisa Uitdwilligen-Wood, Natalie Buck, Alison Burges, Kimberly Hammond, Candace Hobson, Brandon Hosteen, Micah Pope, Jana Kroupa, Joshua Anderson, Natalie Chandler, Akayla Garner, Shaylee Gilchrist, Kristy Herbert, Heather Murphy, Kallie Stanger, San Juana Valero Acosta, Nathalie Peno-Truijillo, Kristina Rowley.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

TAB	DESCRIPTION	ACTION
A	K-20 PERFORMANCE MEASURE REVIEW AND DISCUSSION	Information Item
B	STATE BOARD STANDING COMMITTEE PRIORITIES	Information Item

SUBJECT

Public Education System - Performance Reporting

REFERENCE

October 2017	Board reviewed performance measures for the period from FY14 – FY17
December 2017	Board approved new institution system-wide performance measures for use starting in FY19 and discussed full rewrite of K-20 Education Strategic Plan.
February 2018	Board approved re-write of K-20 Education Strategic Plan for FY19 – FY23.
April 2018	Board discussed institution and agencies FY19 - FY23 Strategic Plans.
June 2018	Board approved institution and agencies FY19 - FY23 Strategic Plans.
October 2018	Board reviewed K-20 Education system performance.
February 2019	Board approved updated FY20 – FY24 K-20 Strategic Plan
June 2019	Board approved updated FY20-FY24 Institution, Agency, and Special/Health program strategic plans.
October 2019	Board reviewed K-20 Education system performance during the Work Session and Literacy Growth Targets during the Planning, Policy and Governmental Affairs portions of the agenda
October 2020	Board reviewed K-20 Education ystem performance, including a focus on literacy proficiency and progress the state was making toward literacy growth targets.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies and Procedures, Section I.M.
Sections 67-1901 through 1905, Idaho Code

BACKGROUND/DISCUSSION

Idaho State Constitution, Article IX, Section 2, provides that the general supervision of the state educational institutions and public school system of the State of Idaho, "shall be vested in a state board of education, the membership, powers and duties of which shall be prescribed by law." Through obligations set in the State Constitution and Idaho statutes, the State Board of Education (Board) is charged with the general supervision, governance and control of all educational institutions and agencies supported in whole or in part by the state. This includes public schools, colleges and universities, Department of Education, Division of Career Technical Education, Idaho Public Television, Division of Vocational Rehabilitation, and the Public Charter School Commission. The Board and its executive agencies are charged with enforcing and implementing the education laws of the state.

Due to these broad responsibilities, the Board serves multiple roles. The Board sits as a policy-making body for all public education in Idaho, provides general oversight and governance for public K-20 education, and has a direct governance role as the Board of Regents for the University of Idaho and the Board of Trustees for the other public four-year college and universities. The K-20 Education strategic plan must encompass and serve all of these aspects of Idaho's public education system.

The Board's strategic plan is a forward looking roadmap used to guide future actions, define the vision and mission of Idaho's K-20 educational system, guide growth and development, and to establish priorities for resource distribution. Strategic planning provides a mechanism for continual review to ensure excellence in public education throughout the state. The strategic plan establishes the Board's goals and objectives that are consistent with the Board's governing ideals, and communicates those goals and objectives to the agencies and institutions under the Board, and to the public and other stakeholder groups. The strategic plan also establishes the measures the Board will use for determining progress toward the established objectives and the benchmarks or targets for those performance measures.

At the October regular Board meeting, the Board reviews performance measures from the K-20 Education Strategic Plan as well as the performance of the agencies and institutions. Unlike the strategic plan work, the performance measure review is a backward look at progress made during the previous four years toward reaching the strategic plan goals and objectives.

Institution and agency performance measure data are presented annually to provide an overview of the progress the state public education system is making toward the Board's strategic plan goals and performance targets as well as the agencies' and institutions' strategic plan goals and performance targets. The purpose of the Work Session is to provide the Board with the opportunity to view and discuss these performance measures. The Board may also wish to focus on the K-12 side of the educational pipeline or the postsecondary side. The postsecondary system-wide measures selected by the Board provide the Board with the opportunity to look at key performance indicators reported consistently across the postsecondary institutions.

The postsecondary system-wide performance measures were last updated by the Board at its December 2017 meeting. The 2017 update maintained some of the original system-wide performance measures around enrollment, remediation, retention, and degree production while adding new measures regarding pathways that more closely aligned to showing progress made by the initiatives in the Complete College Idaho plan adopted by the Board in 2012.

The Board approves the institution and agency individual performance measures and benchmarks through the approval of their strategic plans each June. Any

amendments to the performance measures and benchmarks are made through the strategic plan review and approval process.

The annual performance review is a look back at the previous four years' performance and is based on performance measures last approved by the Board at the June 2020 Regular Board meeting for the institutions and agencies and February of 2020 for the Board's K-20 Strategic Plan. The strategic plan performance measures approved by the Board in 2021 are scheduled to be reported to the Board at the October 2022 Regular Board meeting.

This year's performance reporting will focus on measures that affect our college going rates, literacy achievement and growth, and postsecondary credential benchmarks/targets.

IMPACT

The data included in this presentation will be used by the Board, institutions, and agencies to direct their future strategic planning efforts, and will provide the Board and the public with an update on progress Idaho's public educational system is making.

ATTACHMENTS

Attachment 1 – College Going Performance Factors
Attachment 2 – Assessment Performance
Attachment 3 – FY 2021 K-20 Education Strategic Plan Performance Measures
Attachment 4 – Postsecondary Credential Targets

Performance Measure Reports Submitted to DFM
Attachment 5 – K-20 Public Education Performance Report (SBOE)

Institutions
Attachment 6 – University of Idaho
Attachment 7 – Boise State University
Attachment 8 – Idaho State University
Attachment 9 – Lewis-Clark State College

Community Colleges
Attachment 10 – College of Eastern Idaho
Attachment 11 – College of Southern Idaho
Attachment 12 – College of Western Idaho
Attachment 13 – North Idaho College

Agencies
Attachment 14 – Public Schools
Attachment 15 – Idaho Division of Career Technical Education
Attachment 16 – Idaho Division of Vocational Rehabilitation
Attachment 17 – Idaho Public Television

Special and Health Programs
Attachment 18 – Small Business Development Center
Attachment 19 – TechHelp
Attachment 20 – Boise Family Medical Residency
Attachment 21 – Family Medical Residency (ISU)
Attachment 22 – Idaho Dental Education Program
Attachment 23 – Idaho Museum of Natural History
Attachment 24 – Agricultural Research and Extension Service
Attachment 25 – Forest Utilization Research
Attachment 26 – Idaho Geological Survey
Attachment 27 – WIMU (WI) Veterinary Medicine
Attachment 28 – WWAMI Medical Education

System-wide Performance Measure Reports
Attachment 29 – K-20 Indian Education Strategic Plan Performance Measures
Attachment 30 – Higher Education Research Strategic Plan Performance Measures
Attachment 31 – FY 2021 K-20 Strategic Plan

STAFF COMMENTS AND RECOMMENDATIONS

Institution and agency performance measures and benchmarks are approved by the Board when the Board approves the institutions' and agencies' strategic plans. In September of each year all state agencies, including the postsecondary institutions and agencies under the Board, are required to submit a performance measure report to show performance on the measures from their strategic plans. The institutions and agencies select performance measures from their strategic plans and submit them to the Division of Financial Management (DFM). Additionally, the postsecondary institutions include the postsecondary systemwide performance measures in their reports. DFM then makes the reports available to the Governor and the Legislature and posts them on the DFM website. In order to allow the institutions time to provide data based on the most recent completed school year, performance measure reporting to the Board was moved from the August Board meeting to the October Board meeting starting in 2008.

The attached Performance Measure Reports for the institutions, agencies and special programs are the reports submitted to DFM. The reports do not include all of the performance measures included in each of the institutions' and agencies' strategic plans only a subset of the measures. The Board is provided trend data for each of the performance measures included in the institutions' and agencies' strategic plans when they review the strategic plans at the April and June Board meetings.

Unlike the strategic planning process, which is forward looking, the performance measure reporting is a backward look and is based on the performance measures

included in the strategic plans approved by the Board in 2020 and does not include any new measures approved by the Board in 2021 for the FY 2021 strategic plans.

Due to the depth and breadth of the Board's responsibilities and Idaho's educational system, it is difficult to paint a full picture of our K-20 student population through any one performance measure. It often takes multiple measures to identify barriers and potential areas of focus to eliminate those barriers. Examples of this include measures based on full-time, first-time student rates. The student populations at our postsecondary institutions have growing numbers of part-time and transfer students, which makes it necessary to look at measures based on various populations groups. However, this does not diminish the value of those measures that look at our full-time first-time populations as well, as long as one has a general understanding of what part of the overall student population this represents. Full-time first-time students are students that are more likely to have financial aid (including scholarships) and take 30 credits or more. This more traditional population and performance measures associated with it are also the measures we can most often use when comparing an institution's performance to its peer institutions.

The October Work Session is also the time when the Board provides direction to staff and the agencies and institutions on any changes they would like to see in strategic plans, performance measures, and benchmarks/performance targets for the Board's consideration in 2022. The Board is scheduled to discuss amendments in December during the Work Session. Approval of any amendments to the K-20 Education System strategic plan are normally considered at the February Regular Board meeting and the institutions and agencies plans at the April Regular Board meeting.

In addition to the performance measure discussion, the Board has historically reviewed the statewide reading assessment performance at the October Board meeting. In 2019, this review took place as a standalone item at the October Board meeting. Pursuant to Section 33-1809, Idaho Code, the Board is required to set statewide literacy growth targets. The Board approved the current literacy growth targets at the August 2016 Regular Board meeting. Those targets are codified in IDAPA 08.02.01.802. The existing targets were set based on the legacy version of the Idaho reading indicator (IRI). Due to the pandemic and issues with the data from the spring 2020 administration of the IRI, the necessary data are not available to propose new literacy growth targets at this time. The Board set the following statewide trajectory growth targets, based on the year over year spring administration of the statewide reading assessment (Idaho Reading Indicator) from 2016 and earlier trend data:

These statewide trajectory annual growth targets were based on aggregated student performance on the spring administration of the statewide reading assessment. Statewide trajectory growth targets indicate the statewide goal for

year over year increases in the percentage of students reading at or above grade level.

Year 1 (2017-2018) and 2 (2018-2019)

- Kindergarten 1%
- Grade 1 1%
- Grade 2 1%
- Grade 3 1%

Years 3 (2019-2020), 4 (2020-2021), and 5 (2021-2022)

- Kindergarten 1.8%
- Grade 1 2.0%
- Grade 2 1.6%
- Grade 3 1.2%

In addition to the requirement in Section 33-1809, Idaho Code, for the Board to set literacy growth targets, Section 33-1806, Idaho Code, requires the assessment be delivered twice a year.

BOARD ACTION

This item is for informational purposes only.

This table displays ranges of cumulative earned Dual Credit accumulation in the HS graduating class for each listed fiscal year. The data is arranged to show the change in earned credit volumes and the associated go on rates over time.

If Dual Credit increased go on rates directly, one would expect to see relatively flat go on rates within a given range of earned dual credit as populations increased over time. Because the go on rate decreases as more students earn higher dual credits, dual credit can not be determined to impact go on rates

However, higher volumes of dual credit are associated with higher go on rates, so they can be viewed as an indicator when evaluating the likelihood of a student going on to college

FY20 is still pending summer term enrollment reports that will result in a nominal increase, and typical EDUID data validation yields a 1% to 2% lift in reported go on rates

Go On Rates per HS graduating Class per Fiscal Year and Cumulative Earned Dual Credit

Overall Go On Rates	Students	Growth to Prior	12 month Go On	+ / - to overall student go on rate in identfied Fiscal Year	36 month Go On	+ / - to overall student go on rate in identfied Fiscal Year
FY15	17,427		52.6%		63.9%	
FY16	17,986	559	53.1%		63.0%	
FY17	18,764	778	52.3%		61.7%	
FY18	19,032	268	51.5%		60.0%	
FY19	19,385	353	49.7%		53.5%	
FY20	19,994	609	41.8%		41.8%	
Grand Total	**112,588**		**50.0%**		**57.0%**	

Earned Dual Credit Breakou	Students	Growth to Prior	12 month Go On	+ / - to overall student go on rate in identfied Fiscal Year	36 month Go On	+ / - to overall student go on rate in identfied Fiscal Year
Credits: Credits: None	**55,797**		**35.2%**	**-7.4%**	**42.6%**	**-5.9%**
FY15	10,904		41.3%	-11.4%	52.3%	-11.6%
FY16	10,513	-391	40.4%	-12.7%	50.5%	-12.6%
FY17	9,685	-828	36.9%	-15.4%	46.5%	-15.2%
FY18	8,696	-989	34.7%	-16.7%	42.1%	-17.9%
FY19	8,053	-643	30.6%	-19.1%	34.1%	-19.3%
FY20	7,946	-107	23.2%	-18.5%	23.2%	-18.5%
Credits: Credits: 1-3	**13,172**		**53.5%**	**10.9%**	**60.8%**	**12.2%**
FY15	2,397		67.3%	14.6%	79.1%	15.2%
FY16	1,935	-462	60.7%	7.6%	68.9%	5.9%
FY17	2,297	362	55.8%	3.5%	66.0%	4.3%
FY18	2,201	-96	51.2%	-0.3%	59.8%	-0.2%
FY19	2,172	-29	47.6%	-2.1%	52.0%	-1.5%
FY20	2,170	-2	37.5%	-4.3%	37.5%	-4.3%
Credits: Credits: 4 to 11	**23,344**		**62.5%**	**19.9%**	**69.6%**	**21.1%**
FY15	3,332		72.5%	19.8%	84.3%	20.4%
FY16	3,473	141	70.3%	17.2%	80.4%	17.4%
FY17	3,771	298	67.5%	15.2%	76.6%	14.9%
FY18	4,151	380	62.6%	11.1%	72.4%	12.4%
FY19	4,269	118	59.3%	9.6%	63.5%	10.0%
FY20	4,348	79	47.2%	5.4%	47.2%	5.4%
Credits: Credits: 12-24	**14,314**		**71.8%**	**29.3%**	**78.1%**	**29.5%**
FY15	668		80.2%	27.6%	90.9%	27.0%
FY16	1,656	988	80.8%	27.7%	91.7%	28.6%
FY17	2,296	640	78.5%	26.2%	87.6%	25.9%
FY18	2,913	617	74.2%	22.8%	84.7%	24.7%
FY19	3,332	419	70.4%	20.7%	74.2%	20.8%
FY20	3,449	117	60.8%	19.0%	60.8%	19.0%
Credits: Credits: 25-40	**4,410**		**77.1%**	**34.5%**	**81.5%**	**33.0%**
FY15	109		88.1%	35.4%	95.4%	31.5%
FY16	292	183	83.2%	30.2%	93.2%	30.1%
FY17	517	225	83.0%	30.7%	91.3%	29.6%
FY18	811	294	81.4%	29.9%	90.3%	30.2%
FY19	1,149	338	77.6%	27.9%	81.3%	27.8%
FY20	1,532	383	70.6%	28.8%	70.6%	28.8%
Credits: Credits: 40 plus	**1,551**		**87.3%**	**44.7%**	**89.4%**	**40.9%**
FY15	17		94.1%	41.5%	94.1%	30.2%
FY16	117	100	92.3%	39.2%	96.6%	33.5%
FY17	198	81	89.4%	37.1%	94.4%	32.7%
FY18	260	62	88.1%	36.6%	91.5%	31.5%
FY19	410	150	88.5%	38.9%	90.7%	37.2%
FY20	549	139	84.0%	42.2%	84.0%	42.2%
Grand Total	**112,588**		**50.0%**	**7.4%**	**57.0%**	**8.5%**

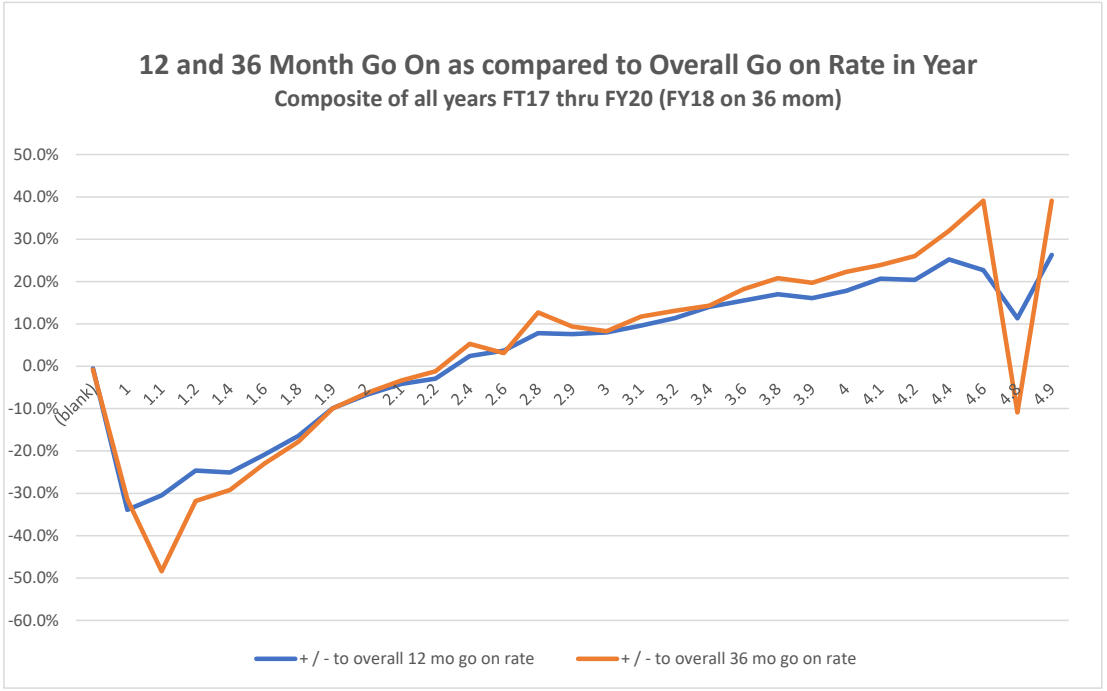
The table below displays the 10th grade ISAT Math score associated with the graduating student. The score has been modified to add a quintile breakout to the raw score to further delineate student performance.

In example, if the cur scores for level 3 were 2614 to 2696, a score of 2625 would yield 3.1, a 2690 a 3.9

Student go on improvement is fairly linear for both measurements, with a slight lift in 36 month in the higher bands, relative to 12 month go on rates.

The point at which the go on rate exceed the overall rate for both measurements is at 2.4

ISAT Mod Score	+ / - to overall 12 mo go on rate	+ / - to overall 36 mo go on rate
(blank)	-0.5%	-0.8%
1	-33.9%	-31.4%
1.1	-30.5%	-48.4%
1.2	-24.6%	-31.8%
1.4	-25.1%	-29.2%
1.6	-20.9%	-23.0%
1.8	-16.4%	-17.8%
1.9	-9.9%	-10.0%
2	-6.7%	-6.3%
2.1	-4.2%	-3.4%
2.2	-2.9%	-1.2%
2.4	2.4%	5.3%
2.6	3.7%	3.1%
2.8	7.8%	12.7%
2.9	7.6%	9.4%
3	8.0%	8.3%
3.1	9.6%	11.7%
3.2	11.4%	13.1%
3.4	14.0%	14.3%
3.6	15.5%	18.2%
3.8	17.0%	20.8%
3.9	16.1%	19.7%
4	17.8%	22.3%
4.1	20.7%	23.9%
4.2	20.4%	26.0%
4.4	25.2%	32.0%
4.6	22.7%	39.1%
4.8	11.3%	-10.9%
4.9	26.3%	39.1%



The first table shows the distribution the student graduating class by GPA band for each year, the second table shows the go on rates for those ranges

The distribution of GPA is limited to available GPA, the grayed out percent under NA is the percentage of the population that had no available GPA in a given year but the listed GPA ranges total 100%

As expected, higher GPA is associated with higher go on rates, though the decline in go on rates in 2.0 - 3.5 is remarkable

		-- Cumulative GPA Band at HS Graduation --				
Go On Rates	**NA**	**GPA <2**	**GPA 2-3**	**GPA 3-3.5**	**GPA Over 3.5**	**Grand Total**
FY17	43.7%	14.6%	37.1%	61.0%	73.4%	52.3%
FY18	42.1%	13.3%	35.0%	59.4%	74.6%	51.5%
FY19	41.1%	14.0%	33.1%	57.3%	72.0%	49.7%
FY20	4.8%	8.5%	25.2%	47.1%	61.7%	41.8%
Grand Total	**41.8%**	**12.5%**	**32.4%**	**55.8%**	**70.0%**	**48.7%**

		-- Cumulative GPA Band at HS Graduation --				
Population distribution	**NA**	**GPA <2**	**GPA 2-3**	**GPA 3-3.5**	**GPA Over 3.5**	**Grand Total**
FY17	8.2%	6.4%	37.3%	24.3%	32.0%	100.0%
FY18	8.4%	6.1%	37.4%	24.5%	32.0%	100.0%
FY19	6.8%	6.6%	36.8%	24.5%	32.2%	100.0%
FY20	0.3%	6.1%	35.5%	24.8%	33.6%	100.0%
Grand Total	**5.9%**	**5.9%**	**34.5%**	**23.1%**	**30.6%**	**100.0%**

The following tables display cumulative rates for FY17 thru FY20 graduating classes and display go on rate by earned credit bands and GPA ranges

The first table displays go on rates and the second table shows the distribution of students in those buckets

In general, higher GPA and credit accumulation are associated with higher GPA rates.

Composite Go On Rates by Earned Dual Credit Bands, FY17 thur FY20

		-- Cumulative GPA Band at HS Graduation --				
Go On Rates	**NA**	**GPA <2**	**GPA 2-3**	**GPA 3-3.5**	**GPA Over 3.5**	**Grand Total**
Credits: None	26.7%	11.6%	25.8%	44.2%	59.7%	31.7%
Credits: 1-3	42.3%	18.3%	38.6%	54.2%	62.7%	48.1%
Credits: 4 to 11	57.1%	20.6%	44.8%	59.7%	69.0%	58.8%
Credits: 12-24	70.2%	27.8%	54.6%	67.6%	74.1%	70.1%
Credits: 25-40	76.2%		72.7%	77.1%	76.5%	76.4%
Credits: 40 plus	85.7%	100.0%	81.6%	86.1%	87.5%	86.8%
Grand Total	**41.8%**	**12.5%**	**32.4%**	**55.8%**	**70.0%**	**48.7%**

		-- Cumulative GPA Band at HS Graduation --				
Population distribution	**NA**	**GPA <2**	**GPA 2-3**	**GPA 3-3.5**	**GPA Over 3.5**	**Grand Total**
Credits: None	3.17%	5.24%	22.37%	8.40%	5.38%	44.55%
Credits: 1-3	0.64%	0.40%	4.53%	3.17%	2.71%	11.45%
Credits: 4 to 11	0.98%	0.26%	5.62%	6.25%	8.32%	21.43%
Credits: 12-24	0.82%	0.02%	1.65%	3.96%	9.09%	15.54%
Credits: 25-40	0.22%	0.00%	0.24%	0.92%	3.81%	5.19%
Credits: 40 plus	0.04%	0.00%	0.11%	0.42%	1.27%	1.84%
Grand Total	**5.87%**	**5.93%**	**34.52%**	**23.11%**	**30.56%**	**100.00%**

The tables below show the impact of income on Go On rates and Dual Credit participation

While the first chart would seem to indicate that as more dual credits are earned, students who qualify for FRPL attain comparable go on rates to their peers, but the last chart indicates that this is due to fewer students attaining those dual credit volumes and that dual credit attainment is more challenging in the FRPL population

The tables below shows the impact of ELL on Go On rates and Dual Credit participation

The relative distribution in higher accumulated credits is comparable to the decrease observed in income indicators, even though only 6% of the entire population falls into both categories (last chart, below)

Go On Rates by Cumulative Dual Credit at HS Graduation with Population Distribution by Socio Economic Indicators
Composite of Years FY17 through FY20

Participation in Free or Reduced Price Lunch

Go On Rates	Not	FRPL	Grand Total
Credits: Credits: None	36.2%	24.7%	31.7%
Credits: Credits: 1-3	50.5%	43.1%	48.1%
Credits: Credits: 4 to 11	61.1%	52.5%	58.8%
Credits: Credits: 12-24	70.4%	68.9%	70.1%
Credits: Credits: 25-40	76.1%	78.0%	76.4%
Credits: Credits: 40 plus	86.3%	89.5%	86.8%
Grand Total	**53.2%**	**38.7%**	**48.7%**

Population distribution	Not	FRPL	Grand Total
Credits: Credits: None	27.30%	17.25%	44.55%
Credits: Credits: 1-3	7.75%	3.71%	11.45%
Credits: Credits: 4 to 11	15.70%	5.73%	21.43%
Credits: Credits: 12-24	12.30%	3.24%	15.54%
Credits: Credits: 25-40	4.34%	0.86%	5.19%
Credits: Credits: 40 plus	1.55%	0.29%	1.84%
Grand Total	**68.94%**	**31.06%**	**100.00%**

Population by credit accumulation	Not	FRPL	Grand Total
Credits: Credits: None	61.29%	38.71%	100.00%
Credits: Credits: 1-3	67.65%	32.35%	100.00%
Credits: Credits: 4 to 11	73.26%	26.74%	100.00%
Credits: Credits: 12-24	79.17%	20.83%	100.00%
Credits: Credits: 25-40	83.46%	16.54%	100.00%
Credits: Credits: 40 plus	84.47%	15.53%	100.00%
Grand Total	**68.94%**	**31.06%**	**100.00%**

Participation in English Language Learner Program

Go On Rates	Not	Ever ELL	Grand Total
Credits: Credits: None	32.3%	30.2%	32.1%
Credits: Credits: 1-3	48.1%	49.6%	48.3%
Credits: Credits: 4 to 11	58.9%	59.9%	59.0%
Credits: Credits: 12-24	69.7%	77.9%	70.2%
Credits: Credits: 25-40	75.9%	87.2%	76.4%
Credits: Credits: 40 plus	86.6%	90.9%	86.8%
Grand Total	**49.5%**	**45.3%**	**49.1%**

Population distribution	Not	Ever ELL	Grand Total
Credits: Credits: None	38.96%	5.11%	44.07%
Credits: Credits: 1-3	10.35%	1.14%	11.49%
Credits: Credits: 4 to 11	19.64%	1.98%	21.62%
Credits: Credits: 12-24	14.77%	0.92%	15.69%
Credits: Credits: 25-40	5.03%	0.24%	5.27%
Credits: Credits: 40 plus	1.77%	0.09%	1.86%
Grand Total	**90.53%**	**9.47%**	**100.00%**

Population by credit accumulation	Not	Ever ELL	Grand Total
Credits: Credits: None	88.40%	11.60%	100.00%
Credits: Credits: 1-3	90.09%	9.91%	100.00%
Credits: Credits: 4 to 11	90.83%	9.17%	100.00%
Credits: Credits: 12-24	94.16%	5.84%	100.00%
Credits: Credits: 25-40	95.50%	4.50%	100.00%
Credits: Credits: 40 plus	95.31%	4.69%	100.00%
Grand Total	**90.53%**	**9.47%**	**100.00%**

Population distribution	Ever ELL	Not	Grand Total
FRPL	6.04%	24.98%	31.02%
N	3.44%	65.55%	68.98%
Grand Total	**9.47%**	**90.53%**	**100.00%**

The tables below display go on rates by race ethnicity, broken out by ELL participation and cumulative GPA

While the Hispanic population shows (favorably) comparable go on rates in like GPA bans with White peers, the distribution of their population weighs more heavily in 2-3 GPA range, and 45% have participation in the ELL program; impacting the overall go on rate for that population

The table below relates to the tables to the left, and display the percentage of those ELL and Race Ethnic populations and the presence of FRPL in those respective subgroups

60% of the Hispanic population qualifies for FRPL, 53% of those not participating in ELL and 69% of those that did

Go On Rates by Cumulative GPA at HS Graduation with Population Distribution by Race Ethnicity
Composite of Years FY17 through FY20

Go On Rate	White	Hispanic or Latino	Other	Grand Total
Not ELL	**52.2%**	**47.2%**	**54.9%**	**51.9%**
NA	42.6%	42.7%	41.9%	42.6%
<2	12.3%	16.1%	12.0%	13.0%
2-3	34.2%	36.6%	37.5%	34.8%
3-3.5	58.8%	60.1%	63.5%	59.2%
Over 3.5	72.5%	76.3%	82.5%	73.2%
Ever ELL	**56.5%**	**45.1%**	**58.6%**	**47.6%**
NA	41.7%	45.5%	44.4%	45.4%
<2	23.3%	18.5%	22.2%	19.0%
2-3	39.6%	38.4%	42.7%	38.9%
3-3.5	70.0%	60.7%	66.1%	62.6%
Over 3.5	83.0%	79.3%	81.8%	80.4%
Grand Total	**52.3%**	**46.3%**	**55.6%**	**51.5%**

Population distribution	White	Hispanic or Latino	Other	Grand Total
Not ELL	**99.05%**	**54.59%**	**82.14%**	**90.82%**
NA	7.98%	6.02%	5.63%	7.66%
<2	4.56%	9.36%	6.16%	5.11%
2-3	31.31%	45.60%	36.69%	33.00%
3-3.5	23.19%	20.28%	23.43%	22.92%
Over 3.5	32.97%	18.73%	28.10%	31.31%
Ever ELL	**0.95%**	**45.41%**	**17.86%**	**9.18%**
NA	2.90%	10.67%	1.46%	8.95%
<2	10.39%	13.18%	4.37%	11.91%
2-3	35.99%	47.08%	39.81%	45.32%
3-3.5	26.57%	17.87%	28.64%	19.85%
Over 3.5	24.15%	11.20%	25.73%	13.97%
Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Percentage of Population FRPL eligible			
Population distribution	**White**	**Hispanic or Latino**	**Other**
Not ELL	**25.8%**	**53.1%**	**35.07%**
NA	26.3%	54.0%	41.88%
<2	45.9%	68.5%	59.43%
2-3	35.3%	57.9%	46.88%
3-3.5	23.9%	47.3%	29.28%
Over 3.5	15.2%	39.8%	17.77%
Ever ELL	**51.9%**	**69.0%**	**56.63%**
NA	8.3%	67.7%	22.22%
<2	55.8%	68.1%	66.67%
2-3	55.0%	70.9%	62.60%
3-3.5	55.5%	66.6%	63.84%
Over 3.5	47.0%	67.0%	39.62%
Grand Total	**26.0%**	**60.3%**	**38.92%**

The table below shows the percentage of graduating class that was eligible for Free or Reduced Price Lunch and the percentage of that population that qualified under CEP (Community Eligibility Provisions).

While the overall rate under FRPL is decreasing, it is not necessarily a change in the underlying population, but the administrative rule changes in federal programs.

FRPL Program Eligibility with CEP Breakout

Row Labels	FRPL	CEP Percent to FRLP Population
Hispanic or Latino		
FY15	68.22%	13.17%
FY16	67.82%	18.19%
FY17	67.09%	16.50%
FY18	62.04%	18.43%
FY19	52.19%	0.00%
FY20	51.06%	0.00%
White		
FY15	29.64%	7.98%
FY16	29.08%	10.17%
FY17	29.67%	9.43%
FY18	25.56%	10.63%
FY19	23.12%	0.00%
FY20	21.14%	0.00%
Other		
FY15	42.36%	10.17%
FY16	41.66%	8.80%
FY17	44.57%	11.50%
FY18	38.76%	10.44%
FY19	33.99%	0.00%
FY20	35.61%	0.00%
Grand Total	**30.96%**	**8.19%**

The table below represents the distribution of students by attainment level within each test and assessment year. For ISAT tests, students scoring Proficient or Advanced are considered to be at or above grade level. In order to evaluate the entire population, students who were not continuously enrolled in a district have not been excluded from reporting.

Score Distribution by Grade and Assessment Level

Percentage of students at Assessment Level within Grade and Testing Year

Score Distribution	2016	2017	2018	2019	2020	2021
Fall IRI						
Grade KG						
Well Below Grade Level	21.1%	22.1%	23.3%	28.2%	27.4%	27.4%
Near/Below Grade Level	26.7%	26.5%	26.9%	26.8%	30.2%	29.1%
At Grade Level	52.2%	51.4%	49.8%	44.9%	42.3%	43.4%
Grade 1						
Well Below Grade Level	15.7%	16.6%	16.1%	27.1%	21.8%	28.1%
Near/Below Grade Level	21.6%	21.0%	20.6%	30.0%	29.3%	30.3%
At Grade Level	62.7%	62.4%	63.3%	42.9%	48.9%	41.6%
Grade 2						
Well Below Grade Level	20.9%	20.8%	22.4%	21.0%	16.9%	23.8%
Near/Below Grade Level	23.7%	23.3%	23.4%	18.7%	20.2%	22.0%
At Grade Level	55.4%	55.9%	54.2%	60.3%	62.9%	54.3%
Grade 3						
Well Below Grade Level	14.7%	14.4%	14.5%	17.8%	15.4%	18.7%
Near/Below Grade Level	21.4%	21.0%	20.0%	21.0%	20.6%	23.0%
At Grade Level	64.0%	64.7%	65.6%	61.2%	64.0%	58.3%
Spring IRI						
Grade KG						
Well Below Grade Level	7.8%	7.3%	7.2%	16.3%		17.1%
Near/Below Grade Level	13.9%	12.5%	12.9%	20.6%		21.6%
At Grade Level	78.4%	80.1%	80.0%	63.1%		61.2%
Grade 1						
Well Below Grade Level	14.2%	15.0%	15.5%	13.8%		17.6%
Near/Below Grade Level	17.7%	17.8%	17.6%	19.6%		22.9%
At Grade Level	68.1%	67.2%	67.0%	66.7%		59.5%
Grade 2						
Well Below Grade Level	16.0%	15.4%	17.0%	11.2%		14.6%
Near/Below Grade Level	15.1%	14.8%	14.5%	13.6%		16.1%
At Grade Level	68.8%	69.8%	68.5%	75.3%		69.2%
Grade 3						
Well Below Grade Level	12.5%	11.9%	12.1%	11.6%		12.9%
Near/Below Grade Level	14.5%	13.4%	13.2%	15.2%		17.0%
At Grade Level	73.1%	74.7%	74.6%	73.2%		70.0%
ISAT ELA						
Grade 3						
Below Basic	23.8%	27.0%	24.5%	25.0%		27.4%
Basic	26.9%	25.9%	25.7%	24.5%		24.9%
Proficient	25.6%	24.2%	24.5%	24.8%		24.1%
Advanced	23.7%	22.9%	25.4%	25.6%		23.6%
Grade 4						
Below Basic	28.1%	29.9%	28.7%	27.8%		28.7%
Basic	22.1%	22.1%	20.9%	20.2%		21.7%
Proficient	25.4%	25.0%	25.2%	24.8%		24.3%

Score Distribution	2016	2017	2018	2019	2020	2021
Advanced	24.4%	23.0%	25.2%	27.1%		25.3%
Grade 5						
Below Basic	25.0%	25.0%	23.8%	22.8%		24.1%
Basic	21.2%	21.3%	20.9%	20.3%		20.7%
Proficient	33.2%	32.5%	32.5%	32.5%		30.8%
Advanced	20.7%	21.3%	22.8%	24.4%		24.5%
Grade 6						
Below Basic	20.5%	21.7%	20.8%	19.8%		21.1%
Basic	28.8%	27.4%	25.7%	25.0%		26.9%
Proficient	35.5%	35.4%	35.9%	35.5%		34.2%
Advanced	15.2%	15.4%	17.7%	19.7%		17.8%
Grade 7						
Below Basic	22.0%	21.2%	21.8%	19.6%		19.0%
Basic	25.1%	25.0%	24.0%	22.4%		22.9%
Proficient	38.5%	39.6%	39.6%	39.4%		40.0%
Advanced	14.3%	14.2%	14.6%	18.6%		18.1%
Grade 8						
Below Basic	18.7%	19.9%	19.4%	20.1%		19.2%
Basic	27.4%	27.6%	26.6%	26.1%		25.3%
Proficient	40.2%	38.8%	39.0%	37.7%		37.4%
Advanced	13.7%	13.7%	15.0%	16.1%		18.2%
Grade 10						
Below Basic	16.0%	17.6%	17.1%	18.8%		17.7%
Basic	22.2%	23.1%	23.5%	21.9%		22.2%
Proficient	37.4%	36.8%	36.0%	35.1%		35.5%
Advanced	24.4%	22.4%	23.4%	24.3%		24.7%
ISAT Math						
Grade 3						
Below Basic	22.5%	24.3%	24.0%	23.8%		28.0%
Basic	25.5%	25.6%	23.8%	23.3%		24.3%
Proficient	32.2%	30.6%	30.4%	30.2%		28.8%
Advanced	19.7%	19.5%	21.7%	22.7%		18.9%
Grade 4						
Below Basic	19.7%	20.7%	20.5%	19.3%		24.6%
Basic	33.4%	32.7%	31.4%	30.7%		30.1%
Proficient	28.5%	28.2%	28.5%	29.0%		26.7%
Advanced	18.4%	18.4%	19.6%	21.0%		18.7%
Grade 5						
Below Basic	28.8%	28.9%	28.8%	27.8%		31.2%
Basic	31.5%	29.6%	28.2%	27.3%		29.0%
Proficient	20.8%	20.1%	20.2%	20.5%		19.0%
Advanced	18.9%	21.5%	22.8%	24.4%		20.8%
Grade 6						
Below Basic	27.9%	27.9%	26.1%	27.5%		32.6%
Basic	32.5%	32.1%	30.1%	29.7%		30.7%
Proficient	21.9%	21.7%	22.9%	22.2%		19.8%
Advanced	17.7%	18.2%	20.9%	20.6%		16.9%
Grade 7						
Below Basic	25.6%	27.2%	27.6%	26.2%		31.3%
Basic	32.9%	30.5%	28.5%	27.9%		28.7%
Proficient	24.9%	23.9%	24.9%	24.6%		22.4%
Advanced	16.6%	18.4%	18.9%	21.2%		17.6%
Grade 8						
Below Basic	32.8%	33.4%	35.0%	32.2%		37.0%
Basic	29.0%	28.0%	24.0%	27.1%		27.1%
Proficient	20.7%	19.9%	19.9%	20.0%		18.2%
Advanced	17.5%	18.8%	21.1%	20.7%		17.7%

Score Distribution	2016	2017	2018	2019	2020	2021
Grade 10						
Below Basic	40.3%	39.8%	39.3%	39.7%		39.7%
Basic	29.0%	28.2%	27.9%	26.9%		27.7%
Proficient	20.2%	20.4%	19.6%	19.3%		18.9%
Advanced	10.5%	11.5%	13.2%	14.1%		13.7%
ISAT Science						
Grade 5						
Below Basic	8.2%	6.9%	7.0%	7.5%		
Basic	28.8%	27.0%	27.8%	28.0%		
Proficient	36.1%	41.8%	42.1%	42.4%		
Advanced	26.8%	24.4%	23.0%	22.1%		
Grade 7						
Below Basic	21.7%	22.2%	24.3%	24.2%		
Basic	24.5%	25.3%	24.4%	24.7%		
Proficient	19.8%	18.7%	18.1%	18.4%		
Advanced	34.1%	33.9%	33.2%	32.6%		

The table below breaks out the standard proficiency levels for ISAT into score quintiles, modified to show deciles for the top and bottom of each quintile (due to clustering Below Basic and Advanced scores).

Score Quintile Distribution by Grade and Assessment Level

Percentage of students at Assessment Level within Grade and Testing Year

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
ISAT ELA					
Grade 3					
Below Basic	**23.8%**	**27.0%**	**24.5%**	**25.0%**	**27.4%**
1	0.0%	0.0%	0.0%	0.0%	0.0%
1.1	0.0%	0.0%	0.0%	0.0%	0.0%
1.2	0.0%	0.0%	0.0%	0.0%	0.3%
1.4	0.3%	0.5%	0.6%	0.6%	1.3%
1.6	4.7%	6.7%	6.2%	6.5%	7.0%
1.8	7.6%	8.3%	7.5%	7.6%	8.1%
1.9	11.2%	11.5%	10.1%	10.3%	10.6%
Basic	**26.9%**	**25.9%**	**25.7%**	**24.5%**	**24.9%**
2	2.7%	2.6%	2.4%	2.1%	2.5%
2.1	2.2%	2.2%	2.1%	2.1%	1.9%
2.2	5.1%	5.3%	4.8%	4.5%	4.7%
2.4	5.5%	4.9%	5.3%	5.1%	5.1%
2.6	5.6%	5.6%	5.5%	5.4%	5.2%
2.8	2.8%	2.4%	2.7%	2.5%	2.6%
2.9	3.0%	2.9%	3.0%	2.9%	2.9%
Proficient	**25.6%**	**24.2%**	**24.5%**	**24.8%**	**24.1%**
3	2.9%	2.6%	2.6%	2.6%	2.4%
3.1	2.7%	2.5%	2.6%	2.6%	2.6%
3.2	5.0%	5.0%	4.9%	5.0%	5.0%
3.4	5.4%	5.3%	5.0%	5.2%	5.0%
3.6	4.7%	4.4%	4.6%	4.8%	4.5%
3.8	2.4%	2.1%	2.5%	2.3%	2.3%
3.9	2.4%	2.3%	2.3%	2.3%	2.2%
Advanced	**23.7%**	**22.9%**	**25.4%**	**25.6%**	**23.6%**
4	11.0%	10.8%	11.6%	11.2%	10.5%
4.1	6.9%	6.6%	7.4%	7.7%	6.6%
4.2	5.3%	4.9%	5.7%	5.9%	5.4%
4.4	0.5%	0.6%	0.7%	0.8%	1.0%
4.6	0.0%	0.0%	0.0%	0.1%	0.1%
Grade 4					
Below Basic	**28.1%**	**29.9%**	**28.7%**	**27.8%**	**28.7%**
1	0.0%	0.0%	0.0%	0.0%	0.1%
1.1	0.0%	0.0%	0.0%	0.0%	0.0%
1.2	0.0%	0.1%	0.0%	0.1%	0.2%
1.4	0.7%	1.0%	1.2%	1.0%	1.4%
1.6	7.2%	8.2%	8.2%	7.8%	7.6%
1.8	8.5%	8.9%	8.2%	8.0%	7.8%
1.9	11.6%	11.7%	11.0%	10.8%	11.6%
Basic	**22.1%**	**22.1%**	**20.9%**	**20.2%**	**21.7%**
2	2.0%	2.1%	2.0%	1.7%	2.1%
2.1	2.2%	2.0%	2.0%	2.0%	2.1%

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
2.2	4.2%	4.2%	3.8%	3.6%	3.9%
2.4	4.1%	4.4%	3.9%	4.1%	4.5%
2.6	4.6%	4.3%	4.3%	4.2%	4.2%
2.8	2.5%	2.4%	2.5%	2.2%	2.5%
2.9	2.5%	2.7%	2.5%	2.3%	2.4%
Proficient	**25.4%**	**25.0%**	**25.2%**	**24.8%**	**24.3%**
3	2.4%	2.6%	2.5%	2.5%	2.3%
3.1	2.7%	2.6%	2.8%	2.6%	2.5%
3.2	5.3%	5.2%	5.1%	5.2%	4.9%
3.4	5.2%	5.0%	5.3%	5.0%	5.0%
3.6	5.0%	4.9%	4.9%	4.9%	4.8%
3.8	2.3%	2.4%	2.3%	2.4%	2.4%
3.9	2.3%	2.4%	2.3%	2.3%	2.3%
Advanced	**24.4%**	**23.0%**	**25.2%**	**27.1%**	**25.3%**
4	11.6%	10.9%	11.1%	11.2%	10.6%
4.1	7.0%	6.7%	7.4%	8.1%	7.2%
4.2	5.3%	4.9%	5.8%	6.5%	6.1%
4.4	0.5%	0.5%	0.8%	1.2%	1.2%
4.6	0.0%	0.0%	0.1%	0.1%	0.2%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
Grade 5					
Below Basic	**25.0%**	**25.0%**	**23.8%**	**22.8%**	**24.1%**
1	0.0%	0.0%	0.0%	0.0%	0.0%
1.1	0.0%	0.0%	0.0%	0.0%	0.0%
1.2	0.0%	0.1%	0.1%	0.0%	0.2%
1.4	0.6%	0.9%	1.0%	0.8%	1.1%
1.6	5.5%	6.2%	6.0%	5.9%	6.3%
1.8	7.8%	7.4%	6.8%	6.5%	6.8%
1.9	11.0%	10.5%	9.9%	9.5%	9.7%
Basic	**21.2%**	**21.3%**	**20.9%**	**20.3%**	**20.7%**
2	1.9%	1.9%	1.7%	1.9%	1.8%
2.1	1.9%	1.8%	2.0%	1.7%	1.9%
2.2	4.1%	4.0%	3.8%	3.6%	4.0%
2.4	4.1%	4.5%	4.3%	3.9%	4.2%
2.6	4.5%	4.5%	4.4%	4.5%	4.3%
2.8	2.2%	2.3%	2.3%	2.4%	2.3%
2.9	2.4%	2.3%	2.4%	2.3%	2.2%
Proficient	**33.2%**	**32.5%**	**32.5%**	**32.5%**	**30.8%**
3	3.5%	3.5%	3.3%	3.2%	3.0%
3.1	3.2%	3.3%	3.1%	3.3%	3.1%
3.2	6.7%	7.0%	6.6%	6.4%	6.2%
3.4	7.0%	6.4%	6.9%	6.7%	6.4%
3.6	6.5%	6.3%	6.6%	6.7%	6.2%
3.8	3.3%	3.1%	3.1%	3.3%	3.1%
3.9	2.9%	3.0%	2.9%	3.0%	2.8%
Advanced	**20.7%**	**21.3%**	**22.8%**	**24.4%**	**24.5%**
4	10.7%	10.4%	10.5%	11.3%	10.8%
4.1	5.6%	6.0%	6.8%	6.8%	6.6%
4.2	3.9%	4.4%	4.9%	5.4%	5.7%
4.4	0.4%	0.5%	0.6%	0.8%	1.1%
4.6	0.0%	0.0%	0.0%	0.1%	0.2%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
Grade 6					
Below Basic	**20.5%**	**21.7%**	**20.8%**	**19.8%**	**21.1%**
1	0.0%	0.0%	0.0%	0.0%	0.0%
1.1	0.0%	0.0%	0.0%	0.0%	0.1%

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
1.2	0.0%	0.0%	0.1%	0.1%	0.1%
1.4	0.6%	0.6%	1.0%	0.8%	1.3%
1.6	4.5%	5.4%	5.3%	5.3%	5.5%
1.8	6.1%	6.3%	5.8%	5.4%	5.6%
1.9	9.3%	9.4%	8.6%	8.1%	8.5%
Basic	**28.8%**	**27.4%**	**25.7%**	**25.0%**	**26.9%**
2	2.6%	2.3%	2.1%	2.2%	2.4%
2.1	2.4%	2.1%	2.1%	2.0%	2.2%
2.2	5.0%	5.3%	4.9%	4.5%	5.0%
2.4	5.6%	5.3%	4.8%	4.8%	5.1%
2.6	6.6%	6.0%	5.6%	5.7%	5.7%
2.8	3.0%	3.0%	2.8%	2.8%	2.9%
2.9	3.5%	3.5%	3.3%	3.0%	3.5%
Proficient	**35.5%**	**35.4%**	**35.9%**	**35.5%**	**34.2%**
3	4.0%	4.3%	3.9%	3.7%	3.9%
3.1	4.1%	4.0%	3.9%	3.9%	4.0%
3.2	7.6%	7.5%	7.3%	7.1%	7.1%
3.4	7.2%	6.9%	7.3%	7.2%	6.9%
3.6	6.6%	6.6%	6.8%	6.9%	6.5%
3.8	3.1%	3.2%	3.6%	3.4%	3.3%
3.9	2.9%	2.9%	3.1%	3.3%	2.7%
Advanced	**15.2%**	**15.4%**	**17.7%**	**19.7%**	**17.8%**
4	8.2%	8.0%	8.9%	9.6%	8.3%
4.1	4.3%	4.3%	5.0%	5.5%	5.1%
4.2	2.4%	2.7%	3.4%	4.0%	3.7%
4.4	0.2%	0.3%	0.3%	0.5%	0.6%
4.6	0.0%	0.0%	0.0%	0.0%	0.1%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
Grade 7					
Below Basic	**22.0%**	**21.2%**	**21.8%**	**19.6%**	**19.0%**
1	0.0%	0.0%	0.0%	0.0%	0.1%
1.1	0.0%	0.0%	0.0%	0.0%	0.0%
1.2	0.0%	0.0%	0.0%	0.0%	0.2%
1.4	0.4%	0.8%	1.0%	0.9%	1.2%
1.6	5.2%	5.8%	6.1%	5.8%	4.9%
1.8	6.8%	5.8%	6.2%	5.4%	5.1%
1.9	9.6%	8.8%	8.4%	7.5%	7.5%
Basic	**25.1%**	**25.0%**	**24.0%**	**22.4%**	**22.9%**
2	2.1%	2.1%	1.9%	1.8%	1.7%
2.1	2.0%	2.0%	1.7%	1.9%	1.8%
2.2	4.4%	4.4%	4.1%	3.8%	4.1%
2.4	5.4%	5.1%	5.0%	4.7%	4.9%
2.6	5.3%	5.3%	5.3%	4.6%	4.6%
2.8	2.9%	2.8%	2.7%	2.5%	2.6%
2.9	3.1%	3.4%	3.3%	3.1%	3.1%
Proficient	**38.5%**	**39.6%**	**39.6%**	**39.4%**	**40.0%**
3	4.2%	4.4%	4.4%	4.1%	4.1%
3.1	4.0%	4.6%	4.4%	4.4%	4.2%
3.2	8.3%	8.1%	8.6%	8.3%	8.2%
3.4	7.9%	8.5%	8.1%	8.2%	8.4%
3.6	7.6%	7.5%	7.1%	7.2%	8.0%
3.8	3.4%	3.5%	3.6%	3.7%	3.8%
3.9	3.1%	3.0%	3.3%	3.4%	3.4%
Advanced	**14.3%**	**14.2%**	**14.6%**	**18.6%**	**18.1%**
4	7.6%	7.4%	7.4%	8.5%	8.5%
4.1	4.1%	4.0%	4.2%	5.5%	5.0%
4.2	2.4%	2.5%	2.8%	4.1%	3.9%

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
4.4	0.2%	0.2%	0.3%	0.5%	0.6%
4.6	0.0%	0.0%	0.0%	0.0%	0.1%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
Grade 8					
Below Basic	**18.7%**	**19.9%**	**19.4%**	**20.1%**	**19.2%**
1	0.0%	0.0%	0.0%	0.0%	0.0%
1.1	0.0%	0.0%	0.0%	0.0%	0.0%
1.2	0.0%	0.1%	0.0%	0.1%	0.2%
1.4	0.4%	0.6%	0.7%	0.6%	1.1%
1.6	4.2%	4.4%	4.8%	5.0%	5.0%
1.8	5.5%	5.5%	5.6%	5.7%	5.2%
1.9	8.6%	9.4%	8.2%	8.7%	7.7%
Basic	**27.4%**	**27.6%**	**26.6%**	**26.1%**	**25.3%**
2	2.2%	2.2%	2.1%	2.1%	1.9%
2.1	2.5%	2.6%	2.2%	2.2%	2.2%
2.2	4.9%	5.2%	4.9%	5.0%	4.7%
2.4	5.5%	5.7%	5.3%	5.4%	5.0%
2.6	6.1%	5.9%	5.6%	5.6%	5.8%
2.8	3.0%	3.0%	3.2%	3.0%	3.0%
2.9	3.2%	3.1%	3.2%	2.8%	2.8%
Proficient	**40.2%**	**38.8%**	**39.0%**	**37.7%**	**37.4%**
3	4.0%	3.9%	4.1%	3.9%	3.6%
3.1	4.1%	4.3%	4.1%	3.7%	3.8%
3.2	8.7%	8.4%	8.0%	7.7%	7.9%
3.4	8.4%	8.1%	8.1%	7.8%	7.9%
3.6	7.9%	7.5%	7.6%	7.6%	7.3%
3.8	3.4%	3.4%	3.5%	3.3%	3.3%
3.9	3.5%	3.3%	3.5%	3.6%	3.6%
Advanced	**13.7%**	**13.7%**	**15.0%**	**16.1%**	**18.2%**
4	7.4%	7.5%	8.3%	8.3%	8.5%
4.1	3.8%	3.8%	4.1%	4.6%	5.1%
4.2	2.2%	2.2%	2.4%	2.8%	3.9%
4.4	0.3%	0.3%	0.3%	0.4%	0.6%
4.6	0.0%	0.0%	0.0%	0.0%	0.0%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
Grade 10					
Below Basic	**16.0%**	**17.6%**	**17.1%**	**18.8%**	**17.7%**
1	0.0%	0.0%	0.0%	0.0%	0.1%
1.1	0.0%	0.0%	0.0%	0.0%	0.0%
1.2	0.0%	0.1%	0.1%	0.1%	0.3%
1.4	0.6%	0.8%	0.8%	0.9%	1.2%
1.6	4.1%	4.9%	4.8%	5.3%	5.0%
1.8	4.7%	4.9%	4.9%	5.5%	4.8%
1.9	6.5%	6.9%	6.5%	7.0%	6.3%
Basic	**22.2%**	**23.1%**	**23.5%**	**21.9%**	**22.2%**
2	1.9%	2.0%	1.9%	1.9%	1.9%
2.1	1.6%	1.6%	1.7%	1.7%	1.7%
2.2	4.0%	4.4%	4.2%	3.9%	3.8%
2.4	4.5%	4.3%	4.6%	4.4%	4.3%
2.6	4.5%	4.8%	5.1%	4.7%	4.8%
2.8	2.8%	2.9%	2.9%	2.7%	2.8%
2.9	2.8%	3.1%	3.1%	2.5%	2.8%
Proficient	**37.4%**	**36.8%**	**36.0%**	**35.1%**	**35.5%**
3	3.3%	3.5%	3.4%	3.5%	3.3%
3.1	3.4%	3.6%	3.4%	3.4%	3.6%

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
3.2	7.8%	7.5%	7.4%	6.8%	6.9%
3.4	8.0%	7.7%	7.6%	7.4%	7.6%
3.6	7.6%	7.3%	7.3%	7.0%	7.2%
3.8	3.7%	3.6%	3.6%	3.5%	3.5%
3.9	3.6%	3.6%	3.3%	3.4%	3.3%
Advanced	**24.4%**	**22.4%**	**23.4%**	**24.3%**	**24.7%**
4	11.5%	10.9%	10.5%	11.0%	10.5%
4.1	7.3%	6.4%	7.1%	6.9%	7.2%
4.2	4.9%	4.5%	5.0%	5.6%	5.8%
4.4	0.6%	0.5%	0.7%	0.7%	1.0%
4.6	0.1%	0.0%	0.1%	0.0%	0.1%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
ISAT Math					
Grade 3					
Below Basic	**22.5%**	**24.3%**	**24.0%**	**23.8%**	**28.0%**
1	0.0%	0.0%	0.0%	0.0%	0.2%
1.1	0.0%	0.0%	0.0%	0.0%	0.1%
1.2	0.2%	0.2%	0.3%	0.1%	0.6%
1.4	1.4%	1.4%	1.5%	1.4%	2.3%
1.6	4.7%	5.6%	5.5%	6.2%	7.4%
1.8	5.7%	6.4%	6.6%	6.5%	7.3%
1.9	10.5%	10.5%	10.1%	9.6%	10.1%
Basic	**25.5%**	**25.6%**	**23.8%**	**23.3%**	**24.3%**
2	2.5%	2.3%	2.4%	2.1%	2.5%
2.1	2.1%	2.1%	1.8%	1.9%	2.0%
2.2	4.9%	5.0%	4.4%	4.2%	4.3%
2.4	5.1%	5.2%	4.8%	5.0%	5.0%
2.6	5.4%	5.4%	5.4%	5.1%	5.0%
2.8	2.4%	2.6%	2.4%	2.3%	2.4%
2.9	3.1%	3.1%	2.8%	2.7%	3.0%
Proficient	**32.2%**	**30.6%**	**30.4%**	**30.2%**	**28.8%**
3	3.8%	3.4%	3.4%	3.3%	3.3%
3.1	3.3%	3.1%	3.0%	2.9%	2.9%
3.2	6.8%	6.4%	6.4%	6.3%	6.1%
3.4	6.8%	6.2%	6.3%	6.1%	5.9%
3.6	6.2%	6.1%	6.0%	6.1%	5.6%
3.8	2.5%	2.5%	2.6%	2.4%	2.5%
3.9	2.8%	2.9%	2.8%	2.9%	2.5%
Advanced	**19.7%**	**19.5%**	**21.7%**	**22.7%**	**18.9%**
4	9.3%	8.5%	9.4%	9.1%	8.1%
4.1	5.3%	5.3%	5.8%	6.4%	5.2%
4.2	4.2%	4.6%	5.1%	5.7%	4.3%
4.4	0.7%	0.9%	1.2%	1.2%	1.0%
4.6	0.1%	0.1%	0.2%	0.2%	0.1%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.1%
Grade 4					
Below Basic	**19.7%**	**20.7%**	**20.5%**	**19.3%**	**24.6%**
1	0.0%	0.0%	0.0%	0.0%	0.1%
1.1	0.0%	0.0%	0.0%	0.0%	0.0%
1.2	0.1%	0.1%	0.1%	0.1%	0.4%
1.4	0.5%	0.8%	0.9%	0.8%	1.4%
1.6	4.1%	4.3%	4.3%	3.9%	6.3%
1.8	5.7%	5.9%	5.7%	5.4%	6.7%
1.9	9.3%	9.6%	9.4%	9.1%	9.7%
Basic	**33.4%**	**32.7%**	**31.4%**	**30.7%**	**30.1%**

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
2	2.8%	2.9%	2.6%	2.6%	2.6%
2.1	2.5%	2.7%	2.7%	2.3%	2.7%
2.2	6.2%	6.0%	5.7%	6.1%	5.7%
2.4	6.7%	6.3%	6.1%	5.8%	5.7%
2.6	7.6%	7.3%	7.0%	6.7%	6.8%
2.8	3.4%	3.5%	3.5%	3.1%	3.1%
2.9	4.2%	3.9%	3.9%	4.1%	3.5%
Proficient	**28.5%**	**28.2%**	**28.5%**	**29.0%**	**26.7%**
3	3.4%	3.7%	3.5%	3.4%	3.3%
3.1	2.9%	2.9%	2.8%	2.9%	2.8%
3.2	6.5%	6.3%	6.2%	6.1%	5.8%
3.4	5.5%	5.4%	5.5%	5.6%	5.1%
3.6	5.4%	5.2%	5.4%	5.7%	5.1%
3.8	2.2%	2.3%	2.6%	2.5%	2.1%
3.9	2.5%	2.4%	2.5%	2.8%	2.4%
Advanced	**18.4%**	**18.4%**	**19.6%**	**21.0%**	**18.7%**
4	8.7%	8.8%	9.1%	9.6%	8.4%
4.1	5.3%	5.1%	5.5%	5.8%	5.3%
4.2	3.7%	3.8%	4.1%	4.6%	4.1%
4.4	0.6%	0.5%	0.7%	0.9%	0.7%
4.6	0.1%	0.1%	0.1%	0.1%	0.2%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
Grade 5					
Below Basic	**28.8%**	**28.9%**	**28.8%**	**27.8%**	**31.2%**
1	0.0%	0.0%	0.0%	0.0%	0.1%
1.1	0.0%	0.0%	0.0%	0.0%	0.1%
1.2	0.1%	0.2%	0.2%	0.2%	0.5%
1.4	1.0%	1.3%	1.3%	1.3%	2.0%
1.6	6.8%	7.3%	7.2%	7.0%	8.6%
1.8	9.0%	8.6%	8.5%	7.8%	8.3%
1.9	12.0%	11.5%	11.6%	11.5%	11.7%
Basic	**31.5%**	**29.6%**	**28.2%**	**27.3%**	**29.0%**
2	3.0%	2.9%	2.8%	2.7%	2.7%
2.1	2.8%	2.7%	2.5%	2.4%	2.8%
2.2	6.0%	5.8%	5.4%	5.1%	5.2%
2.4	6.3%	6.0%	5.6%	5.8%	5.8%
2.6	6.6%	5.9%	5.7%	5.4%	6.2%
2.8	3.3%	3.0%	3.0%	2.8%	3.0%
2.9	3.5%	3.4%	3.2%	3.0%	3.3%
Proficient	**20.8%**	**20.1%**	**20.2%**	**20.5%**	**19.0%**
3	2.1%	2.2%	2.0%	2.1%	2.0%
3.1	2.2%	2.2%	2.0%	1.9%	2.1%
3.2	4.4%	4.1%	4.1%	4.2%	3.8%
3.4	4.1%	3.8%	3.9%	4.2%	3.9%
3.6	4.0%	3.8%	4.0%	3.8%	3.5%
3.8	1.9%	1.9%	1.9%	2.1%	1.7%
3.9	2.1%	2.0%	2.3%	2.3%	1.9%
Advanced	**18.9%**	**21.5%**	**22.8%**	**24.4%**	**20.8%**
4	9.6%	10.1%	10.3%	10.6%	9.3%
4.1	5.2%	6.2%	6.9%	7.1%	6.0%
4.2	3.7%	4.4%	4.9%	5.6%	4.6%
4.4	0.5%	0.6%	0.7%	0.9%	0.8%
4.6	0.0%	0.1%	0.1%	0.2%	0.1%
4.8	0.0%	0.0%	0.0%	0.0%	0.1%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
Grade 6					

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
Below Basic	**27.9%**	**27.9%**	**26.1%**	**27.5%**	**32.6%**
1	0.1%	0.1%	0.1%	0.1%	0.4%
1.1	0.1%	0.1%	0.1%	0.1%	0.3%
1.2	0.5%	0.6%	0.7%	0.7%	0.9%
1.4	2.6%	2.5%	2.7%	2.8%	3.3%
1.6	7.4%	8.0%	7.3%	7.3%	9.1%
1.8	7.0%	6.9%	5.9%	6.8%	7.9%
1.9	10.1%	9.7%	9.2%	9.7%	10.8%
Basic	**32.5%**	**32.1%**	**30.1%**	**29.7%**	**30.7%**
2	2.7%	2.6%	2.3%	2.5%	2.7%
2.1	3.0%	2.9%	2.4%	2.6%	2.7%
2.2	6.4%	6.1%	5.8%	5.6%	6.0%
2.4	6.5%	6.6%	5.9%	5.7%	6.0%
2.6	7.0%	6.9%	6.8%	6.6%	6.7%
2.8	3.5%	3.4%	3.4%	3.5%	3.4%
2.9	3.4%	3.7%	3.6%	3.3%	3.2%
Proficient	**21.9%**	**21.7%**	**22.9%**	**22.2%**	**19.8%**
3	2.6%	2.4%	2.7%	2.6%	2.3%
3.1	2.4%	2.6%	2.6%	2.5%	2.3%
3.2	4.5%	4.3%	4.4%	4.5%	4.2%
3.4	4.6%	4.5%	4.7%	4.8%	4.2%
3.6	3.9%	3.9%	4.3%	3.9%	3.3%
3.8	2.0%	2.1%	2.1%	2.1%	1.8%
3.9	1.9%	1.9%	2.1%	1.9%	1.7%
Advanced	**17.7%**	**18.2%**	**20.9%**	**20.6%**	**16.9%**
4	7.9%	8.0%	8.7%	8.8%	7.5%
4.1	4.9%	5.0%	5.8%	5.4%	4.8%
4.2	4.1%	4.1%	5.0%	4.9%	3.6%
4.4	0.8%	0.9%	1.1%	1.2%	0.8%
4.6	0.1%	0.2%	0.2%	0.2%	0.2%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
Grade 7					
Below Basic	**25.6%**	**27.2%**	**27.6%**	**26.2%**	**31.3%**
1	0.0%	0.1%	0.1%	0.1%	0.5%
1.1	0.0%	0.0%	0.1%	0.0%	0.2%
1.2	0.4%	0.4%	0.5%	0.4%	0.8%
1.4	2.3%	2.4%	2.7%	2.6%	3.0%
1.6	7.4%	7.4%	7.9%	7.8%	8.7%
1.8	6.2%	7.0%	6.8%	6.5%	7.6%
1.9	9.4%	9.9%	9.6%	8.8%	10.5%
Basic	**32.9%**	**30.5%**	**28.5%**	**27.9%**	**28.7%**
2	2.6%	2.8%	2.5%	2.4%	2.8%
2.1	2.4%	2.6%	2.2%	2.3%	2.6%
2.2	6.0%	5.5%	5.3%	5.2%	5.4%
2.4	7.0%	6.7%	6.2%	5.9%	5.9%
2.6	7.4%	6.1%	6.1%	5.7%	5.7%
2.8	3.7%	3.1%	2.9%	3.0%	2.9%
2.9	3.9%	3.6%	3.3%	3.4%	3.3%
Proficient	**24.9%**	**23.9%**	**24.9%**	**24.6%**	**22.4%**
3	3.0%	2.8%	2.8%	2.7%	2.6%
3.1	2.9%	2.6%	2.9%	2.6%	2.5%
3.2	5.2%	4.8%	5.1%	5.0%	4.5%
3.4	4.9%	5.1%	5.4%	5.3%	5.0%
3.6	4.4%	4.4%	4.4%	4.5%	3.9%
3.8	2.3%	2.2%	2.2%	2.3%	1.8%
3.9	2.1%	2.0%	2.2%	2.2%	2.0%

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
Advanced	**16.6%**	**18.4%**	**18.9%**	**21.2%**	**17.6%**
4	8.0%	8.4%	8.4%	8.7%	7.6%
4.1	5.1%	5.4%	5.5%	6.2%	5.0%
4.2	3.2%	3.9%	4.3%	5.2%	4.0%
4.4	0.4%	0.6%	0.7%	0.9%	0.7%
4.6	0.0%	0.1%	0.1%	0.1%	0.1%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.1%
Grade 8					
Below Basic	**32.8%**	**33.4%**	**35.0%**	**32.2%**	**37.0%**
1	0.1%	0.1%	0.0%	0.1%	0.3%
1.1	0.1%	0.0%	0.0%	0.1%	0.1%
1.2	0.4%	0.6%	0.6%	0.5%	1.1%
1.4	2.5%	2.9%	3.2%	3.3%	3.6%
1.6	9.0%	9.2%	8.8%	9.3%	10.2%
1.8	8.5%	8.0%	8.3%	8.0%	9.4%
1.9	12.3%	12.6%	14.0%	11.0%	12.2%
Basic	**29.0%**	**28.0%**	**24.0%**	**27.1%**	**27.1%**
2	2.9%	3.1%	3.1%	2.8%	3.0%
2.1	2.9%	2.9%	2.5%	2.4%	2.7%
2.2	5.3%	5.5%	4.7%	5.4%	5.4%
2.4	5.8%	5.7%	4.2%	5.4%	5.3%
2.6	5.9%	5.3%	4.5%	5.5%	5.2%
2.8	3.0%	2.7%	2.3%	2.7%	2.6%
2.9	3.2%	2.8%	2.6%	3.0%	2.9%
Proficient	**20.7%**	**19.9%**	**19.9%**	**20.0%**	**18.2%**
3	2.4%	2.1%	2.3%	2.2%	2.1%
3.1	2.3%	2.3%	2.0%	2.2%	1.9%
3.2	4.1%	4.0%	3.9%	4.0%	4.0%
3.4	4.0%	3.9%	3.8%	4.0%	3.6%
3.6	4.0%	3.8%	4.0%	3.7%	3.3%
3.8	2.1%	2.1%	1.9%	2.0%	1.8%
3.9	1.9%	1.6%	2.0%	1.8%	1.5%
Advanced	**17.5%**	**18.8%**	**21.1%**	**20.7%**	**17.7%**
4	7.4%	7.3%	8.2%	7.7%	7.1%
4.1	5.0%	5.5%	6.0%	5.6%	4.7%
4.2	4.1%	4.8%	5.4%	5.7%	4.5%
4.4	0.8%	1.0%	1.3%	1.5%	1.2%
4.6	0.1%	0.2%	0.2%	0.2%	0.2%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.1%
Grade 10					
Below Basic	**40.3%**	**39.8%**	**39.3%**	**39.7%**	**39.7%**
1	0.2%	0.1%	0.2%	0.2%	1.0%
1.1	0.1%	0.1%	0.1%	0.1%	0.4%
1.2	0.6%	0.7%	0.7%	0.8%	1.1%
1.4	2.7%	3.2%	3.6%	3.5%	3.7%
1.6	11.3%	11.8%	11.5%	11.6%	11.2%
1.8	11.3%	10.8%	10.2%	10.6%	9.6%
1.9	14.3%	13.1%	13.1%	12.9%	12.6%
Basic	**29.0%**	**28.2%**	**27.9%**	**26.9%**	**27.7%**
2	3.3%	3.0%	3.1%	3.0%	3.2%
2.1	3.1%	2.5%	2.6%	2.7%	2.6%
2.2	5.8%	6.1%	6.0%	5.8%	5.2%
2.4	5.5%	5.8%	5.7%	5.2%	5.8%
2.6	5.7%	5.6%	5.5%	5.1%	5.5%
2.8	2.6%	2.4%	2.4%	2.5%	2.4%

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
2.9	3.0%	2.8%	2.6%	2.6%	2.9%
Proficient	**20.2%**	**20.4%**	**19.6%**	**19.3%**	**18.9%**
3	2.8%	2.6%	2.3%	2.6%	2.6%
3.1	2.3%	2.2%	2.0%	2.1%	2.1%
3.2	4.1%	4.4%	4.2%	4.4%	4.1%
3.4	4.0%	4.2%	4.2%	4.1%	3.7%
3.6	3.7%	3.7%	3.5%	3.2%	3.2%
3.8	1.6%	1.6%	1.7%	1.5%	1.5%
3.9	1.6%	1.7%	1.8%	1.5%	1.7%
Advanced	**10.5%**	**11.5%**	**13.2%**	**14.1%**	**13.7%**
4	5.2%	4.9%	5.6%	5.8%	6.1%
4.1	2.9%	3.1%	3.5%	4.0%	3.8%
4.2	2.1%	2.9%	3.4%	3.6%	3.1%
4.4	0.3%	0.5%	0.6%	0.7%	0.6%
4.6	0.0%	0.1%	0.1%	0.0%	0.1%
4.8	0.0%	0.0%	0.0%	0.0%	0.0%
4.9	0.0%	0.0%	0.0%	0.0%	0.0%
ISAT Science					
Grade 5					
Below Basic	**8.2%**	**6.9%**	**7.0%**	**7.5%**	
1	0.0%	0.0%	0.0%	0.0%	
1.2	0.0%	0.0%	0.0%	0.0%	
1.4	0.1%	0.1%	0.1%	0.1%	
1.6	0.8%	1.2%	1.1%	1.5%	
1.8	1.5%	1.6%	1.8%	1.8%	
1.9	5.9%	4.0%	4.1%	4.2%	
Basic	**28.8%**	**27.0%**	**27.8%**	**28.0%**	
2	2.0%	3.4%	3.6%	3.9%	
2.1	2.4%	0.0%	0.0%	0.0%	
2.2	4.9%	4.3%	4.3%	4.3%	
2.4	5.8%	5.2%	5.5%	5.2%	
2.6	6.6%	6.4%	6.7%	6.7%	
2.8	0.0%	3.6%	3.8%	3.8%	
2.9	7.1%	4.1%	3.9%	4.1%	
Proficient	**36.1%**	**41.8%**	**42.1%**	**42.4%**	
3	4.2%	4.4%	4.5%	4.3%	
3.1	4.2%	4.8%	4.8%	4.9%	
3.2	4.2%	5.0%	5.2%	5.0%	
3.4	9.1%	11.0%	10.8%	11.2%	
3.6	4.8%	5.8%	5.8%	5.7%	
3.8	4.8%	5.5%	5.6%	5.8%	
3.9	4.8%	5.3%	5.4%	5.5%	
Advanced	**26.8%**	**24.4%**	**23.0%**	**22.1%**	
4	9.4%	10.1%	9.6%	9.3%	
4.1	8.4%	7.6%	7.0%	7.2%	
4.2	5.9%	4.7%	4.5%	3.9%	
4.4	1.9%	1.2%	1.1%	1.0%	
4.6	0.9%	0.6%	0.6%	0.4%	
4.9	0.4%	0.2%	0.2%	0.2%	
Grade 7					
Below Basic	**21.7%**	**22.2%**	**24.3%**	**24.2%**	
1	0.0%	0.0%	0.0%	0.0%	
1.2	0.0%	0.0%	0.0%	0.0%	
1.4	0.0%	0.0%	0.0%	0.0%	
1.6	2.1%	1.9%	2.4%	2.5%	
1.8	6.8%	5.9%	6.8%	6.8%	
1.9	12.7%	14.4%	15.2%	14.9%	

Score Mod Quint Distribution Bottom of Range	2016	2017	2018	2019	2021
Basic	**24.5%**	**25.3%**	**24.4%**	**24.7%**	
2	2.7%	2.7%	2.7%	2.6%	
2.1	2.9%	2.9%	2.8%	2.7%	
2.2	2.8%	6.2%	6.0%	6.1%	
2.4	2.7%	3.3%	3.1%	3.1%	
2.6	3.3%	3.3%	3.2%	3.4%	
2.8	6.7%	3.4%	3.2%	3.3%	
2.9	3.5%	3.6%	3.4%	3.5%	
Proficient	**19.8%**	**18.7%**	**18.1%**	**18.4%**	
3	3.5%	3.6%	3.4%	3.5%	
3.2	4.1%	3.7%	3.9%	3.6%	
3.4	0.0%	3.7%	3.6%	3.6%	
3.6	4.1%	3.7%	3.5%	3.7%	
3.8	3.9%	0.0%	0.0%	0.0%	
3.9	4.3%	3.9%	3.8%	4.0%	
Advanced	**34.1%**	**33.9%**	**33.2%**	**32.6%**	
4	13.5%	11.3%	10.7%	11.1%	
4.1	8.2%	10.4%	10.6%	9.9%	
4.2	9.1%	8.3%	8.2%	7.9%	
4.4	2.7%	3.1%	2.8%	3.0%	
4.6	0.5%	0.7%	0.7%	0.6%	
4.9	0.2%	0.1%	0.2%	0.2%	

The left side of table below represents the distribution of students by attainment level within each test and reported grade. The testing years are rolled into a composite output and population of the report is constrained by students who have test presence in both the initial year and three years out. The average modified score quintile (modified to show deciles for the top and bottom of each quintile) and the absolute average increase or decrease in average student level score.

The right side of table below illustrates the testing distribution three years after the initial test, with the distribution displayed within the same row context as the initial test.

In example, KG Fall IRI show 20.81% of student had an assessment level of 1, 26.83% at level 2, and 52.36% at 3 (grade level); totaling 100% of the population in the report for that grade and test type. Of those who tested at level 1, the right side of the report displays 39.5% remained at level 1 when tested three years later, 29.5% improved to level 2, and 31% attained grade level performance (assesment level 3).

The two heat maps below roll all grade levels and testing years, where students are present in both the initial year and the third year out, into student test counts at the intersection of the initial modified quintile score and the modified quintile score after three years. Student counts of less than five are displayed as -0 and the heat coloring is based on the volume of records. The large squares represent the intersection of the overall attainment levels of 1 thru 4, and the dashed diagonal line shows the intersection of common scores (2.8 in Initial score and 2.8 after three years).

Cells to the right of the diagonal represents students who showed improvement in their test scores, the last cell before the line represent who maintained the same score, and those to the left declined. Highlighting cell ranges allow the user to pull cumulative numbers.

In example, ISAT ELA is displayed in the first chart, and students who scored a 4 at initial placement show counts across that row (counts of 5,27,36, 98, etc.). 3,525 students tested at the same score and quintile three years later (also highlighted in red as it is a large cluster), approximately 3,595 improved their score (cells in that row to the right of the diagonal) and 9,535 dropped. Of those that dropped, 8,271 were still at grade level (assesment level 3).

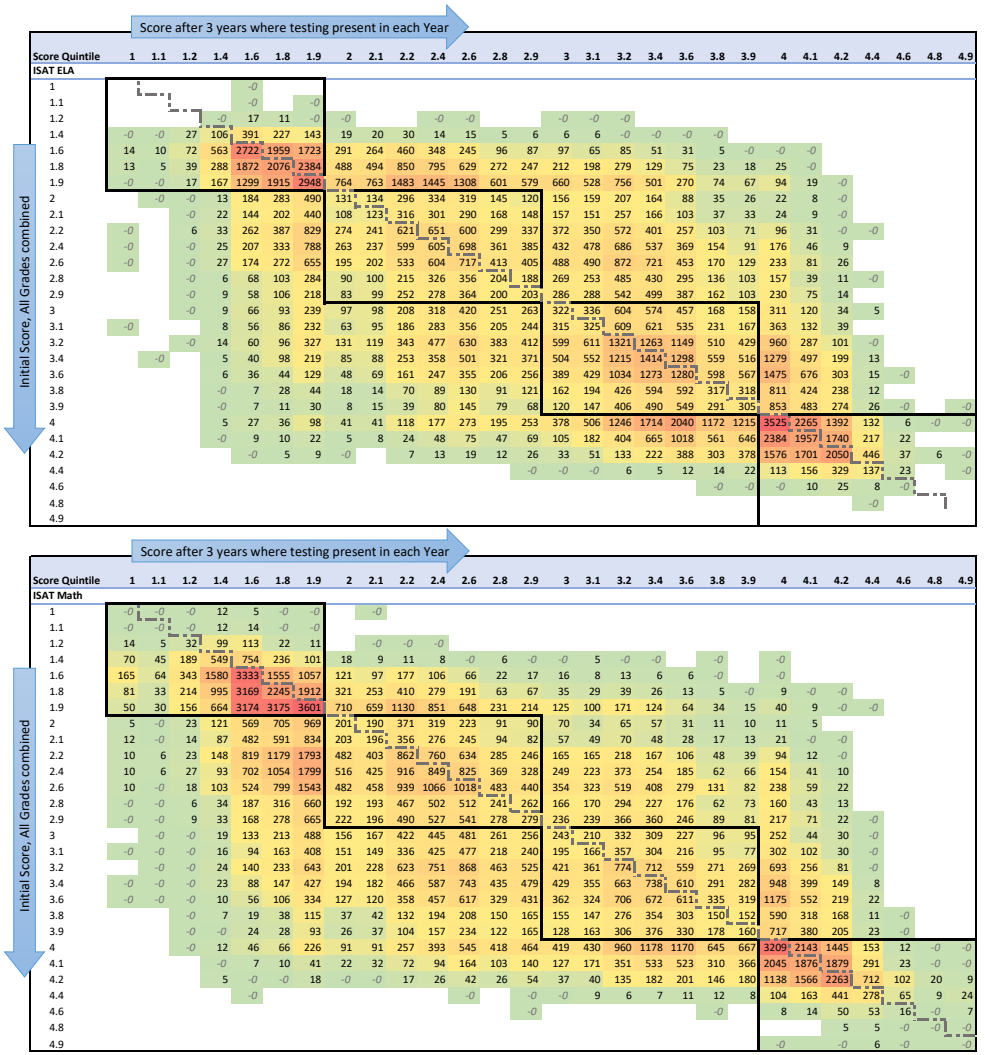
Score Distribution by Grade and Assessment Level

Growth from Initial Attainment Level on Subsequent Distribution by Assessment Level

Intial Grade and Level	Assesment Distribution	Avg Score wQuintile	3 Year Gain or Loss		Attainment Level After 3 Years: Level 1	Level 2	Level 3	Level 4
Fall IRI								
Grade KG				Grade KG				
1	20.81%	1.00	0.91	Growth Distr ->	39.5%	29.5%	31.0%	
2	26.83%	2.00	0.31	->	20.0%	29.3%	50.8%	
3	52.36%	3.00	-0.26	->	5.5%	15.1%	79.3%	
Spring IRI								
Grade KG				Grade KG				
1	6.06%	1.00	0.77	Growth Distr ->	49.9%	22.9%	27.2%	
2	12.79%	2.00	0.22	->	25.7%	26.1%	48.2%	
3	81.15%	3.00	-0.27	->	6.4%	14.3%	79.4%	
ISAT ELA								
Grade 3				Grade 3				
1	23.41%	1.79	0.30	Growth Distr ->	57.4%	32.6%	9.6%	0.4%
2	26.39%	2.44	0.24	->	19.3%	42.3%	34.8%	3.6%
3	25.25%	3.41	-0.17	->	4.2%	24.0%	55.0%	16.8%
4	24.95%	4.08	-0.32	->	0.7%	5.8%	39.6%	53.9%
Grade 4				Grade 4				
1	27.73%	1.77	0.42	Growth Distr ->	51.7%	33.1%	14.7%	0.5%
2	21.44%	2.44	0.38	->	14.5%	36.1%	45.4%	3.9%
3	25.60%	3.41	-0.12	->	4.0%	19.2%	60.1%	16.8%
4	25.23%	4.09	-0.30	->	0.6%	4.0%	42.6%	52.8%
Grade 5				Grade 5				
1	23.57%	1.78	0.31	Growth Distr ->	56.7%	34.2%	8.8%	0.2%
2	20.99%	2.44	0.22	->	18.4%	45.0%	34.4%	2.1%
3	33.14%	3.42	-0.19	->	4.5%	22.8%	58.6%	14.0%
4	22.30%	4.08	-0.28	->	0.6%	3.9%	41.1%	54.4%
Grade 7				Grade 7				
1	19.79%	1.78	0.32	Growth Distr ->	56.8%	33.2%	9.7%	0.4%
2	24.25%	2.47	0.26	->	18.8%	38.8%	38.2%	4.2%
3	40.53%	3.40	0.04	->	3.6%	15.0%	51.9%	29.6%
4	15.43%	4.07	-0.10	->	0.5%	1.7%	22.1%	75.6%
ISAT Math								
Grade 3				Grade 3				
1	22.45%	1.77	0.07	Growth Distr ->	77.2%	19.9%	2.7%	0.2%
2	24.70%	2.44	-0.09	->	36.3%	46.0%	15.1%	2.6%
3	31.74%	3.40	-0.38	->	9.3%	38.5%	35.0%	17.2%
4	21.11%	4.10	-0.33	->	1.0%	10.8%	27.3%	60.9%
Grade 4				Grade 4				
1	19.29%	1.79	0.01	Growth Distr ->	81.2%	17.0%	1.6%	0.1%
2	32.40%	2.46	-0.05	->	33.2%	46.0%	18.5%	2.4%
3	29.01%	3.39	-0.22	->	5.7%	30.8%	42.9%	20.6%
4	19.30%	4.09	-0.23	->	0.5%	6.3%	25.7%	67.5%
Grade 5				Grade 5				
1	27.85%	1.78	0.09	Growth Distr ->	76.5%	20.3%	3.0%	0.3%
2	29.78%	2.44	0.02	->	33.2%	42.9%	19.8%	4.2%
3	20.85%	3.42	-0.33	->	10.3%	32.7%	35.2%	21.8%
4	21.52%	4.08	-0.31	->	1.9%	10.0%	24.9%	63.2%
Grade 7				Grade 7				
1	24.12%	1.74	0.03	Growth Distr ->	84.9%	13.6%	1.4%	0.1%
2	30.67%	2.46	-0.24	->	46.3%	40.6%	12.1%	1.1%
3	26.06%	3.39	-0.50	->	13.9%	38.0%	36.3%	11.9%
4	19.15%	4.09	-0.38	->	2.0%	10.5%	31.3%	56.2%

Composite Heatmap of Modified Quintiles

Intersection of Initial Score to Score After 3 Years



Assessment Scores by Modified Score Quintile*, Growth from Comp Year

Individual Student Progress to Prior Year where both years in common

*Score range broken into five even quintiles, top and bottom range w additional split

to Prior Year	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
Fall IRI				
Grade 1	**95,930**	**2.32**	**0.06**	**2.80%**
2017	18,842	2.48	0.15	6.53%
2018	18,963	2.50	0.19	8.32%
2019	19,245	2.16	(0.12)	-5.40%
2020	19,729	2.30	0.12	5.27%
2021	19,151	2.15	(0.02)	-0.87%
Grade 2	**101,861**	**2.38**	**(0.01)**	**-0.24%**
2017	20,404	2.36	(0.13)	-5.41%
2018	20,285	2.33	(0.15)	-6.02%
2019	20,338	2.40	(0.09)	-3.46%
2020	20,630	2.48	0.31	14.06%
2021	20,204	2.32	0.03	1.41%
Grade 3	**105,045**	**2.48**	**0.10**	**4.05%**
2017	21,410	2.51	0.16	6.73%
2018	21,061	2.52	0.16	6.92%
2019	20,869	2.45	0.12	5.01%
2020	21,266	2.50	0.10	4.22%
2021	20,439	2.41	(0.06)	-2.52%
Spring IRI				
Grade 1	**56,697**	**2.53**	**(0.21)**	**-7.77%**
2017	18,583	2.53	(0.20)	-7.40%
2018	18,697	2.52	(0.23)	-8.24%
2019	19,417	2.53	(0.21)	-7.67%
Grade 2	**60,320**	**2.58**	**0.03**	**1.30%**
2017	19,999	2.56	(0.01)	-0.46%
2018	19,737	2.53	(0.01)	-0.49%
2019	20,584	2.65	0.12	4.75%
Grade 3	**62,304**	**2.63**	**0.09**	**3.65%**
2017	20,974	2.64	0.09	3.72%
2018	20,447	2.64	0.08	3.24%
2019	20,883	2.63	0.10	3.99%
ISAT ELA				
Grade 4	**65,418**	**2.91**	**(0.01)**	**-0.30%**
2017	21,640	2.86	(0.07)	-2.37%
2018	22,106	2.91	0.04	1.29%
2019	21,672	2.95	0.01	0.19%
Grade 5	**66,123**	**2.98**	**0.09**	**2.98%**
2017	21,266	2.94	0.03	1.16%
2018	22,231	2.98	0.12	4.11%
2019	22,626	3.02	0.10	3.59%
Grade 6	**65,551**	**2.94**	**(0.01)**	**-0.39%**
2017	21,360	2.90	(0.04)	-1.53%
2018	21,614	2.95	0.01	0.21%
2019	22,577	2.99	0.00	0.10%
Grade 7	**64,679**	**2.96**	**0.04**	**1.24%**
2017	20,899	2.93	0.02	0.67%
2018	21,744	2.93	0.03	0.96%
2019	22,036	3.01	0.06	2.03%
Grade 8	**63,887**	**2.94**	**0.01**	**0.44%**
2017	20,490	2.92	0.00	0.10%
2018	21,281	2.95	0.02	0.65%
2019	22,116	2.95	0.02	0.55%
Grade 10	**58,724**	**3.08**	**0.12**	**3.88%**
2018	18,952	3.08	0.11	3.75%
2019	19,655	3.08	0.14	4.59%
2021	20,117	3.09	0.10	3.33%
ISAT Math				
Grade 4	**65,545**	**2.92**	**(0.01)**	**-0.26%**
2017	21,666	2.89	(0.05)	-1.54%
2018	22,157	2.91	0.01	0.35%
2019	21,722	2.95	0.01	0.39%
Grade 5	**66,178**	**2.83**	**(0.07)**	**-2.25%**
2017	21,263	2.80	(0.10)	-3.36%
2018	22,279	2.83	(0.05)	-1.86%
2019	22,636	2.87	(0.05)	-1.60%
Grade 6	**65,590**	**2.80**	**0.00**	**0.12%**
2017	21,366	2.76	(0.01)	-0.18%
2018	21,634	2.83	0.03	1.14%
2019	22,590	2.81	(0.02)	-0.57%
Grade 7	**64,659**	**2.82**	**0.04**	**1.30%**
2017	20,869	2.80	0.04	1.50%
2018	21,754	2.81	0.04	1.55%
2019	22,036	2.86	0.02	0.86%
Grade 8	**63,782**	**2.74**	**(0.06)**	**-2.10%**
2017	20,431	2.71	(0.08)	-2.74%
2018	21,249	2.75	(0.05)	-1.82%
2019	22,102	2.76	(0.05)	-1.79%
Grade 10	**58,690**	**2.57**	**(0.20)**	**-7.15%**
2018	18,935	2.57	(0.17)	-6.24%
2019	19,599	2.58	(0.16)	-5.94%
2021	20,156	2.56	(0.26)	-9.11%
ISAT Science				
Grade 7	**41,532**	**3.04**	**(0.20)**	**-6.19%**
2018	20,612	3.04	(0.19)	-5.94%
2019	20,920	3.04	(0.21)	-6.44%

Three Year Span (Prior)	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019				
Fall IRI				
Grade 3	**17,632**	**2.45**	**0.11**	**4.62%**
At or above grade	10,859	3.00	0.41	15.91%
Below grade	6,773	1.56	(0.38)	-19.56%
Spring IRI				
Grade 3	**17,894**	**2.63**	**(0.11)**	**-3.94%**
At or above grade	13,252	3.00	0.14	4.90%
Below grade	4,642	1.59	(0.82)	-33.90%
ISAT ELA				
Grade 6	**20,558**	**2.99**	**0.05**	**1.73%**
At or above grade	11,433	3.65	0.19	5.48%
Below grade	9,125	2.16	(0.12)	-5.37%
Grade 7	**20,075**	**3.01**	**0.09**	**3.21%**
At or above grade	11,760	3.62	0.20	5.90%
Below grade	8,315	2.15	(0.06)	-2.68%
Grade 8	**20,176**	**2.95**	**(0.00)**	**-0.07%**
At or above grade	10,945	3.61	0.12	3.33%
Below grade	9,231	2.17	(0.14)	-6.18%
ISAT Math				
Grade 6	**20,573**	**2.82**	**(0.12)**	**-4.10%**
At or above grade	8,919	3.74	0.14	3.91%
Below grade	11,654	2.11	(0.32)	-13.17%
Grade 7	**20,046**	**2.86**	**(0.04)**	**-1.47%**
At or above grade	9,353	3.73	0.20	5.76%
Below grade	10,693	2.11	(0.26)	-10.89%
Grade 8	**20,157**	**2.76**	**(0.01)**	**-0.52%**
At or above grade	8,324	3.77	0.27	7.85%
Below grade	11,833	2.06	(0.22)	-9.57%
2020				
Fall IRI				
Grade 3	**17,940**	**2.50**	**0.19**	**8.13%**
At or above grade	11,602	3.00	0.44	17.39%
Below grade	6,338	1.59	(0.28)	-15.01%
2021				
Fall IRI				
Grade 3	**17,383**	**2.40**	**0.11**	**4.77%**
At or above grade	10,160	3.00	0.43	16.94%
Below grade	7,223	1.56	(0.35)	-18.19%
Spring IRI				
Grade 3	**17,546**	**2.58**	**(0.18)**	**-6.50%**
At or above grade	12,347	3.00	0.12	4.20%
Below grade	5,199	1.58	(0.89)	-36.07%
ISAT ELA				
Grade 6	**19,918**	**2.92**	**(0.03)**	**-0.87%**
At or above grade	10,390	3.63	0.13	3.71%
Below grade	9,528	2.16	(0.20)	-8.30%
Grade 7	**20,698**	**3.01**	**0.09**	**3.14%**
At or above grade	12,107	3.62	0.20	5.91%
Below grade	8,591	2.15	(0.06)	-2.87%
Grade 8	**20,665**	**2.99**	**(0.01)**	**-0.26%**
At or above grade	11,590	3.63	0.11	3.25%
Below grade	9,075	2.17	(0.16)	-7.04%
Grade 10	**18,670**	**3.09**	**0.15**	**5.03%**
At or above grade	11,290	3.70	0.34	10.26%
Below grade	7,380	2.16	(0.15)	-6.56%
ISAT Math				
Grade 6	**19,902**	**2.68**	**(0.27)**	**-9.28%**
At or above grade	7,355	3.72	0.03	0.78%
Below grade	12,547	2.07	(0.45)	-17.91%
Grade 7	**20,711**	**2.72**	**(0.20)**	**-6.79%**
At or above grade	8,373	3.70	0.09	2.40%
Below grade	12,338	2.06	(0.39)	-15.98%
Grade 8	**20,656**	**2.65**	**(0.20)**	**-6.89%**
At or above grade	7,539	3.75	0.10	2.86%
Below grade	13,117	2.02	(0.37)	-15.45%
Grade 10	**18,717**	**2.56**	**(0.26)**	**-9.19%**
At or above grade	6,195	3.68	0.05	1.24%
Below grade	12,522	2.00	(0.41)	-16.98%

to Prior Year	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
Fall IRI				
Grade Grade 1	**76,779**	**2.36**	**0.08**	**3.67%**
Dist Cont' Enroll				
2017	18,842	2.48	0.15	6.53%
2018	18,963	2.50	0.19	8.32%
2019	19,245	2.16	(0.12)	-5.40%
2020	19,729	2.30	0.12	5.27%
Grade Grade 2	**81,657**	**2.39**	**(0.02)**	**-0.63%**
Dist Cont' Enroll				
2017	20,404	2.36	(0.13)	-5.41%
2018	20,285	2.33	(0.15)	-6.02%
2019	20,338	2.40	(0.09)	-3.46%
2020	20,630	2.48	0.31	14.06%
Grade Grade 3	**84,606**	**2.50**	**0.13**	**5.72%**
Dist Cont' Enroll				
2017	21,410	2.51	0.16	6.73%
2018	21,061	2.52	0.16	6.92%
2019	20,869	2.45	0.12	5.01%
2020	21,266	2.50	0.10	4.22%
Spring IRI				
Grade Grade 1	**56,697**	**2.53**	**(0.21)**	**-7.77%**
Dist Cont' Enroll				
2017	17,904	2.54	(0.20)	-7.20%
2018	18,020	2.53	(0.22)	-8.03%
2019	18,727	2.54	(0.21)	-7.48%
Not Cont' Enroll				
2017	679	2.21	(0.33)	-12.93%
2018	677	2.21	(0.36)	-14.12%
2019	690	2.29	(0.35)	-13.21%
Grade Grade 2	**60,320**	**2.58**	**0.03**	**1.30%**
Dist Cont' Enroll				
2017	19,244	2.57	(0.01)	-0.45%
2018	19,029	2.54	(0.01)	-0.50%
2019	19,872	2.66	0.12	4.71%
Not Cont' Enroll				
2017	755	2.34	(0.02)	-0.78%
2018	708	2.32	(0.01)	-0.24%
2019	712	2.46	0.14	5.93%
Grade Grade 3	**62,304**	**2.63**	**0.09**	**3.65%**
Dist Cont' Enroll				
2017	20,293	2.65	0.09	3.69%
2018	19,715	2.64	0.08	3.20%
2019	20,199	2.63	0.10	3.97%
Not Cont' Enroll				
2017	681	2.40	0.11	4.68%
2018	732	2.47	0.11	4.44%
2019	684	2.43	0.11	4.53%
ISAT ELA				
Grade Grade 4	**65,418**	**2.91**	**(0.01)**	**-0.30%**
Dist Cont' Enroll				
2017	20,927	2.88	(0.07)	-2.34%
2018	21,359	2.92	0.04	1.33%
2019	20,984	2.96	0.01	0.26%
Not Cont' Enroll				
2017	713	2.47	(0.09)	-3.41%
2018	747	2.55	0.00	-0.06%
2019	688	2.57	(0.07)	-2.52%
Grade Grade 5	**66,123**	**2.98**	**0.09**	**2.98%**
Dist Cont' Enroll				
2017	20,590	2.95	0.03	1.17%
2018	21,547	3.00	0.12	4.11%
2019	21,948	3.03	0.11	3.59%
Not Cont' Enroll				
2017	676	2.61	0.02	0.93%
2018	684	2.59	0.10	3.99%
2019	678	2.70	0.09	3.39%
Grade Grade 6	**65,551**	**2.94**	**(0.01)**	**-0.39%**
Dist Cont' Enroll				
2017	20,716	2.91	(0.05)	-1.53%
2018	20,935	2.96	0.01	0.26%
2019	21,854	3.00	0.00	0.13%
Not Cont' Enroll				
2017	644	2.49	(0.04)	-1.63%
2018	679	2.56	(0.04)	-1.72%
2019	723	2.59	(0.02)	-0.83%
Grade Grade 7	**64,679**	**2.96**	**0.04**	**1.24%**
Dist Cont' Enroll				
2017	20,213	2.94	0.02	0.67%
2018	20,951	2.94	0.03	0.95%
2019	21,314	3.03	0.06	2.05%
Not Cont' Enroll				
2017	686	2.56	0.02	0.86%
2018	793	2.54	0.03	1.28%
2019	722	2.64	0.04	1.50%
Grade Grade 8	**63,887**	**2.94**	**0.01**	**0.44%**
Dist Cont' Enroll				
2017	19,844	2.93	0.00	0.11%
2018	20,452	2.96	0.02	0.68%
2019	21,319	2.97	0.02	0.62%
Not Cont' Enroll				
2017	646	2.56	0.00	-0.14%
2018	829	2.55	0.00	-0.13%
2019	797	2.52	(0.04)	-1.58%
Grade Grade 10	**38,607**	**3.08**	**0.12**	**4.17%**
Dist Cont' Enroll				
2018	17,965	3.11	0.12	3.86%
2019	18,625	3.10	0.14	4.67%
Not Cont' Enroll				
2018	987	2.63	0.04	1.40%
2019	1,030	2.67	0.07	2.88%
ISAT Math				
Grade Grade 4	**65,545**	**2.92**	**(0.01)**	**-0.26%**
Dist Cont' Enroll				
2017	20,939	2.90	(0.04)	-1.52%
2018	21,402	2.93	0.01	0.37%
2019	21,026	2.97	0.01	0.43%
Not Cont' Enroll				
2017	727	2.51	(0.06)	-2.14%
2018	755	2.54	(0.01)	-0.34%
2019	696	2.56	(0.03)	-1.00%
Grade Grade 5	**66,178**	**2.83**	**(0.07)**	**-2.25%**
Dist Cont' Enroll				
2017	20,580	2.81	(0.09)	-3.27%
2018	21,585	2.84	(0.05)	-1.81%
2019	21,961	2.88	(0.04)	-1.51%
Not Cont' Enroll				
2017	683	2.43	(0.17)	-6.41%
2018	694	2.42	(0.09)	-3.72%
2019	675	2.49	(0.13)	-4.89%
Grade Grade 6	**65,590**	**2.80**	**0.00**	**0.12%**
Dist Cont' Enroll				
2017	20,722	2.78	0.00	-0.09%
2018	20,948	2.85	0.03	1.23%
2019	21,865	2.83	(0.01)	-0.51%
Not Cont' Enroll				
2017	644	2.31	(0.09)	-3.69%
2018	686	2.38	(0.05)	-1.86%
2019	725	2.35	(0.06)	-2.69%
Grade Grade 7	**64,659**	**2.82**	**0.04**	**1.30%**
Dist Cont' Enroll				
2017	20,182	2.81	0.04	1.55%
2018	20,956	2.83	0.04	1.60%
2019	21,314	2.88	0.03	0.89%
Not Cont' Enroll				
2017	687	2.35	0.00	-0.18%
2018	798	2.30	(0.01)	-0.29%
2019	722	2.41	0.00	0.07%
Grade Grade 8	**63,782**	**2.74**	**(0.06)**	**-2.10%**
Dist Cont' Enroll				
2017	19,789	2.73	(0.07)	-2.66%
2018	20,424	2.77	(0.05)	-1.67%
2019	21,294	2.78	(0.05)	-1.65%
Not Cont' Enroll				
2017	642	2.25	(0.14)	-5.71%
2018	825	2.22	(0.15)	-6.27%
2019	808	2.21	(0.14)	-6.12%
Grade Grade 10	**38,534**	**2.58**	**(0.17)**	**-6.09%**
Dist Cont' Enroll				
2018	17,948	2.60	(0.17)	-6.06%
2019	18,582	2.61	(0.16)	-5.80%
Not Cont' Enroll				
2018	987	2.03	(0.23)	-10.33%
2019	1,017	2.10	(0.21)	-9.07%
ISAT Science				
Grade Grade 7	**41,532**	**3.04**	**(0.20)**	**-6.19%**
Dist Cont' Enroll				
2018	19,847	3.05	(0.19)	-5.76%
2019	20,220	3.05	(0.20)	-6.26%
Not Cont' Enroll				
2018	765	2.59	(0.32)	-10.90%
2019	700	2.63	(0.35)	-11.89%

Assessment Scores by Socio-Economic Identifier w Modified Score Quintile*

Individual Student Progress to Prior Year where both years in common

*Score range broken into five even quintiles, top and bottom range w additional split

Breakouts by Economically Disadvantaged Indictors

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
Fall IRI				
Grade 1	**95,925**	**2.32**	**0.06**	**2.80%**
Not Disadv				
2017	8,111	2.64	0.04	1.58%
2018	9,050	2.65	0.08	3.03%
2019	8,943	2.38	(0.16)	-6.17%
2020	11,171	2.46	0.07	3.00%
2021	11,063	2.30	(0.04)	-1.58%
Econ Disadv				
2017	10,731	2.36	0.24	11.10%
2018	9,913	2.36	0.30	14.32%
2019	10,302	1.96	(0.09)	-4.57%
2020	8,558	2.08	0.17	8.99%
2021	8,083	1.95	0.01	0.30%
Grade 2	**101,852**	**2.38**	**(0.01)**	**-0.24%**
Not Disadv				
2017	8,934	2.55	(0.10)	-3.83%
2018	9,522	2.52	(0.09)	-3.61%
2019	9,796	2.59	(0.04)	-1.35%
2020	11,702	2.61	0.26	11.24%
2021	11,697	2.47	0.03	1.24%
Econ Disadv				
2017	11,470	2.21	(0.16)	-6.78%
2018	10,763	2.16	(0.20)	-8.39%
2019	10,542	2.23	(0.13)	-5.65%
2020	8,928	2.30	0.36	18.54%
2021	8,498	2.11	0.03	1.65%
Grade 3	**105,038**	**2.48**	**0.10**	**4.06%**
Not Disadv				
2017	9,440	2.67	0.13	5.19%
2018	9,938	2.68	0.14	5.48%
2019	9,777	2.62	0.10	4.05%
2020	12,214	2.64	0.08	3.27%
2021	11,817	2.53	(0.06)	-2.48%
Econ Disadv				
2017	11,970	2.39	0.18	8.13%
2018	11,123	2.38	0.18	8.42%
2019	11,092	2.29	0.13	6.00%
2020	9,052	2.32	0.13	5.70%
2021	8,615	2.24	(0.06)	-2.58%
Spring IRI				
Grade 1	**56,697**	**2.53**	**(0.21)**	**-7.77%**
Not Disadv				
2017	8,042	2.69	(0.13)	-4.71%
2018	8,978	2.69	(0.15)	-5.18%
2019	8,938	2.71	(0.13)	-4.59%
Econ Disadv				
2017	10,541	2.41	(0.25)	-9.56%
2018	9,719	2.37	(0.30)	-11.23%
2019	10,479	2.39	(0.28)	-10.46%
Grade 2	**60,320**	**2.58**	**0.03**	**1.30%**
Not Disadv				
2017	8,796	2.71	(0.02)	-0.67%
2018	9,300	2.69	(0.01)	-0.32%
2019	9,832	2.79	0.10	3.80%
Econ Disadv				
2017	11,203	2.44	(0.01)	-0.27%
2018	10,437	2.39	(0.02)	-0.66%
2019	10,752	2.52	0.14	5.73%
Grade 3	**62,304**	**2.63**	**0.09**	**3.65%**
Not Disadv				
2017	9,386	2.78	0.08	2.97%
2018	9,716	2.77	0.06	2.28%

Breakouts by Special Education Participation

Participation in Any Year Triggers Breakout thru All Years

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
Fall IRI				
Grade 1	**95,930**	**2.32**	**0.06**	**2.80%**
Not SpEd				
2017	15,214	2.60	0.19	7.96%
2018	15,406	2.61	0.23	9.72%
2019	15,870	2.27	(0.07)	-3.16%
2020	16,604	2.40	0.14	6.06%
2021	16,511	2.22	(0.00)	-0.21%
Ever_SpEd				
2017	3,628	1.97	(0.01)	-0.71%
2018	3,557	2.01	0.02	1.04%
2019	3,375	1.61	(0.35)	-17.98%
2020	3,125	1.76	(0.00)	-0.07%
2021	2,640	1.69	(0.11)	-5.95%
Grade 2	**101,861**	**2.38**	**(0.01)**	**-0.24%**
Not SpEd				
2017	16,509	2.49	(0.11)	-4.31%
2018	16,393	2.47	(0.13)	-4.89%
2019	16,529	2.55	(0.05)	-2.00%
2020	17,033	2.60	0.32	13.79%
2021	16,998	2.42	0.03	1.41%
Ever_SpEd				
2017	3,895	1.79	(0.23)	-11.44%
2018	3,892	1.75	(0.24)	-12.23%
2019	3,809	1.78	(0.23)	-11.60%
2020	3,597	1.89	0.26	15.86%
2021	3,206	1.79	0.02	1.38%
Grade 3	**105,045**	**2.48**	**0.10**	**4.05%**
Not SpEd				
2017	17,447	2.65	0.16	6.37%
2018	17,078	2.66	0.16	6.58%
2019	16,873	2.59	0.13	5.17%
2020	17,274	2.64	0.10	3.93%
2021	16,934	2.53	(0.06)	-2.40%
Ever_SpEd				
2017	3,963	1.91	0.16	9.00%
2018	3,983	1.95	0.16	8.94%
2019	3,996	1.82	0.07	4.08%
2020	3,992	1.88	0.11	5.98%
2021	3,505	1.83	(0.06)	-3.35%
Spring IRI				
Grade 1	**56,697**	**2.53**	**(0.21)**	**-7.77%**
Not SpEd				
2017	15,000	2.67	(0.15)	-5.16%
2018	15,200	2.66	(0.17)	-6.07%
2019	15,998	2.66	(0.17)	-5.89%
Ever_SpEd				
2017	3,583	1.93	(0.44)	-18.54%
2018	3,497	1.93	(0.46)	-19.40%
2019	3,419	1.97	(0.42)	-17.53%
Grade 2	**60,320**	**2.58**	**0.03**	**1.30%**
Not SpEd				
2017	16,203	2.70	(0.00)	-0.10%
2018	15,925	2.68	(0.01)	-0.19%
2019	16,723	2.79	0.12	4.55%
Ever_SpEd				
2017	3,796	1.94	(0.05)	-2.55%
2018	3,812	1.91	(0.04)	-2.21%
2019	3,861	2.06	0.11	5.91%
Grade 3	**62,304**	**2.63**	**0.09**	**3.65%**
Not SpEd				
2017	17,121	2.78	0.09	3.23%
2018	16,569	2.77	0.07	2.76%

Breakouts by English Language Leaners Participation

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
Fall IRI				
Grade 1	**95,930**	**2.32**	**0.06**	**2.80%**
Not ELL				
2017	16,660	2.52	0.11	4.36%
2018	16,807	2.53	0.14	5.99%
2019	17,260	2.22	(0.14)	-5.77%
2020	17,789	2.36	0.09	4.04%
2021	17,349	2.21	(0.03)	-1.53%
Ever ELL				
2017	2,182	2.21	0.51	30.14%
2018	2,156	2.24	0.57	34.30%
2019	1,985	1.61	(0.01)	-0.71%
2020	1,940	1.72	0.33	23.70%
2021	1,802	1.51	0.13	9.50%
Grade 2	**101,861**	**2.38**	**(0.01)**	**-0.24%**
Not ELL				
2017	18,247	2.40	(0.12)	-4.88%
2018	17,937	2.38	(0.14)	-5.66%
2019	18,081	2.45	(0.07)	-2.76%
2020	18,530	2.52	0.29	12.85%
2021	18,164	2.37	0.02	0.87%
Ever ELL				
2017	2,157	2.01	(0.23)	-10.43%
2018	2,348	1.99	(0.20)	-9.22%
2019	2,257	2.00	(0.22)	-9.84%
2020	2,100	2.08	0.47	28.91%
2021	2,040	1.84	0.14	7.98%
Grade 3	**105,045**	**2.48**	**0.10**	**4.05%**
Not ELL				
2017	18,932	2.55	0.15	6.17%
2018	18,813	2.56	0.15	6.44%
2019	18,432	2.49	0.11	4.77%
2020	18,942	2.54	0.09	3.58%
2021	18,287	2.45	(0.07)	-2.87%
Ever ELL				
2017	2,478	2.25	0.24	11.87%
2018	2,248	2.24	0.24	11.77%
2019	2,437	2.11	0.14	7.18%
2020	2,324	2.19	0.21	10.61%
2021	2,152	2.06	0.02	1.14%
Spring IRI				
Grade 1	**56,697**	**2.53**	**(0.21)**	**-7.77%**
Not ELL				
2017	16,440	2.57	(0.18)	-6.55%
2018	16,589	2.56	(0.21)	-7.55%
2019	17,368	2.59	(0.18)	-6.35%
Ever ELL				
2017	2,143	2.22	(0.37)	-14.29%
2018	2,108	2.25	(0.36)	-13.95%
2019	2,049	2.10	(0.51)	-19.53%
Grade 2	**60,320**	**2.58**	**0.03**	**1.30%**
Not ELL				
2017	17,892	2.59	(0.01)	-0.57%
2018	17,463	2.57	(0.02)	-0.73%
2019	18,288	2.69	0.12	4.76%
Ever ELL				
2017	2,107	2.27	0.02	0.67%
2018	2,274	2.24	0.04	1.63%
2019	2,296	2.33	0.10	4.64%
Grade 3	**62,304**	**2.63**	**0.09**	**3.65%**
Not ELL				
2017	18,596	2.67	0.09	3.53%
2018	18,271	2.67	0.08	2.94%

Breakouts by Grade Level Attainment

No Demographic Indicators

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
Fall IRI				
Grade 1	**95,930**	**2.32**	**0.06**	**2.80%**
At or above grade				
2017	12,008	3.00	0.45	17.66%
2018	12,291	3.00	0.47	18.79%
2019	8,216	3.00	0.30	11.15%
2020	9,923	3.00	0.36	13.84%
2021	8,089	3.00	0.33	12.28%
Below Grade				
2017	6,834	1.57	(0.37)	-19.13%
2018	6,672	1.58	(0.33)	-17.26%
2019	11,029	1.53	(0.44)	-22.29%
2020	9,806	1.58	(0.14)	-7.99%
2021	11,062	1.53	(0.27)	-15.15%
Grade 2	**101,861**	**2.38**	**(0.01)**	**-0.24%**
At or above grade				
2017	11,463	3.00	0.21	7.69%
2018	11,101	3.00	0.21	7.39%
2019	12,356	3.00	0.25	9.08%
2020	13,140	3.00	0.46	18.31%
2021	11,105	3.00	0.29	10.87%
Below Grade				
2017	8,941	1.54	(0.58)	-27.48%
2018	9,184	1.52	(0.58)	-27.58%
2019	7,982	1.48	(0.61)	-29.07%
2020	7,490	1.56	0.03	1.73%
2021	9,099	1.49	(0.29)	-16.18%
Grade 3	**105,045**	**2.48**	**0.10**	**4.05%**
At or above grade				
2017	13,919	3.00	0.20	7.19%
2018	13,939	3.00	0.20	7.28%
2019	12,870	3.00	0.24	8.69%
2020	13,771	3.00	0.20	6.99%
2021	12,035	3.00	0.12	4.04%
Below Grade				
2017	7,491	1.60	0.08	5.18%
2018	7,122	1.59	0.08	5.63%
2019	7,999	1.55	(0.08)	-4.99%
2020	7,495	1.59	(0.07)	-4.40%
2021	8,404	1.56	(0.32)	-16.93%
Spring IRI				
Grade 1	**56,697**	**2.53**	**(0.21)**	**-7.77%**
At or above grade				
2017	12,554	3.00	0.09	3.10%
2018	12,589	3.00	0.08	2.90%
2019	12,956	3.00	0.10	3.44%
Below Grade				
2017	6,029	1.55	(0.81)	-34.34%
2018	6,108	1.54	(0.87)	-36.04%
2019	6,461	1.60	(0.83)	-34.23%
Grade 2	**60,320**	**2.58**	**0.03**	**1.30%**
At or above grade				
2017	14,086	3.00	0.11	3.88%
2018	13,677	3.00	0.12	4.04%
2019	15,602	3.00	0.20	7.17%
Below Grade				
2017	5,913	1.50	(0.31)	-16.96%
2018	6,060	1.47	(0.30)	-17.09%
2019	4,982	1.56	(0.13)	-7.79%
Grade 3	**62,304**	**2.63**	**0.09**	**3.65%**
At or above grade				
2017	15,787	3.00	0.13	4.39%
2018	15,370	3.00	0.12	4.10%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019	9,791	2.78	0.09	3.37%
Econ Disadv				
2017	11,588	2.52	0.11	4.40%
2018	10,731	2.51	0.10	4.21%
2019	11,092	2.49	0.11	4.62%
ISAT ELA				
Grade 4	**65,418**	**2.91**	**(0.01)**	**-0.30%**
Not Disadv				
2017	9,667	3.15	(0.05)	-1.51%
2018	10,860	3.17	0.06	1.83%
2019	10,912	3.21	0.02	0.63%
Econ Disadv				
2017	11,973	2.64	(0.09)	-3.18%
2018	11,246	2.67	0.02	0.68%
2019	10,760	2.68	(0.01)	-0.34%
Grade 5	**66,123**	**2.98**	**0.09**	**2.98%**
Not Disadv				
2017	9,729	3.22	0.02	0.54%
2018	10,979	3.23	0.11	3.47%
2019	11,565	3.25	0.09	2.95%
Econ Disadv				
2017	11,537	2.71	0.05	1.80%
2018	11,252	2.75	0.13	4.85%
2019	11,061	2.77	0.12	4.38%
Grade 6	**65,551**	**2.94**	**(0.01)**	**-0.39%**
Not Disadv				
2017	10,397	3.15	(0.05)	-1.67%
2018	11,323	3.19	(0.00)	-0.11%
2019	11,968	3.21	0.00	0.15%
Econ Disadv				
2017	10,963	2.66	(0.04)	-1.37%
2018	10,291	2.69	0.02	0.62%
2019	10,609	2.73	0.00	0.03%
Grade 7	**64,679**	**2.96**	**0.04**	**1.24%**
Not Disadv				
2017	10,713	3.15	0.01	0.24%
2018	11,969	3.15	0.03	0.80%
2019	12,435	3.22	0.05	1.52%
Econ Disadv				
2017	10,186	2.68	0.03	1.22%
2018	9,775	2.66	0.03	1.18%
2019	9,601	2.74	0.08	2.83%
Grade 8	**63,887**	**2.94**	**0.01**	**0.44%**
Not Disadv				
2017	10,821	3.11	(0.02)	-0.52%
2018	12,086	3.15	0.01	0.36%
2019	12,817	3.15	0.01	0.32%
Econ Disadv				
2017	9,669	2.70	0.02	0.91%
2018	9,195	2.69	0.03	1.10%
2019	9,299	2.68	0.02	0.94%
Grade 10	**58,698**	**3.08**	**0.12**	**3.88%**
Not Disadv				
2018	11,790	3.26	0.12	3.95%
2019	12,729	3.24	0.15	4.85%
2021	14,578	3.20	0.10	3.27%
Econ Disadv				
2018	7,162	2.80	0.09	3.37%
2019	6,926	2.79	0.11	4.04%
2021	5,513	2.79	0.09	3.48%
ISAT Math				
Grade 4	**65,545**	**2.92**	**(0.01)**	**-0.26%**
Not Disadv				
2017	9,656	3.16	(0.04)	-1.20%
2018	10,856	3.16	0.02	0.50%
2019	10,909	3.20	0.01	0.21%
Econ Disadv				
2017	12,010	2.67	(0.05)	-1.86%
2018	11,301	2.68	0.00	0.19%
2019	10,813	2.70	0.02	0.61%
Grade 5	**66,178**	**2.83**	**(0.07)**	**-2.25%**
Not Disadv				
2017	9,712	3.09	(0.08)	-2.39%
2018	10,973	3.10	(0.03)	-1.07%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019	16,892	2.77	0.09	3.51%
Ever_SpEd				
2017	3,853	2.02	0.13	6.80%
2018	3,878	2.06	0.12	6.11%
2019	3,991	2.04	0.13	6.85%
ISAT ELA				
Grade 4	**65,418**	**2.91**	**(0.01)**	**-0.30%**
Not SpEd				
2017	17,940	3.00	(0.07)	-2.18%
2018	18,131	3.06	0.04	1.49%
2019	17,674	3.09	0.01	0.35%
Ever_SpEd				
2017	3,700	2.19	(0.08)	-3.60%
2018	3,975	2.25	0.00	0.08%
2019	3,998	2.31	(0.02)	-0.78%
Grade 5	**66,123**	**2.98**	**0.09**	**2.98%**
Not SpEd				
2017	17,644	3.08	0.03	1.13%
2018	18,438	3.12	0.12	3.98%
2019	18,587	3.16	0.10	3.38%
Ever_SpEd				
2017	3,622	2.25	0.03	1.40%
2018	3,793	2.29	0.11	4.97%
2019	4,039	2.36	0.11	4.88%
Grade 6	**65,551**	**2.94**	**(0.01)**	**-0.39%**
Not SpEd				
2017	17,726	3.03	(0.05)	-1.71%
2018	18,002	3.08	0.00	0.03%
2019	18,733	3.13	(0.00)	-0.03%
Ever_SpEd				
2017	3,634	2.24	(0.01)	-0.30%
2018	3,612	2.28	0.03	1.42%
2019	3,844	2.31	0.02	0.96%
Grade 7	**64,679**	**2.96**	**0.04**	**1.24%**
Not SpEd				
2017	17,557	3.05	0.02	0.65%
2018	18,089	3.06	0.03	0.86%
2019	18,394	3.14	0.06	1.85%
Ever_SpEd				
2017	3,342	2.27	0.02	0.86%
2018	3,655	2.27	0.04	1.64%
2019	3,642	2.35	0.08	3.31%
Grade 8	**63,887**	**2.94**	**0.01**	**0.44%**
Not SpEd				
2017	17,453	3.03	(0.00)	-0.01%
2018	17,941	3.07	0.02	0.56%
2019	18,458	3.08	0.01	0.36%
Ever_SpEd				
2017	3,037	2.26	0.02	0.99%
2018	3,340	2.30	0.03	1.33%
2019	3,658	2.32	0.04	1.90%
Grade 10	**58,724**	**3.08**	**0.12**	**3.88%**
Not SpEd				
2018	16,469	3.19	0.11	3.68%
2019	16,826	3.19	0.14	4.54%
2021	16,955	3.21	0.10	3.22%
Ever_SpEd				
2018	2,483	2.35	0.10	4.40%
2019	2,829	2.39	0.11	5.01%
2021	3,162	2.45	0.10	4.09%
ISAT Math				
Grade 4	**65,545**	**2.92**	**(0.01)**	**-0.26%**
Not SpEd				
2017	17,955	3.01	(0.05)	-1.69%
2018	18,186	3.04	0.00	0.02%
2019	17,720	3.08	0.00	0.15%
Ever_SpEd				
2017	3,711	2.29	(0.01)	-0.58%
2018	3,971	2.35	0.05	2.33%
2019	4,002	2.41	0.04	1.76%
Grade 5	**66,178**	**2.83**	**(0.07)**	**-2.25%**
Not SpEd				
2017	17,641	2.93	(0.09)	-3.07%
2018	18,476	2.96	(0.05)	-1.67%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019	18,429	2.67	0.10	3.94%
Ever ELL				
2017	2,378	2.40	0.12	5.38%
2018	2,176	2.39	0.14	6.10%
2019	2,454	2.32	0.10	4.47%
ISAT ELA				
Grade 4	**65,418**	**2.91**	**(0.01)**	**-0.30%**
Not ELL				
2017	19,206	2.93	(0.07)	-2.42%
2018	19,598	2.98	0.04	1.23%
2019	19,413	3.01	0.01	0.23%
Ever ELL				
2017	2,434	2.31	(0.04)	-1.81%
2018	2,508	2.38	0.04	1.84%
2019	2,259	2.39	(0.01)	-0.27%
Grade 5	**66,123**	**2.98**	**0.09**	**2.98%**
Not ELL				
2017	18,949	3.01	0.03	0.94%
2018	19,761	3.05	0.11	3.86%
2019	20,050	3.08	0.10	3.34%
Ever ELL				
2017	2,317	2.38	0.08	3.49%
2018	2,470	2.46	0.15	6.65%
2019	2,576	2.50	0.14	6.06%
Grade 6	**65,551**	**2.94**	**(0.01)**	**-0.39%**
Not ELL				
2017	18,791	2.96	(0.05)	-1.75%
2018	19,281	3.01	(0.00)	-0.08%
2019	20,070	3.05	(0.00)	-0.11%
Ever ELL				
2017	2,569	2.43	0.01	0.51%
2018	2,333	2.45	0.08	3.23%
2019	2,507	2.49	0.05	2.20%
Grade 7	**64,679**	**2.96**	**0.04**	**1.24%**
Not ELL				
2017	18,614	2.98	0.02	0.66%
2018	19,133	2.99	0.03	0.88%
2019	19,651	3.07	0.06	1.91%
Ever ELL				
2017	2,285	2.48	0.02	0.83%
2018	2,611	2.46	0.04	1.68%
2019	2,385	2.51	0.08	3.29%
Grade 8	**63,887**	**2.94**	**0.01**	**0.44%**
Not ELL				
2017	18,358	2.97	(0.00)	-0.11%
2018	18,975	3.00	0.01	0.47%
2019	19,450	3.01	0.01	0.33%
Ever ELL				
2017	2,132	2.47	0.06	2.35%
2018	2,306	2.53	0.06	2.50%
2019	2,666	2.51	0.06	2.53%
Grade 10	**58,724**	**3.08**	**0.12**	**3.88%**
Not ELL				
2018	16,973	3.14	0.12	3.84%
2019	17,640	3.13	0.14	4.54%
2021	17,718	3.15	0.10	3.28%
Ever ELL				
2018	1,979	2.58	0.07	2.83%
2019	2,015	2.61	0.13	5.08%
2021	2,399	2.63	0.10	3.79%
ISAT Math				
Grade 4	**65,545**	**2.92**	**(0.01)**	**-0.26%**
Not ELL				
2017	19,185	2.95	(0.05)	-1.56%
2018	19,573	2.98	0.01	0.36%
2019	19,379	3.02	0.01	0.23%
Ever ELL				
2017	2,481	2.35	(0.03)	-1.36%
2018	2,584	2.38	0.01	0.23%
2019	2,343	2.42	0.05	2.05%
Grade 5	**66,178**	**2.83**	**(0.07)**	**-2.25%**
Not ELL				
2017	18,913	2.87	(0.10)	-3.24%
2018	19,724	2.90	(0.05)	-1.75%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019	15,401	3.00	0.18	6.22%
Below Grade				
2017	5,187	1.54	0.00	-0.08%
2018	5,077	1.54	(0.02)	-1.58%
2019	5,482	1.58	(0.11)	-6.48%
ISAT ELA				
Grade 4	**65,418**	**2.91**	**(0.01)**	**-0.30%**
At or above grade				
2017	10,414	3.73	0.14	3.91%
2018	11,202	3.75	0.24	6.82%
2019	11,283	3.77	0.20	5.71%
Below Grade				
2017	11,226	2.06	(0.26)	-11.38%
2018	10,904	2.05	(0.17)	-7.67%
2019	10,389	2.05	(0.21)	-9.27%
Grade 5	**66,123**	**2.98**	**0.09**	**2.98%**
At or above grade				
2017	11,487	3.67	0.15	4.17%
2018	12,369	3.69	0.23	6.75%
2019	12,944	3.70	0.21	5.96%
Below Grade				
2017	9,779	2.08	(0.10)	-4.54%
2018	9,862	2.09	(0.03)	-1.29%
2019	9,682	2.10	(0.03)	-1.61%
Grade 6	**65,551**	**2.94**	**(0.01)**	**-0.39%**
At or above grade				
2017	10,928	3.60	0.03	0.97%
2018	11,655	3.63	0.09	2.48%
2019	12,541	3.65	0.09	2.46%
Below Grade				
2017	10,432	2.16	(0.13)	-5.60%
2018	9,959	2.15	(0.09)	-3.98%
2019	10,036	2.16	(0.10)	-4.55%
Grade 7	**64,679**	**2.96**	**0.04**	**1.24%**
At or above grade				
2017	11,380	3.57	0.14	4.03%
2018	11,893	3.58	0.14	3.93%
2019	12,950	3.62	0.17	4.89%
Below Grade				
2017	9,519	2.15	(0.12)	-5.38%
2018	9,851	2.14	(0.10)	-4.55%
2019	9,086	2.14	(0.10)	-4.26%
Grade 8	**63,887**	**2.94**	**0.01**	**0.44%**
At or above grade				
2017	10,878	3.58	0.10	2.88%
2018	11,595	3.59	0.12	3.44%
2019	12,018	3.61	0.13	3.73%
Below Grade				
2017	9,612	2.18	(0.11)	-4.68%
2018	9,686	2.18	(0.10)	-4.43%
2019	10,098	2.16	(0.12)	-5.21%
Grade 10	**58,724**	**3.08**	**0.12**	**3.88%**
At or above grade				
2018	11,390	3.68	0.27	7.84%
2019	11,836	3.69	0.31	9.29%
2021	12,189	3.70	0.27	7.97%
Below Grade				
2018	7,562	2.19	(0.12)	-5.36%
2019	7,819	2.15	(0.14)	-5.95%
2021	7,928	2.16	(0.17)	-7.20%
ISAT Math				
Grade 4	**65,545**	**2.92**	**(0.01)**	**-0.26%**
At or above grade				
2017	10,163	3.66	0.06	1.57%
2018	10,725	3.68	0.11	3.15%
2019	10,925	3.69	0.10	2.69%
Below Grade				
2017	11,503	2.20	(0.14)	-5.79%
2018	11,432	2.19	(0.09)	-3.76%
2019	10,797	2.20	(0.07)	-3.27%
Grade 5	**66,178**	**2.83**	**(0.07)**	**-2.25%**
At or above grade				
2017	8,924	3.76	0.14	3.73%
2018	9,686	3.78	0.18	4.97%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019	11,557	3.12	(0.03)	-1.04%
Econ Disadv				
2017	11,551	2.55	(0.12)	-4.32%
2018	11,306	2.57	(0.07)	-2.76%
2019	11,079	2.61	(0.06)	-2.29%
Grade 6	**65,590**	**2.80**	**0.00**	**0.12%**
Not Disadv				
2017	10,382	3.06	0.03	0.88%
2018	11,314	3.10	0.05	1.48%
2019	11,947	3.07	(0.01)	-0.32%
Econ Disadv				
2017	10,984	2.48	(0.04)	-1.39%
2018	10,320	2.54	0.02	0.70%
2019	10,643	2.53	(0.02)	-0.91%
Grade 7	**64,659**	**2.82**	**0.04**	**1.30%**
Not Disadv				
2017	10,674	3.07	0.04	1.30%
2018	11,936	3.06	0.04	1.49%
2019	12,422	3.10	0.02	0.64%
Econ Disadv				
2017	10,195	2.51	0.04	1.77%
2018	9,818	2.50	0.04	1.63%
2019	9,614	2.55	0.03	1.22%
Grade 8	**63,782**	**2.74**	**(0.06)**	**-2.10%**
Not Disadv				
2017	10,787	2.97	(0.07)	-2.25%
2018	12,056	3.00	(0.03)	-1.11%
2019	12,777	3.00	(0.05)	-1.50%
Econ Disadv				
2017	9,644	2.43	(0.09)	-3.40%
2018	9,193	2.42	(0.07)	-2.96%
2019	9,325	2.44	(0.06)	-2.27%
Grade 10	**58,663**	**2.57**	**(0.20)**	**-7.15%**
Not Disadv				
2018	11,777	2.76	(0.18)	-6.26%
2019	12,690	2.76	(0.17)	-5.71%
2021	14,587	2.68	(0.27)	-9.03%
Econ Disadv				
2018	7,158	2.26	(0.15)	-6.22%
2019	6,909	2.26	(0.16)	-6.44%
2021	5,542	2.23	(0.23)	-9.42%
ISAT Science				
Grade 7	**41,532**	**3.04**	**(0.20)**	**-6.19%**
Not Disadv				
2018	11,355	3.29	(0.15)	-4.36%
2019	11,764	3.27	(0.16)	-4.56%
Econ Disadv				
2018	9,257	2.73	(0.24)	-8.17%
2019	9,156	2.73	(0.28)	-9.18%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019	18,603	3.00	(0.04)	-1.39%
Ever_SpEd				
2017	3,622	2.19	(0.12)	-5.20%
2018	3,803	2.21	(0.07)	-3.10%
2019	4,033	2.28	(0.07)	-2.87%
Grade 6	**65,590**	**2.80**	**0.00**	**0.12%**
Not SpEd				
2017	17,732	2.89	0.00	0.11%
2018	18,015	2.97	0.04	1.45%
2019	18,751	2.95	(0.01)	-0.38%
Ever_SpEd				
2017	3,634	2.13	(0.05)	-2.07%
2018	3,619	2.16	(0.02)	-0.92%
2019	3,839	2.17	(0.04)	-1.82%
Grade 7	**64,659**	**2.82**	**0.04**	**1.30%**
Not SpEd				
2017	17,534	2.92	0.04	1.34%
2018	18,111	2.94	0.04	1.45%
2019	18,409	2.99	0.02	0.61%
Ever_SpEd				
2017	3,335	2.17	0.06	2.71%
2018	3,643	2.17	0.05	2.20%
2019	3,627	2.22	0.06	2.60%
Grade 8	**63,782**	**2.74**	**(0.06)**	**-2.10%**
Not SpEd				
2017	17,412	2.83	(0.08)	-2.72%
2018	17,925	2.87	(0.05)	-1.68%
2019	18,464	2.89	(0.05)	-1.73%
Ever_SpEd				
2017	3,019	2.07	(0.06)	-2.85%
2018	3,324	2.11	(0.06)	-2.81%
2019	3,638	2.12	(0.05)	-2.21%
Grade 10	**58,690**	**2.57**	**(0.20)**	**-7.15%**
Not SpEd				
2018	16,461	2.66	(0.19)	-6.60%
2019	16,788	2.67	(0.18)	-6.38%
2021	17,000	2.65	(0.28)	-9.61%
Ever_SpEd				
2018	2,474	1.99	(0.06)	-2.99%
2019	2,811	2.05	(0.05)	-2.34%
2021	3,156	2.04	(0.12)	-5.47%
ISAT Science				
Grade 7	**41,532**	**3.04**	**(0.20)**	**-6.19%**
Not SpEd				
2018	17,141	3.15	(0.19)	-5.59%
2019	17,432	3.15	(0.21)	-6.17%
Ever_SpEd				
2018	3,471	2.45	(0.22)	-8.10%
2019	3,488	2.47	(0.22)	-8.08%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019	20,002	2.94	(0.05)	-1.65%
Ever ELL				
2017	2,350	2.24	(0.11)	-4.55%
2018	2,555	2.27	(0.07)	-2.95%
2019	2,634	2.34	(0.03)	-1.20%
Grade 6	**65,590**	**2.80**	**0.00**	**0.12%**
Not ELL				
2017	18,756	2.83	(0.01)	-0.28%
2018	19,243	2.90	0.03	1.09%
2019	20,011	2.88	(0.02)	-0.67%
Ever ELL				
2017	2,610	2.24	0.02	0.73%
2018	2,391	2.27	0.04	1.62%
2019	2,579	2.27	0.01	0.38%
Grade 7	**64,659**	**2.82**	**0.04**	**1.30%**
Not ELL				
2017	18,548	2.86	0.04	1.46%
2018	19,073	2.88	0.05	1.61%
2019	19,600	2.93	0.02	0.79%
Ever ELL				
2017	2,321	2.26	0.04	1.92%
2018	2,681	2.25	0.02	0.97%
2019	2,436	2.30	0.04	1.65%
Grade 8	**63,782**	**2.74**	**(0.06)**	**-2.10%**
Not ELL				
2017	18,269	2.78	(0.08)	-2.84%
2018	18,900	2.82	(0.05)	-1.84%
2019	19,384	2.83	(0.06)	-2.00%
Ever ELL				
2017	2,162	2.18	(0.04)	-1.67%
2018	2,349	2.22	(0.04)	-1.63%
2019	2,718	2.25	0.00	0.21%
Grade 10	**58,690**	**2.57**	**(0.20)**	**-7.15%**
Not ELL				
2018	16,930	2.63	(0.18)	-6.36%
2019	17,550	2.64	(0.17)	-6.03%
2021	17,718	2.62	(0.26)	-9.14%
Ever ELL				
2018	2,005	2.10	(0.11)	-4.98%
2019	2,049	2.08	(0.11)	-4.95%
2021	2,438	2.08	(0.20)	-8.92%
ISAT Science				
Grade 7	**41,532**	**3.04**	**(0.20)**	**-6.19%**
Not ELL				
2018	18,079	3.12	(0.18)	-5.56%
2019	18,576	3.12	(0.20)	-5.89%
Ever ELL				
2018	2,533	2.42	(0.25)	-9.26%
2019	2,344	2.39	(0.32)	-11.71%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Growth Rate wQuintile
2019	10,271	3.79	0.18	4.93%
Below Grade				
2017	12,339	2.11	(0.27)	-11.19%
2018	12,593	2.10	(0.23)	-9.95%
2019	12,365	2.10	(0.23)	-9.99%
Grade 6	**65,590**	**2.80**	**0.00**	**0.12%**
At or above grade				
2017	8,602	3.72	0.16	4.63%
2018	9,531	3.74	0.17	4.79%
2019	9,776	3.74	0.13	3.64%
Below Grade				
2017	12,764	2.12	(0.12)	-5.34%
2018	12,103	2.12	(0.08)	-3.53%
2019	12,814	2.11	(0.13)	-5.75%
Grade 7	**64,659**	**2.82**	**0.04**	**1.30%**
At or above grade				
2017	8,977	3.70	0.17	4.87%
2018	9,661	3.70	0.18	5.20%
2019	10,273	3.73	0.15	4.29%
Below Grade				
2017	11,892	2.12	(0.06)	-2.62%
2018	12,093	2.10	(0.07)	-3.20%
2019	11,763	2.11	(0.09)	-4.01%
Grade 8	**63,782**	**2.74**	**(0.06)**	**-2.10%**
At or above grade				
2017	8,009	3.74	0.14	4.01%
2018	8,855	3.77	0.18	4.92%
2019	9,135	3.77	0.14	3.99%
Below Grade				
2017	12,422	2.05	(0.22)	-9.64%
2018	12,394	2.02	(0.21)	-9.57%
2019	12,967	2.06	(0.19)	-8.36%
Grade 10	**58,690**	**2.57**	**(0.20)**	**-7.15%**
At or above grade				
2018	6,335	3.68	0.05	1.34%
2019	6,710	3.68	0.05	1.35%
2021	6,696	3.68	(0.05)	-1.26%
Below Grade				
2018	12,600	2.02	(0.28)	-12.26%
2019	12,889	2.01	(0.27)	-11.98%
2021	13,460	2.00	(0.36)	-15.30%
ISAT Science				
Grade 7	**41,532**	**3.04**	**(0.20)**	**-6.19%**
At or above grade				
2018	10,633	3.88	0.14	3.78%
2019	10,810	3.88	0.17	4.48%
Below Grade				
2018	9,979	2.14	(0.55)	-20.37%
2019	10,110	2.14	(0.61)	-22.19%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Grow Rate
Spring IRI (over Fall)				
Grade KG	**98,792**	**2.63**	**0.38**	**16.93%**
Not Disadv				
2016	9,211	2.80	0.23	8.82%
2017	9,186	2.82	0.27	10.52%
2018	9,867	2.82	0.31	12.18%
2019	10,288	2.64	0.24	9.96%
2021	11,861	2.58	0.28	12.32%
Econ Disadv				
2016	10,438	2.64	0.55	26.05%
2017	10,077	2.67	0.59	28.66%
2018	10,004	2.65	0.62	30.60%
2019	10,133	2.32	0.38	19.49%
2021	7,727	2.27	0.31	15.92%
Grade 1	**104,626**	**2.51**	**0.17**	**7.13%**
Not Disadv				
2016	9,326	2.71	0.08	2.97%
2017	8,943	2.69	0.07	2.79%
2018	10,032	2.68	0.06	2.16%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Grow Rate
Spring IRI (over Fall)				
Grade KG	**98,792**	**2.63**	**0.38**	**16.93%**
Not SpEd				
2016	15,823	2.81	0.40	16.82%
2017	15,607	2.83	0.45	18.95%
2018	16,359	2.82	0.48	20.30%
2019	17,148	2.57	0.32	14.15%
2021	17,294	2.52	0.30	13.56%
Ever_SpEd				
2016	3,826	2.33	0.36	18.50%
2017	3,656	2.37	0.39	19.65%
2018	3,512	2.37	0.42	21.46%
2019	3,273	2.00	0.25	14.45%
2021	2,294	2.02	0.25	14.04%
Grade 1	**104,631**	**2.51**	**0.17**	**7.13%**
Not SpEd				
2016	17,100	2.69	0.09	3.63%
2017	16,481	2.68	0.08	3.17%
2018	16,996	2.66	0.07	2.64%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Grow Rate
Spring IRI (over Fall)				
Grade KG	**98,792**	**2.63**	**0.38**	**16.93%**
Not ELL				
2016	17,383	2.74	0.33	13.90%
2017	17,141	2.76	0.38	15.79%
2018	17,795	2.75	0.40	17.20%
2019	18,430	2.55	0.29	12.84%
2021	17,925	2.52	0.28	12.74%
Ever ELL				
2016	2,266	2.56	0.88	52.12%
2017	2,122	2.61	0.95	56.99%
2018	2,076	2.61	0.99	61.29%
2019	1,991	1.87	0.48	34.47%
2021	1,663	1.81	0.40	28.33%
Grade 1	**104,631**	**2.51**	**0.17**	**7.13%**
Not ELL				
2016	18,986	2.59	0.08	2.99%
2017	18,120	2.57	0.06	2.51%
2018	18,627	2.56	0.05	1.80%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Grow Rate
2019	9,971	2.71	0.32	13.54%
2021	11,911	2.59	0.30	13.07%
Econ Disadv				
2016	11,900	2.42	0.06	2.54%
2017	11,503	2.41	0.05	1.96%
2018	10,935	2.37	0.03	1.21%
2019	11,389	2.39	0.42	21.18%
2021	8,716	2.23	0.28	14.59%
Grade 2	**107,276**	**2.56**	**0.21**	**9.10%**
Not Disadv				
2016	9,868	2.69	0.16	6.23%
2017	9,265	2.71	0.16	6.33%
2018	9,981	2.69	0.17	6.60%
2019	10,442	2.79	0.20	7.77%
2021	12,194	2.69	0.23	9.30%
Econ Disadv				
2016	12,171	2.41	0.21	9.62%
2017	11,747	2.43	0.22	9.91%
2018	11,350	2.38	0.23	10.53%
2019	11,325	2.52	0.29	13.01%
2021	8,933	2.37	0.26	12.37%
Grade 3	**109,285**	**2.62**	**0.14**	**5.79%**
Not Disadv				
2016	9,891	2.76	0.09	3.50%
2017	9,835	2.78	0.11	4.27%
2018	10,441	2.77	0.09	3.43%
2019	10,320	2.78	0.16	6.18%
2021	12,198	2.70	0.17	6.56%
Econ Disadv				
2016	12,216	2.50	0.13	5.66%
2017	12,085	2.52	0.14	5.71%
2018	11,613	2.51	0.14	5.76%
2019	11,716	2.49	0.20	8.89%
2021	8,970	2.42	0.19	8.56%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Grow Rate
2019	17,621	2.66	0.38	16.75%
2021	17,787	2.51	0.30	13.41%
Ever_SpEd				
2016	4,126	1.96	-0.04	-2.06%
2017	3,965	1.93	-0.04	-2.19%
2018	3,971	1.94	-0.07	-3.54%
2019	3,739	1.96	0.33	20.57%
2021	2,845	1.93	0.26	15.60%
Grade 2	**107,285**	**2.56**	**0.21**	**9.10%**
Not SpEd				
2016	17,943	2.69	0.20	7.96%
2017	17,026	2.70	0.20	8.21%
2018	17,227	2.67	0.21	8.46%
2019	17,707	2.79	0.24	9.51%
2021	17,795	2.66	0.24	10.13%
Ever_SpEd				
2016	4,096	1.88	0.14	8.10%
2017	3,986	1.94	0.15	8.16%
2018	4,104	1.90	0.16	9.01%
2019	4,060	2.05	0.27	15.25%
2021	3,341	2.01	0.23	13.01%
Grade 3	**109,293**	**2.62**	**0.14**	**5.79%**
Not SpEd				
2016	18,224	2.75	0.12	4.55%
2017	17,930	2.78	0.13	4.91%
2018	17,897	2.77	0.12	4.44%
2019	17,853	2.77	0.18	6.83%
2021	17,595	2.70	0.17	6.88%
Ever_SpEd				
2016	3,883	1.98	0.10	5.21%
2017	3,990	2.02	0.11	5.74%
2018	4,157	2.06	0.11	5.44%
2019	4,183	2.03	0.21	11.77%
2021	3,581	2.01	0.19	10.53%

Row Labels	Students	Avg Score wQuintile	Avg Growth wQuintile	Grow Rate
2019	19,198	2.59	0.36	16.18%
2021	18,767	2.49	0.28	12.75%
Ever ELL				
2016	2,240	2.22	0.01	0.34%
2017	2,326	2.21	0.02	0.80%
2018	2,340	2.22	0.02	0.74%
2019	2,162	2.10	0.49	30.44%
2021	1,865	1.91	0.41	26.91%
Grade 2	**107,285**	**2.56**	**0.21**	**9.10%**
Not ELL				
2016	19,514	2.57	0.18	7.40%
2017	18,800	2.59	0.19	7.77%
2018	18,863	2.56	0.19	8.04%
2019	19,401	2.69	0.24	9.62%
2021	19,038	2.60	0.23	9.75%
Ever ELL				
2016	2,525	2.27	0.27	13.33%
2017	2,212	2.26	0.25	12.65%
2018	2,468	2.23	0.26	13.13%
2019	2,366	2.32	0.34	17.20%
2021	2,098	2.17	0.35	19.06%
Grade 3	**109,293**	**2.62**	**0.14**	**5.79%**
Not ELL				
2016	19,625	2.65	0.11	4.37%
2017	19,458	2.67	0.12	4.83%
2018	19,715	2.66	0.11	4.34%
2019	19,516	2.67	0.18	7.24%
2021	19,001	2.62	0.18	7.16%
Ever ELL				
2016	2,482	2.32	0.15	7.09%
2017	2,462	2.39	0.15	6.74%
2018	2,339	2.37	0.16	7.02%
2019	2,520	2.31	0.21	10.20%
2021	2,175	2.23	0.19	9.22%

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Goal 1: EDUCATIONAL SYSTEM ALIGNMENT - Ensure that all components of the educational system are integrated and coordinated to maximize opportunities for all students.							
Objective A: Data Access and Transparency - Support data-informed decision-making and transparency through analysis and accessibility of our public K-20 educational system.							
Development of a single K-20 data dashboard and timeline for implementation							FY2021
Objective B: Alignment and Coordination -Ensure the articular and transfer of students throughout the education pipeline.							
Percent of graduates from Four-year institution who transferred from Idaho community college1	15%	15%	16%	17%	16%	13%	25% or more
Percent of postsecondary first time freshmen who graduated from an Idaho high school in the previous year requiring remedial education in math and/or language arts[1]	2014-15 graduates	2015-16 graduates	2016-17 graduates	2017-18 graduates	2018-19 graduates	2019-20 graduates	
Two-year institution							Less than 55%
Math	50.5%	49.4%	45.6%	41.5%	39.1%	29.8%	
English	23.9%	25.1%	19.0%	15.0%	15.3%	14.1%	
Four-year institution							Less than 20%
Math	35.6%	37.1%	35.8%	33.1%	29.9%	26.7%	
English	14.7%	15.2%	18.3%	18.1%	14.5%	14.1%	
Goal 2: EDUCATIONAL READINESS - Provide a rigorous, uniform, and thorough education that empowers students to be lifelong learners and prepares all students to fully participate in their community and postsecondary and workforce opportunities.							
Objective A: Rigorous Education - Deliver rigorous programs that challenge and prepare students to transition through each level of the educational system.							
Performance of students scoring at grade level or higher on the statewide reading assessment	Spring 2016	Spring 2017	Spring 2018	Spring 2019	Spring 2020	Spring 2021	
Kindergarten				63.1%	NA[10]	61.3%	TBD
1st Grade				66.7%	NA[10]	59.5%	TBD
2nd Grade				75.3%	NA[10]	69.2%	TBD
3rd Grade				73.2%	NA[10]	70.1%	TBD
Growth Fall to Spring of student cohorts scoring at grade level or higher on the statewide reading assessment (broken out by grade level, K-3)	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	
Kindergarten				44.9%	42.3%	43.4%	TBD
1st Grade				42.9%	48.9%	41.7%	TBD
2nd Grade				60.3%	62.9%	54.3%	TBD
3rd Grade				61.2%	64.0%	58.3%	TBD
Growth							
Kindergarten				18.2%	NA[10]	17.9%	TBD
1st Grade				23.8%	NA[10]	17.8%	TBD
2nd Grade				15.0%	NA[10]	14.9%	TBD
3rd Grade				12.0%	NA[10]	11.8%	TBD

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Percentage of students meeting proficient or advanced on the Idaho Standards Achievement Test[10]	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
Math							
5th Grade		42.3%	43.8%	45.5%	NA[10]	39.8%	58.59%
8th Grade		39.5%	42.1%	41.6%	NA[10]	35.8%	57.59%
High School		33.2%	34.2%	34.7%	NA[10]	32.6%	53.30%
ELA							
5th Grade		54.2%	55.8%	57.3%	NA[10]	55.3%	68.04%
8th Grade		52.9%	54.7%	54.4%	NA[10]	55.5%	67.64%
High School		60.3%	60.6%	60.3%	NA[10]	60.1%	73.60%
Science							
5th Grade		66.5%	65.6%	64.8%	NA[10]	NA	FY21 Baseline
High School		65.2%	67.3%	62.8%	NA[10]	NA	FY21 Baseline
	2014-15 graduates	2015-16 graduates	2016-17 graduates	2017-18 graduates	2018-19 graduates	2019-20 graduates	
High School Cohort Graduation Rate	78.9%	79.7%	79.7%	80.6%	80.7%	82.1%	At least 95%

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Percentage of Idaho high school graduates meeting college placement/entrance exam college readiness benchmarks	2016 graduates	2017 graduates	2018 graduates	2019 graduates	2020 graduates	2021 graduates	
ACT	**36%**	**33%**	**34%**	**35%**	**37%**		**At least 60%**
English	77%	71%	72%	73%	74%		
Mathematics	54%	49%	49%	51%	52%		
Reading	59%	57%	57%	59%	61%		
Science	46%	44%	45%	47%	49%		
SAT		**34%**	**33%**	**32%**	**32%**		**At least 60%**
Evidence-Based Reading and Writing (ERW)	Test changed	63%	60%	58%	57%		
Mathematics		36%	35%	34%	34%		
Percent of high school graduates who participated in one or more advanced opportunities[2]	2016 graduates	2017 graduates	2018 graduates	2019 graduates	2020 graduates	2021 graduates	
Any Advanced Opportunities	87%	89%	90%	90%	87%	83%	At least 80%
Specific Advanced Opportunities							
Advanced Placement	39%	38%	39%	39%	40%	41%	
International Baccalaureate	7%	3%	2%	1%	1%	1%	
Dual Credit (Earned)[2]	42%	48%	54%	58%	60%	60%	
Technical Competency Credit	54%	62%	59%	56%	44%	24%	
Industry Certification			2%	2%	3%	3%	
Percent of dual credit students who graduate high school with an Associate's Degree	1.15%	1.55%	1.42%	1.39%	1.68%	NA	At least 3%
Percent of high school graduates who enroll in a postsecondary institution	2016 graduates	2017 graduates	2018 graduates	2019 graduates	2020 graduates	2021 graduates	
Fall Immediately after high school graduation	49.3%	49.7%	47.6%	45.5%	38.0%		
Within 12 months of high school graduation	53.0%	53.0%	52.0%	49.0%			
Within 36 months of high school graduation	64.2%	63.0%					At least 60%
Objective B: School Readiness - Explore opportunities to enhance school readiness.							
Percentage of students scoring at grade level on the statewide reading assessment during the Fall administration in Kindergarten.	Fall 2015 NA	Fall 2016 NA	Fall 2017 NA	Fall 2018 44.9%	Fall 2019 42.3%	Fall 2020 43.4%	TBD
Goal 3: EDUCATIONAL ATTAINMENT -Ensure Idaho's public colleges and universities will award enough degrees and certificates to meet the education and forecasted workforce needs of Idaho residents necessary to survive and thrive in the changing economy.							
Objective A: Higher Level of Educational Attainment - Increase completion of certificates and degrees through Idaho's educational system.							
Percent of Idahoans (ages 25-34) who have a college degree or certificate requiring one academic year or more of study[3]	42.4%	42.4%	41.8%	42.2%	43.8%		At least 60%

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Total number of certificates/degrees produced, by institution per year[1]	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
Certificates of at least one year	1,059	1,221	1,564	1,685	2,293	2,294	TBD
College of Eastern Idaho	102	109	110	108	110	96	
College of Southern Idaho	192	151	154	146	129	147	
College of Western Idaho	229	240	402	508	1264	1158	
North Idaho College	259	431	556	604	619	639	
Boise State University	0	0	0	0	0	0	
Idaho State University	200	194	200	215	171	304	
Lewis-Clark State College	22	18	19	12	14	19	
University of Idaho	0	0	0	0	0	0	
Associate degrees	3,637	3,541	3,580	3,461	3,583	3,584	TBD
College of Eastern Idaho	118	121	93	147	164	227	
College of Southern Idaho	919	816	800	839	947	947	
College of Western Idaho	996	979	984	886	949	944	
North Idaho College	749	687	690	681	657	717	
Boise State University	145	116	119	133	111	132	
Idaho State University	362	405	472	428	420	494	
Lewis-Clark State College	351	414	425	347	365	218	
University of Idaho	0	0	0	0	0	0	
Baccalaureate degrees	6,808	6,865	6,924	7,033	7,101	7,102	TBD
Boise State University	3,174	3,317	3,373	3,472	3,680	3,929	
Idaho State University	1,228	1,168	1,166	1,233	1,155	1,284	
Lewis-Clark State College	541	528	587	626	505	599	
University of Idaho	1,865	1,852	1,798	1,702	1,761	1,631	
Percentage of new full-time degree seeking students who return (or who graduate) for second year in an Idaho postsecondary institution[1]	Fall 2015 cohort	Fall 2016 cohort	Fall 2017 cohort	Fall 2018 cohort	Fall 2019 cohort	Fall 2020 cohort	
Two-year institution							
New student	52%	56%	55%	54%	58%	60%	At least 75%
Transfer	58%	61%	65%	57%	63%	61%	At least 75%
Four-year institution							
New student	74%	74%	75%	74%	75%	72%	At least 85%
Transfer	72%	76%	76%	75%	76%	74%	At least 85%
Percent of full-time, first-time freshman graduating within 150% of time or less[1]							
	2013-14 cohort	2014-15 cohort	2015-16 cohort	2016-17 cohort	2017-18 cohort	2018-19 cohort	
Two-year institution	20%	22%	25%	26%	28%	29%	At least 50%
	2010-11 cohort	2011-12 cohort	2012-13 cohort	2013-14 cohort	2014-15 cohort	2015-16 cohort	
Four-year institution	41%	42%	46%	47%	49%	50%	At least 50%

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Objective B: Timely Degree Completion - Close the achievement gap, boost graduation rates and increase on-time degree completion through implementation of the Game Changers (structured schedules, math pathways, co-requisite support).							
Percent of undergraduate, degree-seeking students completing 30 or more credits per academic year at the institution reporting[1]	21%	21%	22%	23%	23%	22%	50% or more
Two-year institution	7%	7%	7%	8%	7%	7%	
Four-year institution	26%	27%	28%	30%	31%	30%	
Percent of new degree-seeking freshmen completing a gateway math course within two years[1]	2013-14 cohort 40%	2014-15 cohort 44%	2015-16 cohort 47%	2016-17 cohort 48%	2017-18 cohort 47%	2018-19 cohort 26%	60% or more
Median number of credits earned at completion of Associate's or Baccalaureate degree program[1]							
Transfer students							
Associate - Two Year Institution	79	75	75	80	75	83	69
Associate - Four Year Institution	129	131	127	116	118	96	
Baccalaureate	145	145	145	146	143	143	138
Non-transfer students							
Associate - Two Year Institution	77	71	71	71	69	69	69
Associate - Four Year Institution	112	106	106	106	101	81	
Baccalaureate	137	137	136	136	133	135	138
Objective C: Access - Increase access to Idaho's robust educational system for all Idahoans, regardless of socioeconomic status, age, or geographic locations.							
Annual number of state-funded scholarships awarded and total dollar amount	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	
Total Scholarships Awarded	1,774	3,487	3,795	4,403	4,988	6,356	At least 3,000
Armed Forces and Public Safety Officer Scholarship	10	10	11	13	12	9	
Opportunity Scholarship	1,764	3,461	3,739	4,254	4,767	6,144	
Opportunity Scholarship for Adult Learners	0	0	0	57	126	118	
Postsecondary Credit Scholarship	0	16	45	79	83	85	
Total Dollar Amount of Scholarships Awarded	$5,300,248	$10,074,212	$11,822,718	$14,641,323	$16,263,535	$20,874,646	At least $16 M
Armed Forces and Public Safety Officer Scholarship	$176,000	$152,038	$174,497	$185,627	$158,777	$98,915	
Opportunity Scholarship	$5,124,248	$9,901,424	$11,585,371	$14,237,582	$15,628,220	$20,439,343	
Opportunity Scholarship for Adult Learners	$0	$0	$0	$104,564	$357,088	$324,909	
Postsecondary Credit Scholarship	$0	$20,750	$62,850	$113,550	$119,450	$11,479	
Proportion of postsecondary graduates with student loan debt	2015-16 graduates 50%	2016-17 graduates 45%	2017-18 graduates 45%	2018-19 graduates 44%	2019-20 graduates 42%	2020-21 graduates 40%	
Two-year institution	48%	41%	42%	40%	38%	35%	
Four-year institution	50%	46%	46%	46%	43%	42%	Less than 50%
Percent of students who complete the Free Application for Federal Student Aid (FAFSA) - *Limited to graduating class cohort*	NA	2016-17 graduates 60%	2017-18 graduates 61%	2018-19 graduates 52%	2019-20 graduates 51%	2020-21 graduates 46%	60% or more

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Percent cost of attendance (to the student)[3]							
In-State *First Time, Full Time Degree Seeking Undergraduate living on campus (In-District for Two-Year)*	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	
Two-year institution							
Students living off campus (*w family*)	88%	92%	94%	97%	91%	92%	Less than 4%
Four-year institution							
Students living on campus	96%	91%	88%	90%	88%	90%	Less than 4%
Students living off campus (*w family*)	102%	98%	88%	88%	88%	89%	Less than 4%
Average net cost to attend public institution.[3]							
First Time, Full Time Degree Seeking Undergraduate awarded grant or scholarhip	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	
Four-year institution	101.1%	94.4%	98.1%	94.3%	93.1%		90% of peers
Expense per student FTE[3]	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	
IPEDS Total expenses and deductions / 12 Month FTE (Undergrad, Grad & PhD)	$22,140	$23,758	$24,516	$25,111	$25,415		Less than $20,000
Two-year institution	$13,883	$15,168	$15,432	$15,196	$15,339		
Four-year institution	$25,118	$26,691	$27,706	$28,766	$29,168		
Number of degrees produced (Undergraduate)[1]	11,489	12,944	13,299	13,239	13,656	14,620	At least 15,000
Goal 4: WORKFORCE READINESS - Ensure the educational system provides an individualized environment that facilitates the creation of practical and theoretical knowledge leading to college and career readiness.							
Objective A: Workforce Alignment - Prepare students to efficiently and effectively enter and succeed in the workforce.							
Percentage of students participating in internships	5%	5%	8%	6%	6%	6%	10% or more
Percentage of undergraduate students participating in undergraduate research.[1]							
BSU	35%	37%	37%	43%	43%	34%	Greater than 40%
ISU	43%	42%	41%	38%	36%	37%	Greater than 50%
UI	64%	65%	61%	58%	60%	56%	Greater than 60%
LCSC	10%	14%	16%	20%	12%	11%	
Ratio of non-STEM to STEM baccalaureate degrees conferred in STEM fields[1]	1:0.21	1:0.22	1:0.22	1:0.22	1:0.22	1:0.20	1:0.25 or more
Increase in postsecondary programs tied to workforce needs	23	20	20	22	45	46	10
Objective B: Medical Education - Deliver relevant education that meets the health care needs of Idaho and the region.							
Number of University of Utah Medical School or WWAMI graduates who are residents in one of Idaho's graduate medical education programs.[5]	NA	4	8	11	11	21	8
Idaho graduates who participated in one of the state sponsored medical programs who returned to Idaho	NA	WWAMI - 50%	WWAMI-51%	WWAMI-51%	WWAMI-51%	WWAMI-50%	At least 60%

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Percentage of Family Medicine Residency graduates practicing in Idaho							
Boise	47%	56%	53%	73%	63%	38%	At least 60%
ISU	43%	71%	29%	43%	43%	71%	At least 60%
CDA	NA	50%	83%	72%	67%	71%	At least 60%
Percentage of Psychiatry Residency Program graduates practicing in Idaho.	NA	NA	NA	NA	NA	NA	At least 50%
Medical related postsecondary programs (other than nursing)	79	84	91	102	111	115	100

Notes:

[1] FY20 performance measures for the postsecondary institutions are preliminary.

[2] SDE report card data except Dual Credit has been modified to only include students with earned course credits

[3] This metric is contingent on the IPEDS data release.

[4] The Public Use Microdata Sample of the American Community Survey is published In November ea year.

[5] An expansion in the number of graduate medical programs in the state resulted in increased gradutes in FY21

[10] Spring IRI tests results not tabulated, ISAT not administered due to COVID closures

DRAFT CREDENTIAL TARGETS – FOR DISCUSSION

K-20 Education Strategic Plan Performance Measure (Approved by the Board February 2019)

Goal 3: EDUCATIONAL ATTAINMENT -Ensure Idaho's public colleges and universities will award enough degrees and certificates to meet the education and forecasted workforce needs of Idaho residents necessary to survive and thrive in the changing economy.

Objective A: Higher Level of Educational Attainment - Increase completion of certificates and degrees through Idaho's educational system.

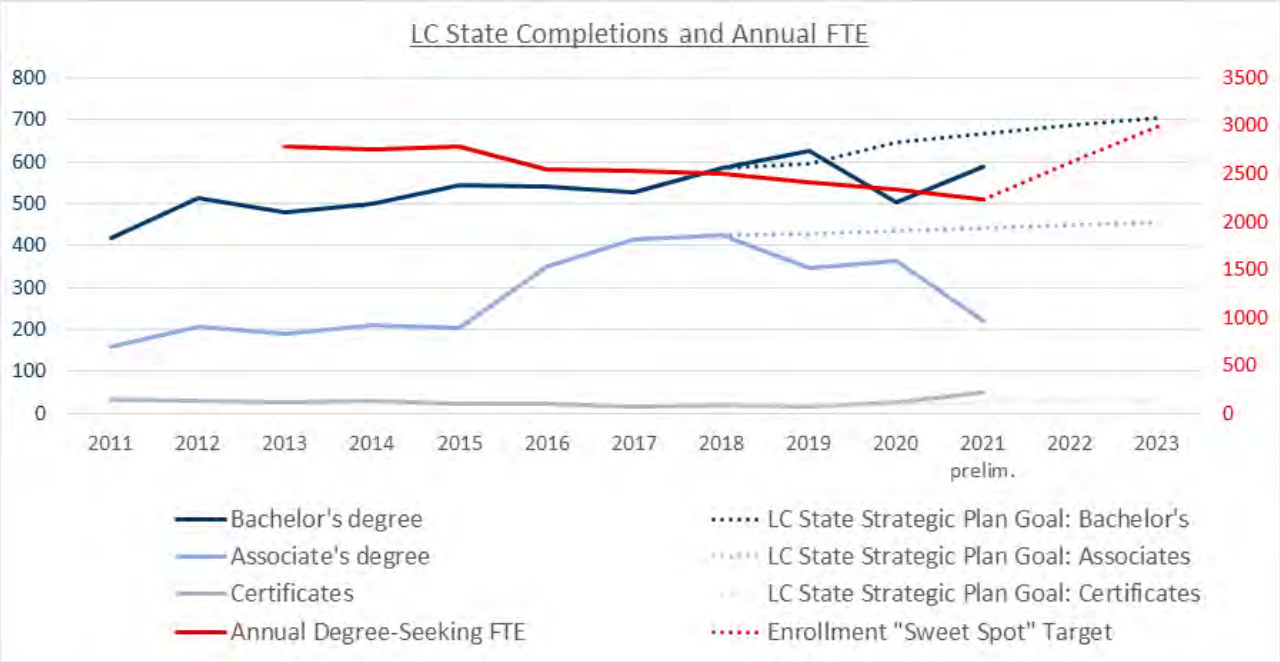
Total number of certificates/degrees produced, by institution per year[1]	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
Certificates of at least one year	1,059	1,221	1,564	1,685	2,293	2,294	TBD
College of Eastern Idaho	102	109	110	108	110	96	
College of Southern Idaho	192	151	154	146	129	147	
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Boise State University	0	0	0	0	0	0	
Idaho State University	200	194	200	215	171	304	
Lewis-Clark State College	22	18	19	12	14	19	
University of Idaho	0	0	0	0	0	0	
Associate degrees	3,637	3,541	3,580	3,461	3,583	3,584	TBD
College of Eastern Idaho	118	121	93	147	164	227	
College of Southern Idaho	919	816	800	839	947	947	
College of Western Idaho	996	979	984	886	949	944	
North Idaho College	749	687	690	681	657	717	
Boise State University	145	116	119	133	111	132	
Idaho State University	362	405	472	428	420	494	
Lewis-Clark State College	351	414	425	347	365	218	
University of Idaho	0	0	0	0	0	0	
Baccalaureate degrees	6,808	6,865	6,924	7,033	7,101	7,102	TBD
Boise State University	3,174	3,317	3,373	3,472	3,680	3,929	
Idaho State University	1,228	1,168	1,166	1,233	1,155	1,284	
Lewis-Clark State College	541	528	587	626	505	599	
University of Idaho	1,865	1,852	1,798	1,702	1,761	1,631	

Lewis-Clark State College

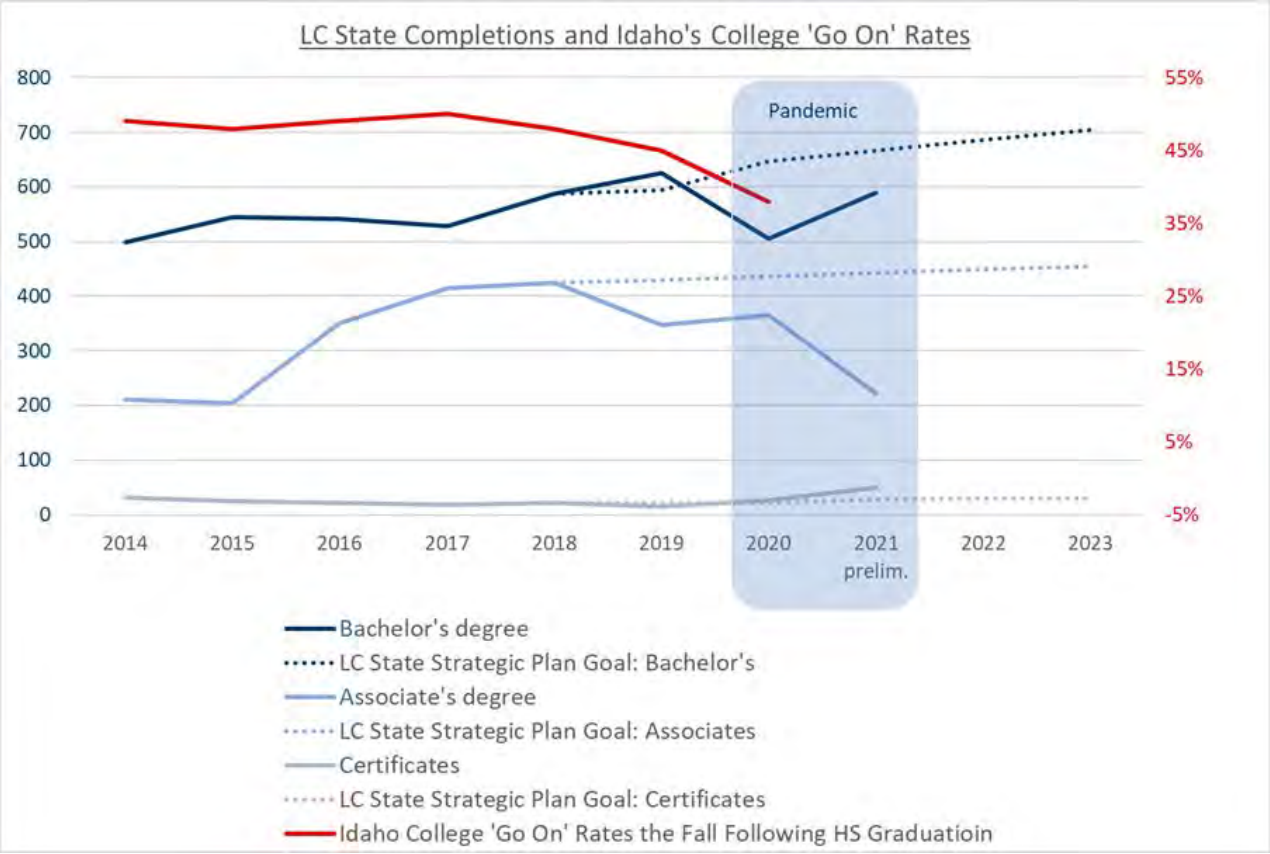
Assumptions:

- LC State is and should remain Idaho's most **accessible** and affordable 4-year school – providing a small college "private" school experience at a public school price.
    - Which means a student demographic dominated by first generation, low-income (PELL eligible) students; serving primarily Idaho residents.
- LC State is and should remain teaching-focused, with a "sweet-spot" enrollment target of 3000 FTE / 4000 HC.

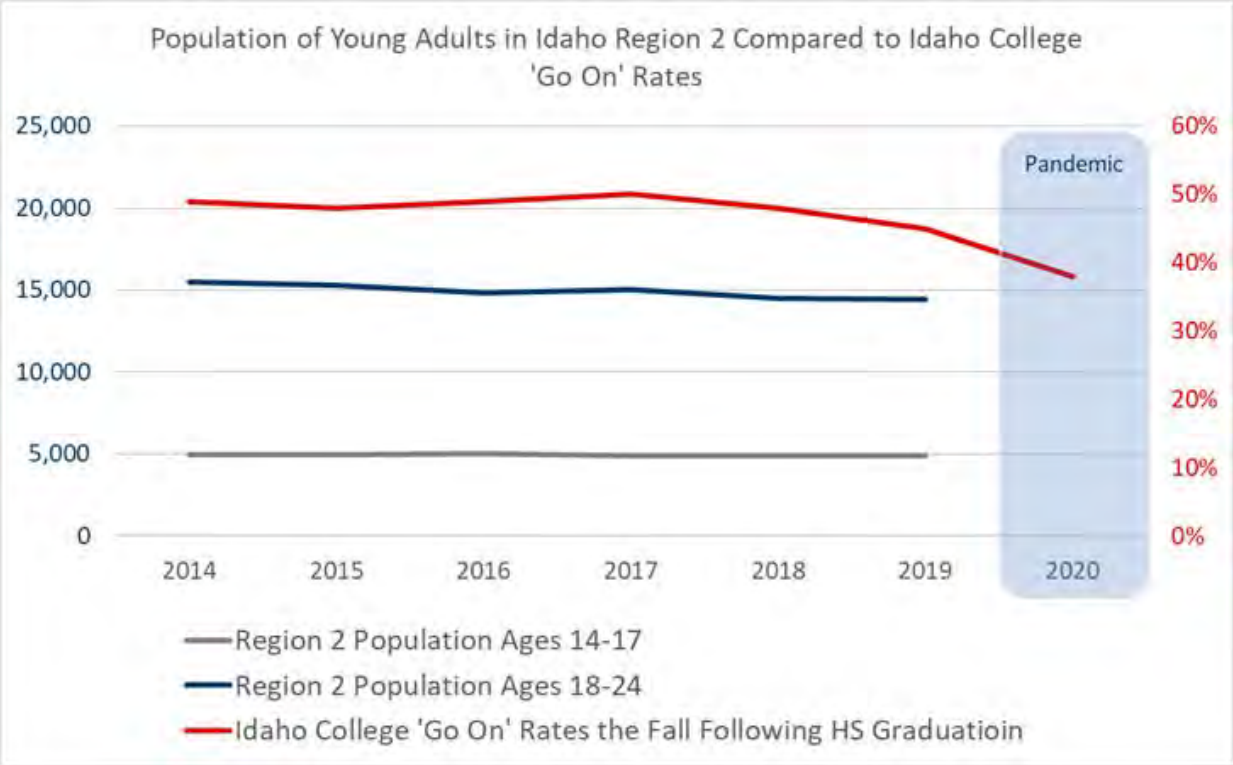
The graph below displays LC State completions relative to annual FTE over the past decade. Given current strategic plan targets (goals) relative to retention and completion, the graph indicates the growth trajectory associated with the sweet-spot enrollment goals (dotted lines). The reality is that the pandemic (see charts below) is impacting outcomes and expectations associated with how fast or slow we may be able to reach these targets.



This graph displays the same information as above, inclusive of the drastically declining Idaho go-on rate (see red line), and highlights/shades the pandemic time period so far. These data indicate that LC is producing in excess of what might be reasonably expected given these conditions.

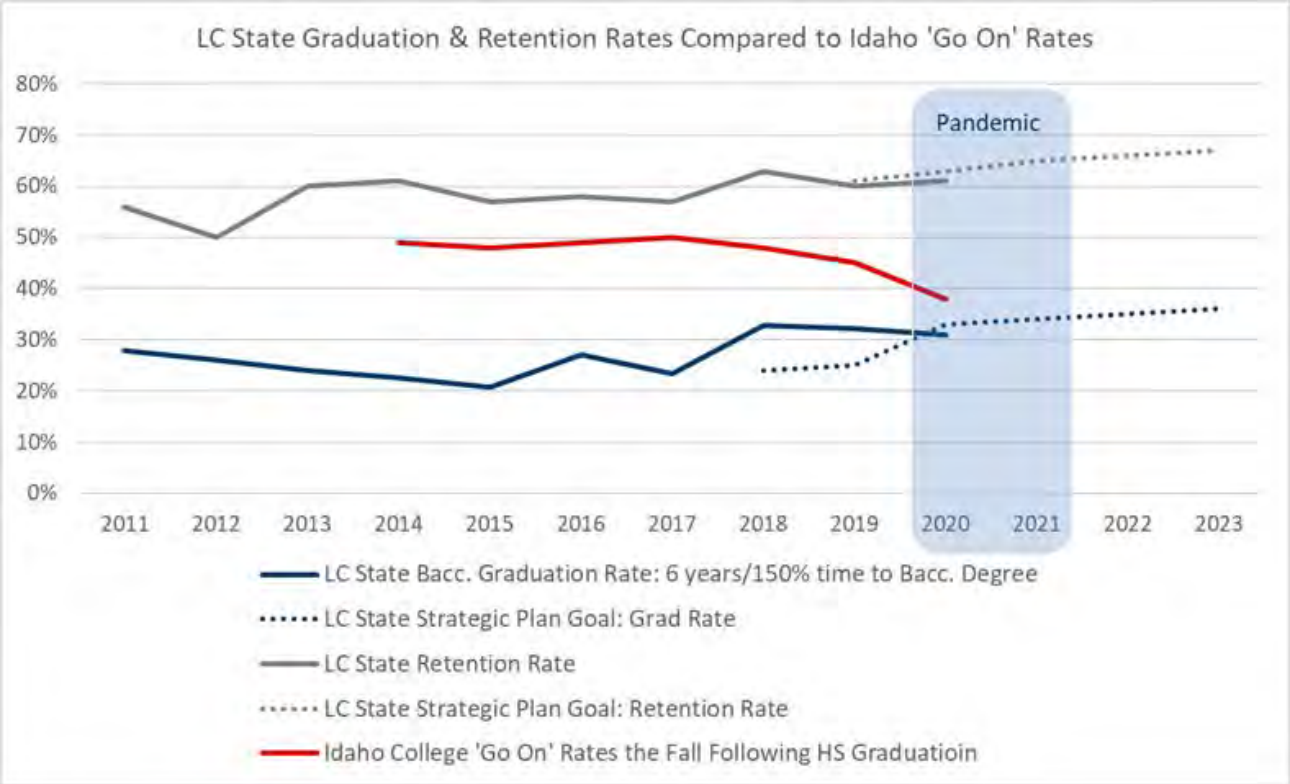


This graph informs us that the population of traditional age college-going individuals in our region (the region that dominates LC State's student enrollment demographic), has been and is relatively constant. What has and is changing is the go-on rate.

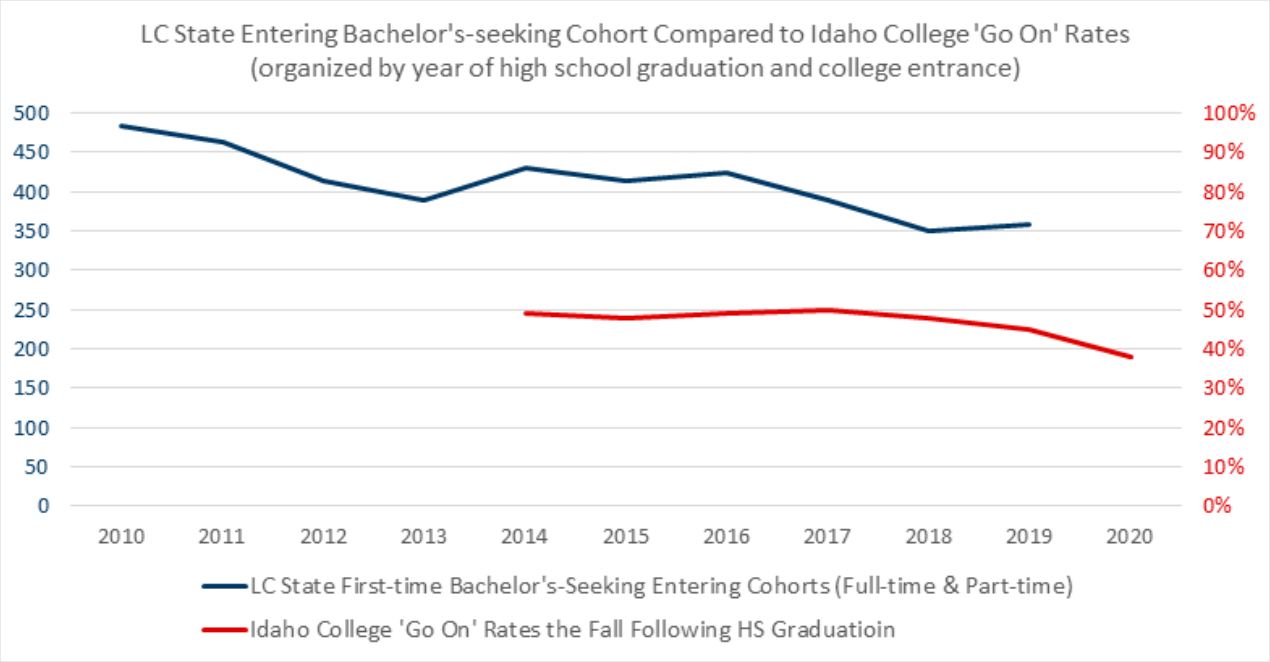


This graph shows that despite the decline in go-on rate, LC State's graduation and retention rates have been/are relatively stable – again we are defying the odds!

Note: The grad rate is 6 years behind due to the cohort calculation, most recent reflected is the 2014 starting cohort; while the retention rate is 1-2 years behind depending on when the tally is taken. This means that the recent decline in go-on rate will reflect into our measures starting 1-6 years into the future.



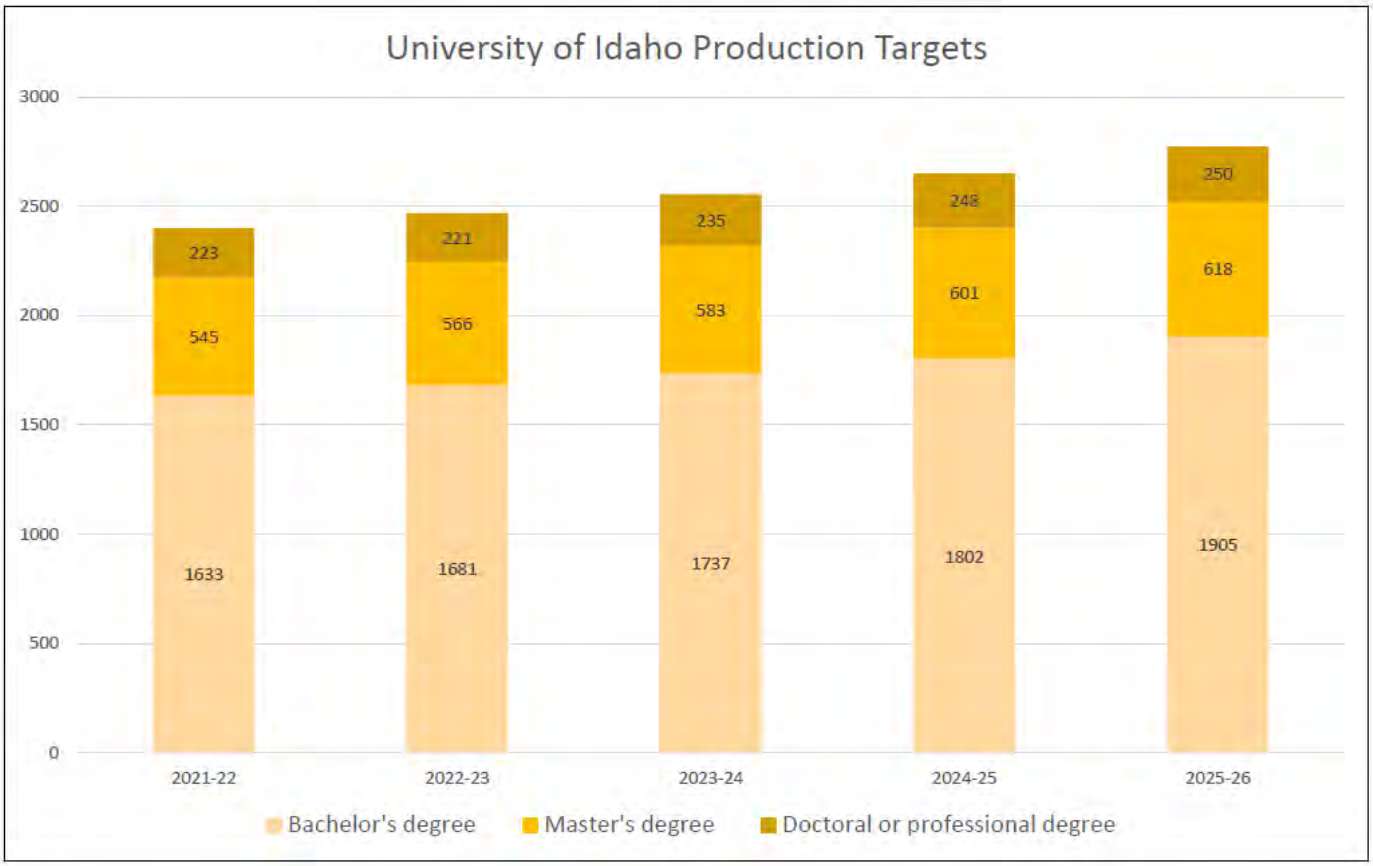
This final graph helps us understand that the absolute number in cohorts is declining, even though LC's retention rate has begun to climb (see gray line above).



So, what does all this mean? It means that under "normal" conditions we might be able to estimate, based on linear trends, degree production relative to retention and grad rates. However, given the precipitous decline in go-on rate (remember LC's enrollment is overwhelmingly [80+%] Idaho residents) and the pandemic, engaging predictive exercises verges on nonsensical.

Our next steps if we are to move the process forward would be to: (a) guestimate impact of go-on and pandemic on enrollment; (b) extrapolate that out to our sweet spot enrollment targets (3000 FTE/4000 HC); and then (c) theoretically determine not only degree production numbers, but how long it will take us to get there.

University of Idaho



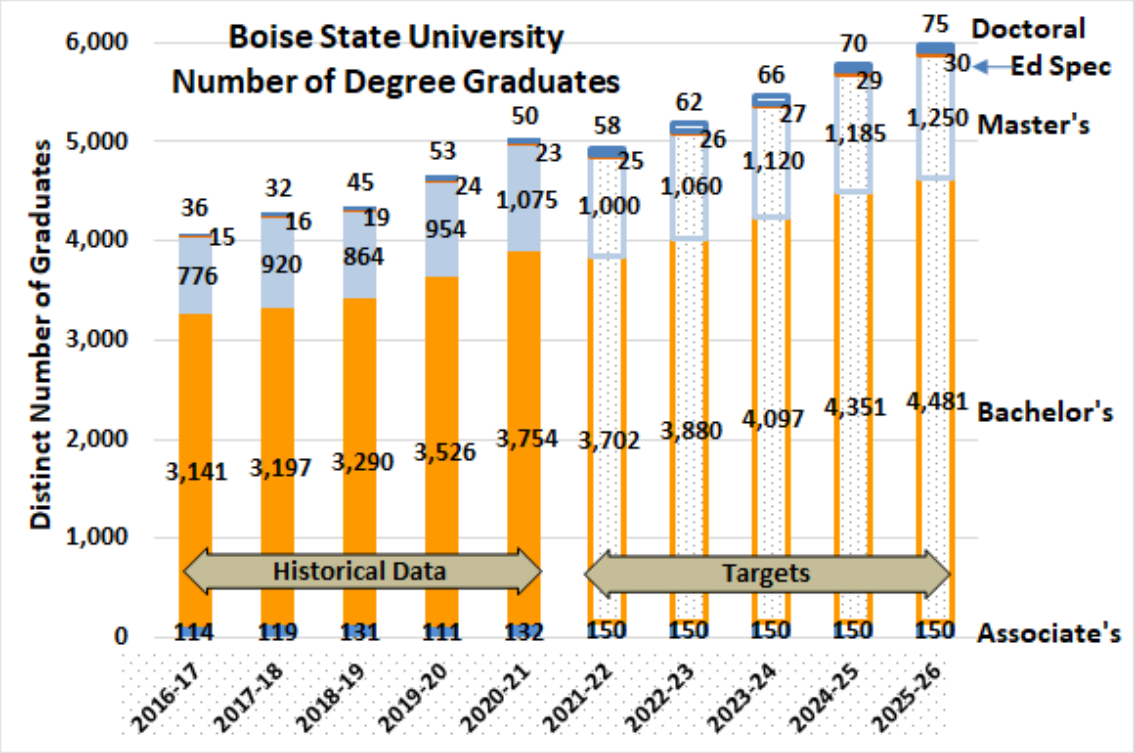
Please note: These figures do not include certificates. The increase each year is currently based on the historic graduation rates and informed by the College enrollment targets for the new Vandal Hybrid Budget Model.

Boise State University

Figure 1 below depicts, for Boise State University, the historical number of graduates at each degree award level as well as the targets for future years. The targets shown below for 2021-22 and 2025-26 were submitted in spring 2021 with our new strategic plan, Blueprint for Success. At the time of submission of the strategic plan, the number of degree graduates for 2020-21 were not yet available. Now that 2021 graduate numbers are final, we note that the numbers of baccalaureate and Master's graduates in 2020-21 exceeded the targets for the following year and thus will likely result in an increase in targets for subsequent years.

Note that throughout we use "Distinct Number of Graduates" as the key metric (instead of number of degrees) because it reflects the headcount of graduates (not the number of degrees) who enter the workforce and contribute to progress toward the 60% goal.

Figure 1: Boise State University Historical Number of Degree Graduates and Targets for Next Five Academic Years for Different Degree Award Levels



The logic behind the targets is as follows.

Graduate Degrees

For Doctoral degrees, the target for 2025-26 represents a **doubling** of the number of PhD, DNP, and EdD recipients over a ten-year span. The reason for that large increase is twofold. First, we have initiated a number of new doctoral programs over the last few years, and they are beginning to produce graduates. Second, we have been very selective in the new programs that have been created, typically pursuing those that have

an interdisciplinary (and therefore substantial) base of faculty members. An example is our PhD in Computing, which was launched in Fall of 2016 with four areas of emphasis (including an emphasis in cybersecurity). It currently has 66 students enrolled in Fall 2021, and has already graduated seven students.

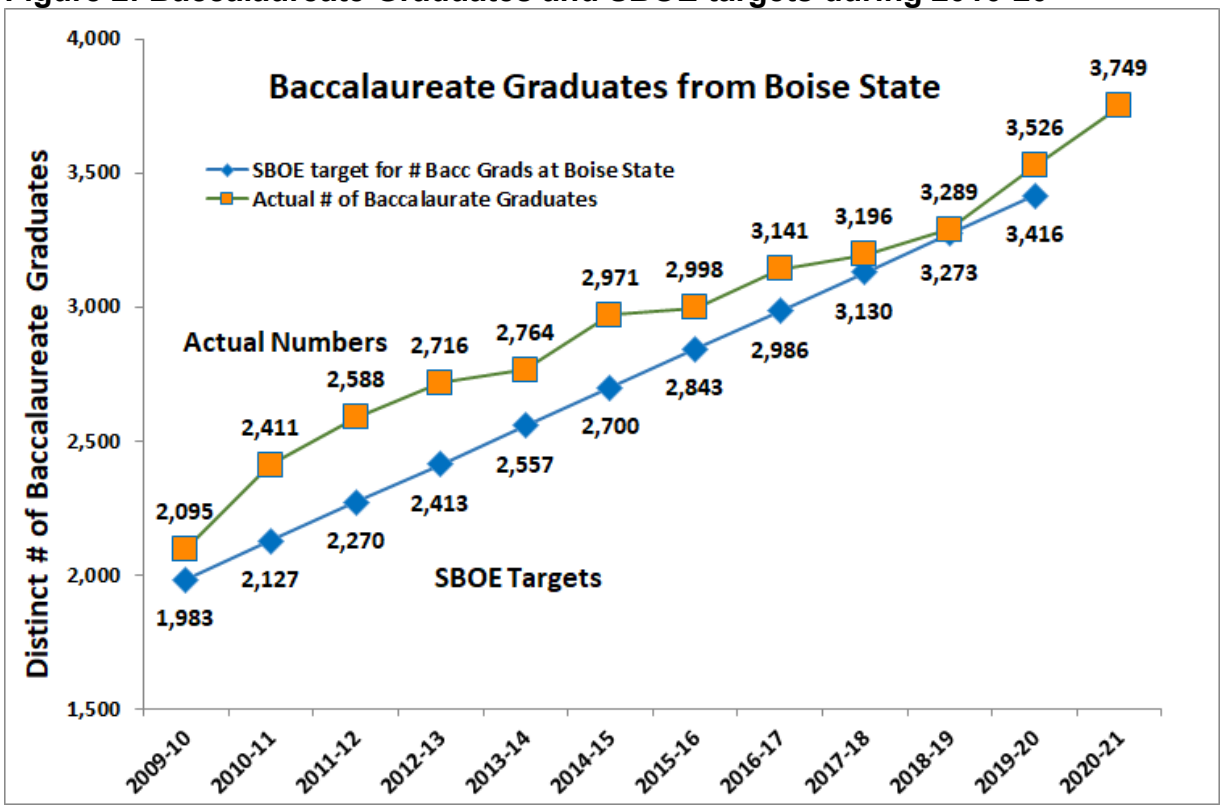
For Master's and Education Specialist degrees, the targets represent a reasonable extrapolation of past numbers, accounting for continued growth in some programs as well as the creation of new and innovative programs such as the Master of Science in Genetic Counseling, one of the first of its kind in the country.

Undergraduate Degrees

For Associate degrees, we have kept the target at 150 for each year simply because at the undergraduate level, it is baccalaureate degrees that are the focus of our efforts, not associate's degrees.

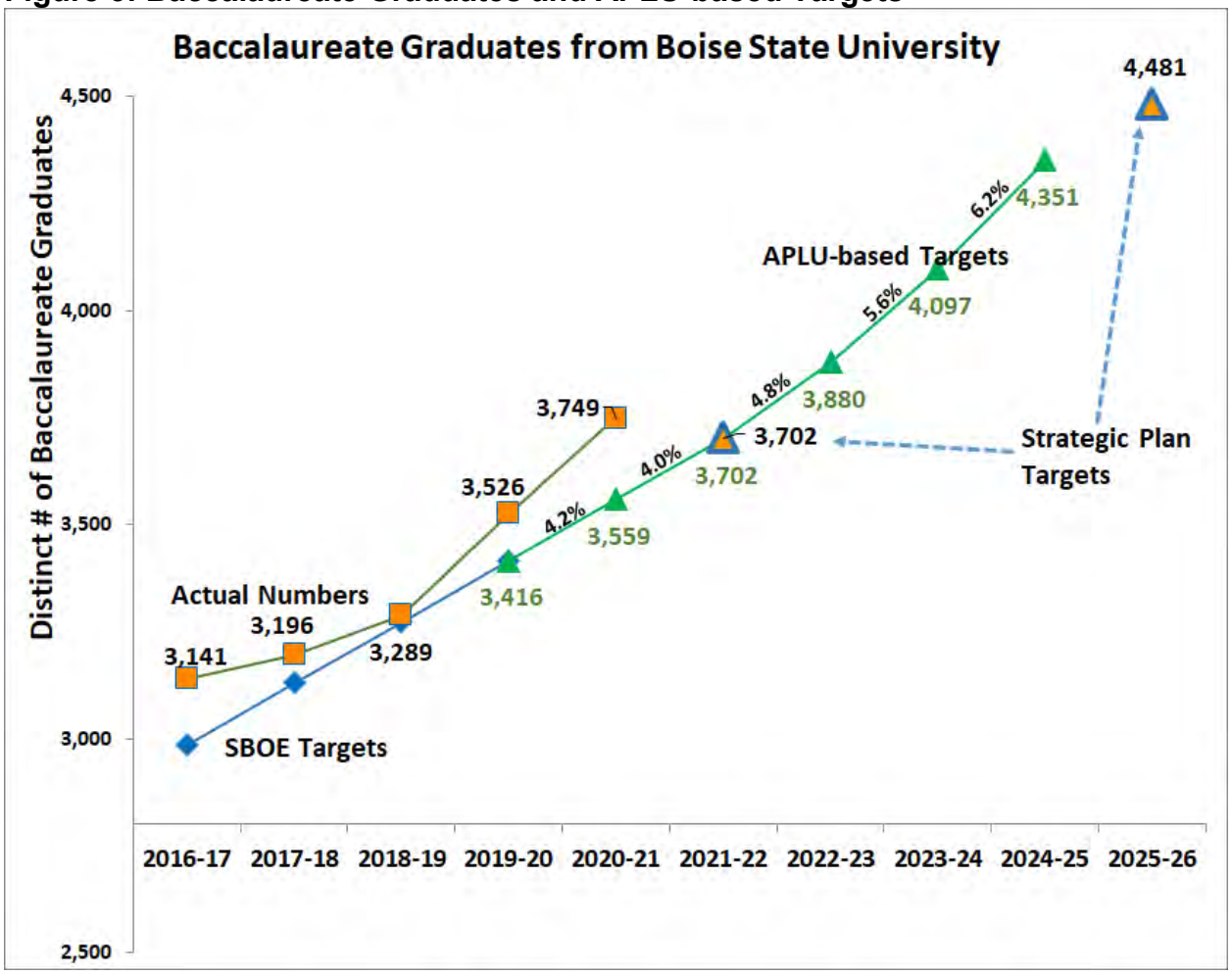
Because baccalaureate degrees represent the substantial majority of degree graduates that Boise State provides to the workforce, the development of targets for that level has been much more extensive. In addition, Boise State has made use of targets put forth by the SBOE in August 2010 that, although not formally approved, were an important motivator for the university to increase retention and graduation rates, and therefore numbers of graduates. Figure 2 below illustrates that Boise State exceeded our targets in each of the years covered by the 2010 to 2020 targets.

Figure 2: Baccalaureate Graduates and SBOE targets during 2010-20



Finally, Boise State is a member of the "Powered by Publics" initiative of the Association of Public and Land-grant Universities (APLU). As part of that initiative, institutions were asked to commit to an increased number of baccalaureate graduates to contribute to the targets set by the overall initiative. The green line in the graph that follows (Figure 3) shows the specific targets for the number of baccalaureate graduates adopted by Boise State. For the first two years, those targets are based on an extrapolation of the SBOE targets, and the latter three years are based on the overall percentage increases of the targets for the initiative. Note that the annual rate of increase for the last three years is more substantial than that of the original SBOE targets, which increased by about 4% per year.

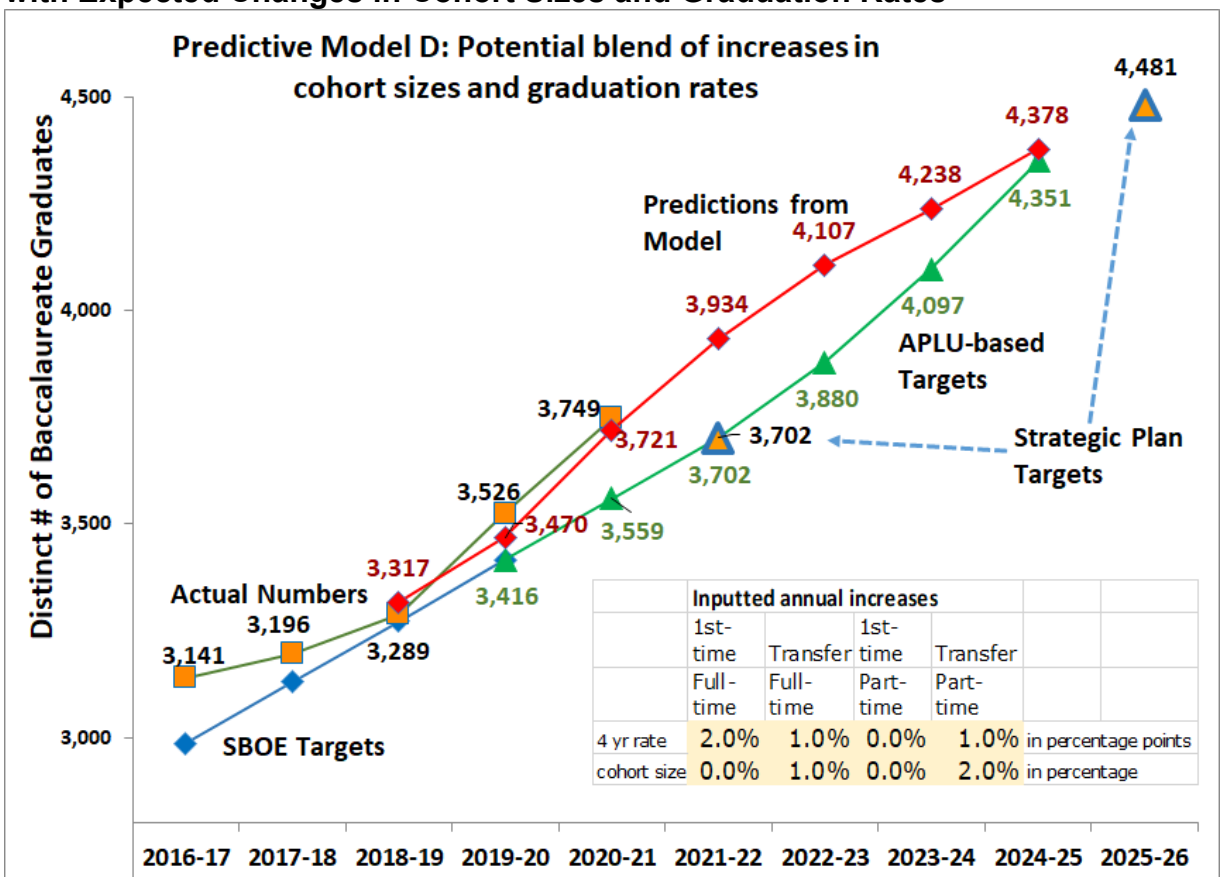
Figure 3: Baccalaureate Graduates and APLU-based Targets



To determine the feasibility of attaining these 5-years targets, we developed a model that predicts the number of graduates based on changes in two factors: (i) cohort size and (ii) graduation rates for each cohort type. One potential scenario that would produce the targeted number of graduates is shown in the table embedded in the following graph. For the First-time Full-time cohorts, it was assumed that aggressive work on graduation rates would continue but that internal and external constraints (such as on-campus housing, instructional capacity, and stagnation in statewide college go-on rates) would likely

prevent increases in cohort size. For Transfer Full-time and Part-time, it was assumed that work on graduation rates would continue and that cohort sizes would continue to increase, especially as a result of increased enrollment in our online degree-completion programs such as the "RN to BS Nursing" program. Minimal assumptions were made regarding the small First-time Part-time cohort because of the very small numbers of students that it represents. The result of applying these assumptions to the cohorts is shown in the following figure.

Figure 4: Predicted Number of Distinct Baccalaureate Graduates based on a Model with Expected Changes in Cohort Sizes and Graduation Rates



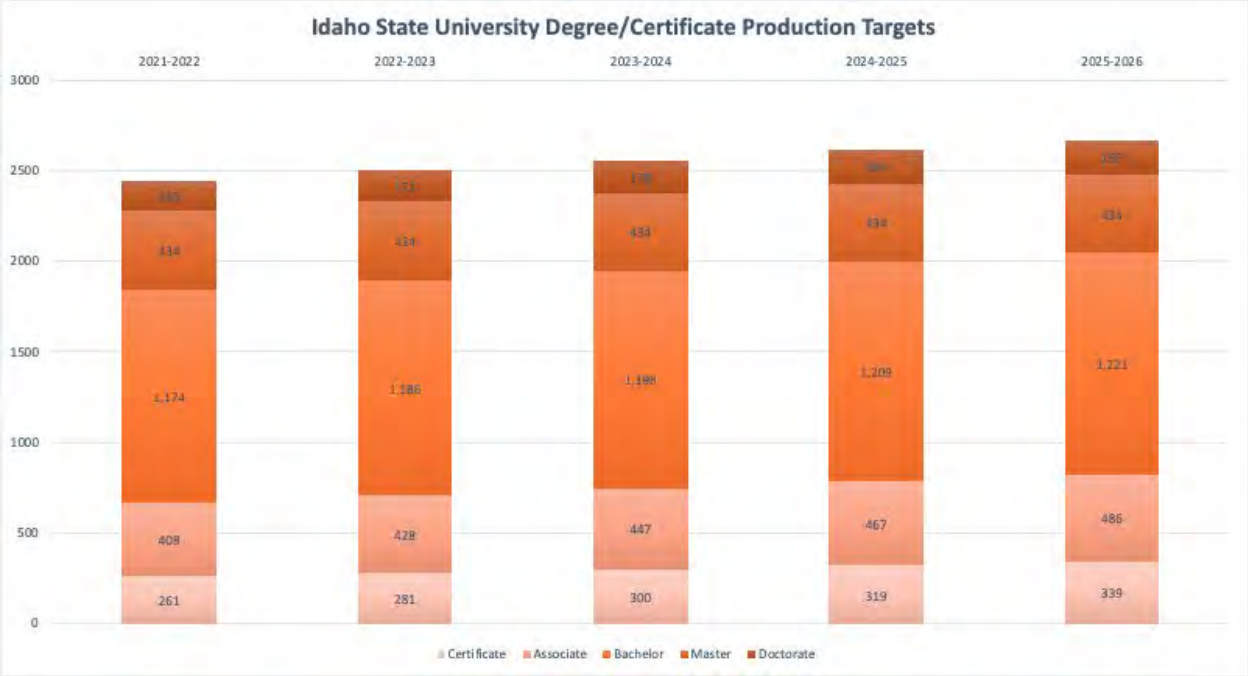
Attaining the depicted targets will be a challenge given falling go-on rates and constrained state funding. Additionally, under our new strategic plan and given the emphasis by our accreditor, NWCCU, we will be working to close equity gaps of groups underrepresented in college attainment rates (i.e., first generation, rural, Hispanic, and low income). If successful, those efforts should have a substantial impact on our overall number of graduates and also will better serve Idahoans who are underserved by post-secondary education.

In conclusion, Boise State has established targets for degree graduates that are responsive to internal and external conditions and that will push the university to sustain and expand our student success efforts.

Idaho State University

Degree Production Targets

Submitted October 2021



Award Level	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026
Certificate	261	281	300	319	339
Associate	408	428	447	467	486
Bachelor	1,174	1,186	1,198	1,209	1,221
Master	434	434	434	434	434
Doctorate	165	171	178	184	190
Grand Total	**2,443**	**2,500**	**2,557**	**2,613**	**2,670**

Please Note - The degree production targets for Idaho State University are based on historical graduation rates, enrollment trends, and reasonable expectations that ISU's retention and recruitment efforts will continue to yield positive results for degree and certificate completion.

College of Southern Idaho

While our overall production targets lag behind the analysis based upon the "Oregon Economy" aspirational goals (1404 awards compared to 1491), we do exceed the Production Targets Report for each year in the number of associate degrees that CSI awards. These projections assume that CSI does not "auto-award" certificates or degrees to students who have earned them, but have not requested to receive them. Additionally, as in the *February 2021 Update Production_Targets_Report_2018_2028,* these targets include all certificates that CSI awards (regardless of length) *with the exception of* the Academic Certificate.

	Fiscal Year	Total Production	Associate's degree	Certificates
Number of degrees produced	**FY16**	**1167**	**919**	**248**
Number of degrees produced	**FY17**	**1054**	**817**	**237**
Number of degrees produced	**FY18**	**1103**	**800**	**303**
Number of degrees produced	**FY19**	**1119**	**839**	**280**
Number of degrees produced	**FY20**	**1240**	**947**	**293**
Number of degrees produced	**FY21**	**1250**	**947**	**303**
Production Target	***FY22***	***1287***	***978***	***309***
Production Target	***FY23***	***1325***	***1007***	***318***
Production Target	***FY24***	***1364***	***1037***	***327***
Production Target	***FY25***	***1404***	***1067***	***337***

COLLEGE OF EASTERN IDAHO

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
Certificates of at least one year							
College of Eastern Idaho	102	109	110	108	110	96	
Associate degrees	3,637	3,541	3,580	3,461	3,583	3,584	TBD
College of Eastern Idaho	118	121	93	147	164	227	

Industry Certifications	**2019**	**2020**
Health and Human Services	26	28
CTE Certifications	114	120
Workforce Certifications	1,258	1,034
Totals	1,398	1,182

In addition to certificate and associate level credentials, the College of Eastern Idaho would also like the Board to consider a level of industry certifications. The above provides a list of select industry certifications.

Targets

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Industry Certifications (Select Fields)	1,182						
Certificates of at least one year	110	96	167	192	216	241	266
Associate degrees	164	227	319	385	451	517	583

[DRAFT] Postsecondary Education Production Targets for Degrees and Certificates Related to Workforce Needs

2018-2028 Labor Projections Base

Office of the State Board of Education, Research Staff

February 2, 2021

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Created by: Cate Collins

Last Revised: 2021-02-04

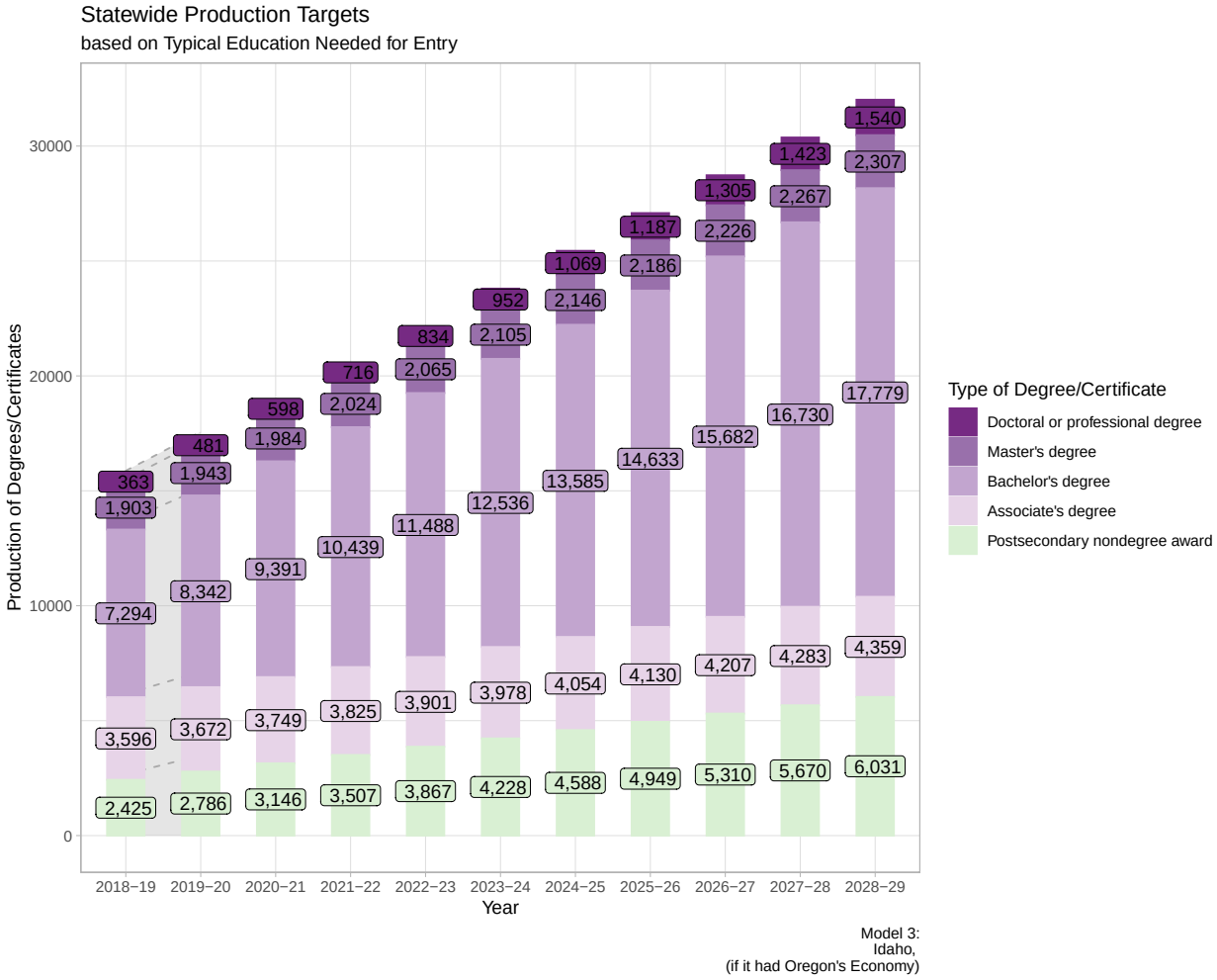
Assumptions

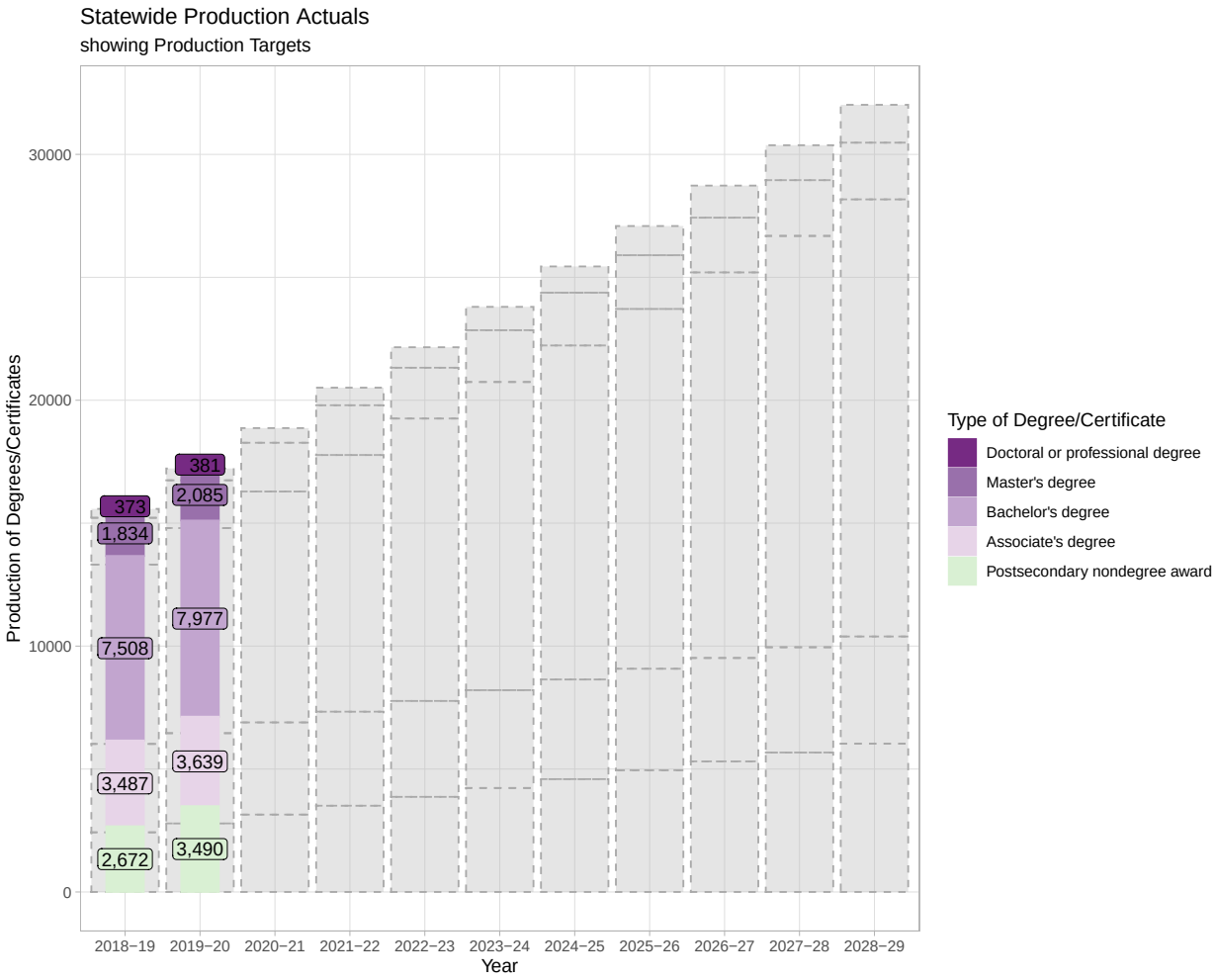
- An aspirational model was selected to estimate and project production targets based on workforce needs. This model is referred to as **"Model 3: Idaho, (if it had Oregon's Economy)"**.
- Type of Degree/Certificate category is based on **Typical Education Needed For Entry** which reflects the level of education typically needed for entry level positions in an occupation.
- No degrees or certificates were excluded from the model.
- The label **"Postsecondary nondegree award"** includes all **Certificates** awarded by an institution.
- Universities **with** Career & Technical programs had their "Postsecondary nondegree award" (Certificates) production targets calculated based on meeting the *regional* workforce needs for their areas. All other Degree category production targets were calculated based on meeting *statewide* workforce needs.

- Community Colleges had all their Degree/Certificate production targets calculated based on meeting the *regional* workforce needs for their areas.
- Yearly targets were smoothed over the 10 year projection span so as not to expect the production to be filled in year 1 but spread across all years.
- It is assumed that Institutions will be responsible for filling approximately **64%** of workforce needs. This is the proportion of degrees and certificates produced by Idaho's 8 public Universities and Community Colleges: Boise State University, University of Idaho, Idaho State University, Lewis-Clark State College, North Idaho College, College of Western Idaho, College of Southern Idaho, College of Eastern Idaho
- This model assumes inflow (in-migration) is approximately equal to outflow (out-migration).

See Notes section for further detail.

Statewide Production Targets

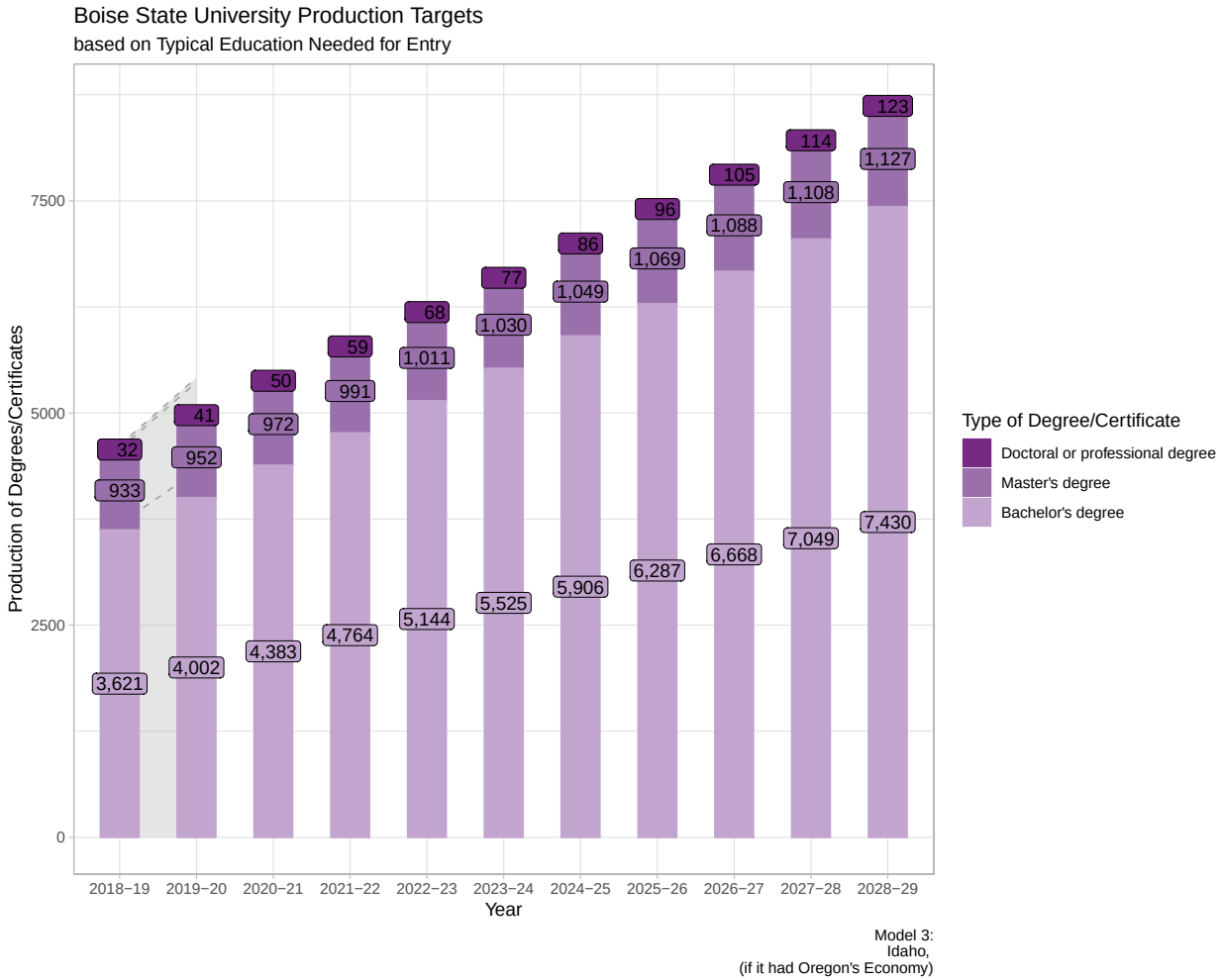


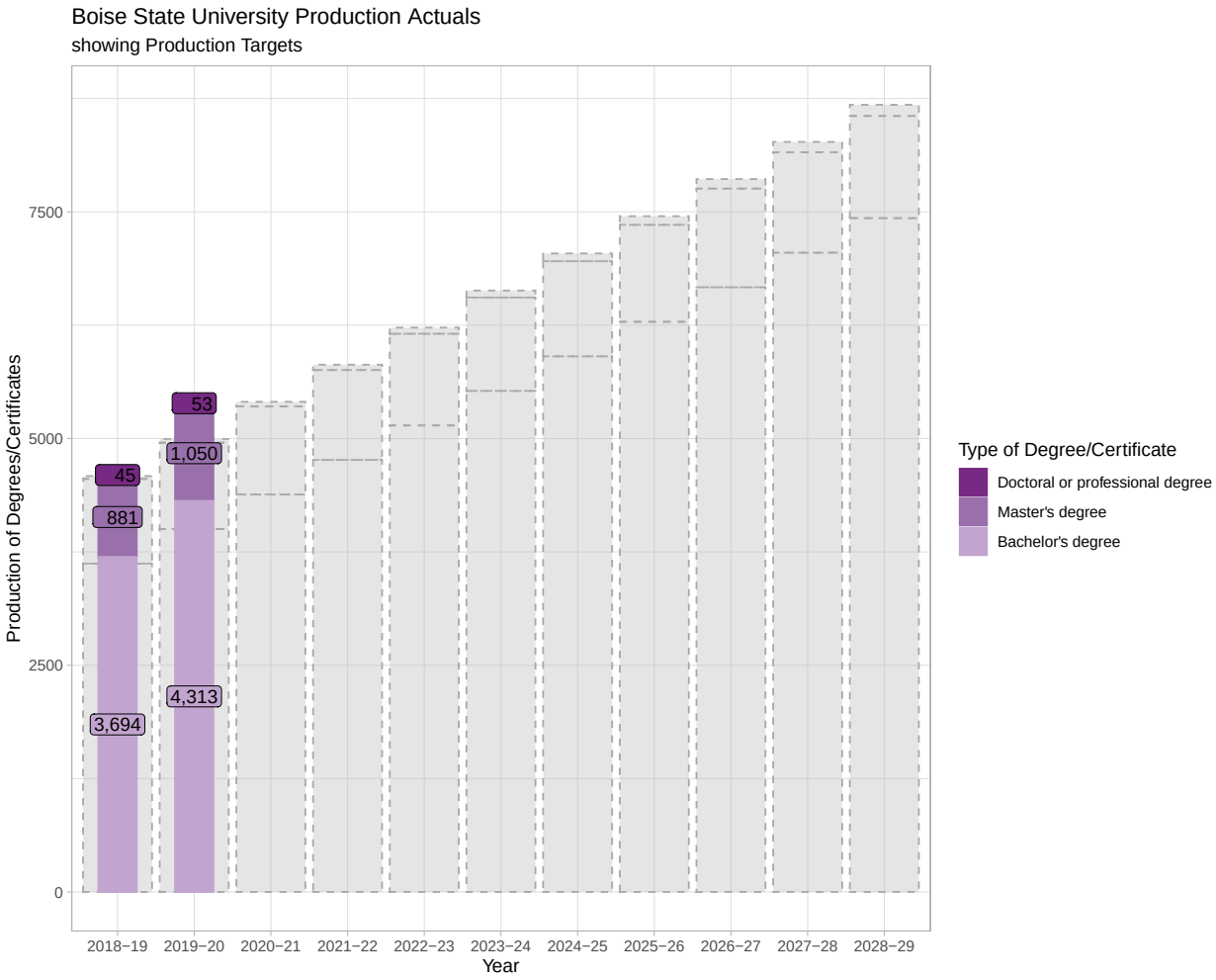

Statewide Production Actuals
showing Production Targets
Production of Degrees/Certificates
30000
20000
10000
0
373
1,834
7,508
3,487
2,672
381
2,085
7,977
3,639
3,490
2018–19
2019–20
2020–21
2021–22
2022–23
2023–24
2024–25
2025–26
2026–27
2027–28
2028–29
Year
Type of Degree/Certificate
Doctoral or professional degree
Master's degree
Bachelor's degree
Associate's degree
Postsecondary nondegree award

Institution Production Targets

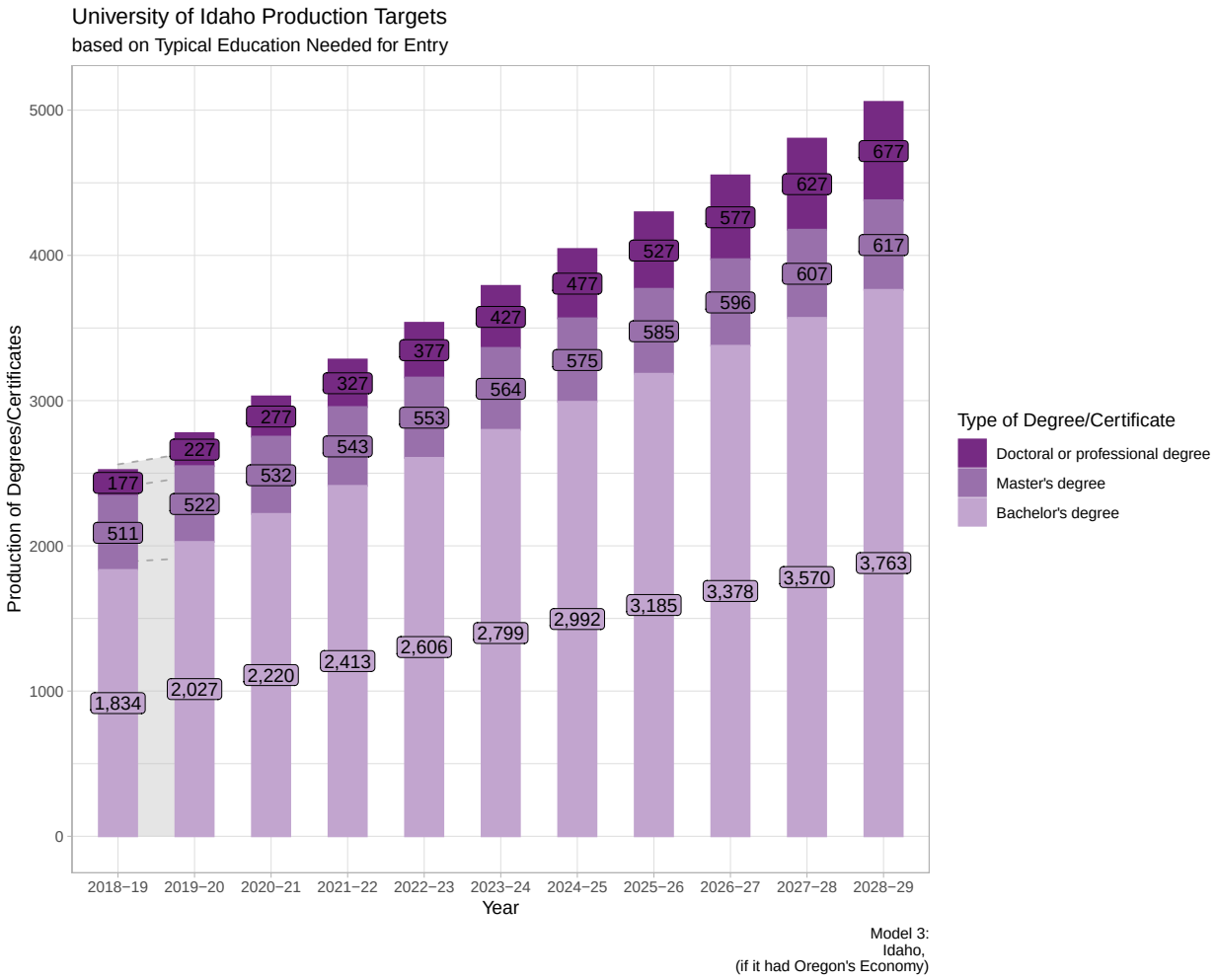
Colleges and Universities

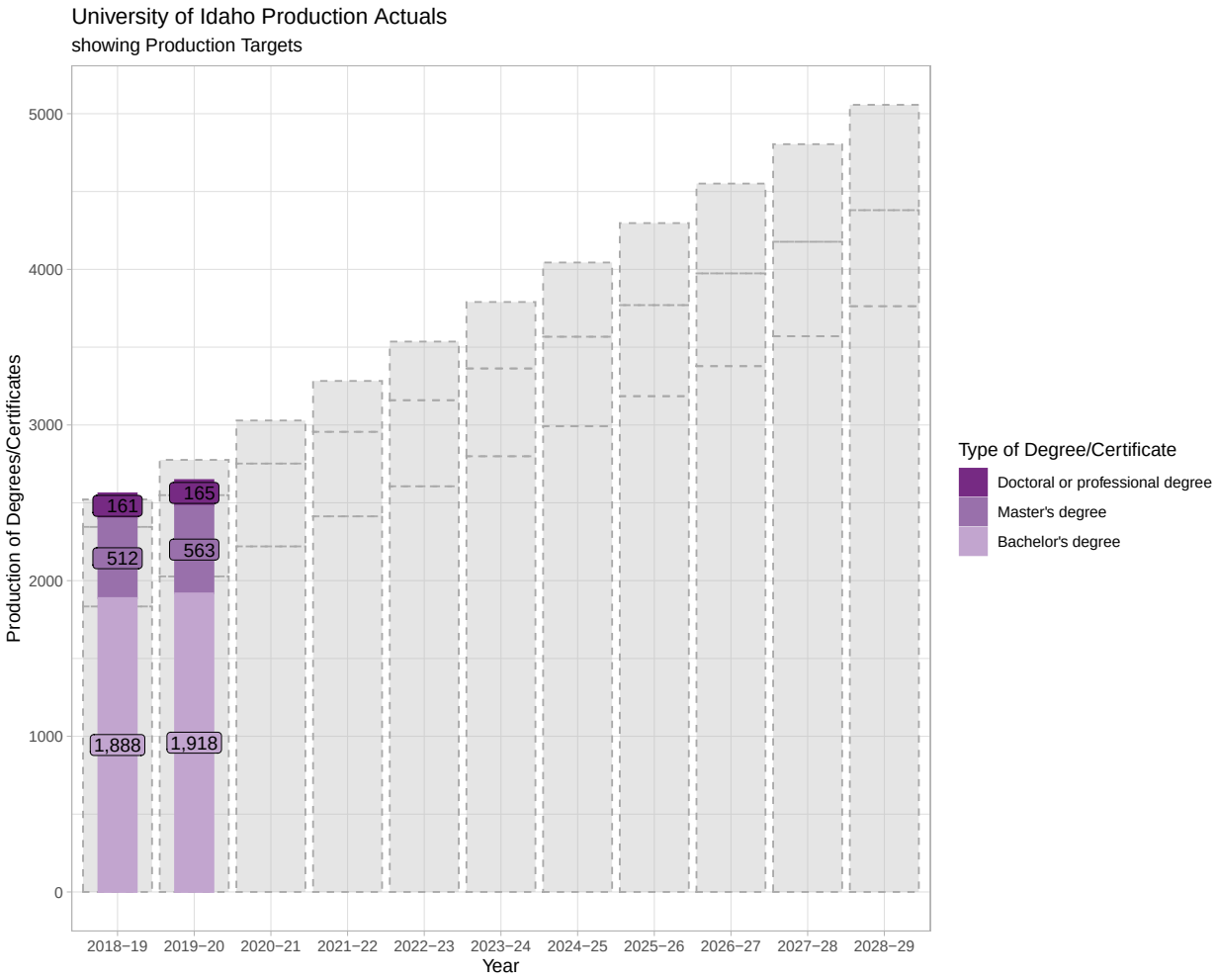
Boise State University



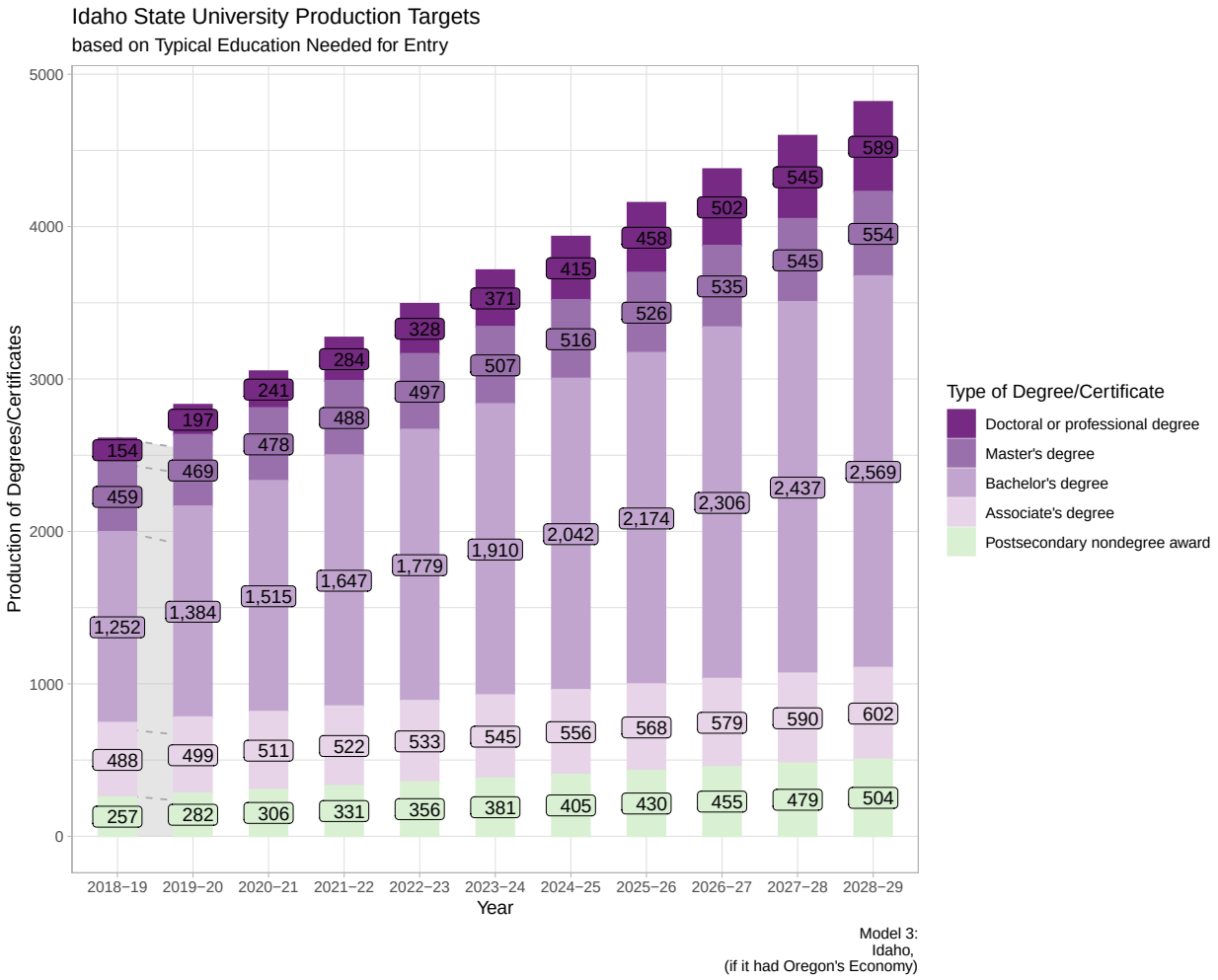

Boise State University Production Actuals
showing Production Targets
Production of Degrees/Certificates
7500
5000
2500
0
53
1,050
45
881
4,313
3,694
2018−19
2019−20
2020−21
2021−22
2022−23
2023−24
2024−25
2025−26
2026−27
2027−28
2028−29
Year
Type of Degree/Certificate
Doctoral or professional degree
Master's degree
Bachelor's degree

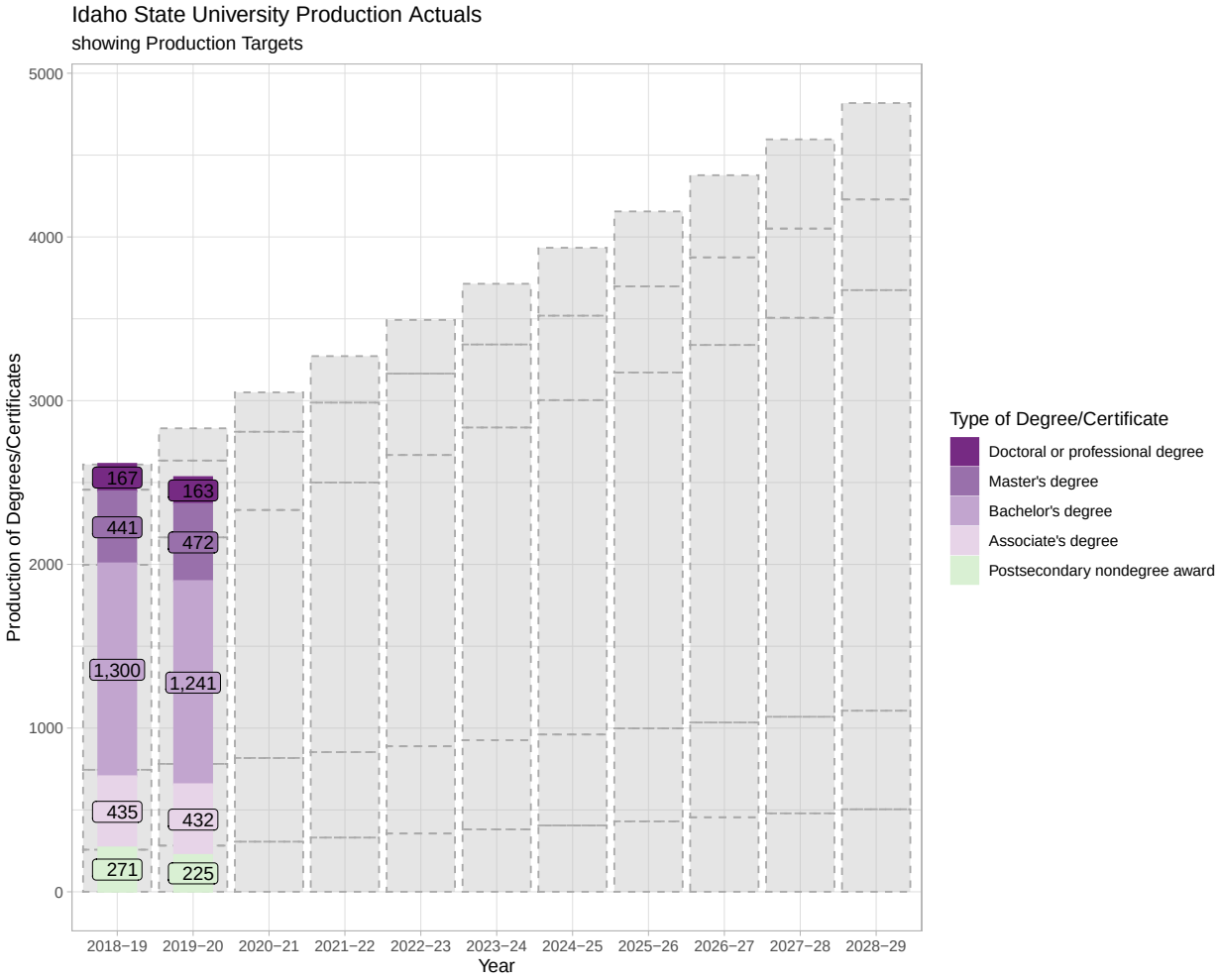
University of Idaho



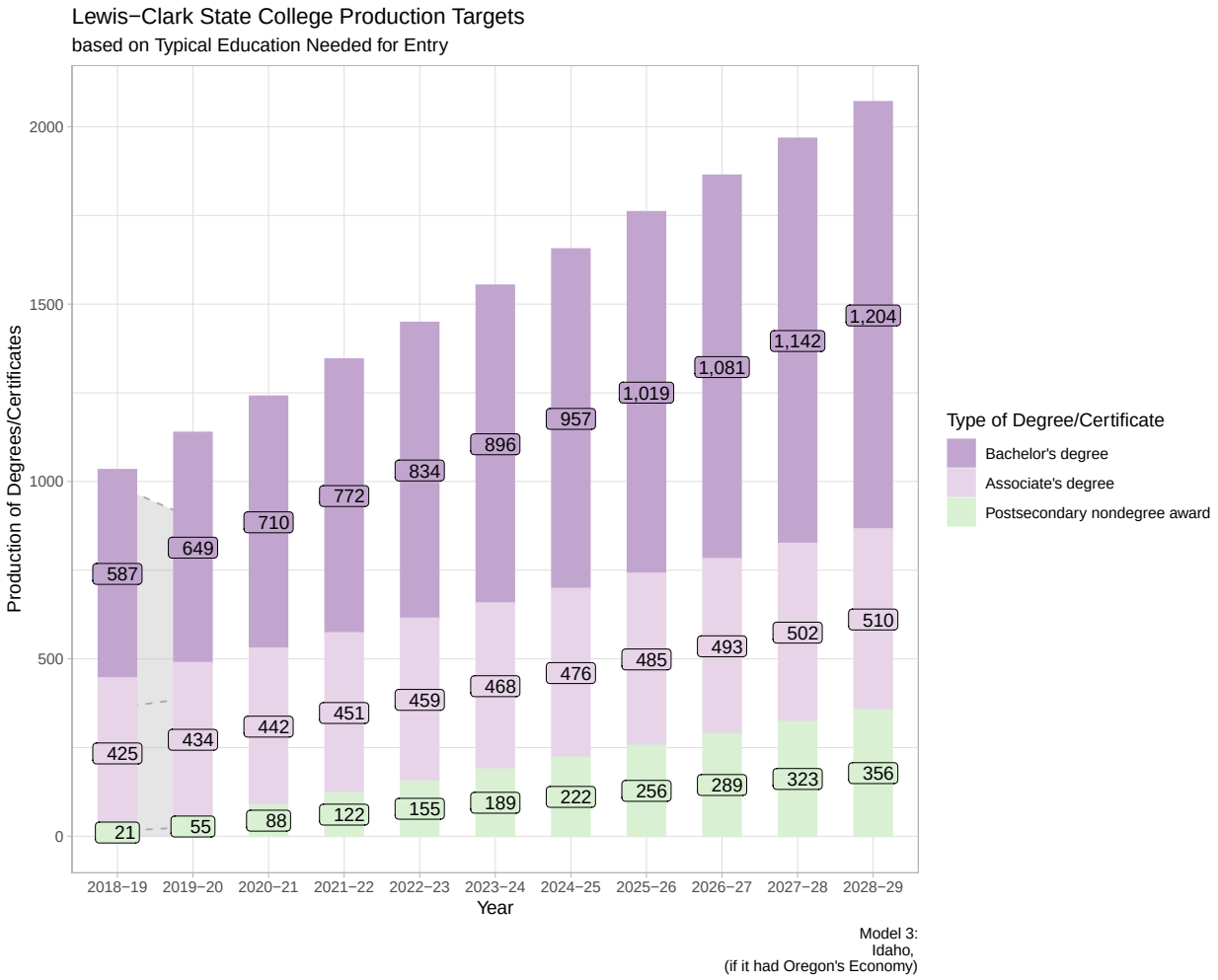

University of Idaho Production Actuals
showing Production Targets
Production of Degrees/Certificates
5000
4000
3000
2000
1000
0
161
512
1,888
165
563
1,918
2018−19
2019−20
2020−21
2021−22
2022−23
2023−24
2024−25
2025−26
2026−27
2027−28
2028−29
Year
Type of Degree/Certificate
Doctoral or professional degree
Master's degree
Bachelor's degree

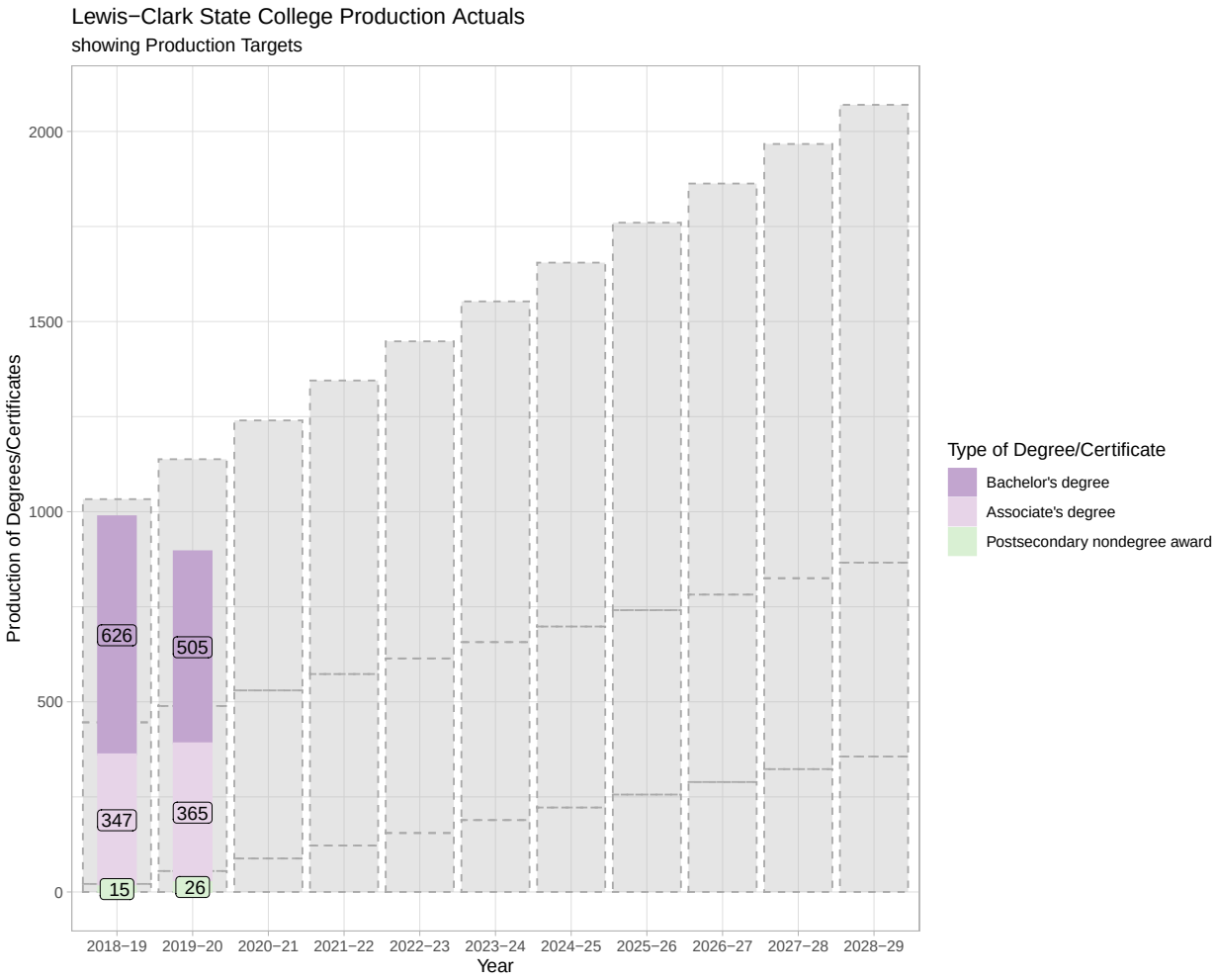
Idaho State University




Idaho State University Production Actuals
showing Production Targets
Production of Degrees/Certificates
5000
4000
3000
2000
1000
0
167
441
1,300
435
271
163
472
1,241
432
225
2018–19
2019–20
2020–21
2021–22
2022–23
2023–24
2024–25
2025–26
2026–27
2027–28
2028–29
Year
Type of Degree/Certificate
Doctoral or professional degree
Master's degree
Bachelor's degree
Associate's degree
Postsecondary nondegree award

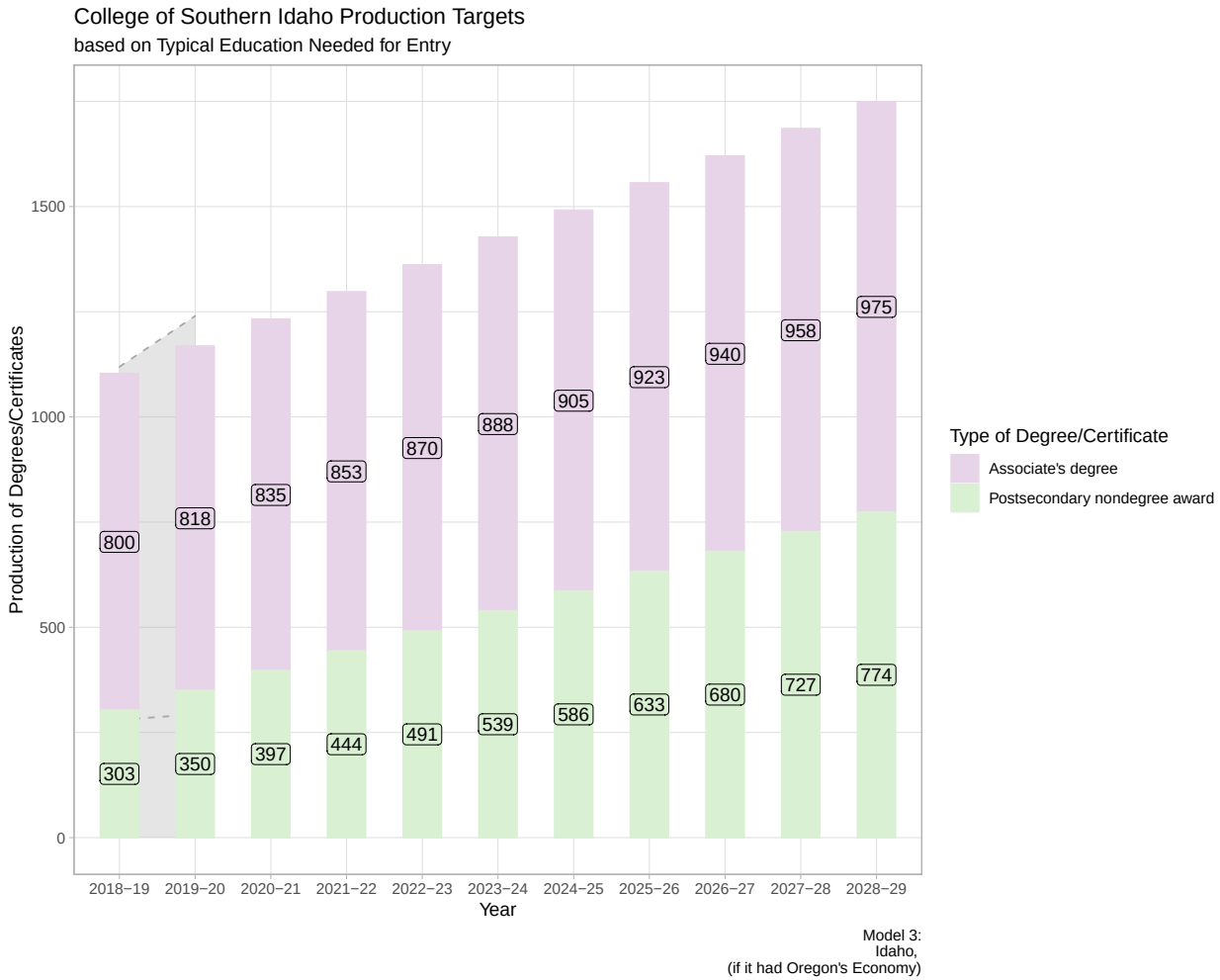
Lewis-Clark State College



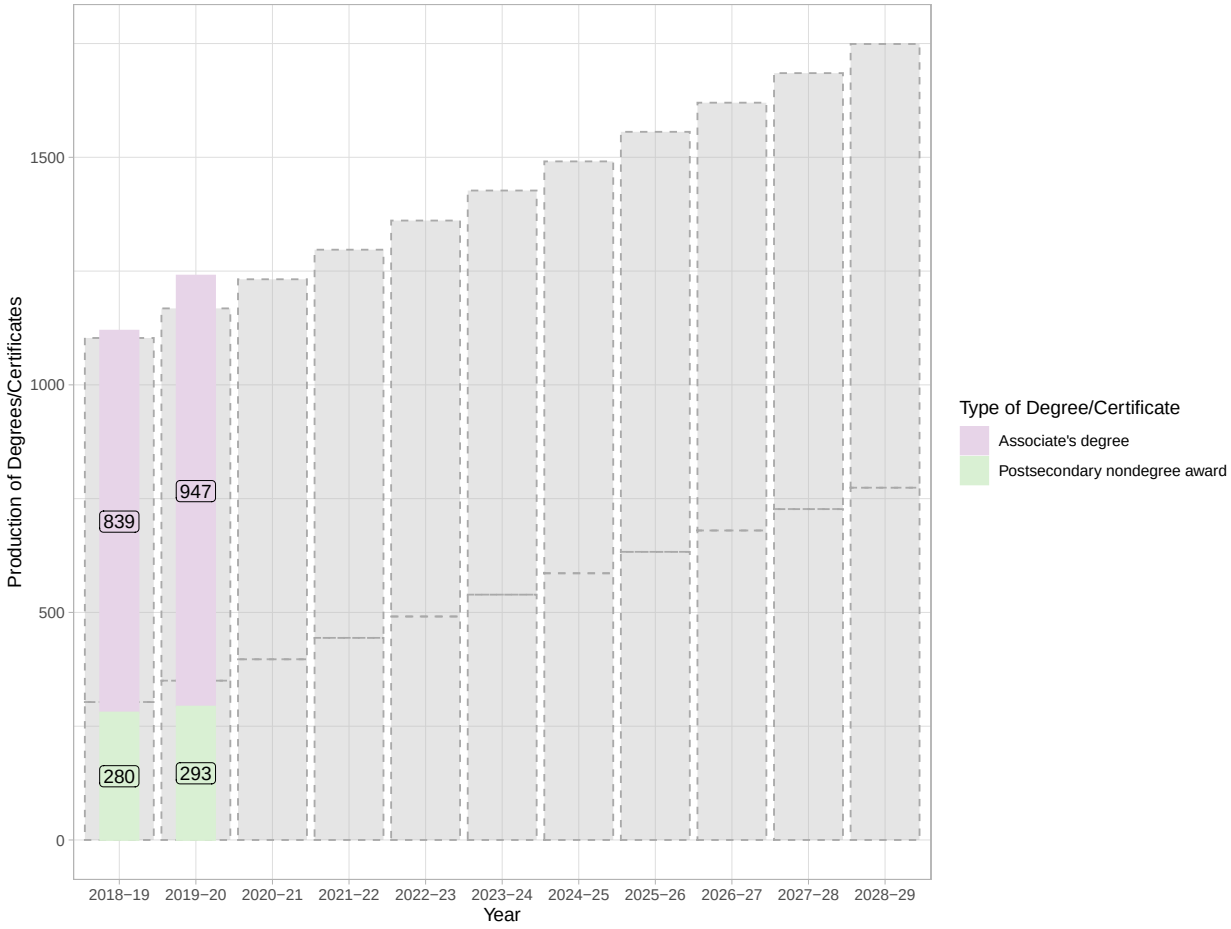

Lewis−Clark State College Production Actuals
showing Production Targets
Production of Degrees/Certificates
2000
1500
1000
500
0
626
347
15
505
365
26
2018−19
2019−20
2020−21
2021−22
2022−23
2023−24
2024−25
2025−26
2026−27
2027−28
2028−29
Year
Type of Degree/Certificate
Bachelor's degree
Associate's degree
Postsecondary nondegree award

Community Colleges

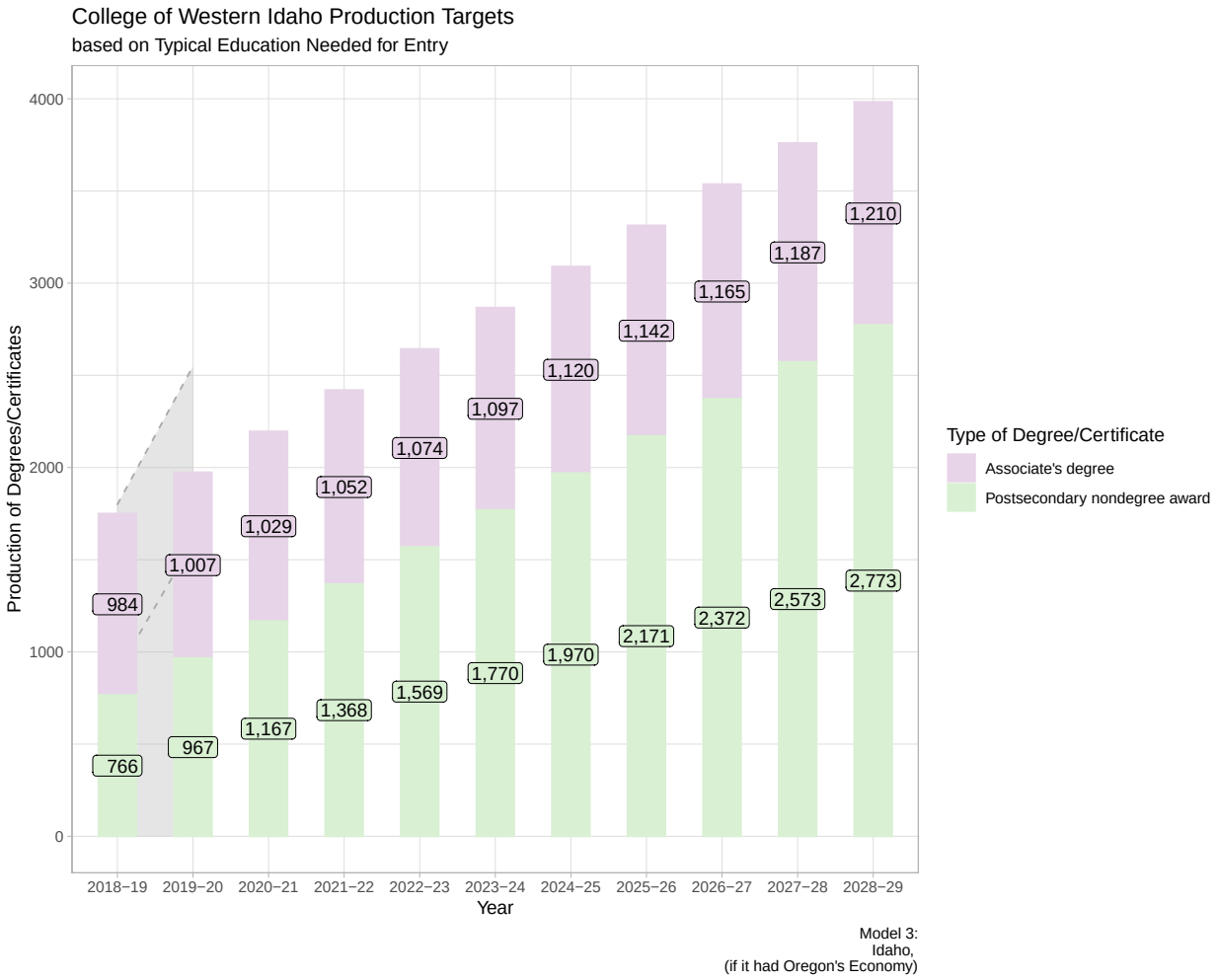
College of Southern Idaho



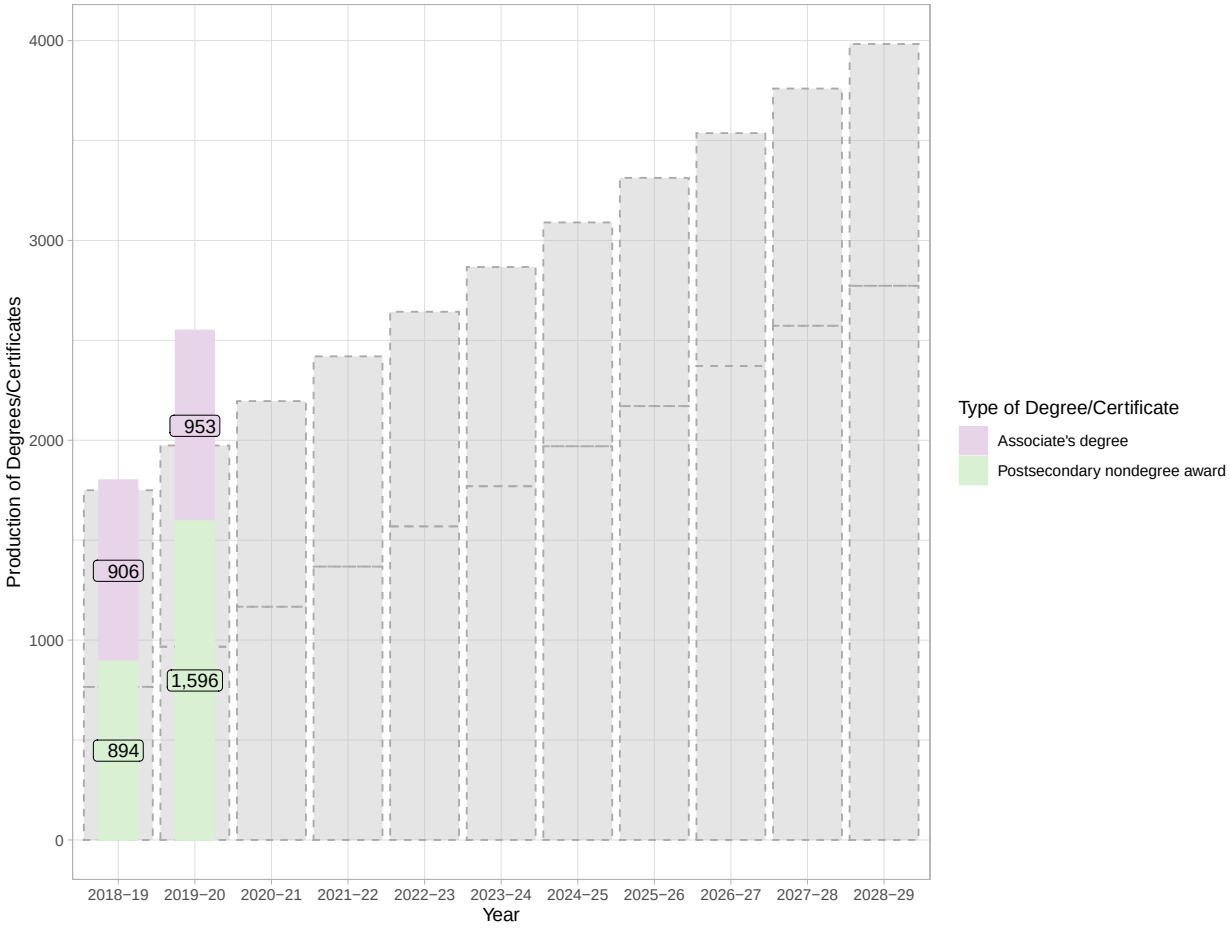
College of Southern Idaho Production Actuals
showing Production Targets



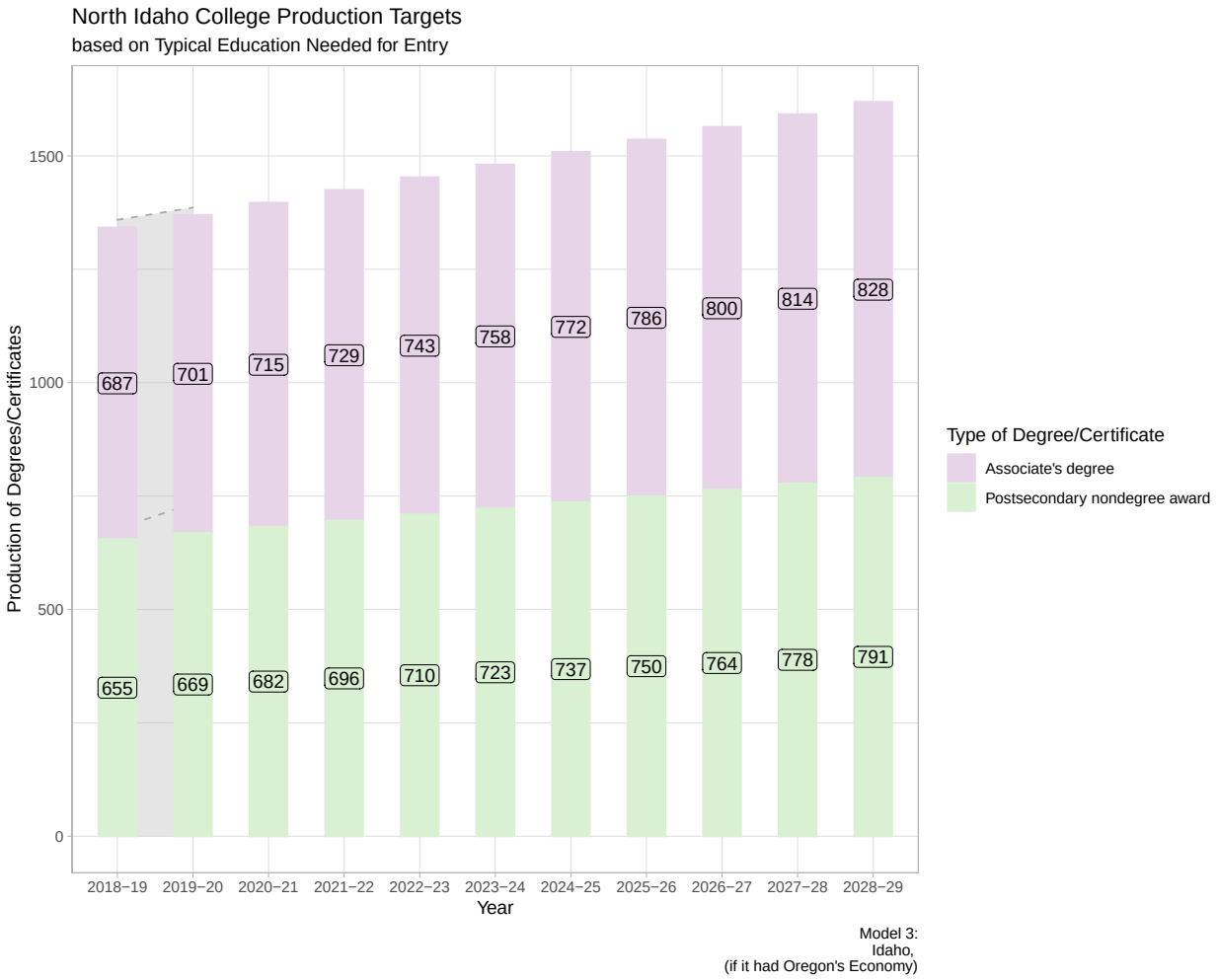
College of Western Idaho

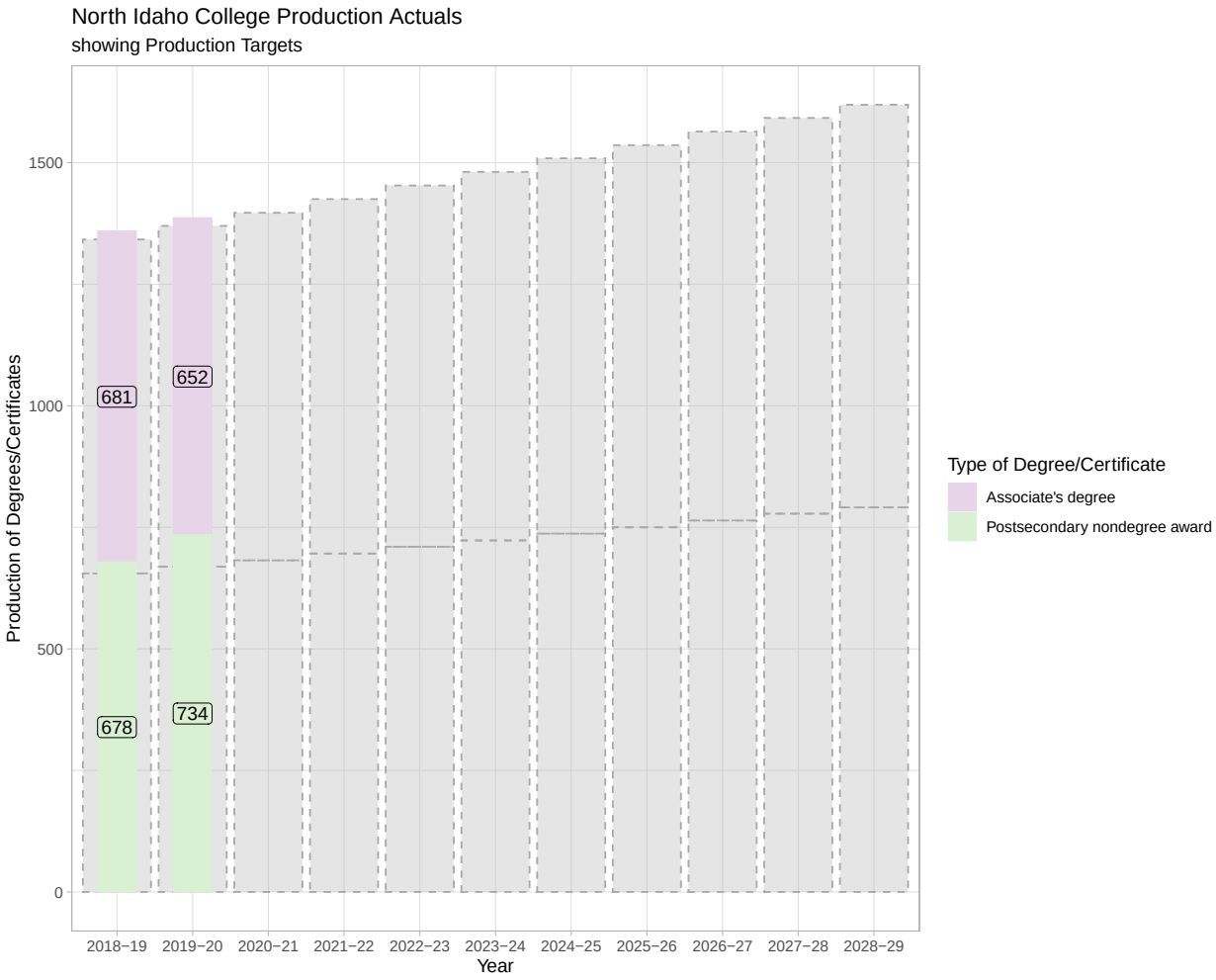


College of Western Idaho Production Actuals
showing Production Targets

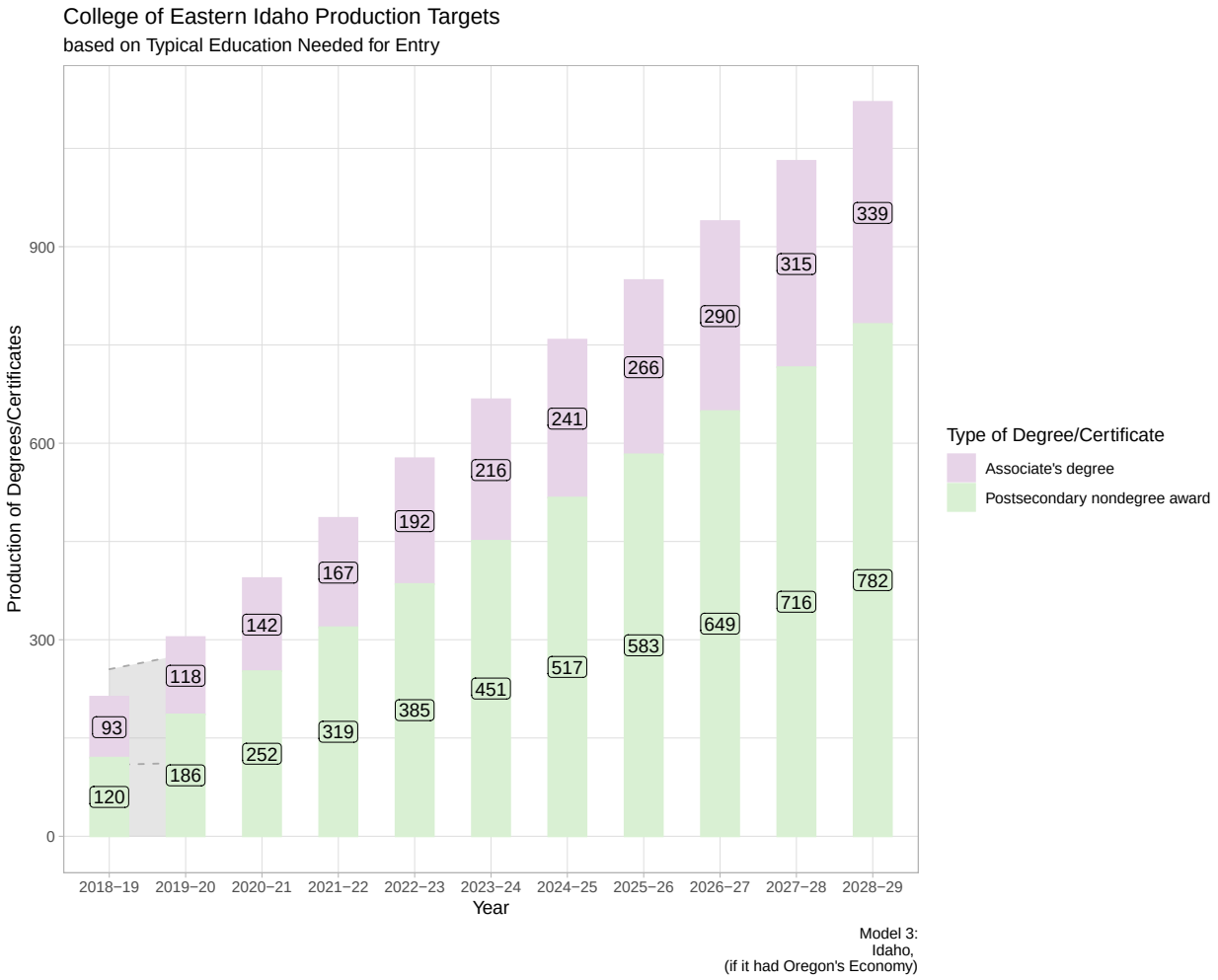


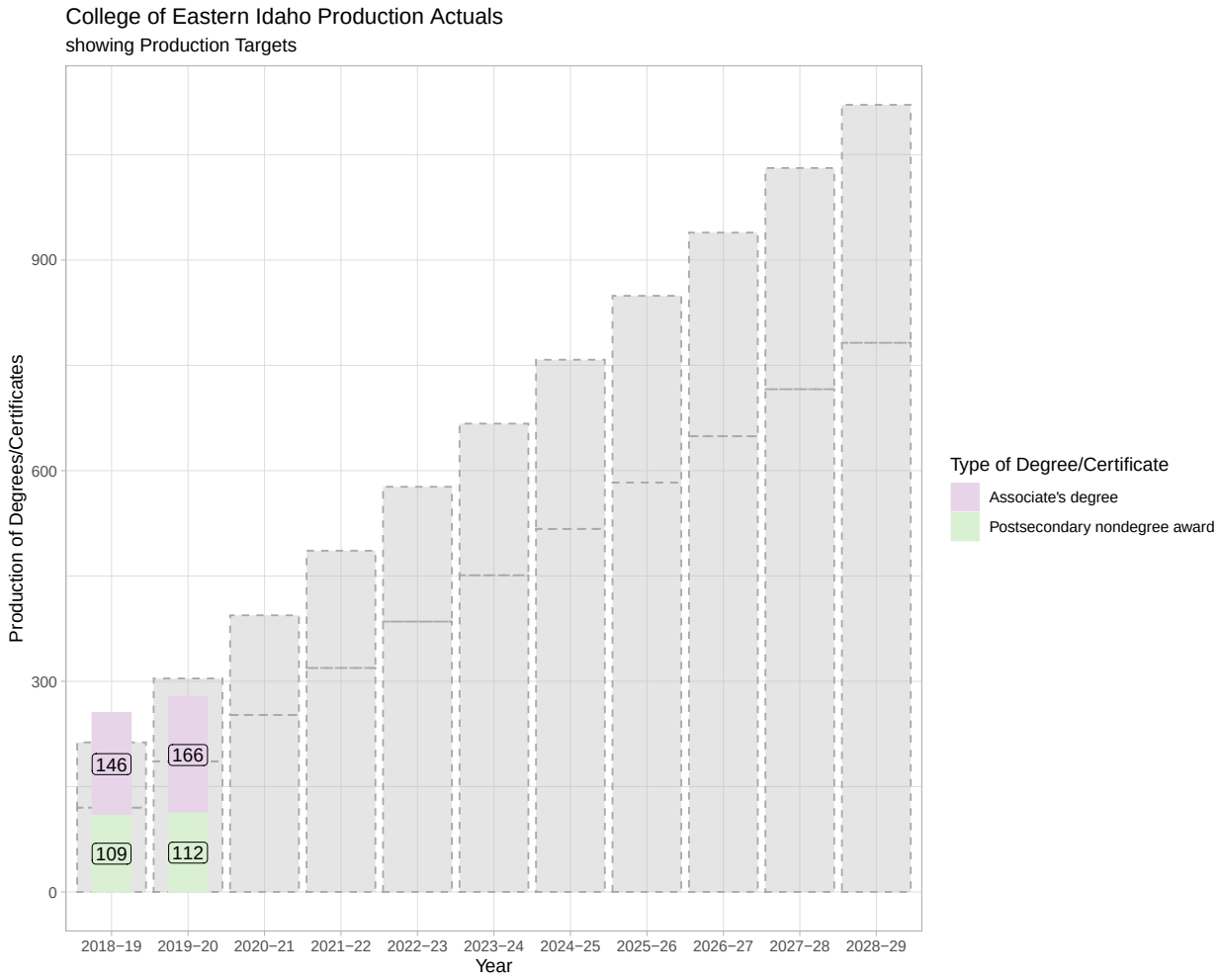
North Idaho College




North Idaho College Production Actuals
showing Production Targets
Production of Degrees/Certificates
1500
1000
500
0
681
652
678
734
2018−19
2019−20
2020−21
2021−22
2022−23
2023−24
2024−25
2025−26
2026−27
2027−28
2028−29
Year
Type of Degree/Certificate
Associate's degree
Postsecondary nondegree award

College of Eastern Idaho





Notes

- Idaho's occupational data, including actual employment and projections, use the Idaho Department of Labor (IDL); Occupational Projections, Idaho, by Region; 2018-2028.
- Idaho education production data use the Integrated Postsecondary Education Data System (IPEDS); IPEDS Completions Survey, Awards/degrees conferred by program (6-digit CIP code), by award level; July 1, 2018 to June 30, 2019, subset by "control of institution" being Public and "level of institution" being Four or more years, At least 2 but less than 4 years.
- Due to rounding to the nearest whole number, totals across categories may not sum exactly.

Aligning Degree/Certificate Categories

Award Level Category	Type of Degree/Certificate
Doctor's degree - professional practice	Doctoral or professional degree
Doctor's degree - research/scholarship	Doctoral or professional degree
Post-master's certificate	Master's degree
Master's degree	Master's degree
Postbaccalaureate certificate	Bachelor's degree
Bachelor's degree	Bachelor's degree
Associate's degree	Associate's degree

Award Level Category	Type of Degree/Certificate
Award of at least 1 but less than 2 academic years	Postsecondary nondegree award
Award of at least 2 but less than 4 academic years	Postsecondary nondegree award
Award of less than 1 academic year	Postsecondary nondegree award

Bibliography

Citation
Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections (2018), Oregon. Retieved from https://www.bls.gov/oes/tables.htm
Idaho Department of Labor (2016). In-Demand Occupations. Retieved from https://public.tableau.com/profile/idlabor#!/vizhome/OSBE_In-DemandOccupations/In-DemandOccupations?publish=yes
Integrated Postsecondary Education Data System (2018). Completions Survey, Awards/degrees conferred by program (6-digit CIP code), by award level. Retrieved from https://nces.ed.gov/ipeds/datacenter.

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Part I – Agency Profile

Agency Overview

The Idaho Constitution, Article IX, Section 2, provides that the general supervision of the state educational institutions and public school system of the State of Idaho, "shall be vested in a state board of education, the membership, powers and duties of which shall be prescribed by law." The State Board of Education envisions an accessible, seamless public education system that results in a highly educated citizenry that contributes to the overall economy and improves the general quality of life in Idaho.

The Idaho educational system, consisting of the diverse agencies, institutions, school districts, and charter schools governed by the State Board of Education; delivers public elementary, secondary, and postsecondary education, training, rehabilitation, outreach, information, and research services throughout the state. These public organizations collaborate to provide educational programs and services that are high quality, readily accessible, relevant to the needs of the state, and delivered in the most efficient manner. The State Board of Education endeavors to ensure our citizens are informed and educated in order to achieve a higher quality of life and effectively participate in a democratic society.

Core Functions/Idaho Code

The State Board of Education (Board) is established in the Idaho Constitution, Article IX, Section 2, the membership, powers and duties of which are then prescribed in Idaho statutes. Pursuant to Section 33-101, Idaho Code, the Board is charged with the general supervision, governance and control of all educational institutions and agencies supported in whole or in part by state funds. This includes public schools, colleges and universities, and the agencies of the Board: Office of the State Board of Education, Department of Education, Division of Career Technical Education, Idaho Public Television, and the Division of Vocational Rehabilitation. The Board and the agencies of the Board are charged with enforcing and implementing the education laws of the state. More specific responsibilities are identified throughout Idaho Code, Title 33.

The Board is composed of eight members. Seven are citizen members appointed by the governor. The eighth is the state superintendent of public instruction who serves as an *ex officio* member.

The Board is responsible for general supervision and oversight of 26 agencies, institutions, health, and special programs; which are as follows:

1) Boise State University
   a) Small Business Development Center
   b) Tech Help
2) Idaho State University
   a) Family Medicine Residency
   b) Idaho Dental Education Program
   c) Museum of Natural History
3) Lewis-Clark State College
4) University of Idaho
   a) WI (Washington-Idaho) Veterinary Medicine Program
   b) WAMMI Medical Education
   c) Agriculture Research and Extension
   d) Forest Utilization Research
   e) Idaho Geological Survey
5) College of Eastern Idaho
6) College of Southern Idaho
7) College of Western Idaho
8) North Idaho College
9) State Department of Education
10) Idaho Division of Career Technical Education
11) Idaho Public Television

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12) Idaho Division of Vocational Rehabilitation
13) Special and Health Programs:
    a) Special Programs, Scholarships and Grants
    b) Health Programs: University of Utah School of Medicine, Boise Internal Medicine Residency, Eastern Idaho Psychiatry, Eastern Idaho Regional Medical Center Residency Programs, Family Medicine Residency of Idaho, Kootenai Clinic Family Medicine Coeur d'Alene Residency, and Western Idaho Psychiatry

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$5,584,900	$6,374,900	$5,552,900	7,761,000
Federal Grant	$2,736,400	$2,740,100	$2,744,200	502.100
Misc. Revenue	$715,200	$6,846,200	$7,223,300	7,831,900
Total	**$9,036,500**	**$15,961,200**	**$15,520,400**	**16,095,000**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$3,080,900	$3,377,900	$3,581,700	5,541,000
Operating Expenditures	$3,414,200	$9,877,000	$9,220,700	8,979,000
Capital Outlay	$3,000	$42,900	$54,600	0[1]
Trustee/Benefit Payments	$2,538,400	$2,663,400	$2,663,400	1,575,000
Total	**$9,036,500**	**$15,961,200**	**$15,520,400**	**16,095,000**

Health Education Programs Revenue and Expenditures[2]

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
University of Utah	$1,576,000	$1,694.900	$2,049,800	2,098,500
FMRI - Boise	$2,530,000	$2,770,000	$3,010,000	2,859,500
FMR - Kootenai	$560,000	$650,000	$740,000	703,000
Boise Internal Medicine	$540,000	$617,500	$845,000	850,200
Eastern Idaho Medical	$0	$455,000	$1,005,000	1,714,700
Bingham Internal Medicine	$0	$525,000	$635,000	0
Psych Residency	$157,800	$397,800	$397,800	567,900
Total	**$5,363,800**	**$7,110,200**	**$7,110,200**	**8,793,800**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
University of Utah	$1,576,000	$1,694,900	$2,049,800	2,098,500
FMRI - Boise	$2,530,000	$2,770,000	$3,010,000	2,859,500
FMR - Kootenai	$560,000	$650,000	$740,000	703,000
Boise Internal Medicine	$540,000	$617,500	$845,000	850,200
Eastern Idaho Medical	$0	$455,000	$1,005,000	1,714,700
Bingham Internal Medicine	$0	$525,000	$635,000	0[3]
Psych Residency	$157,800	$397,800	$397,800	567,900
Total	**$5,363,800**	**$7,110,200**	**$7,110,200**	**8,793,800**

[1]No funds were appropriated by legislature for this year.
[2]Revenue and Expenditures for WWAMI, Idaho Dental Education Program and WI Vet Med are reported in agency performance reports.
[3]Lost accreditation, no funding provided.

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Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021[1]
Student Aid Dollars				
• Atwell Parry Work Study Program	$1,186,000	$1,186,000	$1,186,695	$1,186,000
• Armed Forces and Public Safety Officer Scholarship	$174,497	$185,627	$158,777	$98,915
• GEAR UP Idaho Scholarship	$1,590,354	$2,679,543	$2,949,357	$3,332,961
• Opportunity Scholarship[2]	$11,585,371	$14,237,582	$15,628,220	$20,439,343
• Opportunity Scholarship for Adult Learners	$0	$104,564	$357,088	$324,909
• Postsecondary Credit Scholarship	$62,850	$113,550	$119,450	$11,479
Number of Scholarships Awarded				
• Armed Forces and Public Safety Officer Scholarship	11	13	12	9
• GEAR UP Idaho Scholarship	907	1,333	1,022	769
• Opportunity Scholarship[2]	3,739	4,254	4,767	6,144
• Opportunity Scholarship for Adult Learners	0	57	126	118
• Postsecondary Credit Scholarship	45	79	83	85
Public Postsecondary Annual Enrollment Headcount[3]				
• Career Technical	5,170	5,295	5,300	5,031
• Undergraduate	52,674	52,129	51,819	51,862
• Graduate	7,682	7,852	8,139	8,415
• Professional	404	409	427	550
Public Postsecondary Annual Credit Hours[3]				
• Career Technical	106,626	106,174	113,353	104,258
• Undergraduate	1,322,046	1,343,621	1,352,498	1,309,349
• Graduate	133,816	137,157	141,527	145,520
• Professional	13,573	14,221	14,750	18,093
Public Postsecondary Annual Full-Time Equivalent Students[3]				
• Career Technical	3,554	3,539	3,778	33,475
• Undergraduate	44,068	44,787	45,083	43,645
• Graduate	5,576	5,715	5,897	6,063
• Professional	423	430	447	565
Annual Advanced Opportunities Enrollment Headcount				
• Dual Credit[3]	31,508	34,852	35,961	34.342
• AP Enrollment[4]	7,777	8,116	7,852	8,201
• AP Examinations[4]	13,378	13,338	13,081	13,681
Health Education Compacts[5]				
• Idaho Sponsored Students Enrolled in University of Utah School of Medicine	36	41	40	40
Number of Residents in Training				
• FMRI (Boise)	47	47	55	63
• Idaho State University FMR (Pocatello)	21	21	22	23
• Kootenai Clinic FMR (Coeur d'Alene)	18	18	18	18

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Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021[1]
College Entrance Exams:				
• Number of Public School Seniors that Took the ACT During Their High School Years[6]	7,352	6,392	3,550[6]	2,219
• Number of Public School Seniors That Took the SAT During Their High School Years[4]	19,832	20,739	N/A	20,624
Postsecondary Employee FTE[7]				
• Faculty	1,850.20	1,900.68	1,917.02	1,937.22
• Executive/Administrative	129.19	127.32	133.98	139.49
• Managerial/Professional	1,167.00	1,220.79	1,336.05	1,446.70
• Classified	1,364.99	1,415.81	1,363.31	1,348.39
Percent of first-time, full-time freshman graduating within 100% of time:	2016 2-Yr Cohort 2014 4-Yr Cohort	2017 2-Yr Cohort 2015 4-Yr Cohort	2018 2-Yr Cohort 2016 4-Yr Cohort	2018 2-Yr Cohort 2016 4-Yr Cohort
• Two-year Institution	15.3%	18.6%	17.5%	20.4%
• Four-year Institution	27.3%	28.1%	32.9%	33.8%

[1] Preliminary numbers for most recent year, subject to change.
[2] Excludes students who were initially awarded a scholarship but received no actual funds due to tuition and fees being met by other grant or scholarship sources. Awarded dollars from fiscal reporting will not match publication reporting on annual academic years awards due to variant capture periods.
[3] State Postsecondary Student Enrollment Report (PSR), Annual.
[4] College Board: SAT data from Idaho SAT Suite of Assessments Annual Report; AP data from AP Program Participation and Performance Data
[5]WWAMI enrolled students reported in University of Idaho WWAMI Performance Report.
[6] ACT, Inc.: ACT State Profile Report.
[7] Four-year institutions; Boise State University, Idaho State University, Lewis-Clark State College, and the University of Idaho; excluding adjuncts (who are contracted, non-benefitted employees with variable class load).

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Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021[1]	FY 2022
Goal 1: EDUCATIONAL SYSTEM ALIGNMENT *Ensure that all components of the educational system are integrated and coordinated to maximize opportunities for all students.*						
1. Percent of postsecondary first time freshmen who graduated from an Idaho high school in the previous year requiring remedial education in math and language arts. • Two-year Institution • Four-year Institution Goal 1 Objective B II	actual	*Class of 2017* 40%[5] 19%[5]	*Class of 2018* 36%[5] 17%[5]	*Class of 2019* *34%* *15%*	*Class of 2020* *28%* *14%*	----------
	target	*Less than 55%* *Less than 20%*	*Less than 55%* *Less than 20%*	*Less than 55%* *Less than 20%*	*Less than 55%* *Less than 20%*	*Less than 55%* *Less than 20%*
Performance Measure		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Goal 2: EDUCATIONAL READINESS *Provide a rigorous, uniform, and thorough education that empowers students to be lifelong learners and prepares all students to fully participate in their community and postsecondary and workforce opportunities.*						
2. High School Cohort Graduation Rate Goal 2 Objective A III	actual	*Class of 2018* 80.6%	*Class of 2019* 80.7%	*Class of 2020* 82.1%	*Class of 2021* N/A	----------
	target	84.8%	87.3%	89.9%	89.9%	92.4%
3. Percentage of Idaho high school graduates meeting college placement/entrance exam college readiness benchmarks. • ACT • SAT[3] Goal 2 Objective A IV	actual	*Class of 2018* 34%[2] 33%	*Class of 2019* 35%[2] 32%	*Class of 2020* 37%[6] 32%	*Class of 2021* 42%[6] N/A	----------
	target	*60%* *60%*	*60%* *60%*	*60%* *60%*	*60%* *60%*	*60%* *60%*
4. Percent of high school graduates who enroll in a postsecondary institution within 12 months of graduation. Goal 2 Objective A VII	actual	*Class of 2017* 53%	*Class of 2018* 52%	*Class of 2019* 49%	*Class of 2020* N/A	----------
	target	*60% of Idaho High School Graduates*	*60% of Idaho High School Graduates*	*60% of Idaho High School Graduates*	*60% of Idaho High School Graduates*	*60% of Idaho High School Graduates*
Performance Measure		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
Goal 3: EDUCATIONAL ATTAINMENT *Ensure Idaho's public colleges and universities will award enough degrees and certificates to meet the education and forecasted workforce needs of Idaho residents necessary to survive and thrive in the changing economy.*						
5. Percentage of new full-time degree-seeking students who return (or who graduate) for second year in an Idaho postsecondary public institution. • Two-year Institution, New Student • Two-year Institution, Transfer • Four-year Institution, New Student • Four-year Institution, Transfer Goal 3 Objective A III	actual	56% 61%	55% 65%	54% 57%	58% 63%	-----
	target	*75%*	*75%*	*75%*	*75%*	*75%*
	actual	74% 76%	75% 76%	74% 75%	75% 76%	-----
	target	*85%*	*85%*	*85%*	*85%*	*85%*

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 4: WORKFORCE READINESS *Ensure the educational system provides an individualized environment that facilitates the creation of practical and theoretical knowledge leading to college and career readiness.*						
6. Ratio of non-STEM to STEM baccalaureate degrees Goal 4 Objective A III	actual	1:0.25	1:0.24	1:0.26	1:0.20	----------
	target	*1:0.25*	*1:0.25*	*1:0.25*	*1:0.25*	*1:0.25*

Performance Measure Explanatory Notes *(Optional)*

[1] Preliminary numbers for most recent year, subject to change.
[2] ACT, Inc.: ACT State Profile Report.
[3] College Board: Idaho SAT Suite of Assessments Annual Report.
[4] The American Community Survey (ACS) Public Use Microdata Sample (PUMS)
[5] FY16 through FY18 reported values have been updated due to clarification on qualifying courses.
[6] State Profile Report no longer published, percent of 12 grade test takers at college level.
[7] Updated numbers, prior year calculated with inconsistent capture period

For More Information Contact

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Part I – Agency Profile

Agency Overview

The Idaho State Department of Education (SDE) is a government agency supporting schools and students. We are responsible for implementing policies, distributing funds, administering statewide assessments, licensing educators, and providing accountability data. We deliver leadership, expertise, research, and technical assistance to school districts and schools to promote the academic success of students.

The vision of the State Department of Education is to support schools and students to achieve by ensuring:

- **All Idaho students persevere in life and are ready for college and careers.**

The strategy to attaining this goal is to consistently remind students that they are going to experience misfortunes and falls, but that's certainly not the end of the path to their college and career readiness; it's how quickly you get up, and that you persevere through the path, that really matters. The Department's mission is dedicated to providing the highest quality of support and collaboration to Idaho's public schools, teachers, students and parents.

The State Department of Education partners with independent school districts to ensure all students receive an education that prepares students for successful post-secondary education, employment and life.

Core Functions/Idaho Code

Pursuant to Title 33, chapter 1, Section 125, there is hereby established as an executive agency of the state board of education a department known as the State Department of Education. The State Superintendent shall serve as the executive officer of such department and shall have the responsibility for carrying out policies, procedures, and duties authorized by law or established by the State Board of Education for all elementary and secondary school matters, and to administer grants for the promotion of science education as provided in sections 33-128 and 33-129, Idaho Code.

Revenue and Expenditures

Revenue	FY 2018[1]	FY 2019[2]	FY 2020[3]	FY 2021[4]
General Fund	1,685,262,200	1,785,265,900	1,879,414,900	1,886,178,500
Federal Grant	230,722,600	224,890,900	225,794,800	432,478,700
Dedicated Fund	91,638,500	91,901,500	104,924,600	105,608,400
Total	**2,007,513,300**	**2,101,058,300**	**2,210,124,300**	**2,424,265,600**
Expenditure	**FY 2018[5]**	**FY 2019[6]**	**FY 2020[7]**	**FY 2021[8]**
Personnel Costs	0	0	0	0
Operating Expenditures	12,725,900	12,777,300	10,834,200	10,378,800
Capital Outlay	1,200	0	0	0
Trustee/Benefit Payments	2,016,453,300	2,103,946,400	2,231,638,500	2,444,121,200
Total	**2,028,979,700**	**2,116,723,700**	**2,242,472,700**	**2,454,500,000**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of School Districts Supported[9]	115 Districts 52 Charters 1 COSSA	115 Districts 57 Charters 1 COSSA	115 Districts 61 Charters 1 COSSA	115 Districts 66 Charters 1 COSSA
Number of Public School District (K12) Students[10]	299,225	303,787	308,285	307,342
Teacher FTE	16,451[11]	16,572[12]	17,252[14]	17,777[23]

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
FTE Student Teacher Ratio	18.19	18.33	17.87	17.29

Cases Managed and/or Key Services Provided		FY 2018	FY 2019	FY 2020	FY 2021
Number of schools participating in the Idaho Mastery Education Network	Cohort 1	32	32	32	14
	Cohort 2	--	30	30	8
	Cohort 3	--	--	--	19

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 *All Idaho students persevere in life and are ready for college and careers.* **Objective A** *Fully Implement the Idaho Content Standards*						
I. Percentage of students placing as proficient on the Idaho Reading Indicator (IRI) K-3. *New assessment administered in 2018/19 School Year. Benchmarks to be determined after 2 years of data is available.		***2017-18 School Yr.***	***2018-19 School Yr.***	***2019-20 School Yr.***	***2020-21 School Yr.***	
	Actual	*72.4%*	70.4%	NA	65.9%	
	Benchmark	*NA*	*NA**	*TBD*	*TBD*	

II. Percentage of students meeting proficient or advanced placement on the Idaho Standards Achievement Test		***2017-18 School Yr.***	***2018-19 School Yr.***	***2019-20 School Yr.***	***2020-21 School Yr.***	
	3rd Grade ELA[15] Actual	**50.5%**	**50.7%**	NA	47.9%	
	3rd Grade ELA[16] Benchmark	*58.2%*	*60.8%*	*63.4%*	*66.1%*	
	3rd Grade Math[15] Actual	**52.9%**	**53.3%**	NA	48.1%	
	3rd Grade Math[16] Benchmark	*48.1%*	*51.3%*	*54.6%*	*57.8%*	
	8th Grade ELA Actual	**54.7%**	**54.4%**	NA	56.4%	
	8th Grade ELA Benchmark	*58.2%*	*60.8%*	*63.4%*	*66.1%*	
	8th Grade Math Actual	**42.1%**	**41.5%**	NA	36.8%	
	8th Grade Math Benchmark	*48.1%*	*51.3%*	*54.6%*	*57.8%*	
	High School ELA Actual	**60.6%**	**60.4%**	NA	61.0%	
	High School ELA Benchmark	*58.2%*	*60.8%*	*63.4%*	*66.1%*	
	High School Math Actual	**34.2%**	**34.7%**	NA	33.6%	
	High School Math Benchmark	*48.1%*	*51.3%*	*54.6%*	*57.8%*	

Goal 1 *All Idaho students persevere in life and are ready for college and careers.* **Objective B** *Provide pathways to success post high school*						
I. Percentage of high school juniors and seniors participating in Advanced Opportunities, which includes: dual credit, technical competency credit, Advanced Placement, and International Baccalaureate programs.		***2017-18 School Yr.***	***2018-19 School Yr.***	***2019-20 School Yr.***	***2020-21 School Yr.***	
	Actual	*64.0%*	*64.0%*	*65%*	*55.77*	
	Benchmark	*80%*	*80%*	*80%*	*80%*	
II. Percentage of Idaho high school graduates meeting college placement/entrance exam college readiness benchmarks		***Class of 2018***	***Class of 2019***	***Class of 2020***	***Class of 2021***	
	SAT	33%[18]	32%[19]	32	NA	
	SAT Benchmark	*60%*	*60%*	*60%*	*60%*	
III. High School Cohort Graduation Rate		***Class of 2018***	***Class of 2019***	***Class of 2020***	***Class of 2021***	
	Graduation Rate Actual[21]	80.6%	80.7%[22]	82.1	NA	
	Graduation Rate Benchmark	84.8%	87.3%	89.9%	92.4%	

Goal 1 *All Idaho students persevere in life and are ready for college and careers.* **Objective C** *Expand participation in the Idaho Mastery Education Network (IMEN).*						
I. Percentage of students in IMEN that meet their 3-year growth target in ELA and Math^		***2017-18 School Yr.***	***2018-19 School Yr.***	***2019-20 School Yr.***	***2020-21 School Yr.***	
	IMEN Cohort 1 ELA Actual	**62.0%**	**62.1**%	NA	NA	
	ELA Benchmark	*64.4%*	*65.4%*	*NA*	*>State Average*	
	IMEN Math Cohort 1 Actual	**45.5%**	**46.4%**	NA	NA	
	Math Benchmark	*53.8%*	*54.2%*	*NA*	*NA*	

^Growth metric can only be calculated for 20 schools in Cohort 1 due to grades served.

Goal 3 *Recruit and retain effective teachers* **Objective A** *Reduce the percentage of Idaho teachers leaving the profession within the first 5 years of service.*						
II. Teacher Retention Rate		***2017-18 School Yr.***	***2018-19 School Yr.***	***2019-20 School Yr.***	***2020-21 School Yr.***	
	Actual	89.02%	88.23%	89.29%	90.8%	
	Benchmark	92.%	92.%	92.%	92%	

Notes
NA: Data not available due to the disruptions caused by COVID-19. The Idaho Standards Achievements Tests summative assessments were canceled for the 2019-2020 school year. The spring 2020 SAT and ACT administrations were canceled/postponed and the Idaho State Board of Education waived the College Entrance Exam graduation requirement for the class of 2020.
Values in bold are the accountability calculations restricted to students continuously enrolled in Idaho in the listed year. Non-bold values are for all students.

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[1] Revenues and expenditures, FY2017 Actual by Fund Source, page 1-3. https://legislature.idaho.gov/lso/bpa/pubs/lfr/?y=2018,
[2] Revenues and expenditures, FY2018 Actual by Fund Source, page 1-3. https://legislature.idaho.gov/lso/bpa/pubs/lfr/?y=2019,
[3] Revenues and expenditures, FY2019 Actual by Fund Source, page 1-3. https://legislature.idaho.gov/lso/bpa/pubs/lfr/?y=2020,
[4] Revenues and expenditures, FY2020 Actual by Fund Source, page 1-3. https://legislature.idaho.gov/lso/bpa/pubs/lfr/?y=2021,
[5] Revenues and expenditures, FY2017 Actual by Expenditure Classification, page 1-3 https://legislature.idaho.gov/lso/bpa/pubs/lfr/?y=2018,
[6] Revenues and expenditures, FY2018 Actual by Expenditure Classification, page 1-3 https://legislature.idaho.gov/lso/bpa/pubs/lfr/?y=2019,
[7] Revenues and expenditures, FY2019 Actual by Expenditure Classification, page 1-3 https://legislature.idaho.gov/lso/bpa/pubs/lfr/?y=2020,
[8] Revenues and expenditures, FY2020 Actual by Expenditure Classification, page 1-3 https://legislature.idaho.gov/lso/bpa/pubs/lfr/?y=2021,
[9]Historical Fall Enrollment of Charter Schools by Grade by Year http://www.sde.idaho.gov/finance/files/attendance-enrollment/historical/Charter-School-Historical-Enrollment-by-Year.xls,
[10] Historical Fall Enrollment/Membership by Grade for Idaho Public Schools http://www.sde.idaho.gov/finance/files/attendance-enrollment/historical/Historical-State-Enrollment-by-Grade.xlsx,
[11]2017-2018 Statewide Certificated Staff Salary Report http://www.sde.idaho.gov/finance/files/staffing/salary-summaries/2017-2018/2017-2018-Statewide-Certificated-Staff-Salary-Summary.xlsx,
[12]2018-2019 Statewide Certificated Staff Salary Report http://www.sde.idaho.gov/finance/files/staffing/salary-summaries/2018-2019/2018-2019-Statewide-Certificated-Staff-Salary-Report.xlsx,
[14] 2019-2020 Statewide Certificated Staff Salary Report http://www.sde.idaho.gov/finance/files/staffing/salary-summaries/2019-2020/2019-2020-Statewide-Certificated-Staff-Salary-Report.xlsx,
[15] Results reflect accountability results, which are restricted to students continuously enrolled in Idaho schools during the listed school year and available at https://idahoschools.org/.
[16] Goals are not set at specific grades but derived using the same methodology https://www.sde.idaho.gov/assessment/accountability/files/state-goals/ESSA-State-Plan-Long-Term-and-Interim-Progress-Goals.docx.

[17] 2017 Idaho College Board SAT Suite of Assessments Annual Report https://reports.collegeboard.org/pdf/2017-idaho-sat-suite-assessments-annual-report.pdf,
[18] 2018 Idaho College Board SAT Suite of Assessments Annual Report https://reports.collegeboard.org/pdf/2018-idaho-sat-suite-assessments-annual-report.pdf,
[19] 2019 Idaho College Board SAT Suite of Assessments Annual Report https://reports.collegeboard.org/pdf/2019-idaho-sat-suite-assessments-annual-report.pdf
[20] The ACT Profile Report – State, Graduating Class 2019 Public High School Students Idaho, Page 7 - Table 1.1 – Five Year Trends Percent of Students Who Met College Readiness Benchmarks – Met All Four. Figures may change slightly over time due to updated data.
[21] Four-Year Graduation Rate https://idahoschools.org/state/ID/graduation,
[22] Accountability Results – Graduation Rate https://www.sde.idaho.gov/assessment/accountability/files/accountability-results/2015-2019-4-Year-Grad-Rate-Master.xlsx
[23]: 2020-2021 Statewide Certificated Staff Salary Public School Finance Report Public School Finance / Departments / SDE (idaho.gov)

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Part I – Agency Profile

Agency Overview

As designated by the Carnegie Foundation, the University of Idaho is a doctoral granting higher research activity institution and the state's land-grant university committed to undergraduate- and graduate-research education with extension services responsive to Idaho and the region's business and community needs. The University is also responsible for medical and veterinary medical education programs in which the state of Idaho participates; WWAMI – Washington-Wyoming-Montana-Alaska-Idaho for medical education; WI – Washington-Idaho for veterinary medical education. The University of Idaho has a primary and continuing emphasis in agriculture, natural resources and metallurgy, engineering, architecture, law, foreign languages, teacher preparation and international programs, business, education, liberal arts, physical, life and social sciences; some of which also provide the core curriculum or general education portion of the curriculum.

The institution serves students, business and industry, the professional and public sector groups throughout the state and nation as well as diverse and special constituencies. The University also has specific responsibilities in research and extension programs related to its land-grant functions. The University of Idaho works in collaboration with other state postsecondary institutions in serving these constituencies.

Core Functions/Idaho Code

Recognizing that education was vital to the development of Idaho, the Idaho territorial legislature set as a major objective the establishment of an institution that would offer to all the people of the territory, on equal terms, higher education that would excel not only in the arts, letters, and sciences, but also in the agricultural and mechanic arts. The federal government's extensive land grants, particularly under the Morrill Act of 1862, provided substantial assistance in this undertaking. Subsequent federal legislation provided further for the teaching function of the institution and for programs of research and extension. In all, approximately 240,000 acres were allocated to the support of the University of Idaho's land-grant institution.

After selecting Moscow as the site for the new university, in part because Moscow was located in the "center of one of the richest and most populous agricultural sections in the entire Northwest" and the surrounding area was not subject to the "vicissitudes of booms, excitement, or speculation," the University of Idaho was founded January 30, 1889, by an act of the 15th and last territorial legislature. That act, commonly known as the university's' charter, became a part of Idaho's organic law by virtue of its confirmation under article IX, section 10, of the state constitution when Idaho was admitted to the union. As the constitution of 1890 provides, "The location of the University of Idaho, as established by existing laws, is hereby confirmed. All the rights, immunities, franchises, and endowments heretofore granted thereto by the territory of Idaho are hereby perpetuated unto the said university. The regents shall have the general supervision of the university and the control and direction of all the funds of, and appropriations to, the university, under such regulations as may be prescribed by law." Under these provisions, the University of Idaho was given status as a constitutional entity.

Revenue and Expenditures[1]

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
Approp: General Funds	$134,373,900	$137,438,200	137,839,878	
Approp: Federal Stimulus	0	0		
Approp: Endowment Funds	10,099,200	10,498,800	10,756,000	
Approp: Student Fees	78,892,885	75,547,865	76,522,032	
Institutional Student Fees[2]	16,901,117	23,883,906	20,882,580	
Federal Grants & Contracts	81,031,511	80,515,260	84,081,922	
State Grants & Contracts[2]	7,689,506	7,561,658	8,729,387	
Private Gifts, Grants & Contracts	4,550,353	4,929,896	3,954,408	
Sales & Serv of Educ Act	11,152,508	9,557,950	8,883,097	
Sales & Serv of Aux Ent	20,697,095	23,284,674	21,165,206	
Indirect Costs/Other	31,935,433	36,575,632	43,896,176	
Total	**$397,323,508**	**$409,793,841**	**$416,710,686**	

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Expenditures	FY 2018	FY 2019	FY 2020	FY 2021
Instruction	$128,819,423	$128,207,884	120,582,004	
Research	72,444,731	76,307,926	75,385,095	
Public Service	35,552,774	38,594,581	36,817,304	
Library	9,380,615	9,225,473	6,188,241	
Student Services	14,566,778	15,121,866	14,946,961	
Physical Plant	62,166,116	56,573,605	53,772,867	
Institutional Support	35,827,761	38,243,471	41,931,097	
Academic Support	14,915,021	20,571,712	20,199,124	
Athletics	11,210,364	14,166,188	15,050,173	
Auxiliary Enterprises	18.163.831	17,312,576	15,408,032	
Scholarships/Fellowships	15,341,924	14,802,044	15,528,665	
Other	0	0	0	
Total	**$418,389,338**	**$429,127,326**	**$415,809,563**	

1. These amounts conform to our audited financial statements available in the Fall.
2. There was a State scholarship amount that had been incorrectly recorded prior to FY19 as a State grant and contract. The correction was made to reflect the FY18 and FY19 amounts related to this scholarship in institutional student fees rather than State grants and contracts.
3. FY19 amounts were compiled under the University's chart of accounts conversion effective July 1, 2018. In addition, there were corrections made by the University to some category assignments of certain expenditures. For consistency, FY18 amounts were restated to conform to the update category assignments of FY19. The University does not have the ability to restate years prior to FY18. Total expenses did not change as a result of these updated category assignments.

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Annual (unduplicated) Enrollment Headcount[1]				
- Undergraduate	8,358	8,134	7,805	7,401
- Graduate	2,039	2,107	2,141	2,187
- Professional	396	401	419	542
Total	10,793	10,642	10,365	10,130
Annual Credit Hours Taught [1]				
- Undergraduate	246,300	238,069	227,582	211,198
- Graduate	28,203	29,537	29,788	29,157
- Professional	13,210	13,866	14,390	17,733
Total	287,713	281,472	271,760	258,088
Annual Enrollment FTE [2]				
- Undergraduate	8,210	7,936	7,586	7,040
- Graduate	1,175	1,231	1,241	1,215
- Professional	415	422	439	557
Total	9,800	9,588	9,266	8,812
Degree Production: Unduplicated HC of Graduates over rolling 3-yr average degree-seeking student FTE [3]				
- Academic Certificates	61%	60%	64%	54%
- Undergraduate	19%	21%	22%	24%
- Graduate	48%	46%	49%	43%
- Professional	34%	32%	30%	29%

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Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Undergraduate Cost per Credit: Cost of College Step 4[4] / EWA weighted undergrad credits (all students calculated by cip code)	$171,692,245/ 447,959.1 $383.3	$180,805,270 /439,219.1 $411.7	$186,007,603 / 420,122.58 $422.7	$191,926,758 / 378,516.27 $507.1
Graduates (UG) per $100,000: unduplicated HC of UG degree + certificate graduates / Cost of College Step 4[4]	(1658/1716) .97	(1739/1808) .96	(1796/1860) .97	(1685/1916) .88
Dual Credit hours taught [5] - Total Annual Credit Hours - Total Annual Student Headcount	 12,004 2,755	 11,606 2,450	 11,504 2,371	 8,996 1,886
Undergraduate students participating in Study Abroad and National Student Exchange programs [6] - Number - Percent	 625 7.5%	 632 7.8%	 683 8.8%	 29 0.0%
*Remediation[7] - Number of New Frosh from Idaho who need remediation in English/Reading - Percent	203/1,082 19%	203/970 21%	220/1,005 22%	253/931 27%
Percent of undergraduate students participating in research programs [8]	61%	58%	60%	56%
Number and Percent of UG degrees conferred in STEM fields[9] UI Number / Percent	614 / 1,670 37%	636 / 1,702 37%	719 / 1,761 41%	627 / 1,631 38%
Percent of students participating in service learning opportunities [10] - Number - Percent	 2,013 24%	 2,073 25%	 1,820 23%	 1,701 23%
Institution primary reserve ratio comparable to the advisable level of reserves[11]	29%	23%	21%	NA[12]
Number of Postdocs, and Non-faculty Research Staff with Doctorates.[13] (Goal 1: Objective A Measure II)	92	83	103	70
Research Expenditures ($Million) (Goal 1: Objective A Measure I)	$109,000 M	$111,590 M	$113,107 M	$112,810 M
NSSE Means Service Learning, Field Placement or Study Abroad[14] (Goal 2: Objective C Measure II)	52%	52%	53%[15]	53%
Faculty Collaboration with Communities (HERI)[16] (Goal 2: Objective B Measure I)	57%	57%	57%	57%
Enrollment (Fall Census)[17] (Goal 3: Objective A Measure I)	12,072	11,841	11,926	10,791
Retention **New Freshman** Retention Rate[18] Full-time Percent (Goal 3: Objective B Measure I)	81.6%	80.8%	77.3%	74.3%
Retention **New Transfer** Retention Rate Full-time Percent (Goal 3: Objective B Measure II)	82.4%	81.3%	82.6%	77.7%
Percent Multicultural Faculty & Staff[19] (Goal 4: Objective A Measure III)	22%/13%	20.6%/12.1%	21.3%/ 13.2%	20.6% / 13.4%
Multicultural Student Enrollment[20] (Goal 4 Objective A Measure I)	2,799	2,764	2,613	2,406
Proportion of postsecondary graduates with student loan debt - Bachelors degrees	940/1,570 59.9%	995/1,639 60.7%	966/1,675 57.7%	882/1,568 56.3%

Footnotes for Profile of Cases Managed and/or Key Services Provided

[1] Summer, Fall and Spring, as reported to SBOE on the PSR-1 Annual Student Enrollment Report only includes UG and GR (no early college). FY15 had an incorrect total, it has been corrected.
[2] Based on SBOE Annual PSR-1. FTE = Annual Credits divided by 30 for Undergraduate, 24 for Graduate, 28 for Law. WWAMI is student headcount.
[3] Rolling 3-year FTE calculated from UI data warehouse to derive Academic Certificate values.
[4] Cost of College Step 4 figures based on Audited Financial Statements for previous FY (from General Accounting office). Total weighted undergraduate credit hours from EWA divided by undergraduate dollars from Cost of College report.
[5] Only postsecondary credits taken by high school students are counted as dual credit.
[6] Study Abroad and National Student Exchange are coded in the course subject fields.
[7] Idaho high school graduates in the previous year requiring remedial education.
[8] From the UI web-based, Graduating Senior Survey.
[9] Bachelor's degrees only, as reported to IPEDS. STEM fields using CCA definitions.
[10] Number of participating students, as reported by UI Career Center/Service Learning Center, divided by degree seeking UG student headcount.
[11]As reported by UI Controller's Office, Benchmark based on NACUBO recommendations. Values represent calculations for prior fiscal year.
[12]Institution Primary Reserve Ratio is available with the audited financials in Fall.
[13]Postdocs and Non-faculty Research Staff with Doctorates as reported annually in the Graduate Students and Postdoctorates in Science and Engineering Survey (http://www.nsf.gov/statistics/srvygradpostdoc/#qs).
[14] This is the average percentage of those who engaged in service learning (item 12 2015 NSSE), field experience (item 11a NSSE) and study abroad (item 11d) from the NSSE. Survey completed every three years.
[15] Updated to the final NSSE data.
[16] HERI Faculty Survey completed by undergraduate faculty where respondents indicated that over the past two years they had, "Collaborated with the local community in research/teaching." This survey is administered every three to five years.
[17]This metric consists of headcounts from the data set used in reporting headcounts to the SBOE, IPEDS and the Common Data Set as of Fall census date. The data is updated annually.
[18] As reported to IPEDS. Each year's rates reflect the percentage returning the fall of the FY specified. In FY2013 the target for First-time Full-time Freshman was obtained from the SBOE Strategic Plan rather than the peer median.
[19]The percentage of full-time faculty and staff that are not Caucasian/Unknown from the IPEDS report. Full-time faculty is as reported in IPEDS HR Part A1 for full-time tenured and tenure track. Full-time staff is as reported in IPEDS B1 using occupational category totals for full-time non-instructional staff.
[20]The headcounts used for this metric are derived from the data set used to report to the SBOE at fall census date. This is based on the categories used by IPEDS and the Common Data Set. The census date data is updated annually.

Part II – Performance Measures

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Timely Degree Completion						
I. Percent of undergraduate, degree-seeking students completing 30 or more credits per academic year at the institution reporting	actual	7,284 3,089 42.4%	7,022 3,068 43.7%	6,641 2,787 42%	6,288 2,631 41.8%	
	target	*40%*	*40%*	*40%*	*40%*	*40%*
II. Percent of first-time, full-time, freshmen graduating within 150% of time	actual	59.3% 937 1,578 Cohort 2012-13	59.4% 890 1,586 Cohort 2013-14	59.5% 923 1,552 Cohort 2014-15	59.1% 917 1,551 Cohort 2015-16	
	target	*60%*	*60%*	*58%*	*58%*	*58%*
III. Total number of certificates/degrees produced, broken out by: Certificates less than 1 year Certificates 1 year or more[1] Associates[1] Bachelors Graduate (Masters, Specialists and Doctorates) Professional (M.S.A.T., J.D, Ed.D.. and D.A.T.) Total[2]	actual	 91 0 0 1,670 544 143 2,448	 105 0 0 1,702 538 134 2,479	 128 0 0 1,761 594 132 2,615	 128 0 0 1,631 528 171 2,458	
	target	 *0* *0* *0* *1,800* *750* *130* *2,950*	 *0* *0* *0* *1,800* *750* *130* *2,950*	 *0* *0* *0* *1,850* *800* *150* *3,000*	 *0* *0* *0* *1,850* *800* *150* *3,000*	 *1,850* *800* *150* *3,000*
IV. Number of unduplicated graduates, broken out by: Certificates less than 1 year Certificates 1 year or more[1] Associates[1] Bachelors Graduate (Masters, Specialists and Doctorates) Professional (M.S.A.T., J.D, Ed.D.. and D.A.T.) Total[2]	actual	 88 0 0 1,570 543 143 2,344	 100 0 0 1,639 538 134 2,479	 121 0 0 1,675 592 132 2,520	 117 0 0 1,568 526 171 2,382	
Certificates less than 1 year Certificates 1 year or more[1] Associates[1] Bachelors	*target*	 *2,000*	 *2,000*	 *2,000*	 *2,000*	 *2,000*
Performance Measures		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**

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Reform Remediation						
V. Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit bearing course within a year with a "C" or higher	actual Math ENGL	 50.1% 326 651 79.4% 196 247	 51.9% 353 680 74.9% 170 227	 50% 321 642 73.4% 179 244	 52.4% 300 573 69.0% 171 248	
	target Math ENGL	 *56%* *77%*	 *56%* *77%*	 *56%* *77%*	 *56%* *77%*	 *56%* *77%*
Math Pathways						
VI. Percent of new degree-seeking freshmen completing a gateway math course within two years	actual	56.6% 287 507	59.0% 315 534	59.1% 299 506	60.7% 267 440	
	target	*74%*	*74%*	*74%*	*74%*	*74%*
Guided Pathways						
VII. Percent of first-time, full-time freshmen graduating within 100% of time	actual	37.1% 577 1,554 Cohort 2014-15	38.2% 594 1,556 Cohort 2015-16	40.7% 663 1,630 Cohort 2016-17	38.8% 587 1,515 Cohort 2017-18	
	target	*34%*	*34%*	*34%*	*34%*	*34%*

Performance Measure Explanatory Notes

[1]The University of Idaho does not currently offer associate degrees or certificates of one year or more.
[2]An error was found in how certificates were counted for FY2017, the Academic Certificates and Totals are updated to reflect the correct number reported to IPEDS.

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ATTACHMENT 8

Part I – Agency Profile

Agency Overview

Boise State University is a public, metropolitan research university that fosters student success in and after their college years, lifelong learning, community engagement, innovation and creativity. Research and creative activity advance new knowledge and benefit students, the economy, the community, the state and the nation. Boise State is a Carnegie doctoral university with high research activity. We lead the way on Idaho's goal of ensuring that 60 percent of Idahoans have a college degree or certificate and produce more than 40 percent of all bachelor's degrees awarded by Idaho public universities.

Boise State University employs just over 3,200 full and part-time employees, including approximately 1,750 full-time professional and classified staff and nearly 800 full-time instructional faculty members. The main campus of Boise State University is located at 1910 University Drive in Boise, Idaho. Classes also are offered at Twin Falls' CSI campus; Coeur d'Alene's North Idaho College, Micron Technology, downtown Boise (BoDo), and Boise State University at College of Western Idaho. Boise State University provides an impressive array of online courses and programs that are available across the state and nation.

Boise State University offers studies in nearly 200 fields of interest in 102 bachelor degree programs, 67 master's programs, 2 education specialist programs, and 13 doctoral programs. These are delivered through our College of Arts and Sciences, College of Business and Economics, College of Education, College of Engineering, College of Health Sciences, College of Innovation and Design, and School of Public Service.

Boise State University is governed by the Idaho State Board of Education, which is statutorily designated as the Board of Trustees for the institution. Dr. Marlene Tromp is President of Boise State University.

Core Functions/Idaho Code

Boise State University is created by Idaho Code Title 33, Chapter 40. Idaho Code 33-4001 provides the primary function of Boise State University to be that of "an institution of higher education" and "for the purposes of giving instruction in college courses…" In addition, it provides the "standards of the courses and departments maintained in said university shall be at least equal to, or on a parity with those maintained in other similar colleges and universities in Idaho and other states," and that the "courses offered and degrees granted at said university shall be determined by the board of trustees."

Revenue and Expenditures

Operating Revenue	FY 2018 restated[1]	FY 2019	FY 2020	FY 2021
Student tuition and fees (Gross)	168,637,987	182,232,202	198,262,256	Required audited financials avail. Dec 2021
Scholarship discounts and allowances	(25,946,000)	(27,628,700)	(27,777,200)	" "
Federal grants and contracts	36,120,893	37,525,093	40,464,905	" "
State and local grants and contracts	5,515,960	6,929,166	6,512,805	" "
Private grants and contracts	2,527,409	2,581,578	2,991,720	" "
Sales and services of educational activities	7,917,684	8,264,779	7,778,456	" "
Sales and services of auxiliary enterprises	59,876,126	64,037,202	56,868,054	" "
Other	1,705,898	1,099,336	1,395,970	" "
Total operating revenues	256,355,957	275,040,656	286,496,966	" "

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Operating Expenses	FY 2018- restated	FY 2019	FY 2020	FY 2021
Instruction	130,615,578	132,585,914	139,307,732	" "
Research	30,675,466	33,105,475	37,304,459	" "
Public Service	17,160,269	19,480,045	21,034,497	" "
Libraries	6,003,980	5,896,359	5,924,455	" "
Student Services	19,852,758	20,198,874	20,933,265	" "
Operation & Maintenance of plant	21,516,192	21,641,435	27,359,524	" "
Institutional Support	30,958,162	32,412,902	34,074,154	" "
Academic Support	28,683,758	31,183,237	32,434,522	" "
Auxiliary Enterprises	71,257,115	75,270,328	74,189,656	" "
Scholarships and Fellowships	12,797,433	11,972,205	18,384,851	" "
Depreciation	26,468,896	26,359,987	26,623,055	" "
Total operating expenses	395,989,607	410,106,761	437,570,168	" "
Operating income/(loss)	(139,633,650)	(135,066,105)	(151,073,202)	" "
Non-operating revenues/(expenses)	**FY 2018- restated**	**FY 2019**	**FY 2020**	**FY 2021**
State appropriation - general	98,775,333	101,955,031	105,337,986	" "
State appropriation - maintenance	1,686,375	837,657	2,674,540	" "
Pell grants	23,600,874	22,702,825	22,185,765	" "
Gifts	28,482,810	32,141,995	35,465,134	" "
Net investment income	2,595,265	4,148,780	3,521,477	" "
Change in fair value of investments	(336,336)	884,188	1,182,328	" "
Interest	(7,571,626)	(7,030,946)	(6,881,404)	" "
Gain/loss on retirement of assets	(344,022)	(258,821)	(305,978)	" "
Loss on Perkins federal capital contribution	-	(8,209,463)	-	" "
CARES Act revenue			7,344,256	" "
Other non-operating revenue/(expense)	160,272	330,110	66,653	" "
Net non-operating revenues/(expenses)	147,048,945	147,501,356	170,590,756	" "
Other revenue and expenses	**FY 2018- restated**	**FY 2019**	**FY 2020**	**FY 2021**
Capital appropriations	1,858,258	666,061	5,707,955	" "
Capital gifts and grants	27,275,727	15,825,339	7,351,466	" "
Total other revenues and expenses	29,133,985	16,491,400	13,059,421	" "
	FY 2018- restated	**FY 2019**	**FY 2020**	**FY 2021**
Increase/decrease in net position	37,106,374	28,926,651	32,576,975	" "
Net position - beginning of year	397,362,179	434,468,553	463,395,204	" "
Net position - end of year	434,468,553	463,395,204	495,972,179	" "

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
1. Enrollments:				
Fall Enrollment on Fall Census Day (Oct. 15) includes degree seeking and non-degree seeking students				
Total	24,154	25,540	26,272	24,103
Undergraduate	20,767	22,064	22,939	20,788
Graduate	3,387	3,476	3,333	3,315
Degree Seeking Student Enrollment on Fall Census Day (Oct. 15)				

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Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Total	18,982	19,361	19,825	19,930
Undergraduate	16,270	16,537	16,898	16,975
Graduate	2,712	2,824	2,927	2,955
Annual Enrollment Total Headcount from PSR 1 Student Enrollment Report (End of Term; unduplicated count of students attending Su, Fa, and/or Spr)	31,053	32,545	33,274	32,066
Non-Degree Seeking (Graduate and Undergrad)	3,849	3,813	3,341	2,585
Early College	5,403	6,570	7,061	6,317
Undergraduate (degree seeking)	18,358	18,637	19,159	19,388
Graduate (degree seeking)	3,443	3,520	3,626	3,732
2. Student Credit Hours (SCH) by Level (Su, Fa, and Spr) (see Part II for Cost per credit hour delivered)				
Annual SCH Attempted (End of Term) Total	496,274	514,178	537,586	533,808
Professional Technical	0	0	0	0
Undergraduate credits	440,207	456,168	477,921	473,031
Graduate credits	56,067	58,010	59,665	60,777
Annual SCH Earned (End of Term) Total[2]	438,979	455,252	467,872	464,741
Undergraduate credits	387,088	402,014	413,308	409,369
Graduate credits	51,891	53,238	54,564	55,372
SCH earned as a % of Attempted Total	88.5%	88.5%	87.0%	87.1%
Undergraduate credits	87.9%	88.1%	86.5%	86.5%
Graduate credits	92.6%	91.8%	91.5%	91.1%
3. Dual Enrollment[3] and Distance Education [4]				
Dual Enrollment Student Credit Hours – 12 month academic year	23,664	29,184	33,100	28,756
Dual Enrollment Distinct Students – 12 month academic year	5,408	6,570	7,062	6,318
Distance Education Student Credit Hours – 12 month academic year	108,315	125,318	143,714	364,790
Distance Education Distinct Students Enrolled – 12 month academic year	14,430	15,888	17,826	25,750
4. Degrees and Certificates Awarded (see Part II for Number of Distinct Graduates)* [5]				
Professional Technical Degrees and Certificates	N/A	N/A	N/A	N/A
Associate Degrees (Academic)	119	133	111	132
Bachelor's Degree (Academic, first and second majors)	3,373	3,472	3,680	3,929
Certificate – Undergraduate	248	360	411	511
Certificate – Graduate	248	221	189	170
Master's Degree	917	861	954	1,074
Education Specialist Degree[6]	16	19	24	23
Doctoral Degree	32	45	53	50
Total awards (sum)	4,953	5,112	5,422	5,889

5. Sponsored Projects Proposals and Awards[7] (see Part II for Externally Funded Research Expenditures)				
Total # of Proposals Submitted	606	560	506	598
Total # of Awards	368	378	411	425
Total Sponsored Projects Funding (dollars awarded)	$56.0M	$53.5M	$58.2M	$65.3M
Total Sponsored Project Expenditures	$44.8M	$44.7M	$47.9M	$55.7M
% of research grant awards that have PIs and Co-PIs in two or more academic departments (i.e., interdisciplinary) [8]	28.9%	17.9%	22.6%	16.9%

FY 2021 Performance Highlights

- Boise State University continues to be highly successful in helping students graduate and succeed, which contributes to the educational attainment rate of Idahoans. In FY21, a record-high 3,749 students graduated from Boise State with baccalaureate degrees, once again exceeding the target set in Boise State University's strategic plan.
- Boise State not only impacts Idaho's college completion rate, for five consecutive years, we have seen increases in the numbers of graduates who are from specific underrepresented minority groups with 505 baccalaureate degree graduates in 2020-21. Additionally, Boise State graduated a new of high of 525 students who were from rural counties in Idaho. The latter students are a special focus of the newly launched Community Impact Programs.
- The number of doctoral degree graduates was 50 in FY21, growing by 50% since FY18. This growth significantly contributes to our impact in the state and region, driving Idaho's clean knowledge economy.
- The retention rate for first year students largely maintained its positive trajectory after a substantial increase over the last decade. However, it was slightly lower for the Fall 2020 cohort, as a result of the pandemic. Between the Fall 2013 cohort and the Fall 2016 cohort, the retention rate increased by five percentage points and Boise State attained and maintained at least 79.5% retention for first-time, full-time freshmen in the Fall 2016, Fall 2017 and Fall 2018 cohorts. The retention rate in Fall 2020 cohort was 74.6%.
- The six-year graduation rate has continued to increase with Boise State exceeding a 50% graduation rate for the Fall 2013 cohort of first-time, full-time (FTFT) freshmen. We anticipate the six-year graduation rate to be approximately 52.5% for the Fall 2015 FTFT cohort. The graduation rate of Idaho-resident, Pell-eligible students is expected to be nearly 40% for the Fall 2015 cohort. Although these preliminary numbers have been impacted by the pandemic and are slightly lower than the historic graduation rates achieved with Fall 2014 cohorts, the positive momentum and trajectory of increases in graduation rates demonstrate Boise State's fundamental transformation of support for student success. This has been achieved through significant innovation, including a wholescale revision of remedial education, use of learning assistants, changes to advising, and use of analytics to enable early intervention for at-risk students.
- Dual Enrollment and Distance Education were significantly impacted by the global pandemic. The number of students participating in dual enrollment decreased to 6,318, which was similar to FY19 participation. Distance education credit hours in FY21 increased by 154% over FY20 with 25,750 students participating in a distance learning course.
- Boise State's total sponsored projects funding (dollars awarded) exceeded $65M for FY21, which brings new revenue and new opportunities to the state and supports our state's economic engine.

Part II – Performance Measures

Productivity Measure	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 2 **Facilitate the timely attainment of educational goals of our diverse student population.**					
1. Count of Distinct Graduates[9] (Objective A)*					

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Productivity Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Associate Degree (Academic)	actual	118	131	109	132	----------
	target	*150*	*150*	*150*	*150*	*150*
Bachelor's Degree (Academic)	actual	3,196	3,289	3,525	3,749	----------
	target	*3,300*	*3,450*	*3,500*	*3,559*	*3,702*
Certificate – Undergraduate	actual	248	360	414	511	----------
	target	*NA*	*NA*	*300*	*425*	*425*
Certificate – Graduate	actual	241	219	184	166	----------
	target	*250*	*250*	*270*	*280*	*250*
Master's Degrees	actual	917	862	954	1,074	----------
	target	*785*	*825*	*950*	*950*	*1,000*
Educational Specialist's Degree	actual	16	19	24	23	----------
	target	*20*	*20*	*23*	*25*	*25*
Doctoral Degree	actual	32	45	53	50	----------
	target	*35*	*38*	*40*	*50*	*58*
Total distinct graduates	actual	4,393	4,455	4,760	5,120	----------
	target	*Increase over prior year*	*Increase over prior year*	*Increase over prior year*	*Increase over prior year*	*Increase over prior year*
2. First Year Retention Rate (Objective A)						
% of first-time, full-time freshmen retained[10]*	actual	F2017 cohort 79.5%	F2018 cohort 79.5%	F2019 cohort 77.8%	F2020 cohort 75.3% (preliminary)	F2021 cohort
	target	*80%*	*81%*	*82%*	*82%*	*80%*
% of Idaho-resident Pell-eligible first-time full-time freshmen retained	actual	70.8%	72.0%	70.6%	64.9% (preliminary)	----------
	target	*76%*	*77%*	*74%*	*74%*	*73%*
% of full-time transfers retained or graduated*	actual	76.6%	74.7%	78.5%	73.9% (preliminary)	----------
	target	*78%*	*78%*	*79%*	*79%*	*79%*
3. Graduation Rates (Objective A)*						
4-yr graduation rate: % of baccalaureate-seeking, full-time, first time students graduating in four years or less[11]	actual	F2014 cohort 28.7%	F2015 cohort 30.6%	F2016 cohort 38.1%	F2017 cohort 37.4% (preliminary)	F2018 cohort ----------
	target	*NA*	*NA*	*33%*	*33%*	
6-yr graduation rate: % of baccalaureate-seeking, full-time, first time students graduating in six years or less[12]	actual	F2012 cohort 45.8%	F2013 cohort 50.3%	F2014 cohort 54.1%	F2015 cohort 52.5% (preliminary)	F2016 cohort ----------
	target	*45%*	*46%*	*48%*	*52%*	
6-yr: % of Idaho-resident, Pell-eligible first time, full-time freshman who graduated in six years or less	actual	34.3%	38.0%	42.3%	39.5% (preliminary)	----------
	target	*37%*	*37%*	*38%*	*43%*	
6-yr: % of full-time transfers who graduated in six years or less	actual	57.4%	58.5%	56.9%	59.5% (preliminary)	----------
	target	*55%*	*57%*	*58%*	*59%*	
4. Progression to Degree (Objective A)*						
	actual	23.9%	26.5%	28.7%	28.3%	----------

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Productivity Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Progress in credits: % of undergraduate degree seeking students completing 30 or more credits per year[13]	*target*	*NA*	*30%*	*25%*	*28%*	*30%*
Gateway Math Completion: % of new degree-seeking freshmen completing a gateway math course within two years[14]	actual	79.8%	82.1%	83.4%	81.5%	----------
	target	*NA*	*83%*	*83%*	*83%*	*85%*
Remedial English: % of undergraduates completing credit-bearing course after remedial[15]	actual	88.5%	88.5%	87.1%	83.1%	----------
	target	*NA*	*90%*	*90%*	*90%*	*90%*
Remedial Math: % of undergraduates completing credit-bearing course after remedial[16]	actual	57.4%	55.8%	56.7%	59.6%	----------
	target	*NA*	*55%*	*55%*	*55%*	*58%*
Goal 3 **Gain distinction as a doctoral research university.**						
5. Total Research & Development Expenditures[17] (Objective A)						
Expenditures as reported to the National Science Foundation	actual	$41.4M	$39.8M	$43.3M	Not available at this time	----------
	target	*$36M*	*$38M*	*$44M*	*$47M*	*$47M*
Goal 4 **Align university programs and activities with community needs.**						
6. Number of graduates with high impact on Idaho's college completion rate (Objective C) [18]						
Baccalaureate graduates from underrepresented groups: rural counties[19]	actual	496	528	459	505	----------
	Target	*NA*	*NA*	*500*	*525*	*550*
Baccalaureate graduates from underrepresented groups: ethnic minorities[20]	actual	359	444	467	525	----------
	Target	*400*	*430*	*500*	*500*	*500*
Baccalaureate graduates who are Idaho residents	actual	2,263	2,200	2,208	2,266	----------
	Target	*2,585*	*2,700*	*2,700*	*2,700*	*2,500*
Baccalaureate graduates who are of non-traditional age (30 and up)	actual	847	845	847	826	----------
	Target	*950*	*950*	*1,000*	*1,000*	*1,000*
Baccalaureate graduates who began as transfers from Idaho community college[21]	actual	406	446	442	463	----------
	Target	*600*	*650*	*700*	*700*	*500*
7. Cost of Education (resident undergraduate with 15 credit load per semester; tuition & fees per year) (Objective A)						
Boise State	actual	$7,326	$7,694	$8,068	$8,060	----------
	target	*Remain less than WICHE state avg*	*Remain less than WICHE state avg*	*Remain less than WICHE state avg*	*Remain less than WICHE state avg*	*Remain less than WICHE state avg*
Boise State as % of WICHE[22]	actual	87.1%	89.2%	90.3%	88.0%	----------

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Productivity Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	target	*Remain less than WICHE state avg*	*Remain less than WICHE state avg*	*Remain less than WICHE state avg*	*Remain less than WICHE state avg*	*Remain less than WICHE state avg*
8. Expense per EWA-Weighted Student Credit Hour (SCH)[23] * (Objective A)						
$ per Undergraduate SCH: in 2015 $$ (i.e., inflation adjusted) [24]	actual	$263.08	$255.42	$256.42	Not available at this time	----------
	target	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	Very low increase (0.5 to 1%) in inflation adjusted $$
$ per Undergraduate SCH: Unadjusted	actual	$276.98	$273.59	$276.21	Not available at this time	----------
	target	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	Very low increase (0.5 to 1%) in inflation adjusted $$
$ per Total Undergraduate & Graduate SCH: in 2015 $$ (i.e., inflation adjusted) [25]	actual	$244.00	$237.14	$238.14	Not available at this time	----------
	target	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	Very low increase (0.5 to 1%) in inflation adjusted $$
$ per Total Undergraduate & Graduate SCH: Unadjusted	actual	$256.89	$254.01	$256.52	Not available at this time	----------
	target	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	*No increase in CPI adjusted $$*	Very low increase (0.5 to 1%) in inflation adjusted $$
9. Graduates per FTE (Objective A)						
Baccalaureate graduates per undergraduate FTE[26]	actual	21.8	21.6	22.1	23.8	----------
	target	*NA*	*NA*	*22.2*	*22.2*	*22.3*
Baccalaureate graduates per junior/senior FTE[27]	actual	41.2	41.2	42.5	43.6	----------
	target	*NA*	*NA*	*42.5*	*42.5*	*43.0*
Graduate degree graduates per graduate FTE[28]	actual	46.8	42.7	45.3	48.8	----------
	target	*NA*	*NA*	*44.0*	*44.0*	*46.0*

Performance Measure Explanatory Notes

*Measure required by SBOE

[1] Prior Period Adjustment – GASB Statement No. 75, "Accounting and Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans (OPEB)." The June 30, 2018 financial statements have been adjusted to properly reflect the University's proportionate share of the SLIRF asset and activity. The opening balance of Net Position was adjusted to reflect the SLIRF in fiscal 2018.

[2] Student credit hours (SCH) earned are based on an end-of-term snapshot. Due to the snapshot timing, some earned credits (e.g., concurrent enrollment credits) may not be included in the total, resulting in the ratio of earned to attempted credits being underreported.

[3] Dual enrollment credits and students are measures of activity that occur over the entire year at multiple locations using various delivery methods. When providing measures of this activity, counts over the full year (instead of by

term) provide the most complete picture of the number of unduplicated students that are enrolled and the number of credits earned. The credits and students align to the totals in the annual Dual Credit Report.

[4] Distance Education is characterized by: the use of one or more technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor, either synchronously or asynchronously. (Summarized from the language in the Higher Education Opportunity Act.) Courses that are taught at a distance using educational technology are referred to as distance education classes; includes course modes of Internet-E, Online, and Remote (which was introduced in 2020-21).

[5] The count of awards reflects data submitted to IPEDS. Bachelor's awards and others include first plus second major. These figures are greater than the total number of graduating students because some graduating students receive multiple awards. 2014-15 was the first year that Boise State transcripted all undergraduate certificates and, therefore, began reporting these to IPEDS in that year. Data presented for 2020-2021 are preliminary as they have not yet been reported to IPEDS.

[6] Note that although the Education Specialist degree is a distinct degree type, it is categorized by IPEDS as a "post-master's certificate." Boise State awarded the first Ed.S. degrees in 2015-16.

[7] "Sponsored Projects" refers to externally funded projects of all types (research, instructional, and public service) funded from all sources (federal, state, local, and private).

[8] Reflects the percentage of research grants that have investigators from more than one department. Includes only initial awards in the Research-Basic and Research-Applied categories.

[9] The distinct (unduplicated) graduates reflects completers by award level as submitted to IPEDS. The total of distinct graduates does not equal the sum of the graduates at each level because there is some duplication of individuals between levels (e.g., earning both a graduate certificate and a master's degree). Data presented for 2020-21 are preliminary as they have not yet been reported to IPEDS.

[10] Retention is a measure of entering cohorts returning to enroll one year later (e.g., the percent of the Fall 2018 cohort of first time, full-time baccalaureate-seeking freshmen that return to enroll in Fall of 2019). Retention rate is calculated in a manner consistent with IPEDS. The four columns of data represent numbers from Fall 2017 through Fall 2020 cohorts, with the Fall 2020 cohort data being a preliminary estimate as of August 3, 2021.

[11] Four-year graduation rate is a measure of entering cohorts graduating within a four-year time frame (e.g., the percent of the Fall 2015 cohort of first-time, full-time baccalaureate-seeking freshmen that graduated before the beginning of the fall 2019 semester). Graduation rate is calculated in a manner consistent with IPEDS. The four columns of data represent the rates for the Fall 2014 through Fall 2017 cohorts, with the Fall 2017 cohort data being a preliminary estimate as of August 3, 2021.

[12] Six-year graduation rate is a measure of entering cohorts graduating within a six-year time frame (e.g., the percent of the Fall 2013 cohort of first-time, full-time baccalaureate-seeking freshmen that graduated before the beginning of the fall 2019 semester). Graduation rate is calculated in a manner consistent with IPEDS. The four columns of data represent the rates for the Fall 2012 through Fall 2015 cohorts, with the Fall 2015 cohort data being a preliminary estimate as of August 3, 2021.

[13] SBOE required metric: timely degree completion. Percent of undergraduate, degree-seeking students completing 30 or more credits across one year (defined as summer, fall, and spring term). Based on end-of-term data version. Degree-seeking status is determined as of fall semester unless the student was not enrolled in fall, in which case summer is used. Spring term is used to determine degree-seeking status of students enrolled only for the spring term. Excludes students who earned degrees during the reported year and who did not reach the 30-credit threshold. Includes students meeting the criteria regardless of full- or part-time status and the number of terms enrolled in that year. Students enrolled part-time or for a partial year, especially for only one term, would not be expected to complete 30 credits; thus, the denominator may be inflated resulting in a lower percentage reported.

Note: the target presented for FY19 was set and reported in the spring 2018 BSU Strategic Plan Report. Since that time, the methodology for this measure has been clarified and refined by OSBE. The FY20 target follows from the new methodology, thus, replacing the prior target shown for FY19. All years of data reported reflect the updated methodology.

[14] SBOE required metric: math pathways. Based on cohorts of incoming first-time bachelor degree seeking students (full- plus part-time) who complete a gateway course (Math 123, 143, 157, or 254) or higher within two years (e.g., students who entered in fall 2017 and completed a gateway math or higher by the end of summer 2019 are reported for FY19). Note: the target presented for FY19 was set and reported in the spring 2018 BSU Strategic Plan Report. Since that time, the methodology for this measure has been clarified and refined by OSBE. The FY20 target follows from the new methodology, thus, replacing the prior target shown for FY19. All years of data reported reflect the updated methodology.

[15] SBOE required metric: reform remediation. Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit-bearing, gateway, course within one year of completing the remedial course. Boise State uses a corequisite model for English, therefore, this measure is calculated as the number of students who took and completed English 101P in the given academic year. Note: the data and targets do match those previously reported as the methodology for this measure has been updated per guidance from OSBE. All years of data reported and the targets reflect the updated methodology.

[16] SBOE required metric: reform remediation. Percent of undergraduate, degree-seeking students who took a remedial course (Math defined as Math 025, 103, or 108) and completed (C- or above) a subsequent credit-bearing, gateway, course (Math 123, 143, 157, or 254) or higher within one year of completing the remedial course (e.g., students who took a remedial course in fall 2017 and completed a subsequent course by the end of fall 2018). Note: the target presented for FY19 was set and reported in the spring 2018 BSU Strategic Plan Report. Since that time, the methodology for this measure has been clarified and refined by OSBE. The FY20 target follows from the new methodology, thus, replacing the prior target shown for FY19. All years of data reported reflect the updated methodology.

[17] Total Research and Development Expenditures are submitted to NSF approximately in March for the previous fiscal year.

[18] Boise State tracks a number of demographic categories of students that are important to Idaho's college completion rates. Note that graduates may fall into more than one category and are counted one time in each of the relevant categories. As such, the numbers across categories cannot be summed to achieve a total.

[19] Distinct number of graduates who began college as residents from a rural county in Idaho. The definition for this measure was updated in 2020 to align with Boise State's new efforts to serve rural communities in Idaho. Rural is defined as all places outside of "Urban Areas and their Places" as specified by the U.S. Census Bureau. Data for all reported years were updated in 2021 to align with a new campus data warehouse reporting field.

[20] Distinct number of graduates who are American Indian/Alaska Native or Hispanic/Latino.

[21] Includes baccalaureate recipients in transfer cohorts whose institution prior to their initial Boise State enrollment was one of the four Idaho community colleges. Method captures most recent transfer institution for all students, even those whose transcripts are processed sometime after their Boise State enrollment has started.

[22] WICHE average from Table 1a of annual Tuition and Fees report. We use the average excluding California and the values were as follows: FY15 $7,558; FY16 $7,826, FY17 $7,980, FY18 $8,407. A typical report can be found at http://www.wiche.edu/info/publications/Tuition_and_Fees2012-13.pdf

[23] Expense information is from the Cost of College study, which is produced yearly by Boise State's Controller's Office. Includes the all categories of expense: Instruction/Student Services (Instruction, Academic Support, Student Services, Library), Institutional/Facilities (Cultural, Religious Life and Recreation, Museums, Gardens, etc., Net Cost

of Intercollegiate Athletics, Net Cost of Other Auxiliary Operations, Plant Operations, Depreciation: Facilities, Depreciation: Equipment, Facility Fees Charged Directly to Students, Interest, Institutional Support), and Financial Aid. "Undergraduate only" uses Undergraduate costs and the sum of EWA weighted credit hours for remedial, lower division, upper division for residents and nonresidents. "Undergraduate and graduate" uses undergraduate and graduate expenses, and includes EWA weighed credit hours from the undergraduate and graduate levels for residents and nonresidents.

[24] Consumer Price Index is used to adjust for inflation and makes use of a calculator such as that found at http://data.bls.gov/cgi-bin/cpicalc.pl

[25] Consumer Price Index is used to adjust for inflation and makes use of a calculator such as that found at http://data.bls.gov/cgi-bin/cpicalc.pl

[26] Includes the unduplicated number of annual baccalaureate degree graduates divided by the IPEDS annual undergraduate FTE. It should be noted that IPEDS includes the credits taken by degree seeking and non-degree seeking student in calculating FTE.

[27] Includes the unduplicated number of annual baccalaureate degree graduates divided by the fall semester FTE of juniors and seniors. FTE are determined using total fall credits of juniors and seniors divided by 15. This measure depicts the relative efficiency with which upper-division students graduate by controlling for full and part-time enrollment.

[28] Includes unduplicated number of annual graduate certificates and master's and doctoral degree graduates divided by the IPEDS annual graduate FTE. It should be noted that IPEDS includes credits taken by degree seeking and non-degree seeking student in calculating FTE.

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ATTACHMENT 9

Part I – Agency Profile

Agency Overview

Founded in 1901, Idaho State University (ISU) is a Carnegie classified Doctoral University: High Research Activity. Idaho State has evolved through distinct phases—the last occurring in 1963 with the change from Idaho State College to Idaho State University—reflecting a steady trajectory of growth and development. Today, Idaho State serves a student population of 12,339 (Fall 2020-end of term), and 14,241 unduplicated annual headcount (Fiscal Year 2021), representing 45 states and 54 countries. In addition, Idaho State taught over 16,000 students (FY 2021) in professional development, Workforce Training, and Continuing Education courses. Idaho State's mission and Idaho State Board of Education (the Board) mandated service region is the result of the institution's history and Idaho's unique geography.

Idaho State's geographic service region extends from the upper-Snake River region on the east side of the state, to the Magic Valley/Twin Falls towards the west, and the rural communities of the central mountains on the north. The University has campuses in four locations: Pocatello, Meridian, Idaho Falls, and Twin Falls. Idaho State offers more than 250-degree programs ranging from career technical education certificates to postgraduate doctoral degrees (PhDs). Idaho State's disciplinary breadth, combined with its unique degree mix, offers opportunity and access commensurate with the Board's mandate to serve its diverse, largely rural region, and to provide healthcare programming for the state. Idaho State hosts 13 men's and women's National Collegiate Athletic Association (NCAA) athletic teams and offers 112 student clubs and organizations for student participation.

Idaho State is organized into seven colleges. The colleges include the colleges of Arts and Letters, Business, Education, Science and Engineering, Technology, Pharmacy, and Health. In addition, Idaho State houses a Graduate School overseen by a graduate dean advised by graduate faculty.

Idaho State boasts many incredible facilities, including the Center for Advanced Energy Studies (CAES), the Idaho Accelerator Center, and the state-of-the-art Stephens Performing Arts Center, which brings music, theatre, and cultural performances to southeastern Idaho. The Idaho Museum of Natural History, located on the Pocatello campus, provides children, families, and adults an in-depth exploration of the natural history of Idaho.

Core Functions/Idaho Code

Idaho State University is a publicly supported institution of higher education as created under the laws of the State of Idaho, Idaho Statute Title 33, Chapter 30 and is governed by the Board.

ISU's Mission:
Idaho State University is a public research-based institution that advances scholarly and creative endeavors through academic instruction, and the creation of new knowledge, research, and artistic works. Idaho State University provides leadership in the health professions, biomedical, and pharmaceutical sciences, as well as serving the region and the nation through its environmental science and energy programs. The University provides access to its regional and rural communities through the delivery of preeminent technical, undergraduate, graduate, professional, and interdisciplinary education. The University fosters a culture of diversity, and engages and impacts its communities through partnerships and services.

Central to its mission is the emphasis on health sciences education. Idaho State offers high-quality degree programs in nearly all of the health professions, as well as postgraduate residency training in family medicine, dentistry, and pharmacy. Idaho State also serves southern Idaho by providing full-service, cost-effective medical care options at its 20 health clinics. Idaho State faculty and staff provided health services for more than 44,000 patient visits and over 65,000 prescriptions during the 2021 fiscal year. The ISU Bengal Pharmacy serves as an onsite classroom lab for students in the College of Pharmacy while providing pharmacy service options to the region. The Bengal Pharmacy/Telepharmacy Operation has four telehealth pharmacies in rural southern Idaho: Arco, Challis, Council, and Kendrick, plus the "home base" pharmacy in Pocatello. These partnerships were requested by city officials concerned that pharmacy services would no longer be available in their towns.

ATTACHMENT 9

Idaho State's commitment to access to university-level learning and discovery extends into the K-12 system in Idaho. Idaho State's Early College program, which provides dual enrollment opportunities for Idaho high school students at reduced tuition rates, continues to grow, enabling high school students to take college-level courses preparing them for their future college careers.

Idaho State is accredited by the Northwest Commission on Colleges and Universities (NWCCU). The NWCCU required that the institution identify core themes that individually manifest elements of its mission and collectively encompass its mission. Idaho State University's Core Themes were chosen through an inclusive process that included faculty, students, and staff.

ISU's core themes:



Core Theme One:
Learning and Discovery. Idaho State University fosters student learning and discovery through teaching, research, and creative activity. ISU delivers high-quality academic programs at all levels: technical certificates; undergraduate, graduate, and professional degrees; and postgraduate professional training.



Core Theme Two:
Access and Opportunity. Idaho State University provides diverse pathways to retention and graduation through educational preparation, academic and co-curricular opportunities, and extensive student support services.



Core Theme Three:
Leadership in the Health Sciences. Idaho State University provides statewide leadership in the health sciences. With the academic support of its colleges and the division, the University offers a broad spectrum of degree levels and provides residency training in the health professions. New knowledge is created through biomedical, translational, clinical, rural, and health services research. Teaching, research, practice, and community partnerships provide interprofessional education and excellence in patient care. University clinics provide an environment for learning, inquiry and comprehensive health care service to the community.



Core Theme Four:
Community Engagement and Impact. As an integral component of the community, Idaho State University develops partnerships and affiliations through the exchange of knowledge, resources, research, and expertise. Through a diverse university staff, faculty, and student body, ISU provides cultural, social, economic, and other opportunities to enrich the lives of citizens.

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Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
Operating revenues				
Student tuition and fees (Gross)	105,380,000	104,794,000	104,240,000	
Scholarship discounts and allowances	(30,218,000)	(30,516,000)	(31,449,000)	
Federal grants and contracts	8,525,000	8,832,000	8,647,000	
State and local grants and contracts	10,220,000	8,764,000	10,356,000	
Private grants and contracts	5,922,000	5,791,000	5,865,000	
Sales and services of education activities	4,976,000	6,030,000	5,395,000	
Sales and services of auxiliary enterprises	14,015,000	14,679,000	12,827,000	
Other	4,557,000	4,713,000	3,514,000	
Total operating revenues	123,377,000	123,087,000	119,395,000	
Expenditure	**FY 2018**	**FY 2019**	**FY 2020**	
Operating expenses	249,231,000	252,645,000	253,036,000	
Instruction	103,664,000	105,022,000	103,887,000	
Research	16,371,000	14,878,000	13,173,000	
Public Services	3,612,000	3,812,000	3,910,000	
Academic Support	17,464,000	18,224,000	18,285,000	
Libraries	3,718,000	3,776,000	3,812,000	
Student Services	9,562,000	10,490,000	11,001,000	
Institutional Support	25,855,000	25,874,000	30,662,000	
Maintenance & Operations	20,241,000	18,666,000	17,473,000	
Auxiliary Enterprises	22,477,000	25,243,000	22,599,000	
Scholarships and Fellowships	14,103,000	13,993,000	15,855,000	
Depreciation	12,163,000	12,667,000	12,379,000	
Operating income/(loss)	(125,854,000)	(129,558,000)	(133,641,000)	
Nonoperating revenues/(expenses)				
State appropriations:	96,604,000	100,023,000	102,269,000	
State General Account	77,405,000	80,244,000	81,437,000	
Endowment Income	3,610,000	3,739,000	4,008,000	
Other State Appropriations	3,485,000	3,704,000	4,303,000	
Professional Technical Education	12,104,000	12,336,000	12,521,000	
State Department of Public Works	1,210,000	153,000	(104,000)	
Title IV grants	16,682,000	16,221,000	15,495,000	
Other Federal grants	0	0	1,989,000	
Gifts	4,390,000	10,618,000	7,390,000	
Net investment income	235,000	908,000	1,005,000	
Amortization of bond financing costs	(3,000)	(2,000)	(9,000)	
Bond issuance costs	0	0	0	
Interest on capital asset-related debt	(1,208,000)	(1,115,000)	(1,421,000)	
Gain or (loss) on disposal of fixed assets	(196,000)	(149,000)	(84,000)	
Net nonoperating revenues/(expenses)	117,714,000	126,657,000	126,530,000	
Other Revenue and Expenses	**FY 2018**	**FY 2019**	**FY 2020**	
Capital gifts and grants	7,575,000	6,820,000	13,360,000	
Other Expenses	0	0	(1,356,000)	
Net other revenues and expenses	7,575,000	6,820,000	12,004,000	
Increase in net assets	(565,000)	3,919,000	4,893,000	

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Other Revenue and Expenses	FY 2018	FY 2019	FY 2020	FY 2021
Net assets - beginning of year (*-restated)	*248,744,000	248,179,000	252,098,000	
Net assets – end of year (*-restated)	*248,179,000	252,098,000	256,991,000	

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Grand Total Number of Students[1]	**24,001**	**23,210**	**23,197**	**30,558**
Total number of enrolled ISU students in a fiscal year	15,113	14,976	14,870	14,241
Total number of College of Education K-12 professional development students in a fiscal year (see note 1)	1,664	2,005	2,703	11,484
Total number of Workforce Training / Continuing Education students in a fiscal year	7,224	6,229	5,624	4,833
Percentage of undergraduates (based on fall term)				
- Full-time	56%	57%	56%	57%
- Part-time	44%	43%	44%	43%
Total annual full-time equivalency (FTE) enrollment [2]	**9,960**	**9,775**	**9,589**	**9,322**
- Career Technical	747	828	819	749
- Undergraduate	7,108	6,864	6,587	6,246
- Graduate	2,105	2,083	2,183	2,327
Total credit hours taught: [3]	**286,161**	**280,770**	**274,551**	**265,715**
- Career Technical credit hours	22,401	24,852	24,556	22,473
- Academic credit hours	263,760	255,918	249,995	243,242
o Undergraduate credit hours	213,250	205,928	197,601	187,391
o Graduate credit hours	50,510	49,990	52,394	55,851
Percentage of all degree-seeking undergraduates receiving a PELL grant	43%	43%	43%	40%
Amount of ISU student scholarships/fellowships awarded	$14,103,000	$13,993,000	$15,855,000	Available in fall 2021
Total number of certificates and degrees awarded[4]	**2,540**	**2,554**	**2,462**	**2,756**
- Undergraduate	1,917	1,933	1,803	2,082
- Graduate	623	621	659	674
% degrees awarded in Health Professions [5]	34%	35%	33%	37%
% degrees awarded in STEM Disciplines [6]	18%	18%	15%	15%

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Total new degree-seeking undergraduate students in FY[7]	**1,811**	**1,828**	**1,737**	**1,593**
- Idaho Resident	1,643	1,681	1,584	1,437
- Non-resident	110	116	123	130
- International	58	31	30	26
Percentage of students participating in course-based community engaged learning[8]	50%	48%	45%	44%
- Total Students Enrolled	7,534	7,143	6,719	6,316

1. Student headcounts are unduplicated in a fiscal year by category. If a student is enrolled in an ISU course, enrolled in a College of Education professional development course, and enrolled in a Workforce Training / Continuing Education in the same fiscal year, the student will be counted 3 times, once in each category. The main reason for the large increase in the total number of College of Education K-12 professional development students in fiscal year 2021 was the result of an out-of-state marketing campaign.
2. Annual full-time equivalency (FTE) is calculated by dividing the total Undergraduate and Career Technical credit hours (SCH) by 30; total Graduate SCH is divided by 24.
3. Total student credit hour production for the fiscal year.
4. Degrees are those awarded and posted as of July 27, 2021 for the fiscal year.
5. Certificates/Degrees with a U.S. Dept. of Education Classification of Instructional Programs (CIP) Code of 51 – Health Professions and Related Clinical Sciences, and Clinical Psychology degrees.
6. Certificates/Degrees with a CIP Code in Science, Technology, Engineering, and Mathematics (STEM) as defined by the CIP codes, 01,03,04,11,14,15,26,27,29,40,41.
7. New students in the summer term enrolled in the subsequent fall term are counted as "new" in the fall term.
8. Community Engaged Learning describes the collaboration between institutions of higher education and their larger communities (local, regional/state, national, global) for the mutually beneficial creation and exchange of knowledge and resources in a context of partnership and reciprocity. These undergraduate and graduate for-credit opportunities include, but are not limited to, internships, externships, job shadowing, service learning, community based research, public service courses, practicums, practical work (live work), and clinical rotations.

FY 2021 Performance Highlights *(Optional)*

College of Arts and Letters

- **Resilience of the Performing Arts**

Because of what they teach and the direct, hands-on way it must be taught, the Theatre, Dance, and Music faculty faced what seemed like an impossible challenge in response to COVID. Yet, they continued to serve performing arts students for an entire year and help them continue to advance toward degree completion. They did this by modifying classrooms and studios, learning and leveraging new software and technology, using their exceptional creativity, committing untold and uncompensated extra hours, and putting students and student safety first. Additionally, they continued to serve the larger Idaho community by providing public concerts and performances made available through online streaming technology, including a New Year's Eve streamed event that showcased many students' talent.

- **ISU CommuniVax Research on COVID-19 Vaccination Efforts**

ISU faculty and students are working with Johns Hopkins, Bloomberg School of Public Health on CommuniVax, a national research coalition located at seven U.S. locations. The ISU team sought to raise awareness of and access to COVID-19 vaccines for the Hispanic population in rural Idaho regions of Bingham and Power counties. The ISU team used a Research-as-Intervention approach that involved a remarkable

interdisciplinary team of 21 students and community members (half of which were from the study community), three public health experts and three ISU faculty members—Elizabeth Cartwright (Anthropology), Diana Campanella Schow (Community and Public Health) and Tamra Bassett (Global Studies and Languages). Faculty-led training for all students, who conducted and analyzed 89 semi-structured interviews and three focus groups. Results laid bare the deeply difficult, pandemic-related consequences of living and working both in the U.S. and Mexico. They also revealed an unwavering determination to work, carry on, and provide for families, showing strong acceptance for receiving the vaccine among Idaho's farmworker families.

- **ISU INCLUDE Project Provides Educational Access to Rural Communities**

The ISU College of Arts and Letters established a state-of-the-art distance education program to provide Idaho high school students in rural communities the opportunity to earn college credit and utilize financial support through the Idaho Department of Education's Fast Forward Program. The INCLUDE (Idaho Needs Connectivity Leading University Distance Education) Project has funded the acquisition and installation of video conferencing equipment for 29 rural high schools in Southeastern Idaho by supporting several community partners and donors and a large grant from the USDA. College instructors and classrooms are streamed live into rural communities and high schools, providing access to ISU classes for all regional high school students and communities. This program creates meaningful relationships between ISU and rural communities, providing Idaho high school students the opportunity to take dual enrollment classes from ISU faculty, build student confidence in attending college, and increase Idaho's Go-on rate.

College of Business

- 11 Brand New Permanently Endowed Scholarships.
- First Endowed Professorship in Finance and First Endowed Professorship in Marketing in the history of Idaho State University.
- ISU College of Business Students were featured in a PBS documentary that has been nominated for an Emmy award by the Northwest Chapter of the National Academy of Television Arts & Sciences (NATAS). The documentary, "Through Youthful Eyes" was featured on Idaho Public Television in 2020 and featured the story of our students' work writing the "Idaho in World War II" book.

College of Education

- Developed a fully-online, fee-based teacher education program to allow a flexible, affordable pathway to becoming a teacher
- Earned an A+ by the National Council on Teacher Quality, for contributing significantly to the diversification of the teacher workforce.
- Strengthened the CSI-ISU relationship by finalizing teacher education articulation agreements and a co-enrollment MOU between the two institutions.

College of Science & Engineering

- ISU's Disaster Response Complex is open for business! The DRC involves students in research and data-informed training to first responders across the Pacific Northwest. DRC training started on October 31, 2020. Since then more than 300 individuals including instructors and role players have participated in exercises at the DRC. From these, about 150 were civilians (from the Idaho National Laboratory, the Idaho State Police, Pocatello Police, regional fire departments, regional search and rescue units, among others) and approximately 170 military members from National Guard units representing some 20 states. More than 150 additional National Guard members from across the country are expected to train at the DRC by Fall 2021. The DRC has been expanding its collaboration with local, regional, and national

stakeholders, including the FBI, the Southeast Idaho Health Public District and other partners from private industry.

- Two new cybersecurity certificate programs have been added, one to correspond with the Bachelor of Science in Computer Science and the other to align with the Master of Science in Computer Science. The certificates are supported by INL and offered in conjunction with the Idaho Universities.

- Mary Lou Duzik-Gougar is the current president of the American Nuclear Society (ANS). Established in 1954, ANS is an international professional organization of engineers and scientists devoted to the peaceful applications of nuclear science and technology. Its more than 10,000 members represent government, academia, research laboratories, medical facilities and private industry.

College of Technology

- Provided high-resolution photos for Shaw auto parts commercial properties.

- Obtained and processed multi-spectral and electro-optical imagery for the Sageland Land and Trust foundation in the Century Heights area.

- Performed a dipping sonar scan experiment in the Rose Ponds and provided results to the Idaho Falls Police Department.

Kasiska Division of Health Sciences

In partnership with Southeastern Idaho Public Health and Portneuf Medical Center, over 130 students and faculty from the Kasiska Division of Health Sciences administered 10,029 COVID vaccinations to the public. 4,000 at the Meridian Health Sciences Center in partnership with Albertsons Pharmacy as well.

College of Health Professions

- The College of Health is focused on growth and expansion to support workforce needs of our state and region

- Our faculty are actively involved in education, scholarship, and service to the community

- Largest college on campus:

    - School of Nursing
    - School of Rehabilitation and Communication Sciences
        - PT/OT, CSD
    - Departments for different health professions:
        - Counseling, Dietetics, Dental Hygiene, Radiographic Science, Medical Lab Science, Physician assistant, Community and Public Health, Emergency Services
    - Pre-health students (AS and BS in Health Sciences)

College of Pharmacy

COVID-19 Response

- Supported testing
    - Equipped community pharmacies
    - Supported PPE needs

- Conducted vaccination clinics

- Influenza
- COVID-19

- Supported Idaho Public Health
  - Supported ISU and KDHS efforts

School of Nursing

- Achieved full 10-year accreditation:
  - Traditional Bachelor of Science in Nursing
  - Bachelor of Science completion program
  - Masters in Nursing, Education focus
  - Doctor of Nursing Practice [DNP] Family Nurse Practitioner option
  - Doctor of Nursing Practice [DNP] Psychiatric Mental Health Nurse Practitioner option

- Addition of Psychiatric Mental Health Nurse Practitioner Graduate Certification

- Articulation agreements were finalized with the College of Southern Idaho (CSI) and College of Eastern Idaho (CEI) for students to concurrently enroll for completion of the Bachelor's degree in nursing at ISU SON.

- Opening nurse practitioner clinic in Meridian

School of Rehabilitation and Communication Sciences

- Expansion of the Masters in OT to Meridian
  - Projected class of 20 students - Fall of 2022
  - Hiring 3-4 additional faculty

- First graduating class of Doctorate in PT in Meridian
  - Represents a 100% increase in graduating DPT students this year

- Clinical services to cochlear implant and other audiology patients throughout 2020, including in Northern Idaho

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Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1: Grow Enrollment – Objective: Increase new full-time, degree-seeking students by 20% (+450 new students, 2,702) over the next five years.* * full-time certificate and undergraduate and full and part-time graduate degree-seeking students						
1. Increase new full-time, certificate and degree-seeking undergraduate student enrollment and full and part-time graduate student enrollment for FYs 18-22 by 20% (450).	actual	2,282	2,327	2,319	2,255	----------
	target	*2,320*	*2,401*	*2,485*	*2,499*	*2,702*
Goal 2: Strengthen Retention – Objective: Improve undergraduate student retention rates by 5% by 2022.						
2. Fall-to-fall, full-time, first-time bachelor degree-seeking student retention rate FYs 18-22. **Benchmark Definition:** A 5% (74%) increase in fall-to-fall, full-time, first-time bachelor degree-seeking student retention rate beginning from FY 16 (69%) retention numbers (SBOE benchmark = 80%).[1]	actual	63%	64%	63%	66%	----------
	Total	1,186	1,174	1,073	992	
	Retained	750	752	675	655	
	Not Retained	436	422	398	337	
	target	*71%*	*72%*	*72%*	*72%*	*74%*
Goal 3: Promote ISU's Identity – Objective: Over the next five years, promote ISU's unique identity by 50% (5.750b) as Idaho's only institution delivering technical certificates through undergraduate, graduate, and professional degrees.						
3.2 Promote the public's knowledge of ISU through owned and earned media captures FY 18-22. (FY 2022 = 5.750 billion)[2]	actual	1,171 b	779.2 m	1,920 b	Available Fall 2021	----------
	target	*3.833b*	*4.312b*	*4.792b*	*5.271b*	*5.750b*
Idaho State Board Of Education System-Wide Strategic Plan Measures						
1. Math Pathways VI - Percent of new degree-seeking freshmen completing a gateway math course within two years. (FY 2025 = 40%) (SBOE system-wide Strategic Plan Measure)	actual	42%	42%	37%	35%	----------
	Total	1,937	1,823	1,836	1,809	
	Completed Math	821	764	682	630	
	Did Not Complete Math	1,116	1,059	1,154	1,179	
	target	*34%*	*37%*	*37%*	*37%*	38%

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
2. Reform Remediation V - Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit bearing course (in the area identified as needing remediation) within a year with a "C" or higher. (FY 2025 = 45%) [3] (SBOE system-wide Strategic Plan Measure)	Math - actual	28%	31%	32%	42%	----------
	Math - Total	496	521	400	334	
	Completed Math	137	163	126	140	
	Did Not Complete Math	359	358	274	194	
	English -actual	92%	94%	92%	89%	----------
	English - Total	276	362	296	92	
	Completed English	253	339	273	82	
	Did Not Complete English	23	23	23	10	
	target	*34%*	*37%*	*38%*	*39%*	*40%*
3. Timely Degree I - Percent of undergraduate, degree-seeking students completing 30 or more credits per academic year at the institution reporting. (FY 2025 = 50%) (SBOE system-wide Strategic Plan Measure)	actual	25%	25%	26%	23%	----------
	Total	9,263	8,876	8,531	7,746	
	Completed 30+ hours	2,292	2,192	2,256	1,767	
	Did Not Complete 30+ hours	6,971	6,684	6,275	5,979	
	target	*28%*	*29%*	*29%*	*29%*	*30%*
4. Timely Degree II - Percent of first-time, full-time, freshmen graduating within 150% of time. (FY 2025 = 40%) [4] (SBOE system-wide Strategic Plan Measure)	actual	32%	34%	33%	36%	----------
	Total	1,171	1,070	1,360	1,169	
	Graduated Within 150%	372	369	443	420	
	Did Not Graduate Within 150%	799	701	917	749	
	target	*34%*	*35%*	*35%*	*35%*	*36%*
5. Timely Degree III - Total number of certificates/degrees produced (FY 2025 = 2,058) (SBOE system-wide Strategic Plan Measure) [5]	actual	1,896	1,932	1,800	2,082	----------
	Certificates of less than 1 academic year	26	29	6	4	
	Certificates of 1 academic year or more	231	242	219	300	
	Associate	473	428	420	494	
	Bachelor	1,166	1,233	1,155	1,284	
	target	*+22*	*+22*	*+22*	*+22*	*+22*

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6. Guided Pathways VII - Percent of first-time, full-time freshmen graduating within 100% of time. (FY 2025 = 20%)[4] (SBOE system-wide Strategic Plan Measure)	actual	16%	20%	19%	23%	----------
	Total	1,361	1,169	1,141	1,172	
	Graduated Within 100%	222	229	220	264	
	Did Not Graduate Within 100%	1,139	940	921	908	
	target	*17%*	*18%*	*19%*	*20%*	*20%*
Performance Measure		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**
7. Timely Degree IV - Number of unduplicated graduates. (FY 2025 = 1,998) (SBOE system-wide Strategic Plan Measure) 6	actual	1,851	1,867	1,739	2,008	----------
	Certificates of less than 1 academic year	21	28	6	4	
	Certificates of 1 academic year or more	227	238	218	288	
	Associate	472	427	411	489	
	Bachelor	1,131	1,174	1,104	1,227	
	target	*1,887*	*1,896*	*1,905*	*1,910*	*1,915*

Performance Measure Explanatory Notes *(Optional)*

1. The FY 2021 data (Fall 2020 cohort) are those enrolled at ISU as of August 18, 2021. This rate could change by Census Day (October 15, 2021).
2. The methodology for calculating the public's knowledge of ISU through owned and earned media was revised in ISU's 2020 Strategic Plan because the previous methodology was greatly influenced by unexpected media events.
3. The methodology for this metric was revised in 2020 for all years. Remedial Math includes courses numbered below a 100 level, Math 1108, 1108P – Intermediate Algebra, MATH 1123P and 1153P are a co-requisite model. Remedial English courses were replaced with a co-requisite model in 2015. ENGL 1101P is a variation of ENGL 1101 in which students not placing into ENGL 1101 receive intensive supplemental instruction in reading, analyzing, and writing expository essays. Data in FY 2016 includes student enrolled in a remedial English course or ENGL 1101P. After FY 2016, data represents students enrolled in only ENGL 1101P. Student cohorts are new first-time and new transfer students that graduated from an Idaho high school upon their first successful completion of a remedial course.
4. The data reported in the FY 2021 column for the percent of first-time, full-time, freshmen graduating within 150% of time and 100% are tentative and may be revised after degrees awarded in Summer 2021 are posted.
5. Total number of certificates/degrees produced, broken out by award levels.
6. Number of unduplicated graduates, broken out by award levels. Leverage IPEDS methodology: Students are counted once per award level, regardless of double majors. So if a student earned an associate's and a bachelor's in the same year, they would be counted once under each level (twice overall), but if they received two bachelors, they would be counted once.

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ATTACHMENT 10

Part I – Agency Profile

Agency Overview

Lewis-Clark State College (LC State) was established by the Idaho State Legislature in 1893 as a regional Normal School dedicated to teacher training. Today, LC State is one of Idaho's four public 4-year higher education institutions. LC State's Carnegie classification is *Baccalaureate College—Diverse Fields,* with the "diverse" designation referring to the College's broad mix of undergraduate programs in the professions, arts, and sciences. The Carnegie classification of LC State's size and setting is "small four-year, primarily non-residential."

LC State's credit and non-credit programs fall within three primary mission areas: academic programs, career & technical education programs, and professional programs. In addition to its traditional 4-year baccalaureate programs, the College has been assigned a collateral mission of providing community college programs within its five-county area of operations (Clearwater, Idaho, Latah, Lewis, and Nez Perce Counties) by its governing body, the State Board of Education. The College emphasizes undergraduate teaching and learning (with research playing a supporting role to teaching), application of learning, direct interaction among students and faculty (LC State does not utilize teaching assistants), and a small-college/small-class environment that maximizes the opportunities for the success of LC State's traditional and non-traditional students.

LC State's campus is located in Lewiston, ID. The College also delivers instructional programs at the LC State Coeur d'Alene Center (in collaboration with its Northern Idaho Center for Higher Education [NICHE] partners: Boise State University, Idaho State University, North Idaho College, and the University of Idaho), and operates outreach centers in Grangeville and Orofino. LC State's chief executive officer, Dr. Cynthia Pemberton, assumed her duties as the College's 16th president July 1, 2018. LC State is accredited by the Northwest Commission on Colleges and Universities (NWCCU).

Core Functions/Idaho Code

The statutory basis for LC State is located in the Idaho Code, Title 33 (Education), Chapter 31, which directs the College to offer instruction in *"college courses in the sciences, arts and literature, professional, technical, and courses or programs of higher education as are usually included in colleges and universities leading to the granting of appropriate collegiate degrees as approved by the state board of education."*

Mission:
Lewis-Clark State College prepares students to become successful leaders, engaged citizens, and lifelong learners.

Core Theme One: Opportunity
Expand access to higher education and lifelong learning.

Core Theme Two: Success
Ensure attainment of educational goals through excellent instruction in a supportive environment.

Core Theme Three: Partnerships
Engage with educational institutions, the business sector, and the community for the benefit of students and the region.

LC State's revenue comes from state appropriations; student tuition and fees; federal, state, and private grants and contracts; sales and services from educational and auxiliary services; and endowments and gifts. These revenues are allocated to instructional programs and support functions.

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Revenues and Expenditures (includes Career & Technical Education)

Revenue	FY 2018	FY 2019	FY 2020	FY 2021[1]
State Appropriations	$24,759,707	$24,687,632	$25,281,256	
Student Fees	$12,275,296	$12,553,544	$12,634,678	
Federal Grants & Contracts	$7,629,716	$7,286,855	$8,374,957	
State Grants & Contracts	$2,671,345	$2,825,307	$3,218,872	
Private Gifts, Grants & Contracts	$1,873,069	$1,857,096	$5,521,221	
Sales & Services of Education Act	$1,409,868	$1,326,814	$913,587	
Sales & Services of Aux Ent	$2,382,034	$2,177,835	$2,100,998	
Other	$490,752	$695,616	$597,259	
Total	**$53,491,787**	**$53,410,699**	**$58,642,828**	
Expenditures	**FY 2018**	**FY 2019[1]**	**FY 2020**	**FY 2021[1]**
Instruction	$23,435,037	$23,045,531	$22,420,874	
Research	$435,193	$410,944	$348,337	
Public Service	$964,570	$917,740	$741,497	
Library	$1,213,477	$1,209,530	$1,033,312	
Student Services	$5,504,906	$5,539,887	$5,374,379	
Physical Operations	$6,075,117	$6,298,617	$5,933,200	
Institutional Support	$5,619,949	$5,719,060	$5,436,312	
Academic Support	$3,732,461	$4,038,924	$3,865,516	
Auxiliary Enterprises	$5,626,370	$1,136,513	$2,393,266	
Scholarships/Fellowships	$1,511,937	$5,731,987	$5,180,679	
Other	$6,894	$0		
Total	**$54,125,911**	**$54,048,733**	**$52,727,372**	

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Annual (unduplicated) enrollment headcount (EOT)	4,919	4,912	5,291	4,835
- Academic	4,528	4,496	4,833	4,268
- Career & Technical	391	416	458	567
Annual Enrollment FTE	2,765	2,687	2,711	2,542
- Academic	2,418	2,334	2,364	2,282
- Career & Technical	347	353	346	260
Annual student credit hour production	82,937	80,600	81,318	76,267
- Academic	72,524	70,024	70,926	68,463
- Career & Technical	10,413	10,576	10,392	7,804
Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit-bearing course. Goal 2, Objective B, Measure II - **English**[6]	63%	73%	68%[5]	61%[3]
Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit-bearing course. Goal 2, Objective B, Measure II - **Mathematics**[6]	47%	44%	44%[5]	45%[3]
Percent of new degree-seeking freshmen completing a gateway math course within two years. Goal 2, Objective B, Measure III	48%	53%[5]	36%[3]	44%[3]

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FY 2021 Performance Highlights *(Optional)*

- **AASCU EXCELLENCE AWARD** – LC State was chosen to receive the 2021 American Association of State Colleges and Universities Excellence and Innovation Award for Leadership Development and Diversity for its Do More: Leadership Development Program.
- **BUILDING IDAHO'S FUTURE –** The college received two grants from the Building Idaho's Future program for $308,814.04 to help specifically with the college's popular hospitality management and medical assistant degree and certificate offerings.
- **NURSING ACCREDITATION –** LC State's baccalaureate degree program in nursing was granted continued accreditation for another 10 years by the Commission on Collegiate Nursing Education.
- **MOU WITH CSI –** To help address southern Idaho's teacher shortage, LC State and the College of Southern Idaho signed a Memorandum of Understanding to allow students at the two-year junior college in Twin Falls to complete a bachelor's degree in elementary education through LC State without leaving the Magic Valley. The two schools also formed a co-admission and co-enrollment agreement earlier in the year.
- **SPORT COACHING GRAD CERTIFICATE –** The college received approval from the Northwest Commission on Colleges and Universities to offer a 12-credit online graduate program in Sport Coaching. It's second post-graduate offering in the college's 128-year history.
- **BEST NURSING PROGRAM IN IDAHO –** RNtoMSN.org ranked LC State's registered nurse (RN) to a Bachelor of Science degree in nursing (BSN) online program as No. 1 in Idaho for the best overall program, the fastest program for earning a BSN, and the most affordable program. The nursing program was also rated as the best among all four-year institutions in the state of Idaho by RegisteredNursing.org.
- **IDAHO GEM AWARD –** Amy Minervini, an English instructor in LC State's Humanities Division, was recognized as the 2021 Innovative Educator for Written Communication in the third annual Idaho GEM Innovative Educator Awards, presented by the Idaho State Board of Education's General Education Committee and Capital Educators Credit Union.
- **CAMP GRANT & TALENT SEARCH GRANT –** Lewis-Clark State's College Assistance Migrant Program was renewed for five years with a $2,279,297 grant, as was the Talent Search Grant for $1,640,000 from the United States Department of Education.
- **NURSING GRAD CERTIFICATE –** LC State's Nursing Management and Leadership graduate certificate received approval from the Northwest Commission on Colleges and Universities to be offered in the fall. The certificate marks the first post-graduate offering in the college's 128-year history.
- **DUAL CREDIT ACCREDITATION –** The college's dual credit program was accredited by the National Alliance of Concurrent Enrollment Partnerships.
- **AUTO MECHANICS ACCREDITATION –** LC State's Auto Mechanics Technology program had its Master Automobile Service Technology (MAST) accreditation renewed for five years. The MAST accreditation is the highest level of program accreditation recognized by the National Institute for Automotive Service Excellence.
- **TOP CPA MARKS –** For the second straight year, Lewis-Clark State College graduates recorded the highest average score and pass rate on the Certified Public Accountant exams among four-year public institutions in Idaho, according to data released by the Idaho State Board of Accountancy.
- **BLUE CROSS SCHOLARSHIPS –** The Blue Cross of Idaho Foundation for Health partnered with Lewis-Clark State College to award $1 million in scholarships over the next 10 years to students from Idaho majoring in health care-related fields
- **RADIOGRAPHIC SCIENCE ACCREDITATION –** The Radiographic Science program at LC State was granted maintenance of accreditation by the Joint Review Committee on Education in Radiologic Technology for a period of eight years.
- **SCHWEITZER CTE CENTER OPENS –** The start of spring semester, Jan. 19, 2021, marked the official opening of the Schweitzer Career & Technical Education Center. The $27 million, 86,000-square foot state-of-the-art facility is the new home of seven of LC State's Technical & Industrial Division programs.

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- **MOU WITH CEI –** LC State signed a memorandum of understanding and agreement with College of Eastern Idaho for a co-admission and co-enrollment partnership as well as a financial aid consortium agreement.
- **MOU WITH CONFEDERATED TRIBES –** The college signed a Memorandum of Understanding (MOU) with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). The MOU strengthens the relationship between the two and improves the quality of educational services and opportunities provided to the tribes and students at LC State.
- **ENROLLMENT –** Despite a pandemic and dire enrollment predictions and realities across the nation, LC State's overall fall enrollment grew by 2.88 percent, while its full-time equivalent enrollment inched up 0.26 percent. Overall, LC State had 3,856 students enrolled in fall 2020.
- **CTE DONATIONS –** The J.A. and Kathryn Albertson Family Foundation donated $1 million to the Schweitzer Career & Technical Education Center. In all, the college has raised more than $7.6 million toward the CTE center.
- **BEST IN THE WEST –** LC State was named one of the top four public regional colleges in the West by U.S. News & World Report's rankings of the 2021 best colleges.
- **IDAHO FIRST & FIRST GEN** – Idaho residents accounted for 82 percent of LC State's total student head count in fall 2020. Seventy-eight percent of LC State's student body were first generation college students.
- **TUITION FREEZE** – Along with its sister institutions, LC State froze tuition in 2020-21 for the second straight year. The college continues to have the lowest tuition and fees among Idaho's public four-year institutions.
- **AFFORDABILITY MATTERS** – 82 percent of LC State students receive financial aid and nearly half are low-income (receive Pell Grant).
- **HIGH PLACEMENT RATES –** 97% of academic program graduates and 98% of career-technical graduates are successfully placed in careers, continuing education, or the military.
- **MEN'S BASKETBALL FINISHES SECOND** – The LC State men's basketball team finished second in the NAIA national tournament, its best finish ever. The team went 22-2 and won both the Cascade Conference regular season and tournament titles.
- **SUCCESS IN THE CASCADE CONFERENCE & NAIA** – In its first year competing in the Cascade Collegiate Conference (CCC), Lewis-Clark State won four of the 10 conference championships it competed in, capturing titles in men's and women's basketball, baseball and men's cross country. Men's Track and Field standout, Leon Menton won a NAIA national title in the javelin. LC State Athletics earned CCC President's Club honors for academic excellence with an overall composite GPA of 3.34 and 68% of the student-athletes earning Academic All-Conference Honors.
- **OLYMPIC AND MLB SUCCESS –** LC State had its second Olympic competitor when former standout and current assistant coach Sam Atkin competed in the 10,000-meter run for Great Britain. The college also has alumnus Seth Brown playing in Major League Baseball as the outfielder/first baseman for the Oakland Athletics.

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020[4]	FY 2021	FY 2022
Goal 1 *Sustain and enhance excellence in teaching and learning.*						
1. Number of online programs.	actual		36	40	42	
	Target			*37*	*42*	*42*
Number of evening/weekend programs. Goal 1, Objective A, Measure 1	actual		0	7	7	
	Target			*2*	*6*	*7*
2. Percent of undergraduate, degree-seeking students completing 30 or more credits per academic year at the reporting institution. Goal 2, Objective B, Measure I	actual	38%	31%	33%	29%	
	target		*30*	*32*	*34*	*36*
Goal 2 *Optimize student enrollment and promote student success*						
3. Percent of full-time, first-time, baccalaureate-seeking students graduating with a baccalaureate degree within 150% of time or less. Goal 2, Objective A, Measure IV	actual	34%	35%	34%	36%[2]	
	target	*24*	*25*	*33*	*34*	*36*
4. Total number of degrees/certificates produced. Goal 2, Objective C, Measure XI	actual	1033	988	896	868	
Certificate	actual	21	15	26	51	
	target		*21*	*21*	*28*	*30*
Associate	actual	425	347	365	218	
	target		*430*	*430*	*442*	*455*
Bachelor	actual	587	626	505	599	
	target		*594*	*646*	*666*	*705*
5. Number of <u>unduplicated</u> awards Goal 2, Objective B, Measure II	actual	962	874	806	756	
Certificate – [1b] certificates less than one year and [1] certificates of one year or more.	actual	20	15	25	42	
	target		*20*	*20*	*30*	*30*
Associate	actual	410	325	357	206	
	target		*415*	*420*	*424*	*433*
Bachelor	actual	573	616	491	589	
	target		*580*	*622*	*628*	*641*
6. Percent of first time, full-time freshmen graduating within 100% of time. Objective B, Measure IX	actual	15%	21%	18%	24%[2]	
	target	*22*	*23*	*24*	*25*	*27*

Performance Measure Explanatory Notes *(Optional)*

1. Audited financials available after November 1, 2022.

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2. Preliminary percentage – IPEDS graduation rates based on September 1 to August 31-graduation period. Current calculation based on July1, 2020 and June 30, 2021. Updated numbers will be available after September 1, 2020.
3. Preliminary result based on 2020-21 course completions.
4. The current Strategic Plan (2019-2023) is based on new measures, which may not have data available prior to FY2019.
5. Previously reported as preliminary numbers and have been updated as final numbers.
6. Previously reported as one number (unduplicated headcount). Now reported as breakouts of English and Math (duplicate headcount).

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Part I – Agency Profile

Agency Overview

College of Eastern Idaho (CEI) was, until 2017, Eastern Idaho Technical College (EITC) a public, state, two-year technical college in Idaho Falls, Idaho. The voters of Bonneville County on May 16, 2017, passed a ballot initiative creating a taxing district to form College of Eastern Idaho. The Northwest Commission on Colleges and Universities (NWCCU) recognized the new community college, subsequent mission change, and the addition of an Associate of Arts (AA) and Associate of Science (AS) in June 2017. Given the new status as an Idaho community college, the SBOE appointed a five-member board of trustees in July 2017 to locally govern CEI. This Board of Trustees went through an election in 2018 and are now the voted in members of the board. CEI established a name change with U.S. Department of Education and transitioned federal financial aid to College of Eastern Idaho in July 2017. CEI opened its doors to academic transfer students in August 2017.

Core Functions/Idaho Code

College of Eastern Idaho provides career and technical, academic transfer, and community education opportunities. Idaho Statute Title 33, Chapter 21.

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021*
General Fund and Misc. Receipts	7,796,700	13,197,120	13,663,244	1,2649,998
Grants and Contracts	7,726,773	11,017,917	9,990,749	11,375,310
Student Fees	1,792,109	2,403,591	2,595,334	2,960,242
Capital Grants and Appropriations	5,500	0	-	0
Sales and Services	40,292	875,020	943,106	1,222,042
Other	148,038	774,702	1,030,218	1,252,194
Total	**$17,509,412**	**$28,268,350**	**$28,222,651**	**$29,459,786**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	10,473,212	13,341,000	15,316,221	16,982,123
Operating Expenses	6,340,778	11,034,539	11,700,820	12,124,572
Capital Outlay	5,500	26,729	49,569	584,776
Total	**$16,819,490**	**$24,402,268**	**$27,066,610**	**$29,691,471**

**2021FY financial numbers are preliminary at the time of this report*

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Annual (unduplicated) Enrollment Headcount	1,301	2,038	2,402	2,627
Annual Unduplicated FTE	584	865	999	1097
Credit Hours Taught	17,521	25,963	29,981	32,919
Percent of Graduates to Total Unduplicated FTE	39%	28%	27%	30%
Graduates with certificates and degree completions per $100,000 of financials.	1.45	1.3	1.24	1.3[1]
Workforce Training Headcount	15,676	16,236	14,309	14,582[2]
Number and percentage of Students successfully completing Remedial Math Courses	101, 81%	183, 68%	121, 70%	89, 70%

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Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Remediation: Number of first-time freshman who graduate from and Idaho High school in the previous year requiring remedial education – unduplicated	28/99, 28%	62/217, 29%	25/134, 19%	20/159, 13%[3]
Retention Rate: Total full-time new and transfer students that are retained or graduate the following year (excluding death, military service, and mission).	98/122 80%	103/140, 74%	133/189 70%	138/196 70%
Dual Credit - Total credit hours earned and the unduplicated headcount of participating students	71/14	1516/345	3205/523	4342/742
Percentage of students who pass the TSA for certification. Goal 2, Objective A, Measure 4	78%	94%	93%	93%[4]
Total fall enrollment students that are retained or graduate in the following fall. Goal 4, Objective A, Measure 1	422	891	1,117	1,200[5]
Center for New Directions (CND) number of applicants/students receiving CND services. Goal 5, Objective D, Measure 1	301	318	294	318

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 *A Well Educated Citizenry*						
1. Degree and certificate production and headcount of recipients. Goal 1, Objective A, Measure 3	actual	213/211	255/245	278/273	346/328	----------
	target	*>260 / >245*	*>260 / >245*	*>260/ >245*	*>260/>245*	*>375/>350*
Goal 2 *Innovation and Economic Development.*						
2. Number of Graduates who found employment in their area of training. Goal 2, Objective A, Measure 1	actual	147	186	182	200[6]	----------
	target	*>225*	*>225*	*>225*	*>225*	*>225*
Goal 4 *Effective and Efficient Educational System.*						
3. Undergraduate Cost per Credit. Goal 4, Objective A, Measure 3	actual	$829	$756	$733	$725[7]	----------
	target	*<$700*	*<$700*	*<$700*	*<$700*	*<$700*
Goal 5 *Student Centered.*						
4. Utilization of annual Student Satisfaction Survey results for Student Centeredness. Gap per Noel Levitz Annual Survey. Goal 5, Objective A, Measure 1	actual	.89	.62	0.61	0.48[8]	----------
	target	*<0.25*	*<0.50*	*<0.25*	*<0.25*	*<0.25*
5. Tutoring contact hours in support of student needs for the number of contact hours annually per unduplicated headcount.	actual	9.3	8.86	12.9	11	----------
	target	*>9Hrs*	*>9.5Hrs*	*>9.5Hrs*	*>9.5Hrs*	*>9.5Hrs*

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 5, Objective B, Measure 1						
Statewide Measures *Not included above.*						
6. Timely Degree II - Percent of full-time first-time freshman graduating within 150% of time or less (2yr and 4yr)	actual	*54%*	*58%*	*56%*	*40%*[9]	----------
	target	*>55%*	*>55%*	*>65%*	*>65%*	*>55%*
7. Timely Degree I - Percent of undergraduate, degree-seeking students completing 30 or more credits per academic year at the institution reporting.	actual	*12%*	*8%*	*6%*	*4%*	----------
	target	*>15%*	*>15%*	*>10%*	*>10%*	*>10%*
8. Reform Remediation V-Math - Percent of undergraduate, degree-seeking students taking a remediation course completing a subsequent credit bearing course (in the area identified as needing remediation) within a year with a "C" or higher. (English)	actual	*88%*	*69%*	*74%*	75%	----------
	target	>78%	>78%	>78%	>78%	>78%
9. Reform Remediation V-Math - Percent of undergraduate, degree-seeking students taking a remediation course completing a subsequent credit bearing course (in the area identified as needing remediation) within a year with a "C" or higher. (Math)	actual	*26%*	*19%*	*22%*	*27%*	----------
	target	*>35%*	*>35%*	*>30%*	*>30%*	*>30%*
10. Math Pathways VI - Percent of new degree-seeking freshmen completing a gateway math course within two years.	actual	*26%*	*15%*	*8%*	16%	----------
	target	*>30%*	*>30%*	*>30%*	*>30%*	*>30%*
11. Guided Pathways VII - Percent of first time, full-time freshman graduating within 100% of time.	actual	*58%*	*49%*	*32%*	31%[9]	----------
	target	*>45%*	*>45%*	*>45%*	*>45*	*>45*

Performance Measure Explanatory Notes

**2020FY financial numbers are preliminary.*

1. Projected number at this time. When financials have been audited, then this measure can be updated.
2. Workforce Training head count number has been coming from the WTN report for CTE. This number is not a total count of all Workforce Training and Community Education activities at CEI. The WTN has specific requirements for which courses to include, and does not take into account all offerings and participants.
3. Remediation is tracked by course taking behavior.
4. Projected number, scores are still being collected for this reporting year.
5. This is a trailing measure that follows a fall cohort from the FY listed to the next fall; FY 2020 is the most recently available update.
6. Projected number. Final number is published in the spring when placement follow-up is completed. FY 2020 is the most recent update in this measure.
7. Projected number at this time. Measure is reliant on finalized and audited financial information.
8. In early 2017, CEI shifted the Noel Levitz survey administration to the spring term in place of fall terms like previous years. The result of this decision lead to 2017 being skipped in the survey cycle. Also of note, is that nationally the spring surveys tend to have lower levels of satisfaction as compared to the fall survey. As a result, we note an increase in gap as compared to previous years.
9. Projected number at the time of the report, data is still being collected. FY 2020 is most recent confirmed number at the time of the report.

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Part I – Agency Profile

Agency Overview

The College of Southern Idaho (CSI) represents a shared vision and a collaborative effort of the citizens of South-Central Idaho. In 1963, the Idaho Legislature passed the Junior College Act, which provided for the establishment of junior college districts. Twin Falls County voted to form a junior college district in November 1964. The following year Jerome County citizens voted to join the junior college district and the college began offering courses in the fall of 1965.

CSI continues to be funded by the two-county community college district, student tuition and fees, and state allocations, and operates under the direction of a locally elected five-member Board of Trustees in cooperation with the Idaho State Board of Education. The Board of Trustees hired Dr. James L. Taylor as the first president of the College of Southern Idaho. He served as president until his death in November of 1982. Gerald R. Meyerhoeffer became president in 1983, Dr. Gerald Beck became CSI's third president in 2005, and Dr. Jeff Fox was selected to be the College of Southern Idaho's fourth president in 2014. On July 1, 2020, Dr. L. Dean Fisher was selected to be the fifth president of the College of Southern Idaho, and he continues to serve in that role.

CSI's service area is defined in Idaho Code primarily as an eight-county area consisting of Twin Falls, Jerome, Lincoln, Camas, Blaine, Gooding, Minidoka, and Cassia counties. CSI offers programs and courses at its more than 315-acre main campus in Twin Falls, as well as at off-campus centers in Burley (Mini-Cassia Center), Hailey (Blaine County Center), Gooding (North Side Center), and Jerome (Jerome Center). Additionally, CSI offers Early College opportunities at dozens of high schools throughout Idaho.

The College of Southern Idaho's mission is to provide quality educational, social, cultural, economic, and workforce development opportunities that meet the diverse needs of the communities it serves. Students can choose from a wide range of transfer and career-technical programs with more than 120 program completion options ranging from short-term certificates to two-year associate degrees. The college also offers one Bachelor of Applied Science degree. Additionally, CSI provides workforce training opportunities to its students, along with basic skills, Adult Basic Education, and English as a Second Language courses for students requiring pre-college-level work.

Faculty teach in a variety of modalities including face-to-face in traditional classrooms and laboratories, online (both synchronously and asynchronously), and via other hybrid combinations. CSI partners with sister public post-secondary institutions in Idaho, which offer more than 50 bachelor's, master's, and other terminal degrees for students on the CSI campus or via online delivery. CSI is also active within its community, offering various enrichment courses, cultural and athletic events, business partnerships, and supporting economic development.

The institution was initially accredited by the Northwest Commission on Colleges and Universities (NWCCU) in 1968 and has had its accreditation continuously reaffirmed by NWCCU, most recently in June 2015.

Core Functions/Idaho Code

The College of Southern Idaho was established and is governed under Chapter 21 of Title 33 of Idaho Code. The primary function of the College of Southern Idaho as stated in Idaho Code is "instruction in academic subjects, and in such non-academic subjects as shall be authorized by its board of trustees" (Section 33-2102, Idaho Code).

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Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
Academic Appropriation	$14,105,800	$14,264,000	$14,117,900	$13,797,500
One Time Appropriation	$0	$0	$890,800	$0
Liquor Fund	$200,000	$200,000	$200,000	$200,000
Inventory Phaseout	$668,817	$678,000	$709,500	$752,500
Property Taxes	$6,641,069	$6,837,000	$7,355,800	$8,794,600
Tuition & Fees	$11,666,829	$11,604,467	$12,997,900	$13,309,100
County Tuition	$1,711,750	$1,889,931	$1,881,500	$1,811,600
Other	$1,520,735	$1,846,602	$1,750,100	$1,698,700
Total	**$36,515,000**	**$37,320,000**	**$39,903,500**	**$40,364,000**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$24,482,000	$25,421,000	$25,664,000	$25,768,000
Operating Expenditures	$9,120,000	$9,847,000	$11,402,800	$10,640,000
Capital Outlay	$2,913,000	$2,052,000	$2,856,700	$3,956,000
Total	**$36,515,000**	**$37,320,000**	**$39,903,500**	**$40,364,000**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2018	FY 2020	FY 2021
Annual Enrollment (Undup. Headcount) Career Technical Academic (Source: State Board of Education (SBOE) Post-Secondary (PSR) Annual Enrollment Report)	12,675 901 11,774 (2017-2018)	12,620 958 11,662 (2018-2019)	13,130 1,025 12,105 (2019-2020)	12,944 1,060 11,884 (2020-2021)
Annual Enrollment (Full Time Equivalent) Career Technical Transfer (Source: SBOE PSR Annual Enrollment Report)	3,970.7 703.03 3267.67 (2017-2018)	4,001.2 671.90 3329.00 (2018-2019)	4,133.4 725.56 3407.86 (2019-2020)	4105.0 775.4 3329.6 (2020-2021)
Dual Credit Enrollment Unduplicated Headcount Total Credit Hours (Source: SBOE Dual Credit Enrollment Report)	6,360 32,814 (2017-2018)	6,613 36,904 (2018-2019)	7,648 42,805 (2019-2020)	7,472 42,793 (2020-2021)
Remediation Rate First-Time, First-Year Students Attending Idaho High School within Last 12 Months (broken out my math and English) (Source: CSI) (Required for Idaho State Board Strategic Plan)	Math 52.5% (345/657) English 16.9% (111/657) (2017-2018)	Math 53.8% (344/639) English 14.1% (90/639) (2018-2019)	Math 44.6% (342/766) English 9.9% (76/766) (2019-2020)	Math 32.9% (223/678) English 9.0% (61/678) (2020-2021)
Timely Degree Completion-Completions Total number of certificates/degrees produced, broken out by certificates of one academic year or more; associate degrees (Source: IPEDS[1] Completions Report) (Statewide Performance Measure)	954 completions 154 certificates 800 degrees (2017-2018)	985 completions 146 certificates 839 degrees (2018-2019)	1,076 completions 129 certificates 947 degrees (2019-2020)	1,094 completions 147 certificates 947 degrees (2020-2021)
Timely Degree Completion-Completers Total number of unduplicated graduates, broken out by certificates of one academic year or more and associate degrees (Source: IPEDS Completions Report) (Statewide Performance Measure)	888 graduates[2] 152 certificates 736 degrees (2017-2018)	905 graduates[2] 146 certificates 795 degrees (2018-2019)	990 graduates[2] 129 certificates 861 degrees (2019-2020)	1,023 graduates[2] 147 certificates 876 degrees (2020-2021)

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Workforce Training Completions Total Duplicated Completions (Source: State Workforce Training Report)	7,531 (2017-2018)	9,841 (2018-2019)	4,714[3] (2019-2020)	7,367 (2020-2021)
Positive Placement of Career Technical Education Completers Percentage Placed (Source: CTE Postsecondary Follow-Up Report)	96% (2016-2017 graduates)	98% (2017-2018 graduates)	98% (2018-2019 graduates)	99% (2019-2020 graduates)

FY 2019 Performance Highlights *(Optional)*

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Core Theme/Goal 2: Student Success **Objective C: Support student progress toward achievement of educational goals**						
1. Timely Degree Completion-Credits completed per academic year Percentage of undergraduate, degree-seeking students completing 30 or more credits per academic year (Source: CSI) (Goal 2 Objective C; Measure VII) (Statewide Performance Measure)	actual	*(2017-18)* 12% (473/4,094)	*(2018-19)* 12% (456/3,947)	*(2019-20)* 11% (478/4,321)	*(2020-21)* 11% (467/4,416)	----------
	target	*NA (New measure)*	*NA (New measure)*	*11%*	*12%*	*15%*
Core Theme/Goal 2: Student Success **Objective C: Support student progress toward achievement of educational goals**						
2. Timely Degree Completion-150% Percentage of first-time, full-time degree/certificate seeking students who graduate within 150% of time (Source: IPEDS) (Goal 2; Objective C; Measure IX) (Statewide Performance Measure)	actual	*Fall 2015 Cohort* 27% (162/606)	*Fall 2016 Cohort* 31% (193/629)	*Fall 2017 Cohort* 35% (213/605)	*Fall 2018 Cohort* 36% (210/591)	----------
	target	*23%*	*28%*	*28%*	*30%*	*35%*
Core Theme/Goal 2: Student Success **Objective C: Support student progress toward achievement of educational goals**						
3. Guided Pathways-100% Percentage of first-time, full-time degree/certificate seeking students who graduate within 100% of time (Source: IPEDS) (Goal 2; Objective C; Measure X) (Statewide Performance Measure)	actual	*Fall 2016 Cohort* 15% (97/629)	*Fall 2017 Cohort* 20% (123/605)	*Fall 2018 Cohort* 21% (128/591)	*Fall 2019 Cohort* 31% (208/677)	----------
	target	*NA (New measure)*	*NA (New measure)*	*16%*	*19%*	*22%*
Core Theme/Goal 2: Student Success **Objective C: Support student progress toward achievement of educational goals**						

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
4. Remediation Reform-Math Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit-bearing course (in the area identified as needing remediation) with a "C" or higher (Source: CSI) (Goal 2; Objective C; Measure VI) (Statewide Performance Measure)	actual	*(2017-18)* 48% (386/805)	*(2018-19)* 48% (435/914)	*(2019-20)* 43% (339/785)	*(2020-21)* 48% (484/1,012)	----------
	target	*NA (New measure)*	*NA (New measure)*	*35%*	*40%*	*48%*
Core Theme/Goal 2: Student Success Objective C: Support student progress toward achievement of educational goals						
5. Remediation Reform-English Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit-bearing course (in the area identified as needing remediation) with a "C" or higher (Source: CSI) (Goal 2; Objective C; Measure V) (Statewide Performance Measure)	actual	*(2017-18)* 72% (198/276)	*(2018-19)* 78% (203/261)	*(2019-20)* 73% (185/255)	*(2020-21)* 71% (151/214)	----------
	target	*NA (New measure)*	*NA (New measure)*	*72%*	*72%*	*78%*
Core Theme/Goal 2: Student Success Objective C: Support student progress toward achievement of educational goals						
6. Math Pathways Percent of new degree-seeking freshmen completing a gateway math course within two years (Source: CSI) (Goal 2; Objective C; Measure VI) (Statewide Performance Measure)	actual	*(2017-18)* 34% (430/1,268)	*(2018-19)* 41% (485/1,187)	*(2019-20)* 48% (499/1,044)	*(2020-21)* 50% (517/1,030)	----------
	target	*NA (New measure)*	*NA (New measure)*	*40%*	*43%*	*50%*
Core Theme/Goal 2: Student Success Objective C: Support student progress toward achievement of educational goals						
7. Retention Rates Percentage of first-time, full-time, degree-seeking students retained or graduated the following year (Source: IPEDS) (Goal 2; Objective C; Measure I)	actual	*Fall 2016 Cohort* New Students 58% (366/629) Transfer 71% (157/221)	*Fall 2017 Cohort* New Students 59% (355/607) Transfer 59% (121/205)	*Fall 2018 Cohort* New Students 61% (358/591) Transfer 71% (202/285)	*Fall 2019 Cohort* New Students 66% (445/678) Transfer 57% (63/110)	----------

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	target	*61% (New Students)*	*61% (New Students)*	*61% (New Students)*	*60% (New Students)*	*63% (New Students)*

Performance Measure Explanatory Notes *(Optional)*

Notes

[1] Integrated Postsecondary Education Data System (IPEDS)

[2] Total number of graduates. Because the same graduate may complete both a certificate and a degree in the same year, the sum of those two categories may exceed the total number of graduates.

[3] Drop primarily due to COVID restrictions.

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ATTACHMENT 13

Part I – Agency Profile

Agency Overview

The College of Western Idaho (CWI) is Idaho's largest community college and is located in the vibrant and active Treasure Valley area. CWI has quickly become a valuable college resource for the region. CWI continues to experience consistent enrollment, with 10,148 credit students enrolled at the start of the 2020-2021 academic year, and 16,139 credit students in the spring semester of 2021.

CWI is a comprehensive community college fostering student learning and development academically, as well as personally and occupationally. CWI offers undergraduate, professional-technical, fast-track career training, and basic skills education. With over 50 credit programs and hundreds of non-credit courses, students have an abundance of options when it comes to developing career skills or preparing for further study at a baccalaureate institution. CWI serves as an exceptional economic engine for western Idaho, serving the local business and industry training needs with customized training to garner an edge in today's competitive market.

CWI's service area is unique, and the area's characteristics have implications for the future of local higher education. CWI's service area includes Ada County, Adams County, Boise County, Canyon County, Gem County, Payette County, Valley County, Washington County, and portions of Elmore and Owyhee Counties.

CWI adheres to Idaho Code Title 33 Education, Chapter 21 Junior (Community) Colleges. Policies of the Idaho State Board of Education that apply to CWI are limited as specified by Board Policy Section III, Subsection A.

Core Functions/Idaho Code

CWI is a two-year comprehensive community college as defined by Idaho Code 33, Chapters 21 and 22. The core functions of CWI are to provide instruction in: 1) academic courses and programs, 2) career-technical courses and programs, 3) workforce training through short- term courses and contract training for business and industry, and 4) non-credit, special interest courses.

Revenue and Expenditures[1]

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Funds–Gen Ed	$12,570,000	$13,938,900	$14,998,100	
Liquor Fund	$200,000	$200,000	$200,000	
Property Taxes	$8,016,759	$8,564,845	$9,166,100	
Tuition and Fees	$24,015,199	$23,932,873	$25,754,900	
County Tuition	$833,750	$949,450	$830,000	
Misc. Revenue	$925,339	$1,466,816	$1,173,900	
Total	**$46,561,047**	**$49,052,884**	**$52,123,000**	
General Funds - CTE	$9,033,411	$9,255,700	$9,334,300	
Total (with General Funds - CTE)	**$55,594,458**	**$58,308,584**	**$61,457,300**	
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$26,913,517	$29,179,842	$30,845,300	
Operating Expenditures	$12,527,751	$11,133,325	$15,435,700	
Capital Outlay[2]	$780,669	$16,210,896	$4,332,200	
Total	**$40,221,937**	**$56,524,063**	**$50,613,200**	

Footnotes

[1] Financials represent Total Expenditures on the Budget Request (B2) submitted to SBOE, available end of October.

[2] Capital Outlay in FY2019 includes $13,650,408 for Certificate of Participation (COP) bond financing for CWI Aspen Creek buildings and land.

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Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Annual Enrollment Headcount Career & Technical Academic *(PSR 1 Annual Enrollment Report, SBOE)*	 1,111 18,417	 1,086 20,103	 1,153 20,752	 1,017 19,762
Annual Enrollment FTE[3] Career & Technical Academic *(PSR 1 Annual Enrollment Report, SBOE)*	 761 5,514	 726 5,993	 834 6,163	 690 6,013
Degree Production Unduplicated number of graduates over rolling 3-year average of Degree Seeking FTE *(Completions Survey, Grand total, IPEDS)* *(PSR 1 Annual Enrollment Report, SBOE)* *SBOE Measure*	27%	28%	30%	33%
Dual Credit Headcount (unduplicated)[4] Total Annual Credit Hours Total Annual Student Headcount *(Annual Dual Credit Enrollment Report, SBOE)* *SBOE Measure*	 59,743 10,606	 62,366 11,409	 67,363 12,098	 64,590 11,310
Workforce Training Headcount (duplicated)[5] *Workforce Training Network Report, Idaho Career and Technical Education)*	9,150	8,127	6,026	5,231
ABE/ASE/ESL (duplicated)[6] *(Adult Basic Education Workforce Innovation and Opportunity Act (WIOA) Title II Report, Idaho Career and Technical Education)*	2,885	2,647	2,108	1,965

Footnotes

[3] Summer, Fall, Spring; Count reflects SDCTE definition of CTE majors who also complete a CTE course.

[4] CWI, with over 11k dual credit students, is the largest provider of dual credit coursework/credits in the state of Idaho.

[5,6] Non-credit programs (Workforce Training & Adult Basic Education) were partially impacted by COVID-19 in FY20 and FY21.

FY 2021 Performance Highlights *(Optional)*

- Graduation rates have improved since implementing new student advising models and guided pathways. (Noted in performance measures 9 and 10)
- Dual credit continues to be in high demand, allowing CWI to offer college credit to over 11,000 Idaho high school students across the State.
- Math remediation and gateway math completion have improved over the years with an innovative Math Solution Center and co-requisite courses; however, this subject remains a challenge, which CWI is continually addressing to improve student degree completion. (Noted in performance measures 7 and 8)
- COVID-19 partially impacted the FY20 and FY21 enrollments for the Workforce Development and Adult Basic Education non-credit programs.

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Timely Degree III						
1. Total number of certificates/degrees produced. a) Certificates of *one academic year* or more.	actual	***261*** *(402 w/General Education Awards)*	***297*** *(508 w/General Education Awards)*	***325*** *(1,264 w/General Education Awards)*	***328*** *(1,158 w/General Education Awards)*	----------
	Target	*>=300*	*>=300*	*>=300*	*>=300*	
Timely Degree III						
2. Total number of certificates/degrees produced. b) Associate degrees.	actual	***963***	***886***	***949***	***944***	----------
	Target	*>=1000*	*>=1000*	*>=1,000*	*>=1,000*	
Timely Degree IV						
3. Number of unduplicated graduates. a) Certificates of *one academic year* or more.	actual	***197*** *(336 w/General Education Awards)*	***241*** *(451 w/General Education Awards)*	***268*** *(1,197 w/General Education Awards)*	***259*** *(1,086 w/General Education Awards)*	----------
	Target	*>=275*	*>=275*	*>=275*	*>=275*	
Timely Degree IV						
4. Number of unduplicated graduates. *b)* Associate degrees. *(system-wide measure IV. a.)*	actual	***898***	***861***	***917***	***913***	----------
	Target	*>=975*	*>=975*	*>=975*	*>=975*	
Timely Degree Completion I						
5. Percent of undergraduate, degree-seeking students completing 30 or more credits per academic year at the institution reporting. *(system-wide measure I)*	actual	***4%***	***5%***	***4%***	***4%***	----------
	Target	*7%*	*7%*	*7%*	*8%*	

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Reform Remediation V						
6. Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit bearing course (in the area identified as needing remediation) within a year with a "C" or higher. a) English *(system-wide measure V.)*	actual	***71%***	***70%***	**74%**	***70%***	----------
	Target	*100%*	*100%*	*72%*	*72%*	
Reform Remediation V						
7. Percent of undergraduate, degree-seeking students who took a remedial course and completed a subsequent credit bearing course (in the area identified as needing remediation) within a year with a "C" or higher. b) Math *(system-wide measure V.)*	actual	***17%***	***23%***	***27%***	***25%***	----------
	Target	*>=65%*	*>=25%*	*>=25%*	*>=25%*	
Math Pathways VI						
8. Percent of new degree-seeking freshmen completing a gateway math course within two years *(system-wide measure VI.)*	actual	***18%***	***24%***	***27%***	***31%***	----------
	Target	*>=25%*	*>=25%*	*>=25%*	*>=25%*	
Timely Degree III						
9. Percent of first-time, full-time, freshmen graduating within 150% of time. *(system-wide measure VIII.)*	actual	***21%*** *(Fall 2015 Cohort)*	***22%*** *(Fall 2016 Cohort)*	***23%*** *(Fall 2017 Cohort)*	***24%*** *(Fall 2018 Cohort)*	----------
	Target	*>=16%*	*>=16%*	*>=16%*	*>=26%*	

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Guided Pathways VII						
10. Percent of first-time, full-time freshmen graduating within 100% of time *(system-wide measure VIII.)*	actual	***11%*** *(Fall 2016 Cohort)*	***13%*** *(Fall 2017 Cohort)*	***14%*** *(Fall 2018 Cohort)*	***15%*** *(Fall 2019 Cohort)*	----------
	Target	*>=5%*	*>5%*	*>=5%*	*>=19%*	

Performance Measure Explanatory Notes *(Optional)*

- Math and English remediation metrics have undergone revisions since the system-wide measures launched in 2017. CWI's 2018 Strategic Plan targets for these metrics do not align with this PMR's measure methodology. The 2019-2021 CWI Strategic Plan contains the updated targets for Math and English remediation of 25% and 72% respectively.
- FY21 values for performance measures 9 and 10 are preliminary at the time of reporting, as data is still being collected.

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ATTACHMENT 14

Part I – Agency Profile

History

North Idaho College was first known as Coeur d'Alene Junior College, a private school that was started in 1933 and operated for six years. The state legislature passed the Junior College Act in January 1939, which permitted qualified areas to establish junior college districts by a vote of eligible electors. Coeur d'Alene Junior College became North Idaho Junior College in June of 1939. On July 31, 1971, the college changed its name to North Idaho College. NIC's service area is the Idaho Panhandle, which includes Kootenai, Benewah, Bonner, Shoshone, and Boundary Counties.

General Information

North Idaho College is a comprehensive community college established in 1933 on the shores of Lake Coeur d'Alene at the headwaters of the Spokane River. NIC's vibrant college community includes 6,000+ students enrolled annually in credit courses and more than 4,800 students taking non-credit courses. College faculty and staff relentlessly focus on providing a rich, rewarding higher education experience for every student.

NIC offers a broad spectrum of career paths for students to choose from, with more than 80 academic degree, and career and technical education certificate programs. These career pathways at NIC cover various interest areas, including arts, communications and humanities; healthcare; science, technology, engineering and math; business administration and management; manufacturing and trades; and social sciences and human services.

With state-of-the-art facilities, the college's beautiful main campus is in Coeur d'Alene, Idaho, a waterfront city of 52,400 residents. Coeur d'Alene lies within Kootenai County, which is home to 165,000 citizens. The larger city of Spokane, Washington, is just 34 miles west. The greater Spokane-Coeur d'Alene metropolitan area, with a population of 734,000+, is the economic and cultural center of the U.S. Inland Northwest.

NIC plays a vital role in the region's economic development by preparing competent, trained employees for area businesses, industries, and governmental agencies.

Beyond Coeur d'Alene, NIC meets the diverse educational needs of residents of Idaho's five northern counties with the NIC Sandpoint center in Sandpoint, Idaho, online services and courses, and comprehensive outreach services. The college's regional facilities include the NIC Parker Technical Education Center in Rathdrum and the Workforce Training Center in Post Falls.

Core Functions/Idaho Code

North Idaho College is a two-year community college as defined by Idaho Code 33, Chapter 21 and 22. The core functions of North Idaho College are to provide instruction in academic courses and programs and in career and technical courses and programs. As a part of career and technical education, the college also offer workforce training through short- term courses, contract training for business and industry, and non-credit, special interest courses.

As a second core function, the college confers the associate of arts degree and the associate of science degree for academic programs, and confers the associate of applied science degree and certificates for career and technical programs. Students obtaining an associate of arts or an associate of science degree can transfer with junior standing to all other Idaho public colleges and universities.

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Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021*
General Funds	$12,725,000	$12,909,900	12,430,200	11,805,400
Economic Recovery	$0	$0	$0	$0
Liquor Fund	$200,000	$200,000	$200,000	$200,000
Property Taxes	$15,014,800	$15,299,600	$15,992,700	$16,894,145
Tuition and Fees	$11,730,200	$11,603,600	$11,715,600	$11,002,270
County Tuition	$825,600	$824,000	$751,000	$676,400
Misc. Revenue	$1,859,200	$2,053,795	$3,819,500	$5,042,434
Total	**$42,354,800**	**$42,890,895**	**$44,909,000**	**$45,620,649**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021***
Personnel Costs	$27,520,600	$28,335,373	$29,856,500	$28,288,703
Operating Expenditures	$14,293,100	$14,250,384	$14,882,600	$16,563,533
Capital Outlay	$541,100	$305,139	$169,900	$768,413
Total	**$42,354,800**	**$42,890,895**	**$44,909,000**	**$45,620,649**

Source for FY 2018 – FY 2020: Audited financials (actuals) as stated on the B2 report submitted to SBOE.
**FY 2021 represents unaudited (preliminary) financials.*

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
General Studies [1, 2]				
- Annual Unduplicated Headcount	6,398	6,106	5,840	5,368
- Annual Enrollment FTE	2,722	2,692	2,554	2,376
CCM 146/150				
Career & Technical [2]				
- Annual Unduplicated Headcount	837	794	746	730
- Annual Enrollment FTE	572	534	523	500
CCM 146/150				
Dual Credit				
- Annual Unduplicated Headcount	2,036	1,983	1,970	1,670
- Total Credits Earned	17,672	19,594	19,658	18,534
CCM 017/019				
Workforce Training [3]				
- Annual Unduplicated Headcount	4,883	5,419	4,471	4,812
- Annual Enrollment FTE	486	488	452	473
CCM 149/153				
Adult Basic Education [3, 4]				
- Annual Unduplicated Headcount	414	289	299	284
- Annual Enrollment FTE	59	46	39	31
CCM 147/151				
GED Credentials Awarded	239	226	231	197
CCM 154				

[1] General Studies includes Dual Credit students.

[2] General Studies and Career & Technical FTE is based on total credits for the year (end-of-term, summer, fall, and spring terms) divided by 30. Credits are determined by student type.

[3] Workforce Training and Adult Basic Education FTE is based on 15 hours = 1 credit, 30 credits for the year = 1 FTE.

[4] New methodology beginning in FY 2017. Reflects only those students taking 12 hours of instruction or more.

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Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Strategic Plan Goal 1: Student Success A vibrant, lifelong learning environment that engages students as partners in achieving educational goals to enhance their quality of life						
1. Timely Degree I[1] Percent of undergraduate, degree-seeking students completing 30 or more credits per academic year at the institution reporting (Goal 1, Objective C, System-Wide Performance Measure) CCM 195/Metric 50	actual	8.2% (345/4198)	8.5% (332/3889)	7.8% (288/3685)	8.0% (280/3517)	----------
	target	*Benchmark under development*	10%	10%	10%	10%
2. Timely Degree II[2] Percent of first-time, full-time, freshmen graduating within 150% of time (Goal 1, Objective C, System-Wide Performance Measure) CCM 196/Metric 40	*actual*	27% (169/625) Fall 15 Cohort NIC Rank 58% *(IPEDS)*	25% (174/683) Fall 16 Cohort NIC Rank 55% *(IPEDS)*	28% (188/668) Fall 17 Cohort Rank not yet available *(IPEDS)*	27% (184/686) Fall 18 Cohort Rank not yet available *(Preliminary)*	----------
	target	*Rank of 60% against IPEDS comparator institutions*	*Rank of 60% against IPEDS comparator institutions*	*Rank of 60% against IPEDS comparator institutions*	*Rank of 60% against IPEDS comparator institutions*	*Rank of 60% against IPEDS comparator institutions*
3. Timely Degree III[3] Total number of certificates/degrees produced, broken out by a) certificates of less than one year; b) certificates of at least one year and c) associate degrees. (Goal 1, Objective A, System-Wide Performance Measure) CCM 238/Metric 120	*actual*	a) 98 b) 556 c) 690 Total awards 1,344 (IPEDS)	a) 74 b) 604 c) 681 Total awards 1,359 (IPEDS)	a) 121 b) 620 c) 659 Total awards 1,400 (IPEDS)	a) 81 b) 639 c) 717 Total awards 1,437 (Preliminary)	----------
	target	*Benchmark under development*	a) 125 b) 630 c) 700	a) 125 b) 630 c) 700	a) 125 b) 630 c) 700	a) 125 b) 630 c) 700

4. Guided Pathways VII [4] Percent of first-time, full-time freshmen graduating within 100% of time (Goal 1, Objective C, System-Wide Performance Measure) CCM 199/Metric 180	*actual*	16% (112/683) Fall 16 Cohort NIC Rank 73% *(IPEDS)*	20% (135/668) Fall 17 Cohort Rank not yet available *(IPEDS)*	19% (128/686) Fall 18 Cohort Rank not yet available *(Preliminary)*	15% (97/644) Fall 19 Cohort Rank not yet available *(Preliminary)*	----------
	target	*Rank of 60% against IPEDS comparator institutions*	*Rank of 60% against IPEDS comparator institutions*	*Rank of 65% against IPEDS comparator institutions*	*Rank of 65% against IPEDS comparator institutions*	*Rank of 65% against IPEDS comparator institutions*
5. Timely Degree IV [5] Number of unduplicated graduates, broken out by a) certificates of less than one year; b) certificates of at least one academic year and c) associate degrees (Goal 1, Objective A, System-Wide Performance Measure) CCM 239/Metric 170	*actual*	a) 77 b) 534 c) 659 Total overall unduplicated count: 913 *(IPEDS)*	a) 65 b) 583 c) 650 Total overall unduplicated count: 872 *(IPEDS)*	a) 105 b) 604 c) 619 Total overall unduplicated count: 893 *(IPEDS)*	a) 66 b) 629 c) 659 Total overall unduplicated count: 902 *(Preliminary)*	----------
	target	*Benchmark under development*	a) 110 b) 610 c) 700	a) 110 b) 610 c) 700	a) 110 b) 610 c) 700	a) 110 b) 610 c) 700
Strategic Plan Goal 2: Educational Excellence High academic standards, passionate and skillful instruction, professional development, and innovative programming while continuously improving all services and outcomes						
1. Math Pathways VI [6] Percent of new degree-seeking freshmen completing a gateway math course within two years (Goal 2, Objective A, System-Wide Performance Measure) CCM 198/Metric 70	actual	27.4% (433/1578) 15-16 Cohort	29.1% (493/1695) 16-17 Cohort	33.6% (575/1713) 17-18 Cohort	33.9% (573/1689) 17-18 Cohort *(Preliminary)*	----------
	target	*Benchmark under development*	*30%*	*35%*	*35%*	*35%*

2. Reform Remediation V [7] 2a) MATH: Percent of undergraduate, degree-seeking students taking a remediation course completing a subsequent credit bearing course (in the area identified as needing remediation) within a year with a "C" or higher. (Goal 2, Objective A, System-Wide Performance Measure) CCM 203/Metric 60	actual	25.2% (245/971) 16-17 Cohort	22.6% (171/757) 17-18 Cohort	24.5% (135/551) 18-19 Cohort	26.1% (109/418) 19-20 Cohort *(Preliminary)*	----------
	target	*Benchmark under development*	25%	25%	25%	25%
2. Reform Remediation V [8] 2b) ENGLISH: Percent of undergraduate, degree-seeking students taking a remediation course completing a subsequent credit bearing course (in the area identified as needing remediation) within a year with a "C" or higher. (Goal 2, Objective A, System-Wide Performance Measure) CCM 204/Metric 60	actual	30.2% (116/384) 16-17 Cohort	23.0% (90/392) 17-18 Cohort	28.9% (81/280) 18-19 Cohort	20.1% (54/268) 19-20 Cohort *(Preliminary)*	----------
	target	*Benchmark under development*	35%	35%	35%	35%

Acronyms Defined:

- CCM: Common Campus Measure (internal tracking system)
- Metric: Tracking number established by the Idaho State Board of Education (ISBOE)
- IPEDS: Integrated Postsecondary Education Data System

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Performance Measure Explanatory Notes

[1] Annual year cohort of degree-seeking students; Non-Degree, Dual Credit, and 100% Audit students are excluded. Students who earned an award within the capture year but were shy of the 30 credit threshold are excluded. General Studies Core Complete auto awards are also excluded. Benchmark is set based on an analysis of historical trends combined with the desired level of achievement. [CCM 195/Metric 50]

[2] Benchmark is set based on IPEDS data from comparator institutions combined with the desired level of achievement. [CCM 196/Metric 40]

[3] Historical data has been revised to reflect current IPEDS definitions which reflect a change in methodology, effective October 2020. Total awards by award level. Benchmark is set based on an analysis of historical trends combined with the desired level of achievement. [CCM 238/Metric 120]

[4] Benchmark is set based on IPEDS data from comparator institutions combined with the desired level of achievement. [CCM 199/Metric 180]

[5] Historical data has been revised to reflect current IPEDS definitions which reflect a change in methodology, effective October 2020. Distinct count of graduates per attainment level. Benchmark is set based on an analysis of historical trends combined with the desired level of achievement. [CCM 239/Metric 170]

[6] Full year cohort, first-time and new degree-seeking, full and part time students. Gateway courses include MATH 123, 130, 143, 147, 157, 160, 170, and 253. Benchmark is set based on an analysis of historical trends combined with the desired level of achievement. [CCM 198/Metric 70]

[7] Benchmark is set based on an analysis of historical trends combined with the desired level of achievement. [CCM 203/Metric 60]

[8] Benchmark is set based on an analysis of historical trends combined with the desired level of achievement. [CCM 204/Metric 60]

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ATTACHMENT 15

Part I – Agency Profile

Agency Overview

The mission of Idaho Division of Career Technical Education (IDCTE) is to prepare Idaho youth and adults for high-skill, in-demand careers.

Idaho Code §33-2202 defines in section (2) "career technical education" as "secondary, postsecondary and adult courses, programs, training and services administered by the division of career technical education for occupations or careers that require other than a baccalaureate, master's or doctoral degree." As approved by the board, this term may also apply to specific courses or programs offered in grades 7 and 8 or offered by any approved public charter school that are delivered through traditional or virtual online instructional methods. This term may also apply to virtual, blended, or other career technical education programs. Section (3) states "the courses, programs, training, and services include, but are not limited to, career, technical and applied technology education. They are delivered through the career technical delivery system of public secondary schools, including public charter schools, irrespective of the delivery method, and postsecondary schools and colleges."

IDCTE is an agency under the State Board of Education (SBOE) for career technical education (CTE) that provides leadership and technical assistance for CTE in Idaho, from secondary students through adults, as well as CTE teacher development. In addition to robust programs within secondary and postsecondary education, IDCTE also administers related programs that include GED, Centers for New Directions, Workforce Training Centers, apprenticeships, fire service training, hazardous materials transportation enforcement education and motorcycle safety training.

IDCTE is responsible for preparing and submitting an annual budget for career technical education to the SBOE, Governor and Legislature. Appropriations to IDCTE include state general funds, federal funds, miscellaneous revenue funds and other dedicated funds.

Career technical education programs are integrated into the Idaho public education system through school districts, colleges and universities. IDCTE provides the focus for career technical education programs and training within existing schools and institutions by using a statewide system approach with an emphasis on student learning, program quality and industry engagement.

Secondary career technical education programs and services are provided via junior high/middle schools, comprehensive high schools, career technical schools, and through cooperative programs with the Idaho technical college system.

Postsecondary career technical education programs and services are delivered through Idaho's six technical colleges. Four technical colleges are located on the campuses of community colleges: College of Eastern Idaho, College of Southern Idaho, College of Western Idaho and North Idaho College. Two technical colleges are on the campus of four-year institutions: Idaho State University and Lewis-Clark State College. The Idaho technical college system delivers certificate and A.A.S. degree occupational programs on a full- or part-time basis; workforce/short-term training; adult education; displaced homemaker services; and fire service training.

IDCTE was appropriated 41.0 full-time positions (FTP) for agency staff in fiscal year 2021 of which 32.5 were funded with state general funds and 8.5 with federal grants. The appropriation also included 540.26 FTP for career technical education staff within the six technical colleges.

Core Functions/Idaho Code

Statutory authority for IDCTE is delineated in Idaho Code, Chapter 22, §§ 33-2201 through 33-2212 and IDAPA 55. Idaho Code §33-1002G allows school districts to establish career technical schools and §39-5009 established the displaced homemaker account for appropriation to the SBOE. The role of IDCTE (IDAPA 55) is to coordinate career technical education in Idaho. Specifically, IDCTE:

- Provides statewide leadership and coordination for career technical education;
- Assists local educational agencies in program planning, development and evaluation;
- Promotes the availability and accessibility of career technical education;
- Prepares annual and long-range state plans;
- Prepares an annual budget to present to SBOE, Governor and the Legislature;
- Provides a state finance and accountability system for career technical education;
- Evaluates career technical education programs;
- Initiates research, curriculum development and professional development activities;
- Collects, analyzes, evaluates and disseminates data and program information;
- Administers programs in accordance with state and federal legislation;
- Coordinates career technical education related activities with other agencies, officials and organizations.

Revenue and Expenditures*

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
0001 General Fund	$62,906,675	63,806,862	$66,967,076	$64,566,256
0218 Displaced Homemaker	138,071	145,880	136,287	144,947
0274 Haz-Mat Waste Training	67,800	67,800	67,800	67,800
0319 Motorcycle Safety**	828,921	778,949	670,229	573,645
0345 CARES Act				1,570,528
0348 Federal Grants	9,232,510	9,148,240	8,841,768	9,085,603
0349 Miscellaneous Revenue	177,888	159,631	169,386	45,226
0401 Seminars and Publications	0	0	0	0
Total	**$73,351,865**	**$74,107,362**	**$76,852,546**	**$76,635,198**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
4000 Personnel Costs	$3,167,081	$3,306,576	$3,349,802	$3,580,841
5000 Operating Expenditures	1,106,864	1,100,955	1,008,203	2,498,129
6000 Capital Outlay	30,413	148,270	181,419	174,404
7000 Trustee/Benefit Payments	71,324,248	72,264,278	72,503,422	70,381,824
Total	**$75,628,606**	**$76,820,079**	**$77,042,847**	**$76,635,198**

*All values are for budgeted fiscal years (BFY) to eliminate timing issues from encumbrances. Federal grants are two-year funding sources based on reimbursements within the period. BFY 2018 was first year without re-appropriation authority for general funds and thus T/B payments were higher from utilization of prior appropriation.
**All values now include continuous appropriations.

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of Students Enrolled in High School CTE Programs (headcount)*	104,447	114,142	114,606	117,003
Number of Students Enrolled in Postsecondary CTE Programs (headcount)	5,597	5,234	5,402**	5,328
Number of Technical College FTE enrollments	3,400	3,321	3,302	3,261
Number of Workforce Training Network (WTN) enrollments (headcount)	50,797	54,032	39,898***	43,809
Number of enrollments for Fire and Emergency Services Training (headcount)	4,276	5,098	3,182***	2,832

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Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of clients served in the Adult Education program (headcount)	5,549	5,141	4,187	Reported in October
Number of Adults Served in the Displaced Homemaker Program (Center for New Directions)	360	389	453	598
Number of Students Enrolled in Digital CTE Courses (Idaho Digital Learning Alliance)	1,311	1,694	1,425	1,931
Number of SkillStack® Badges Awarded (Secondary)****	6,706	5,372	10,006	23,261
Number of SkillStack® Badges Awarded (Postsecondary)	1,102	733	1,154	343*****

*New enrollment methodology, data updated from FY 2018 – FY 2021.

**After submission of our FY 2020 report, updated numbers were provided.

***Nearly four months of training events were canceled in FY 2020 due to the pandemic.

****Badges increased in FY 2020 with new assessment badges, increased teacher activity and more aligned programs. In FY 2021, the Workforce Readiness Incentive was implemented.

*****Decrease in postsecondary badges due to programmatic changes with the pandemic.

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Board Goal 1 *EDUCATIONAL SYSTEM ALIGNMENT – Ensure that all components of the educational system are integrated and coordinated to maximize opportunities for all students.* CTE Objective: Student Success – Create systems, services, resources, and operations that support high performing students in high performing programs and lead to positive placements. *Performance Measures I – III, V (see pages 3 – 4)* **Board Goal 2** *EDUCATIONAL ATTAINMENT – Idaho's public colleges and universities will award enough degrees and certificates to meet the education and forecasted workforce needs of Idaho residents necessary to survive and thrive in the changing economy.* CTE Objective: Talent Pipelines/Career Pathways – CTE students will successfully transition from high school and postsecondary education to the workplace through a statewide career pathways model. *Performance Measures I – III (see pages 4 – 5)*						
1. *Secondary student pass rate for Technical Skill Assessment (TSA)*	actual	67.8	67.2	n/a	65.6	----------
	benchmark	*67.0*	*67.0*	*n/a*	*67.3*	*67.6*
2. *Positive placement rate of secondary concentrators*	actual	94.4	95.0	96.3	87.9	----------
	benchmark	*94.3*	*94.3*	*n/a*	*95.0*	*95.0*
3. *Number of program standards and outcomes that align with industry standards and outcomes*	actual	88% (46 of 52)	100% (52 of 52)	96% (52 of 53)	100% (54 of 53)	----------
	benchmark	*n/a*	*100%*	*100%*	*100%*	*100%*

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4. Placement rate of postsecondary program completers in jobs related to their training.	actual	55.8	62.3	69.7	79.1	----------
	benchmark	*65*	*65*	*65*	*65*	*65*
5. Positive placement rate of postsecondary program completers	actual	94.6	94.7	94.9	93.0	----------
	benchmark	*95.6*	95.6	n/a	*95.0*	*95.0*
6. The percent of secondary CTE concentrators who transition to postsecondary education	actual	35.5	44.8	41.0	44.4	----------
	benchmark	*60*	*60*	*60*	*60*	*60*

Performance Measure Explanatory Notes

Performance Measure 1):
In FY 2020, assessment data was not required due to the pandemic. As states transitioned from Perkins IV to V, benchmarks were not required in FY 2020.

Performance Measure 2):
A secondary CTE concentrator is a junior or senior student enrolled in a capstone course during the school year. A capstone course is the final course in a state approved pathway. Positive placement represents the percent of secondary concentrators who attain employment, join the military or continue their education.

As states transitioned from Perkins IV to V, benchmarks were not required in FY 2020.

Performance Measure 3):
Due to the pandemic, alignment efforts were stalled. The number of programs in our strategic plan reference 54 programs and the number is actually 53.

Performance Measures 4, 5, and 6):
A technical college CTE completer is a postsecondary student who has completed all the requirements for a certificate or an A.A.S. degree in a state approved career technical education program. This person must have met all the requirements of the institution for program completion, whether or not the person officially graduated from the institution. Positive placement represents the percent of technical college completers who attain employment, join the military or continue their education within six months of completing.

Historical trends for positive placement show that job related training employment declines when additional education increases. (Measure 4).

As states transitioned from Perkins IV to V, benchmarks were not required in FY 2020 (Measure 5).

Performance Measures 6):
In the past, IDCTE used self-reported survey data for students that responded to a follow-up survey. Historical and current data includes (FY 2018–FY 2019) updated data for students identified through National Clearinghouse data. This matches OSBE methodology.

Numbers have been updated on this report to reflect when placement data is collected. For example, students from 19/20 were followed up in 20/21.

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Part I – Agency Profile

Agency Overview

Idaho Public Television (IdahoPTV) is an entity of the Idaho State Board of Education and holds in the public trust television and related broadcast telecommunication licenses issued and governed by the Federal Communications Commission. IdahoPTV is a statewide, non-commercial broadcast telecommunication system and media provider with the network operations center located in Boise and additional staffed facilities in Moscow and Pocatello.

IdahoPTV's service to the region began in September of 1965 with KUID-TV, Moscow. Over 56 years, IdahoPTV expanded its reach to include over-the-air broadcast television service to more than 98% of Idaho's population and portions of six adjoining states and Canada through an efficient system of five digital transmitters and 46 translators (41 translators and 5 relays). IdahoPTV's signals are rebroadcast under federal guidelines by cable and satellite systems in the region, as well as a rapidly expanding Internet-based distribution system. IdahoPTV's services and equipment have been made possible through diverse funding partnerships from individual contributions, grants from foundations and companies, and state and federal sources. IdahoPTV has been impacted by the congressionally mandated FCC spectrum repacking initiative requiring numerous transmitters and translators to change channel frequencies. This initiative has impacted several communities throughout the state.

IdahoPTV is a member in good standing of the Public Broadcasting Service (PBS) and is the only locally owned and operated network television station in Idaho.

IdahoPTV received an original appropriation for FY 2021 of $8,783,100 in the following allocations: Dedicated Funding – 69%, State General Funding – 30%, and Federal Funding – 1%. The dedicated funds are primarily via Friends of Idaho Public Television, Inc., which typically receives more than $4 million annually in donations from over 21,000 individuals, foundations, and organizations. Other dedicated funds come from the Corporation for Public Broadcasting, private grants, and services. IdahoPTV's comprehensive audit is conducted annually by the Legislative Auditor, Legislative Services Office.

IdahoPTV has developed a reputation for producing award-winning, quality television and other electronic media. IdahoPTV provides significant local public service to its viewers and users.

IdahoPTV produces a number of ongoing series, specials and services, including:

- Outdoor Idaho
- Dialogue (arts, humanities and public affairs program)
- Science Trek (educational science program for grade school students)
- The Idaho Debates (primary and statewide election coverage)
- Idaho Experience (documentaries on Idaho history)
- Governor's State of the State/State of the Budget Address (live)
- Idaho Reports (coverage of the Idaho Legislature and statewide public affairs topics)
- Idaho In Session (gavel-to-gavel live coverage of the Idaho House, Senate, JFAC, Idaho Supreme Court, and special meetings)
- Scout/PBS Learning Media (online educational resources
- Idaho Science Journal

Also produced are other special programs including:

- Idaho: State of Wonder
- Idaho Geology, A Convergence of Wonders
- Capitol of Light: The People's House
- The Color of Conscience
- Education 2020
- Resilience: Hope Lives Here
- Classroom Idaho: Learn @ Home
- Into Africa: The Idaho-Gorongosa Connection
- My Excellent Adventure
- State of Our Parks
- Idaho Headwaters
- Journey to Education
- Journey to College
- Journey to Opportunity

Outdoor Idaho continues to air on stations in Oregon, Washington and Utah.

IdahoPTV's community education services range from locally-produced events and workshops to children's events, such as literacy and STEM workshops, program screenings and discussions, science camps, a literacy contest,

educator workshops, parent workshops, online book clubs, and online educational resources. IdahoPTV is engaged in a major effort to train teachers in utilizing digital media and technology in the classroom. It also has a major initiative to connect high school graduates with middle-skills careers. IdahoPTV is also engaged in a major project to help parents prepare their children to enter school with the resources to be successful, including mothers incarcerated in Idaho prisons. During FY 2021, IdahoPTV produced Classroom Idaho: Learn @ Home to connect all students with certified Idaho teachers to finish learning for the balance of the school year.

The staff is led by Jeff Tucker, interim general manager; Dave Taylor, director of financial affairs; Craig Koster, director of technology; Jenifer Johnson, director of marketing (development); Sandy McBride, director of communications; and Bruce Reichert, executive producer.

Core Functions/Idaho Code

Idaho Public Television is not referenced in Idaho Code. It was created by Legislative Intent within the budget process in 1982 and exists under the regulations of the Federal Communications Commission and the governance of the State Board of Education.

IdahoPTV's Mission Statement:
We harness the power of public media to encourage lifelong learning, connect our communities, and enrich the lives of all Idahoans. We tell Idaho's stories.

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$2,836,500	$2,985,300	$3,263,300	$2,562,600
Dedicated Fund	$5,400,400	$5,377,900	$5,841,100*	$6,009,500
Federal	$34,300	$166,400	$247,900*	$461,300
Total	**$8,271,200**	**$8,529,600**	**$9,352,300***	**$9,033,400**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$4,551,400	$4,568,100	$4,813,100	$5,053,600
Operating Exp.	$3,002,500	$3,088,700	$3,348,600	$3,658,800
Capital Outlay	$717,300	$872,800	$1,190,600*	$321,000
Trustee/Benefit Payments	$0	$0	$0	$0
Total	**$8,271,200**	**$8,529,600**	**$9,352,300***	**$9,033,400**

*Capital expenditures for FY 2020 were increased by $297,600 to $1,190,600 to reflect an adjustment not captured on last year's report.

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Channel Hours for Children (under the age of 12)	15,214	12,386	12,666	13,057
Channel Hours for Ethnic Minorities	5,573	5,261	5,240	4,969
Channel Hours for Learners	16,231	13,094	12,187	11,861
Number of Visitors to idahoptv.org	1,584,947	2,263,398	1,635,238	1,979,811
Channel Hours of News, Public Affairs and Documentaries	12,624	11,755	11,947	12,329

FY 2021 Performance Highlights *(Optional)*

- 13 technology training events attended by a total of 108 teachers and 54 students throughout the state.
- 9 presentations attended by a total of 259 teachers, parents and general public throughout the state regarding educational resources available through IdahoPTV and PBS.
- 36 literacy and STEM presentations attended by a total of 1,701 participants throughout the state.
- 120,905 children watched our broadcasts each week.
- Idaho In Session was viewed over 387,627 times online.
- 98,541 users utilized online Learning Media local and national resources.
- 4,534,522 page views on the Idaho Public Television website by 1,979,811 visitors.
- 43,800 hours of programming broadcast 24 hours a day across 5 free over-the-air digital channels from transmitters and repeaters statewide.
- IdahoPTV is regularly among the most-watched PBS stations in the US, per capita, with more than 500,000 weekly viewers.
- 11 online program screenings with panel discussions were attended by a total of 992 participants throughout the state.

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1: A WELL-EDUCATED CITIZENRY *Idaho's P-20 educational system will provide opportunities for individual advancement across Idaho's diverse population.*						
1. Number of DTV translators. Goal 1 Objective A	actual	47 of 47	47	46	46	----------
	target	*48*	*47*	*47*	*46*	*46*
2. Percentage of Idaho's population within our signal coverage area. Goal 1 Objective A	actual	98.8%	98.8%	98.8%	98.8%	----------
	target	*98.4%*	*98.4%*	*98.4%*	*98.4%*	*98.4%*
3. Number of partnerships with other Idaho state entities and educational institutions. Goal 1 Objective B	actual	40	49	41	55	----------
	target	*30*	*32*	*34*	*40*	*40*
4. Number of broadcast hours of educational programming. Goal 1 Objective E	actual	35,095	25,480	24,853	24,918	----------
	target	*36,760*	*37,260*	*37,760*	*25,000*	*25,000*
5. Number of broadcast hours of Idaho-specific educational and informational programming. Goal 1 Objective G	actual	1,509	1,986	1,393	2,431	----------
	target	*2,000*	*2,000*	*2,000*	*2,000*	*2,000*
6. Number of awards for IdahoPTV media and services. Goal 1 Objective H	actual	56	57	68	81	----------
	target	*45*	*50*	*50*	*55*	*55*
7. Total FTE in content delivery and distribution. Goal 1 Objective I	actual	22	21	18	18	----------
	target	*<25*	*<25*	*<24*	*<24*	*<24*
8. Successfully comply with FCC policies/PBS programming, underwriting	actual	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	----------
	target	*Yes/Yes/Yes*	*Yes/Yes/Yes*	*Yes/Yes/Yes*	*Yes/Yes/Yes*	*Yes/Yes/Yes*

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
and membership policies/CPB guidelines. Goal 1 Objective I						
9. Work toward implementation of the Center for Internet Controls. Goal 1 Objective I	actual	Yes	Yes	Yes	Yes	----------
	target	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
10. Average number per month during the school year of local unique users utilizing PBS learning media.* Goal 2 Objective	actual			7,137	9,997	----------
	target			*4,200*	*4,200*	*8,000*

*new performance measure beginning FY 2020

Performance Measure Explanatory Notes *(Optional)*

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Part I – Agency Profile

Agency Overview
The Idaho Division of Vocational Rehabilitation (IDVR) is an agency under the oversight of the Office of the State Board of Education. Jane Donnellan is the Administrator for the Division. IDVR is charged with several major responsibilities: Management of the State/Federal Vocational Rehabilitation Program, Extended Employment Services (EES) and the fiscal management of the Council for the Deaf and Hard of Hearing (CDHH). It should be noted that nationally, under the Federal Vocational Rehabilitation Program, each state has the ability to choose to have a combined or separate agency to serve the blind and visually impaired. In Idaho, a separate state agency (the Idaho Commission for the Blind and Visually Impaired) provides vocational rehabilitation services for those who have a primary disability of blind and visually impaired.

The public Vocational Rehabilitation program is one of the oldest and most successful Federal/State programs in the United States. Vocational Rehabilitation serves individuals with severe disabilities that impose significant barriers to their employment. In FY 2021, the average time needed for a person to complete a rehabilitation plan and become employed was 25.5 months. Furthermore, employment of individuals with disabilities resulted in a 377% increase in customer weekly earnings and significantly decreases the need for public support.

The structure of the Vocational Rehabilitation program includes a Field Services unit as well as a Planning and Evaluation and Fiscal units. Under the Field Services unit, there are eight (8) regional managers who supervise field staff in the following regions: Coeur d'Alene, Lewiston, Treasure Valley East, Treasure Valley Central, Treasure Valley West, Twin Falls, Pocatello, and Idaho Falls.

The VR program is comprised of 147 employees, of which 138 are full-time positions serving in twenty (20) offices throughout the state. Offices are located throughout the state including Boise, Meridian, Coeur d'Alene, Sandpoint, Lewiston, Orofino, Twin Falls, Burley, Pocatello, Blackfoot, Preston, Idaho Falls, Salmon, Rexburg, Caldwell, and Nampa. There is one (1) Central Office, eight (8) regional offices, eight (8) general Sub-Offices, and three (3) Corrections Sub-Offices.

Core Functions/Idaho Code
Legal Authority for the Idaho Division of Vocational Rehabilitation is Idaho Code, 33-2301 and the Rehabilitation Act of 1973, as amended by the Workforce Innovation and Opportunity Act (WIOA), Public Law 113-128 and is augmented by regulations promulgated and set forth in 34 CFR § 361, 363, and 397.

Services that may be available include evaluation of rehabilitation potential, vocational guidance and counseling, physical and mental restoration, vocational, academic and other training, job placement and other services, which can reasonably be expected to benefit the individual in terms of employment.

The EES program operates with three full-time employees and is a State of Idaho appropriations program that provides needed long-term employment supports to individuals with disabilities in a competitive integrated employment setting or provides training services to individuals in a nonintegrated employment setting. The program contracts with providers to deliver the services on an individual basis.

CDHH is an independent agency. This is a flow-through council for budgetary and administrative support purposes only with no direct programmatic implication for IDVR. The program is comprised of four employees, of which three are full-time positions. The Council's vision is to ensure that individuals who are deaf, hard of hearing, or hearing impaired have a centralized location to obtain resources and information about services available (Idaho Code, Title 67, Chapter 73, Idaho State Council for the Deaf and Hard of Hearing 67-7301 – 67-7308).

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Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$7,840,641	$8,648,300	$7,550,130	$7,719,300
Rehab Rev & Refunds	$611,564	$1,137,838	$891,200	$1,425,847
Federal Grant	$15,402,420	$14,431,087	$15,153,542	$13,572,235
Miscellaneous Revenue	$703,883	$686,992	$681,692	$533,797
Total	**$24,558,508**	**$24,904,217**	**$24,276,564**	**$23,251,179**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$10,074,804	$10,328,411	$10,319,069	$10,294,796
Operating Expenditures	$1,530,745	$1,558,712	$2,155,746	$2,128,335
Capital Outlay	$447,493	$107,304	$96,148	$42,017
Trustee/Benefit Payments	$13,063,469	$11,811,060	$10,392,458	$9,055,033
Total	**$25,116,511**	**$23,805,487**	**$22,963,421**	**$21,520,181**

For FY 2018 IDVR used the federal fiscal year as the period for reporting financial data, all subsequent years use the state fiscal year as the period for reporting financial data.

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of Individuals Served by Vocational Rehabilitation	11,209	9,368	5,878	5,056
Number of Individuals Who Went to Work After Receiving VR Services	1,835	1,281	808	658

Under WIOA, VR program performance reporting shifted from federal fiscal year reporting (October 1 – September 30) to program/state year reporting (July 1-June 30) as of FY 2019. FY 2018 performance data is based on federal fiscal year timeframe.

Beginning FY 2020, the definition of 'individuals served' changed to match the federal definition of 'participants served': Individuals who received at least one service under an Individualized Plan for Employment (IPE).

COVID-19 has had a considerable impact on the Division's performance, specifically related to the number of individuals served and the number of individuals who obtained employment. The impact began the 4th quarter of FY 2020 and is substantially more evident in FY 2021 data as COVID restrictions existed during the entire performance year.

FY 2021 Performance Highlights

The Division continues to transition with the changes required by the Workforce Innovation and Opportunity Act (WIOA), including the transition to the Common Performance Measures. The Division is collecting baseline data for four of the five performance measures and negotiated performance targets with Rehabilitation Services Administration (RSA) for one measure; Measurable Skill Gains. The negotiated targets change year over year based upon prior year performance and application of the federal Statistical Adjustment Module, used by the U.S. Departments of Labor and Education.

Three of Common Performance Measures are lagging indicators, including Median Earnings 2nd Quarter After Exit. Targets for this performance indicator will be negotiated with RSA June 2022 for the following performance year.

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Part II – Performance Measures

Performance Measures		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 *Provide quality, relevant, individualized vocational rehabilitation services to individuals with disabilities to maximize their career potential.*						
1. Number of students receiving Pre-employment Transition Services (Pre-ETS) Goal 1 Objective 1	actual	1180	947	*1027	*1216	----------
	target	*≥ 301*	≥ 1,180	≥ 947	≥ 1027	≥1216
Goal 2 *Improve VR program efficiency through continuous quality improvement activities.*						
2. Common Performance Measure: Median Earnings 2nd Quarter after Exit	actual	$3870	$4063	**4121	(P)4287	----------
	target	≥(P)$4680	≥(P)$4680	≥(P)$4680	≥(P)$4680	≥(P)$4680
3. Customer satisfaction rate (as demonstrated by "agree' and "strongly agree' responses Goal 2 Objective 2.2	actual	88.45%	81.3%	81.4%	(P)81.6%	----------
	target	*≥ 90%*	*≥ 90%*	*≥ 90%*	*≥ 90%*	*≥ 90%*
4. Of those cases using CRP employment services, the percentage which contributed to successful case closure Goal 2 Objective 2.4	actual	43%	42%	43.5%	44.3%	----------
	target	N/A	≥ 30%	≥ 30%	≥ 30%	≥ 30%

New Performance Measure Explanatory Notes

Under WIOA, VR program performance reporting changed from a federal fiscal year (October 1-September 30) to a program/state year (July 1-June 30). Performance data for FYs 2017 and 2018 are reported on a complete federal fiscal year. FY 2019 data and later is reported for the program/state year.

Common Performance Measures are new federal performance measures. Benchmarks are preliminary until formally negotiated with Rehabilitation Services Administration (RSA) in June 2022.

*Includes services purchased from vendors and services provided by VR counselors.

**Median Earnings for the 2nd quarter after program exit for FY 2020 are updated and reflect complete data.

(P) Data for FY 2021 are preliminary (incomplete) as well as the target. Complete data for FY 2021 will be available and published in the FY 2022 performance report.

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Part I – Agency Profile

Agency Overview

The Idaho Small Business Development Center (Idaho SBDC) was established in 1986 as a partnership between the U.S. Small Business Administration, the State of Idaho, and Idaho's institutions of higher education. The Idaho SBDC provides no-cost business consulting and affordable training to help entrepreneurs and small business owners start and grow successful businesses. Nationally, as in Idaho, over 70% of net new jobs are being created by the small business sector.

The Idaho SBDC is a network of business consultants that operates under the umbrella of the state's colleges and universities. Boise State University's College of Business and Economics serves as the State Office with administrative responsibility for directing the type and quality of services across the state. Regional offices in the following locations are funded under sub-contracts with the host institutions.

North Idaho College – Coeur d'Alene
Lewis-Clark State College - Lewiston
Boise State University – Boise and Nampa
College of Southern Idaho - Twin Falls
Idaho State University - Pocatello
Idaho State University - Idaho Falls

The Idaho SBDC also manages two business accelerators – one in Nampa and one in downtown Boise. The accelerators are physical locations that provide space and programs to help early-stage companies accelerate their growth.

Core Functions/Idaho Code

Pursuant to Title **15 U.S.C. § 648** authorizes the State Board of Education to outline requirements in order to provide assistance towards small business development.

The Idaho Small Business Development Center has two basic functions—coaching/consulting and training.

Coaching/Consulting - The Idaho SBDC provides confidential, no-cost, individualized business consulting and coaching to help small business owners and entrepreneurs increase their knowledge, skills, and abilities for running a successful business. Primary consulting is accomplished with a small core staff of professionals, most with advanced degrees and five years or more of small business ownership/management experience. Business coaching/consulting is designed to provide in-depth business assistance in areas such as marketing, finance, management, production, innovation, government contracting and overall business planning.

Faculty and students at each institution expand the Center's knowledge and resource base and provide direct assistance in appropriate cases working directly with business owners and entrepreneurs on specific projects. The students are provided the opportunity, under the direction of professional staff and faculty, to apply classroom learning in real-world situations. 'Real-world' laboratory experience for our college and university faculty and students provides long-term benefits to the business community and helps the academic institutions remain current on needs, problems, and opportunities of Idaho's business sector.

The Idaho SBDC also provides low-cost, non-credit training to improve business skills. Workshops, primarily directed at business owners, are typically 2 – 4 hours in length and attended by 10 – 25 participants. Training covers topics such as marketing, accounting, management, finance, social media, etc. A variety of faculty, staff and private sector experts are used to ensure timely, useful material is presented by a subject-matter expert. A standard training format allows the Idaho SBDC to provide consistent, cost-effective training throughout the state.

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Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
Revenue	$613,100	$673,000	$686,700	$647,300
Total	**$613,000**	**$673,000**	**$686,700**	**$647,300**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs*	$610,893	$661,300	$678,700	$639,500
Operating Expenditures	$0	$8,000	$8,000	$7,800
Capital Outlay	$0	$3,700	$0	$0
Trustee/Benefit Payments	$0	$0	$0	$0
Total	**$610,893**	**$673,000**	**$686,700**	**$647,300**

*Includes personnel costs under subcontracts with other host universities and colleges

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of Small Businesses Receiving Consulting	1,763	1,791	2,057	2,120
Average Hours of Consulting Per Client	11.2	10.2	11.8	11.5
Number of Small Businesses Trained	2,882	3,066	3,400	4,209
Number of Consulting Hours (annual)	19,729	20,923	24,294	24,354

FY 2020 Performance Highlights *(Optional)*

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 – Network Reach Focus time on clients with the highest potential for creating economic impact. **Objective:** Develop long-term relationships with potential and existing growth and impact clients.						
1. Capital raised by clients in millions	actual	$47.3	$49.5	$79.9	$55.8	---------
	target	*$30*	*$33*	*$36*	*$44*	*$53*
2. Client sales growth in millions	actual	$65.6	$60.0	$47.3	$67.7	---------
	target	*$31.6*	*$33*	*$36*	*$41*	*$53*
3. Jobs created by clients	actual	1,404	1,021	649	872	----------
	target	*602*	*675*	*742*	*853*	*892*
Goal 2 – Network Sustainability Increase funding and consulting hours to create economic impact through increased client performance. **Objective:** Increase overall network funding and assist regional offices in pursuit of local opportunities.						
4. Amount of funding increase	actual	$50,000	$74,000	$1,366,503[1]	$122,701	---------
	target	*Target not set*	*$50,000*	*$150,000*	*$225,000*	*$250,000*

The Idaho SBDC continues to align the strategic plan and metrics with other funder requirements. Going forward, we will be using client verified data from the MIS system as consistent with SBA.

Performance Measure Explanatory Notes *(Optional)*

[1] Includes one-time funding of $1,280,000 from CARES Act to support pandemic response in 2020.

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For More Information Contact

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Part I – Agency Profile

Agency Overview

In 1993, the Idaho Department of Commerce convened 45 representatives of economic development groups who supported the manufacturing extension center concept. In 1994, the Governor and ten key economic development entities pledged support for manufacturing extension by signing Idaho's Technology Partnership Agreement. Approval to establish "TechHelp" within the National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership (MEP) was granted in late 1995. In 1996, TechHelp was established at Boise State University and the first director and field engineer were appointed.

Today, TechHelp is a partnership of Idaho's three state universities and the Idaho Manufacturing Alliance (IMA). The center is an affiliate of the NIST MEP national network. It is also Idaho's Economic Development Administration University Center, targeting economically distressed areas of Idaho. TechHelp specialists have access to cutting-edge knowledge through links to local universities and to a national network of over 1,300 manufacturing specialists through 51 centers in the MEP system.

TechHelp's manufacturing specialists operate out of offices in Boise, Twin Falls, Post Falls, and Pocatello. The center's primary mission is to provide technical assistance, training, and information to strengthen the competitiveness of Idaho manufacturers and processors through product and process innovation. TechHelp provides experiential learning opportunities to Boise State students at the College of Engineering's studio\Blu, (New Product Development (NPD) and Engineering Innovation Studio), and to College of Business and Economics students at the Funding Accelerator and TechHelp, as well as to Idaho State University College of Business students and to University of Idaho College of Engineering students. Employment with TechHelp gives university students the opportunity to gain real world experience with innovative Idaho companies and expose these companies to talented young professionals who will soon enter the state's workforce.

TechHelp Advisory Board

TechHelp's Executive Director and its Advisory Board report to the Dean of the College of Business & Economics at Boise State. The TechHelp Advisory Board is made up of representatives from private industry, education, and government. TechHelp Board bylaws state that a full board consists of 9 - 11 members; at least 50% of whom represent manufacturing and two from the public sector. The TechHelp Executive Director appoints board members with approval of the Board.

TechHelp Partners

TechHelp works with state and federal partners, listed below, to meet its mission of assisting Idaho manufacturers. The center also works with local groups such as manufacturing associations and economic development organizations to stay abreast of community development issues and meet the needs of Idaho companies.

Partnership	Center Role	Required/Desired of Center
U.S. National Institute of Standards & Technology Manufacturing Extension Partnership, NIST MEP	MEP Center for Idaho	Assist manufacturers in Idaho to focus on growth and innovation strategies to be more competitive; connect Idaho manufacturers to other U.S. manufacturers via a supplier scouting program.
U.S. Economic Development Administration, EDA	EDA University Center	Leverage university assets, resources and capabilities to provide best-practice assistance to manufacturers in remote and distressed areas of Idaho.
State of Idaho	Manufacturing Economic Development	Support the state priority to "Enhance Economic Opportunity" by helping to create career-paths to manufacturing jobs by enhancing manufacturing company competitiveness and providing a bridge for students to employment in manufacturers across the state.

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Partnership	Center Role	Required/Desired of Center
Idaho State Universities – Host: Boise State, – Sub Recipients: University of Idaho, and Idaho State University	Contracted Partners (statewide outreach program for economic development)	Build universities' reputation for expert, capable outreach through expert consulting, technical assistance and training, and student engagement.
IMA – Sub Recipient	Manufacturing association, education, networking	Assist association to expand its reach and membership statewide to offer educational and business networking programs to all Idaho manufacturers.
Idaho SBDC	Informal Partnership	Cross-referrals, marketing and delivery services support
Idaho Department of Commerce	Idaho District Export Council, Export Excellence	Collaborate with Idaho District Export Council on Export Excellence. Cross-referrals of small manufacturers needing product and process assistance.
Idaho Department of Labor	Workforce Development Training, apprenticeships	Provide Idaho workers with on-the-job training in advanced manufacturing skills, act as intermediary to advance manufacturing companies in support of growing advanced manufacturing apprenticeships statewide.
Idaho Department of Agriculture	Export Excellence Program, Lean Manufacturing, Food Safety Programs	Cross-referrals and delivery of services for statewide programs related to export, lean manufacturing and operational excellence, and food safety.
Idaho Department of Environmental Quality	Informal Partnership, Operational Excellence program	Operational Excellence (Lean Six Sigma Greenbelt) programs, cross-referrals and delivery of services; collaborate on manufacturing company projects.

Core Functions/Idaho Code

Pursuant to Title **15 U.S.C. § 648** authorizes the State Board of Education to outline requirements in order to provide assistance towards Idaho businesses.

TechHelp helps Idaho manufacturers inside of their companies, primarily through one-on-one training and technical assistance services. Manufacturer interaction ranges from major collaborative projects, which usually address fundamental challenges facing the companies, to smaller "value-added" projects, which bring a specific improvement to some aspect of company operations. TechHelp also hosts public workshops and seminars statewide focusing on topics that positively impact Idaho manufacturers. TechHelp's team of experts provides personalized solutions in the following areas of manufacturing.

- **Growth, New Product & Market Development**
  Export Excellence
  Studio\Blu New Product Development
  - Product Design, Prototyping & Testing
  - Design for Manufacturability
  Funding Accelerator with VentureCapital.org
  Engineering student experiential learning
- **Operational Excellence**
  Lean Manufacturing and Six Sigma
  - Lean Six Sigma Green Belt
  - Lean Enterprise Certificate Program
  - Lean Manufacturing for the Food Industry
  - Lean Office, Lean Enterprise
  - Lean Leadership
  Quality Systems, ISO, Six Sigma
  Business student work experience
- **Food & Dairy Processing**
  Food Safety Programs and Assistance
  - Training and technical assistance
  - Food Safety Prerequisite Programs
  - HACCP Systems and Training
  Product & Process Development
  - Commissioning equipment and processing lines
  - Scale-up assistance, benchtop – pilot plant – factory
  - Sensory, shelf life, setting and extending
  - Ingredient sourcing
  - Market research, sensory and consumer science
  - New product development
  - Setting specifications
  - Quality Improvements
  Engineering student experiential learning

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021

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General Fund		$166,500	$356,500	$357,800	$344,690
	Total	**$166,500**	**$356,500**	**$357,800**	**$344,690**
Expenditures		**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs		$99,000	$221,653	$254,066	$263,121
Operating Expenditures		$41,500	$62,201	$21,972	$0
Capital Outlay		$0	$0	$0	$0
Trustee/Benefit Payments		$26,000	$72,646	$81,762	$81,569
	Total	**$166,500**	**$356,500**	**$357,800**	**$344,690**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
State dollars expended per project/event	$920	$1,992	$837	$1788
Manufacturers Served	181	179	426[1]	295
Geography of Idaho Served (Mfg Co.)				
North Idaho	17 (9%)	23 (13%)	32 (8%)	21 (9%)
Southwest Idaho	118 (65%)	121 (67%)	343 (80%)	241 (80%)[1]
Southeast Idaho	46 (26%)	35 (20%)	51 (12%)	33 (11%)
Size of Companies				
1-19 employees	74 (41%)	81 (45%)	281 (66%)[1]	150 (51%)[1]
20-49 employees	21 (11%)	54 (30%)	88 (21%)[1]	100(34%)[1]
50-249 employees	45 (25%)	29 (16%)	39 (9%)	32 (11%)
>249 employees	41 (23%)	15 (9%)	18 (4%)	13 (4%)

The above data is associated with Goal 1, Objective B and Goal 2, Objective A of TechHelp's Strategic Plan.

Explanatory Note

[1] Manufacturers Served was significantly higher especially smaller companies in SW Idaho due to establishment of sub recipient agreement and partnership with the Idaho Manufacturers' Alliance, for which we captured manufacturers served for this period.

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1: Economic Impact on Manufacturing in Idaho – Deliver a quantifiable positive return on both private business investments and public investments in TechHelp by adding value to the manufacturing client and the community.						
1. Number of **New Jobs** *Objective A*	actual	731	785	885	1144[3]	
	target[1]	*180*	*180*	*190*	*200*	*210*
2. Client reported **sales, cost savings, and investments** *Objective A*	actual	$97.7M	$166.7M	$182.9M	$114.4M	
	target[1]	*$100M*	*$100M*	*$105M*	*$120M*	*$120M*
Goal 2: Operational Efficiency – Make efficient and effective use of TechHelp staff, systems, partners and third parties, and Advisory Board members.						
3. Services to Idaho manufacturers: **Clients Surveyed** *Objective B*	actual	59	93	60	94	----------
	target[1]	*80*	*80*	*85*	*100*	*100*
Goal 3: Financial Health – Increase the amount of program revenue and the level of external funding to						

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
assure the fiscal health of TechHelp.						
4. **Net Revenue** from Client Projects *Objective A*	actual	$337K	$253K	$322K	$416K	
	target[2]	*$700K*	*$375K*	*$425K*	*$400K*	*$425K*
5. **Non-client funding** (e.g., grants) for operations client services. *Objective B*	actual	$869K	$885K	$1,104K	$1,676K	
	target[2]	*$1,300K*	*$1,300K*	*$1,300K*	*$1,300K*	*$1,300K*

Performance Measure Explanatory Notes

[1] Jobs and economic impact benchmarks established based on requirements of NIST MEP sCOREcard, incrementing annual goals to achieve FY21 goals.
[2] Net Revenue and External funding benchmarks established based on projected center annual funding needs.
[3] New Jobs data captures all new jobs reported by clients between January and December 2020.

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Part I – Agency Profile

Agency Overview

There are three distinct family medicine residencies in Idaho that comprise seven accredited programs. These three distinct programs are the Family Medicine Residency of Idaho (FMRI) in Boise, the Idaho State University Family Medicine Residency (ISU FMR) in Pocatello, and the Kootenai Family Medicine Residency in Coeur d'Alene. All three programs are partially funded from State allocations, grants, local hospitals, Medicaid, Medicare, and other patient revenues. The Family Medicine Residency of Idaho (FMRI) was founded in 1975 as a non-profit, independent, corporate entity. The FMRI consists of four separately accredited GME Family Medicine programs. The oldest and first program is in Boise (1975), the most recent is in Nampa (2019) and the other two programs are Rural Training Tracks (RTT's) in Caldwell (1995) and Magic Valley (2008). FMRI is a Federally Qualified Health Center (FQHC) and one of the first 11 federally designated Teaching Health Centers in the United States. FMRI is governed by a consumer-based independent board and has a Graduate Medical Education Committee that oversees all residency education functions. The President, Chief Executive Officer, and Designated Institutional Official of FMRI is Ted Epperly, MD. The Boise Program Director is Justin Glass, MD, the Nampa Program Director is Kim Stutzman, MD, the Caldwell RTT Program Director is Samantha Portenier, MD and the Magic Valley Rural Program Director is Josh Kern, MD. FMRI is affiliated with the University of Washington WWAMI Residency Network.

Core Functions/Idaho Code

There are two core functions of FMRI:

1. Training family physicians to provide care to rural, urban and suburban populations throughout Idaho. FMRI, including its Boise, Nampa, Caldwell and Magic Valley Rural Training Tracks, will have up to 69 residents in training at any one time and now graduates 17 new family physicians each June. Idaho ranks 45th out of 50 for active primary care physicians per capita in the USA and ninety-five percent of all Idaho counties are Health Professional Shortage Areas for primary care. FMRI has an excellent track record of recruiting family physicians that settle and stay in isolated rural Idaho. Currently, FMRI's residency programs are exceeding their

recruitment target of 50% of their graduates staying within Idaho. Since 1975 FMRI had graduated 407 family medicine physicians, Of the 402 practicing FMRI graduates, 52%of family medicine physicians have been recruited and settled in Idaho since the beginning of our program. This retention rate ranks us 9th best in the United States at keeping graduates in the state they train in. Of those residents choosing to remain in Idaho, 45% have chosen to practice in rural, underserved or health professional shortage areas for primary care.

2. Provision of services to underserved populations in Boise. Over the last four decades, FMRI has become the leading medical provider to the underserved population of Ada County. The FMRI is the largest provider of care to the Medicaid population in the State of Idaho. FMRI provides over nine million dollars in medical and mental health services to Medicaid, Medicare and the indigent and absorbs over two million dollars of uncompensated care annually. FMRI residents who settle in Idaho communities have an excellent track record of continuing outreach services to Medicare, Medicaid, uninsured and indigent patients and supporting free clinics in their communities.

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$2,530,000	$2,770,000	$3,010,000	$2,859,500
Total	**$2,530,000**	**$2,770,000**	**$3,010,000**	**$2,859,500**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$2,277,000	$2,493,000	$2,709,000	$2,573,550
Operating Expenditures	$253,000	$277,000	$301,000	$285,950
Capital Outlay	0	0	0	0
Trustee/Benefit Payments	0	0	0	0
Total	**$2,530,000**	**$2,770,000**	**$3,010,000**	**$2,859,500**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of Residents in Training	47	48	56	57
Average Total State Funded Dollar Cost per Resident as a Percent of Total Residency Training Costs	$53,830	$57,708	$53,750	$50,167
Number of Health Profession Students (non-physician) Receiving Clinical Training at FMRI Facilities	119	167	167	170

FY 2021 Performance Highlights *(Optional)*

Part II – Performance Measures

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1: Family Medicine Workforce To produce Idaho's future family medicine workforce by attracting, recruiting, and employing outstanding medical students to become family medicine residents and to retain as many of these residents in Idaho as possible post-graduation from residency as Idaho Family Physicians.						
1. Track students who annually match for residency training in family medicine at FMRI *Goal 1, Objective A*	actual	100%	100%	100%	100%	
	target	*100%*	*100%*	*100%*	*100%*	*100%*
2. Track the ABFM board certification rates of the number of graduates per year from FMRI. *Goal 1, Objective B*	actual	100%	100%	100%	100%	
	target	*>95%*	*>95%*	*>95%*	*>95%*	*>95%*
3. Encourage all graduates of the FMRI (residents and fellows) to practice in Idaho and track how many remain in Idaho. *Goal 1, Objective C*	actual	53%	73%	63%	38%	52%
	target	*>50%*	*>50%*	*>50%*	*>50%*	*>50%*
4. Of those graduates staying in Idaho, FMRI will track how many stay in rural or underserved Idaho. *Goal 1, Objective D*	actual	78%	45%	45%	67%	45%
	target	*40%*	*40%*	*40%*	*40%*	*40%*
Goal 2: Education To provide an outstanding family medicine training program to prepare future family medicine physicians.						
5. FMRI will track its accreditation status and potential citations. *Goal 3, Objective A*	actual	100%	100%	100%	100%	100%
	target	*100%*	*100%*	*100%*	*100%*	*100%*
6. FMRI will track its Next Accreditation System (NAS) Clinical Competency Committee (CCC), Annual Program Evaluation (APE), Annual Institutional Report (AIR) and Clinical Learning Environment Review (CLER) goals. *Goal 3, Objective B*	actual	100%	100%	100%	100%	100%
	target	*100%*	*100%*	*100%*	*100%*	*100%*

Performance Measure Explanatory Notes *(Optional)*

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For More Information Contact

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Part I – Agency Profile

Agency Overview

There are now five family medicine residencies in Idaho – the ISU Family Medicine Residency (ISU FMR) in Pocatello, the Family Medicine Residency of Idaho (FMRI) in Boise, the Kootenai Family Medicine Residency in Coeur d'Alene, Family Medicine Residency of Idaho Nampa Program and HCA Healthcare/Eastern Idaho Regional Medical Center Program. All five programs are funded from State allocations, grants, local hospitals, and Medicare and patient revenues. Idaho State University is recognized by the Accreditation Council for Graduate Medical Education (ACGME) as the official sponsoring institution of ISU – Family Medicine Residency (ISU FMR). Brandon Mickelsen, DO is the Director of the ISU FMR and William M. Woodhouse, MD is the Department's Director of External Relations for Health Affairs.

Core Functions/ Idaho Code

1. **Training family physicians to provide care to populations throughout Idaho, both rural and urban.**
   Idaho ranks 49th out of 50 states in physicians per capita. Over 90% of the State is a federally-designated HPSA for primary care, including Bannock County where the Residency resides. Idaho's family medicine residency programs have an excellent track record of recruiting family physicians who then practice in Idaho, ranking eighth in the nation for retention of graduates. Fifty-six percent of the Residency's graduates go on to practice in rural and underserved settings. The ISU FMR has 24 family medicine residents, 3 pharmacotherapy residents, 1 hospitalist fellow, and 1 psychology intern in training, and graduates seven new family physicians each June. Seventy-five of ISU FMR's 151 graduates have stayed in Idaho.

2. **Provision of services to underserved populations in Idaho:**
   The ISU FMR staffs community services such as the Health Department, adolescent detention centers, prison services, free clinics and HIV clinics. The Indian Health Service, migrant workers, nursing home residents, behavioral health unit patients, developmentally challenged children, and the home-bound also receive medical support from the residents and faculty. With the residency clinic within Health West, a Federally Qualified Community Health Center, ISU is further able to serve the indigent and uninsured of Southeast Idaho.

   Pursuant to Idaho Code **§33-3720** authorizes the State Board of Education to enter into contractual agreements to provide access for Idaho residents to qualified professional studies programs

Revenue and Expenditures

Revenue	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$1,084,900	$1,350,900	$1,580,900	$2,049,600	$ 2,115,000
Total	**$1,084,900**	**$1,350,900**	**$1,580,900**	**$2,049,600**	**$ 2,115,000**
Expenditures	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$756,400	$1,005,600	$1,259,300	$1,721,000	$ 1,793,400
Operating Expenditures	$321,600	$321,600	$321,600	$321,600	$ 321,600
Capital Outlay	$6,900	$23,700	----------	$7,000	----------
Total	**$1,084,900**	**$1,350,900**	**$1,580,900**	**$2,049,600**	**$ 2,115,000**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Number of Residents in Training	21	21	21	22	23
Average Total State Funded Dollar Cost per Resident as a Percent of Total Residency Training Costs	16.5%	20.5%	21.4%	25.3%	25.7%

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Cases Managed and/or Key Services	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Number of Health Profession Students (non-physician) Receiving Clinical Training at FMR Facilities	1NP, 3PA, 3psychology, 9pharmacy (16)	1NP, 1PA, 3psychology, 18pharmacy (23)	1NP, 2PA, 3psychology, 20pharmacy (26)	1NP, 2PA, 3psychology, 27pharmacy (33)	1NP, 2PA, 2psychology, 27pharmacy (32)
Percentage of Physician Residents Graduating[1]	100%	100%	100%	100%	100%
Percentage of Graduates Successfully Completing Board Examination[1]	100%	100%	100%	100%	100%

Dollar Cost per resident

The national estimated dollar cost per Family Medicine resident trained is $180,000 per year. Pending the approved increase in the allocation of state dollars in the 10 year GME plan the amount received from the State for the ISU FMR is $40,000 per resident for 24 residents or $960,000 per year. The ISU FMR is housed in the ISU Department of Family Medicine (ISU DFM). The ISU DFM is a multidisciplinary academic health professions clinical training unit. The ISU DFM provides clinical training for the ISU Pharmacotherapy program, the ISU Psychology Internship, the ISU DFM Quality Improvement Program, PA and FNP Clinician Services, Undergraduate Medical Student rotations and PA and FNP student experiences. The ISU DFM also houses the Division of Clinical Research, the planned collaborative ISU/University of Utah Psychiatry Program and the local Transition of Care Program. These nine programs account for the remaining component of the $2,115,000 state allocation.

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Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
1. By the end of FY 2021, the clinic site is identified.	actual	Not Avail.	Not Avail.	Not Avail.	Completed	----------
	target					*Complete (Benchmark 2021)*
2. By the end of FY 2022, 10% past graduates are donors	actual	0	0	Not Avail.	0%	----------
	target					10% *(Benchmark 2022)*
3. By the end of FY 2023, 5 new non-graduate donors are identified	actual	0	0	Not Avail.	0%	----------
	target					*5 (Benchmark 2023)*
4. By the end of FY 2023, 80% of employees report feeling "satisfied"	actual	Not Avail.	Not Avail.	66%	66%	----------
	target					80% *(Benchmark 2023)*
5. By the end of FY 2023, the Department reduces by 25%, 5 year avg. employee turnover	actual	Not Avail.	Not Avail.	4%	0%	----------
	target					3% *(Benchmark 2023)*
6. By the end of FY 2023, all programs have adequate, dedicated support	actual	Not Avail.	Not Avail.	60%	100%	----------
	target					100% *(Benchmark 2023)*
7. By the end of FY 2025, improve by 50% learner diversity that reflects community diversity	actual	Not Avail.	Not Avail.	24% (86)	28% (102)	----------
	target					361 *(Benchmark 2025)*
8. By the end of FY 2025, increase by 50% learners and employees feeling that there is a culture of diversity	actual	Not Avail.	Not Avail.	20%	20%	----------
	target					30% *(Benchmark 2025)*
9. By the end of FY 2021, establish new contacts in graduate medical education in eastern Idaho	actual	Not Avail.	Not Avail.	2	4	----------
	target					4 *(Benchmark 2021)*
10. By the end of FY2022, in collaboration with Portneuf Medical Center establish a medical education task force	actual	Not Avail.	Not Avail.	25%	25%	----------
	target					100% *(Benchmark 2022)*

Performance Measure Explanatory Notes *(Optional)*

1. This is a new benchmark and not previously tracked. This is a significant achievement toward accomplishing Goal 1.

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2. Currently, the Department of Family Medicine does not have any past graduates that donate funds to the Department. This is a new benchmark and not previously tracked.
3. Currently, the Department of Family Medicine does not have any past graduates that donate funds to the Department. This is a new benchmark and not previously tracked.
4. This is a new performance measure and not previously tracked.
5. This is a new performance measure and not previously tracked
6. This is a new performance measure and not previously tracked.
7. This is a new performance measure and not previously tracked.
8. This is a new performance measure and not previously tracked.
9. This is a new performance measure and not previously tracked.
10. This is a new performance measure and not previously tracked.

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ATTACHMENT 22

Part I – Agency Profile

Agency Overview

The Idaho Dental Education Program (IDEP) is Idaho's assisted route of access for dental education. There are currently eight (8) seats available per year for Idaho residents to obtain their dental education. The Program began in 1981 with a cooperative agreement between Idaho State University and The University of Washington School of Dentistry, where five (5) Idaho residents received their dental education. In 1982 the program became a cooperative effort between Creighton University's School of Dentistry in Omaha, Nebraska and Idaho State University in Pocatello, Idaho. The program involves a decentralized first year of education taught at Idaho State University and the second through fourth years taught at Creighton University.

The program currently has five (5) regular employees and five (5) adjunct employees in Pocatello. Dr. Jeff Ybarguen (IDEP graduate) is the program director and works with Dr. Brian Crawford who is the Chair of the Department of Dental Sciences at ISU. Jeri Larsen is the Department Coordinator and works with both the IDEP program and the Idaho Advanced Education in General Dentistry (AEGD) residency program. These programs are located in the same facility at Idaho State University.

Core Functions/Idaho Code

The mission of the Idaho Dental Education Program is two-fold: First, to provide residents of Idaho with ready access to a high quality dental education; and second, to help the population of Idaho have ready access to high quality dental professionals. As the majority of students graduating from the program return to Idaho to practice, residents of the state have access to high quality dental treatment. [Statutory Authority: Idaho Code §33-3720]

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$1,600,000	$1,607,400	$1,670,100	$1,637,200
Unrestricted Current	$960,000	$768,900	$859,700	$939,300
Total	**$2,560,000**	**$2,376,300**	**$2,529,800**	**$2,576,500**
Expenditure	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$376,800	$338,000	$358,600	$348,400
Operating Expenditures	$107,200	$51,800	$68,600	$69,200
Capital Outlay	$178,800	$1,900	$0	$1,900
Trustee/Benefit Payments	$1,257,700	$1,252,400	$1,355,200	$1,419,800
Total	**$1,920,500**	**$1,644,100**	$1,782,400	$1,839,300

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of Program Applicants	41	36	33	28
Number of Program Applicants Accepted	8	8	8	8
Number of Graduates (since program's inception)	247	255	263	270

FY 2021 Performance Highlights *(Optional)*

Eight previous IDEP graduates that completed residency programs or initially began working outside Idaho returned to Idaho to practice during the reporting period.

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 *Provide access to a quality dental education for qualified Idaho Residents*						
1. Dental education opportunities for Idaho residents comparable to other states: • Contract for at least 8 Idaho residents per year	actual	8	8	8	8	----------
	target	*8*	*8*	*≥8*	*≥8*	10
2. First Time Pass Rate of National Dental Boards Part I	actual	100%	100%	87.5%	100%	----------
	target	*>90%*	*>90%*	*>85%*	*>85%*	*>85%*
3. First Time Pass Rate of National Dental Boards Part II	actual	100%	100%	100%	100%	----------
	target	*>90%*	*>90%*	*>85%*	*>85%*	*>85%*
4. 1st time pass rate on Clinical Board Examination necessary to obtain dental license (Western Regional or Central Regional)*	actual	100%	100%	100%	100%	----------
	target	*>90%*	*>90%*	*>85%*	*>85%*	*>85%*
5. Provide additional opportunities for Idaho residents to obtain a quality dental education** • Number of students in the program	actual	8	8	8	8	----------
	target	*Increase number of students per year from 8 to 10*	*Increase number of students per year from 8 to 10*	*Increase number of students per year from 8 to 10*	*Increase the number of students in the program per year to 10.*	*Increase the number of students in the program per year to 10.*
Goal 2 *Maintain some control over the rising costs of dental education*						
6. Provide the State of Idaho with a competitive value in educating Idaho Dentists*** • Cost per student compared to national average	actual	43%	35%	40%	40%	----------
	target	*<50% national average*	*<50% national average*	*<50% national average*	*<50% national average*	*<50% national average*
Goal 3 *Serve as a mechanism for responding to the present and/or the anticipated distribution of dental personnel in Idaho.*						
7. Return Rate –Graduates returning to Idaho****	actual	67%	100%	25%	20%	----------
	target	*>50%*	*>50%*	*>50%*	*>50%*	*>50%*

Performance Measure Explanatory Notes *(Optional)*

* Historically we have always seen a 100% pass rate.

** Our goal has been to expand the program to facilitate ten students per year. We currently have eight students per year in the program.

*** The cost per DDSE (DDS Equivalent) is a commonly utilized measure to evaluate the relative cost of a

dental education program. This information is tabulated in the *ADA Survey of Dental Education*, published by the American Dental Association. From this publication (inflation Adjusted) the national average cost per student for state programs is $143,075 in 2021. The IDEP cost per student for 2021 was $$57,478 (40% of the national average). The program is accomplishing the goal of providing a competitive value in educating Idaho dentists.

**** Our goal is to have greater than 50% of our program participants return to Idaho to practice Dentistry. Two of the seven graduates in 2021 are furthering their education through post-graduate residency programs and may return to Idaho at the completion of their residency training. One of the graduates entering private practice returned to Idaho (Rexburg). One student who entered with the 2021 graduating class will graduate in 2022 due to taking approved personal leave. Eight previous IDEP graduates that completed residency programs or initially began working outside Idaho returned to Idaho to practice during the reporting period. The majority of IDEP graduates ultimately return to Idaho.

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ATTACHMENT 23

Part I – Agency Profile

Agency Overview

Recognizing the importance of our natural heritage to the citizens of the State, the Idaho Museum of Natural History (IMNH) is charged with preserving and interpreting cultural and natural history for the citizens of Idaho. It is the mission of the Idaho Museum of Natural History to actively nurture an understanding of and delight in Idaho's natural and cultural heritage. As the official state museum of natural history, it acquires, preserves, studies, interprets, and displays natural and cultural objects for Idaho residents, visitors, and the world's community of students and scholars. The Museum also supports and encourages Idaho's other natural history museums through mentoring and training in sound museological practices and is building educational and research collaborations across the state.

The Idaho Museum of Natural History is home to collections in anthropology, archaeology, paleontology, earth science, and the life sciences. It holds an archive of collection related documentation, and field notes, historic and research documents, ethnographic photographs, and audio recordings. It also houses the eastern branch of the Archaeological Survey of Idaho. Researchers pursue scholarly study of the collections and publish their findings in peer reviewed and Museum-sponsored publications. Exhibitions emphasize the collections and mission of the Museum, and include permanent and special offerings. Educational classes for children, families, and adults provide more in-depth exploration of the natural history of Idaho.

Core Functions/Idaho Code

The Idaho Museum of Natural History has two core functions:
1) To collect, care for, preserve, research, interpret and present — through educational programs and exhibitions— Idaho's cultural and natural heritage.
2) To support and encourage local and municipal natural history museums throughout the state of Idaho.

Pursuant to **§33-3012**, Idaho Code, the State Board of Education establishes the Idaho State Museum of Natural History.

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$625,400	$616,200	$642,135	$593,500
Total	**$625,400**	**$616,200**	**$642,135**	**$593,500**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$596,600	$599,400	$567,200	$589,300
Operating Expenditures	$16,800	$16,800	$61,803	$4,200
Capital Outlay	$12,000	$0	$13,132	$0
Total	**$625,400**	**$616,200**	**$642,135**	**$593,500**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of educational programs for public audiences*	114	100	49	10
Number of students attending museum for school group programming**	1,449	2,296	1,262	775
Number of K-12 (Child 4-17 years old) visiting exhibits at museum	2,852	5,174	1,887	2,194
Number of people reached digitally	104,795	66,385	73,307	259,160
Number of physical collections (by catalog #)	394,131	322,476	331,592	334,391
Number of traveling exhibit visitors (shows)	39,000 (2)	130,000 (2)	~100,000 (1)	~97,000 (2)
Number of Volunteer Hours	1,220.5	1,374	362	232

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*Education Coordinator position in transition FY21. Permanent hire made 8/2/2021.
**Citizen science goal stalled by COVID year and turnover in education position. Will address in FY22.
†COVID closures meant 216 open days in FY20, compared to 300 open days in FY19.

FY 2021 Performance Highlights *(Optional)*

1) Bounceback year for attendance at the Museum, returning close to pre-pandemic levels.
2) IMNH collections gain international attention through 2 new studies examining DNA recovered from Idaho fossils including dire wolf and mammoth from Power County.
3) *The Nature of Idaho* radio broadcast and podcast, cohosted by IMNH Director Leif Tapanila, completed its third season of nature-focused episodes, receives 2nd Place award for general excellence from Idaho Press Club.

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 *Demonstrate the IMNH's essential value*						
1. By 2025, Increase number of visitors by 25% (10,000 total) *Performance Measure 1.1*	actual	7,080	7,088	5,191†	6,575	----------
	target	*8667*	*8889*	*9111*	*9333*	*8000*
2. By 2025, Increase number of K-12 student interactions by 50% (7,500 total) *Performance Measure 1.2*	actual	4,301	7,470	7,359†	4,275*	----------
	target	*5250*	*5472*	*5694*	*5917*	*7500*
3. By 2025, Establish 500 members *Performance Measure 1.3*	actual	33	85	86	76	----------
	target	--	--	*100*	*200*	*200*
4. By 2025, 20% members are donors *Performance Measure 1.4*	actual	--	--	17 (20%)	33 (43%)	----------
	target	--	--	*20%*	*20%*	*40%*
Goal 2 *Build capacity to support sustainable growth*						
1. By 2025, Increase annual donations to $75,000 *Performance Measure 2.1*	actual	$29,203	$29,304	$34,785	$11,467	----------
	target	*$21,119*	*$28,816*	*$36,514*	*$44,211*	*$44,211*
2. By 2025, Increase annual sponsorship to $300,000 *Performance Measure 2.2*	actual	$103,185	$74,150	$54,995	$31,670	----------
	target	*$50,975*	*$86,550*	*$122,125*	*$157,700*	*$157,700*
3. By 2025, Grow staffing FTE in Education and Collections *Performance Measure 2.3*	actual	12.1	10.1	10.1	10.1	----------
	target	--	--	--	*10.2*	*10.1*
4. By 2025, Grow Leadership Board to 15 *Performance Measure 2.4*	actual	--	4	4	6	
	target	--	--	*5*	*15*	*10*
Goal 3 *Serve a statewide mission for education and research*						
1. By 2025, Increase statewide audience to all 44 counties *Performance Measure 3.1*	actual	20	20	20	10*	
	target	--	--	--	*30*	*20*
2. By 2025, Increase total Idaho audience by 100% *Performance Measure 3.2*	actual	58,200	297,076	314,628	364,695	
	target	*176,738*	*212,085*	*247,433*	*282,780*	*375,000*

Performance Measure Explanatory Notes *(Optional)*

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This PMR reflects metrics under a new 5-year strategic plan that started in FY20 with the 3 Goals of (1) Demonstrate the Museums' Essential Value; (2) Build Capacity to Support Sustainable Growth; and (3) Serve a Statewide Mission for Research and Education.

Definitions for Metric benchmarks

1.1 Benchmark: Museum growth FY2014-FY2016 was 20% per year and reached plateau after that. Modest growth (+25% of FY2016) is ambitious for the next five years without adding exhibit space.
1.2 Benchmark: Includes visits to museum exhibits and educational programs. Basis FY 2016.
1.3 Benchmark: Development goal of adding >100 new members per year and retaining 85% annually.
1.4 Benchmark: 20% is development standard.
2.1 Benchmark: Basis of FY 2017
2.2 Benchmark: Basis of 300% of FY 2018
2.3 Benchmark: To be decided after evaluation. This is a new metric.
2.4 Benchmark: Final Leadership Board size of 15
3.1 Benchmark: Audience includes all ways in which museum content impacts Idahoans (e.g., museum visitors + travelling exhibits + radio listeners + newsletter + social media followers).
3.2 Benchmark: Audience includes all ways in which museum content impacts Idahoan (museum visitors + travelling exhibits + radio listeners + newsletter + social media followers). Basis from FY2017

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Part I – Agency Profile

Agency Overview

The Agricultural Research and Extension Service (ARES) is part of the land-grant system established by the Morrill Act of 1862. The University of Idaho Cooperative Extension System, established in 1915 under the Smith-Lever Act of 1914, conducts educational outreach programs to improve the quality of life for Idaho citizens by helping them apply the latest scientific technology to their communities, businesses, lives, and families. The Idaho Agricultural Experiment Station, established in 1892 under the Hatch Act of 1887, conducts fundamental and applied research to solve problems and meet the needs in Idaho's agriculture, natural resources, youth and family, and related areas.

Core Functions/Idaho Code

The College of Agriculture (now the College of Agricultural and Life Sciences) in connection with the University of Idaho was established through Idaho Code **§33-2813**. The agricultural research station as a part of the college was created by legislative assent to the Hatch Act via Idaho Code **§33-9902**. The legislative assent to the Smith-Lever Act for cooperative agricultural extension work was created through legislative assent indicated in Idaho Code **§33-2904**. Lastly, Idaho Code **§33-2908** sets out legislative assent to an act of Congress approved May 22, 1928 for the further development of agricultural extension work between the agricultural colleges in the several states receiving the benefits of the Morrill Act and authorizes the State Board of Education and Board of Regents of the University of Idaho to receive the grants of money appropriated under said act and to organize and conduct agricultural extension work which shall be carried on in connection with the College of Agriculture of the state university.

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$31,263,300	$31,307,100	$32,530,700	$32,108,400
Federal Grant	$5,699,743	$5,699,743	$5,957,235	$5,949,491
Misc Revenue	0	0	0	0
Restricted Equine Education	0	0	0	0
Total	**$36,933,043**	**$37,006,843**	**$38,487,935**	**$38,057,891**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$29,223,301	$30,465,306	$31,645,772	$30,703,497
Operating Expenditures	$4,313,959	$4,550,633	$4,304,211	$4,082,754
Capital Outlay	$2,592,383	$2,576,260	$1,319,569	$1,316,000
Trustee/Benefit Payments	0	0	0	0
Total	**$36,129,643**	**$37,592,199**	**$37,269,552**	**$36,102,251**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of Youth Participating in 4-H (Goal 2: Objective B: Measure I)	70,122	72,688	73,478	51,846*
Number of Individuals/Families Benefiting from Outreach Programs (Goal 2: Objective A: Measure I)	405,739	425,128	440,793	220,402*
Peer Reviewed and Professional Scientific Publications from University of Idaho Extension (Goal 2: Objective C: Measure I)	133	147	157	176
Increase educational and research web traffic and views of U of I Extension Content (Goal 2: Objective D: Measure I)	562,769	707,267	832,352	840,362*

* COVID-19 deterred direct participation in 4-H and other Outreach programs.

FY 2021 Performance Highlights *(Optional)*

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 *Achieve excellence in scholarship and creative activity through an institutional culture that values and promotes strong academic areas and interdisciplinary collaboration among them.*						
1. Amount of grant funding received per year Objective A, Measure I	actual	$17.8M	$17.4M	$17.2M	$36.1M	----------
	target	*$20M*	*$34.3M*	*$34.3M*	*$34.3M*	*$34.3M*

Performance Measure Explanatory Notes *(Optional)*

Performance Measure Alignment with ARES Strategic Plan

(1) Profile of Cases Managed and/or Key Services Provided: Goal 2: Engage: Objective A, B, C, D

(2) Scholarly and Creative Activity: Goal 1: Innovate: Objective A: Performance Measure I

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ATTACHMENT 25

Part I – Agency Profile

Agency Overview

Research mission – investigation into forestry and rangeland resource management problems, forest nursery production, and related areas. Part of the College of Natural Resources, Forest Utilization Research also includes the Rangeland Center with a legislative mandate for interdisciplinary research, education and outreach as suggested by a partner advisory council to fulfill the University's land-grant mission (Idaho Code § 38-715), and the Policy Analysis Group with a legislative mandate to provide objective data and analysis pertinent to natural resource and land-use issues as suggested by an advisory committee of Idaho's natural resource leaders (Idaho Code § 38-714).

Core Functions/Idaho Code

The duty of the Experiment Station of the University of Idaho's College of Natural Resources is to institute and conduct investigations and research into the forestry, wildlife and range problems of the lands within the state. Such problems specifically include forest and timber growing, timber products marketing, seed and nursery stock production, game and other wildlife, and forage and rangeland resources. Information resulting from cooperative investigation and research, including continuing inquiry into public policy issues pertinent to resource and land use questions of general interest to the people of Idaho, is to be published and distributed to affected industries and interests. (Idaho Code § 38-701, 38-703, 38-706, 38-707, 38-708, 38-709, 38-710, 38-711, 38-714, 38-715)

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY21
General Fund	$1,347,100	$1,281,100	$1,435,500	$1,421,000
Total	**$1,347,100**	**$1,281,100**	**$1,435,500**	**$1, 421,100**
Expenditures	**FY 2018**	**FY 2019**		
Personnel Costs	$1,106,900	$1,121,800	$1,244,200	$1,258,400
Operating Expenditures	$159,300	$159,300	$191,300	$162,600
Capital Outlay	$80,900	$0	$0	
Trustee/Benefit Payments	$0	$0	$0	
FY20 1% Rescission/1% COVID/HB557	N/A	N/A	$31,200	
FY21 5% General Fund Holdback				$71,100
Total	**$1,347,100**	**$1,281,100**	**$1,435,500**	**$1,349,900**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY2021
Number of Private Landowners Assisted: Pitkin Forest Nursery	1570	2082	2093	2898
Number of Seedling Industry Research Projects: Pitkin Forest Nursery	5	7	6	6
Number of:				
• Research Projects:				
Experimental Forest	16	15	14	15
Policy Analysis Group	12	12	13	5
Pitkin Forest Nursery	10	12	11	11
Rangeland Center	25	27	21	19
Mica Creek	N/A	N/A	5	3
• Teaching Projects:				
Experimental Forest	22	25	14	19
Policy Analysis Group	8	8	6	6
Pitkin Forest Nursery	6	4	5	3
Rangeland Center	12	14	15	10
Mica Creek	N/A	N/A	3	4
• Service Projects:				

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Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY2021
Experimental Forest	12	12	13	14
Policy Analysis Group	11	11	4	3
Pitkin Forest Nursery	10	10	9	9
Rangeland Center	16	17	12	9
Mica Creek	N/A	N/A	1	1

FY 2020 Performance Highlights *(Optional)*

Policy Analysis Group (PAG)
FY21 with its COVID-19 restrictions presented the Policy Analysis Group (PAG) with both challenges and opportunities to completing its mission of providing timely, scientific and objective data and analysis pertinent to resource and land use questions of general interest to the people of Idaho. The primary challenge was that PAG had thrived on in-person meetings with stakeholders and we were forced to reevaluate the way in which we developed and cultivated those relationships. Secondary was the inability to fill open positions including the position of Director and Research Scientist. Neither position was successfully filled in FY21 and is evidence in the reduction of research activity. The opportunity was that online methods allowed more availability of viewing our presentations both across the rural areas of the state as well as better interactions across state lines, the country, and globally. One example would be the opportunity for PAG to present alongside researchers from multiple universities, agencies, and a representative of the U.S. Department of State regarding forestry's role in natural climate solutions to climate change. The event was viewed by over 300 participants representing more than 13 countries. On the opposite end of the spectrum is the 29th annual Family Foresters Workshop where the event participation doubled from past years with most participants coming from the Inland Northwest. In FY 2021 we hope to get back to our in-person meetings and historical staffing levels while using a virtual option to maintain that extended reach. In total PAG researchers provided seventeen structured presentations to a wide array of stakeholders reaching well over 1,200 attendees. These presentations are a function of our strong research program with PAG also completing an Idaho Experiment Station Bulletin, Report, and an Issue Brief in addition to three peer reviewed journal articles. We also leveraged our legislative support through extramural funding of over $100,000 which allows us to support a range of undergraduate, graduate, and post-graduate research opportunities.

Pitkin Forest Nursery (Nursery)
In FY21, the Pitkin Nursery proved its resiliency by rapidly adapting to the COVID-19 pandemic to continue our mission of research, outreach, and education focused on reforestation and ecosystem restoration, as well as producing high-quality nursery stock for Idahoans. Demand for seedlings and information was at an all time high, where the Nursery provided information to 2,898 stakeholders through phone calls and emails to help achieve planting success, while selling 358,821 seedlings to 1,478 customers. Nursery personnel continued our legacy of public engagement through various events, including meeting with citizens at the Boise Capital City Public Market and the Moscow Farmers Market, and sharing research findings with land managers and private and agency nursery staff. The Nursery pursued 12 new and ongoing projects with various partners including the USDA Forest Service, PotlatchDeltic Corp., Hancock Forest Management, The Nature Conservancy, and Idaho State Department of Agriculture, Nursery and Florist Advisory Committee. New funding for research projects was $229,770 and the combined funding for new and ongoing research was over $1.6 million. Seedlings at the Nursery were grown by 25 UI students throughout the year, where they learned the principles of irrigation, pest identification and control, and business aspects of nursery operation. The Nursery is looking towards the future and continuing our tradition as the pre-eminent nursery program in the country due to funding allocated by the Idaho Legislature through Governor Little's Building Idaho's Future Initiative and the UI Experimental Forest to build two new state-of-the-art greenhouses. The new greenhouses will increase capacity for research, integration into college courses, professional training, and production of high-quality nursery stock.

University of Idaho Experimental Forest (UIEF)
In FY21, the University of Idaho Experimental Forest (UIEF) pursued a variety of innovative new projects that typify our role as the Idaho's Land Grant University research, demonstration and teaching forest. Over $7 million in new proposals were submitted, and over 30 students gained forestry experience working on the UIEF. An example of advancing cutting-edge forestry research and demonstration was the UIEF partnering with Idaho Dept. of Lands,

Northwest Management, Inc., and the Intermountain Forestry Cooperative to establish itself as the first Experimental Forest nationally to have a fully digitized, individual-tree stem map of all trees on our main, 8,300-acre timberlands on Moscow Mountain to support cutting-edge, technologically advanced forest management and research. This work has been presented at numerous venues and to hundreds of managers, including the Idaho Forest Owners Association annual Forest Owners Field Day on the UIEF (75+) and Forester's Forum (250+). For the first time ever, the UIEF hosted a semester-long research seminar series in Fall 2020 with 14 weekly presentations highlighting the range of current, published forestry research on the UIEF for over 25 registered students and numerous additional participants. In 2020 the UIEF established two committees to better engage our stakeholders: a Stakeholder Advisory Committee and a Non-Motorized Recreation Committee. These groups are proving extremely helpful for engaging the public in our management, as well as our research direction and forestry-oriented recreational outreach and education activities. We further worked with IDL on a $300,000 Western Fire Managers Grant to reduce fuels and protect FUR research investments. Our social media influence increased broadly in 2020 to over 600 followers, with posts typically receiving over 100 likes. One recent forestry post was among the most popular on the main UI Instagram account, with over 1,450. In 2020-2021 the Experimental Forest mechanized the Student Logging Crew, now in its 49th year, acquiring a new log processor and skidder for educational and workforce training. All UI forestry students will now operate this heavy equipment on the UIEF as part of their education, developing applied, hands-on knowledge and skills for operational forestry that no other 4-year forestry program in the United States offers. After many years of planning, the UIEF is restructuring our staffing in 2021 with two new positions: a Senior Research Associate to conduct applied, hands-on research of interest to our forestry stakeholder groups, and a Forest Operations Training Supervisor to work closely with the Student Logging Crew and implement research and demonstration treatments. We completed over 2 miles of new forestry education hiking trails this year, with several new parking areas to better serve the public. We implemented over 300-acres of demonstration treatments that highlight active forest management, fuels reduction, and good stewardship.

Rangeland Center (Center)
The UI Rangeland Center continued to pursue its mission to use science to find long-term solutions for managing rangelands in FY21. Faculty associated with the Center published 14 peer-reviewed journal articles on a wide range of social, economic, and ecologic issues facing Idaho's rangelands. One such article showed land managers that contamination of water was more likely caused by recreationalists and wildlife than livestock and pointed to practical solutions to address the issue. Efforts to share the knowledge gained with the livestock industry, land managers, and other scientists continued with the Idaho Rangeland Fall Forum drawing 128 people in an online event and the Idaho Range Livestock Symposium bringing in 138 individuals. Center staff played a large role in putting together the annual Society for Range Management International Meeting, which had an attendance of 1,490 for the four-day event. Leveraging external funding from granting agencies continued to be a strength for the Center, with over $2,129,000 in funds received in FY21. These funds went to support research projects including research on effects of grazing on sage-grouse. The rangeland center also sought funding to support students, including two undergraduate students working at the University's Rinker Rock Creek Ranch.

Mica Creek Experimental Watershed (MCEW)
In FY21, the MCEW continued to build on long-term research designed to assess the effects of Idaho forest Best Management Practices on water quantity, quality, streamflow regime, aquatic macroinvertebrates, and fish populations. A highlight of the current research was the synthesis of long-term fish monitoring data across the watershed. Project personnel are currently preparing two manuscripts on the fish community response to contemporary forest management practices. Preliminary results suggest that water temperatures never exceeded thresholds stressful to cold-water species and fish populations were not adversely impacted by timber harvest operations. MCEW personnel are also continuing to collect fish population information during ongoing harvest activity in the watershed. The MCEW also continues to serve as a long-term research site for a stream metabolism study by the National Council for Air and Stream Improvement (NCASI). The goal of this study is to provide predictive information that is transferrable across multiple watersheds from the regional to national scale. Project personnel facilitated the publication of an important peer-refereed paper on the effects of contemporary forest practices on nutrient and phosphorus dynamics in a commercially managed forest watershed (Deval et al., 2021). A second peer-refereed paper on the effects of timber harvest on water yield and runoff (Zhao et al., 2021) was published using data from BCEW, and project personnel assisted in the management of media communications resulting from the project.

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Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 *Achieve excellence in scholarship and creative activity through an institutional culture that values and promotes strong academic areas and interdisciplinary collaboration among them.*						
1. Objective A, Measure I: Number of CNR faculty, staff, students and constituency groups involved in FUR-related scholarship or capacity building activities.	actual	50	64	54	62	----------
	target	*49*	*51*	*52*	*52*	*54*
2. Objective A, Measure II: Number and diversity of courses that use full or partially FUR funded projects, facilities or equipment to educate, undergraduate, graduate and professional students.	actual	28	43	41	38	----------
	target	*24*	*25*	*26*	*26*	*28*
3. Objective B, Measure I: An accounting of products (e.g., research reports, economic analysis, BMPs) and services (e.g., protocols for new species shared with stakeholders, policy education programs and materials provided, accessible data bases or market models).	actual	36	37	35	23	----------
	target	*32*	*33*	*34*	*34*	*34*
4. Objective B, Measure II: An accounting of projects recognized and given credibility by external reviewers through licensing, patenting, publishing in refereed journals, etc.	actual	16	24	40	32	----------
	target	*14 refereed articles*	*15 refereed articles*	*16 refereed articles*	*16 refereed articles*	*16 refereed articles*
Goal 2 *Engage with the public, private and non-profit sectors through mutually beneficial partnerships that enhance teaching, learning, discovery, and creativity.*						
5. Objective A, Measure I: Document cases: Communities served and resulting documentable impact; governmental agencies served and resulting documentable impact; non-governmental agencies and resulting documentable impact; private businesses and resulting documentable impact; and private landowners and resulting documentable impact. Meeting target numbers for audiences identified below and identifying mechanisms to measure economic and social impacts	actual	1,835	2.839	2,842	3,150	----------
	target	*1,250*	*1,750*	*1,850*	*1,850*	*1,850*
Goal 3 *Efficient financial management of FUR state appropriated dollars supporting Goals 1 and 2 and leveraging resources to secure external funding.*						
6. Objective A, Measure I: New funding sources from external granting agencies, private and public partnerships and other funding groups.	actual	17	14	22	18	----------
	target	*14*	*15*	*16*	*16*	*17*

Performance Measure Explanatory Notes *(Optional)*

Performance Measure #1 – Seeking 20% growth by FY2023 based on increased staff resources in 2016 that allows more faculty, staff, students and constituency groups to be involved in FUR-related scholarship activities.

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Performance Measure #2 – Seeking 15% growth by FY2023 based on College and program goals to enhance coordination of course offerings and research.
Performance Measure #3 – Seeking 15% growth by FY2023 based on a critical need to communicate with external stakeholders, and increase the pace of products produced.
Performance Measure #4 – Seeking 25% growth by FY2023 based on increased staff resources in 2016 focused on research that will increase scientific outreach and communication.
Performance Measure #5 – This is a new measure based on UI and College strategic goal to increase involvement and communication with external stakeholders. The target of 1,250 participants served was established from internal analysis of recent year participants.
Performance Measure #6 – Seeking 25% growth based on analysis of projects started and completed in recent years, staff capacity, and the need to increase the pace of projects completed annually.

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Part I – Agency Profile

Agency Overview

The Idaho Geological Survey (IGS) is the lead state agency for the collection, interpretation, and dissemination of geologic and mineral data for Idaho. The agency has served the state since 1919 and prior to 1984 was named the Idaho Bureau of Mines and Geology. The agency is currently staffed by 11.24 state-funded FTEs and 13 externally funded temporary full and part-time employees.

The Survey's mission is to provide the state with timely and relevant geologic information. Members of the IGS fulfill this mission through applied geologic research and strong collaborations with federal and state agencies, academia, and the private sector. IGS research focuses on geologic mapping, geologic hazards, hydrogeology, geothermal energy, oil and gas, and metallic and industrial minerals. The Survey's Digital Mapping Laboratory is central to compiling, producing, and delivering new digital geologic maps and publications for the agency. The IGS is also engaged in dissemination of historic mining records, community service, and earth science education. As Idaho grows, demand is increasing for geologic and geospatial information related to energy, mineral, and water resource development, and landslide and earthquake hazards.

Core Functions/Idaho Code

Idaho Code Title 47, Chapter 2, defines the authority, administration, advisory board members, functions, and duties of the IGS.

- **Section 47-201**: Creates the IGS to be administered as a special program at the University of Idaho. Specifies the purpose as the lead state agency for the collection, interpretation, and dissemination of geologic and mineral information. Establishes a Survey advisory board and designates advisory board members and terms.

- **Section 47-202**: Provides for an annual meeting of the advisory board, and location of the chief office at the University of Idaho. Specifies the director of the IGS report to the President of the University through the Vice President for Research and Economic Development. Specifies for the appointment of a state geologist.

- **Section 47-203**: Defines the duties of the IGS to conduct statewide studies in the field and in the laboratory and to prepare and publish reports on the geology, hydrology, geologic hazards, and mineral resources of Idaho. Provides for establishment of a publication fund. Allows the Survey to seek and accept funded projects from and to cooperate with other agencies. Allows satellite offices at Boise State University and Idaho State University.

- **Section 47-204**: Specifies the preparation, contents, and delivery of a Survey Annual Report.

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Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$1,076,540	$1,085,100	$1,123,500	$1,105,200
Total	**$1,076,540**	**$1,085,100**	**$1,123,500**	**$1,105,200**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$880,196	$974,400	$896,832	$516,492
Operating Expenditures	$165,241	$105,336	$140,456	$368,667
Capital Outlay	$31,103	$5,364	$8,590	$164,741
Trustee/Benefit Payments	0	0	0	0
Furlough Deduction	N/A	N/A	N/A	$55,300
State Cut (1%)	N/A	N/A	$11,200	N/A
COVID-19 State Cut (1%)	N/A	N/A	$11,200	N/A
State Benefits Reduction	N/A	N/A	$2,200	N/A
Return to State	N/A	N/A	$53,022	N/A
Operations/Equipment Funding from Reserves	N/A	N/A	$58,447	N/A
Total	**$1,076,540**	**$1,085,100**	**$1,181,947**	**$1,105,200**
BALANCE			**-$58,447**	

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Square Miles of Geological Mapping	271	269	269	428
Number of Educational Programs for Public Audiences	19	18	48	30
Number of Geologic Reports	8	14	13	15
Number of Geologic Presentations	22	26	25	28
Number of Grants and Contracts	10	10	15	16

FY 2021 Performance Highlights *(Optional)*

1. **Number of Publications on Geology/Hydrology/Hazards/Mineral Resources**

   IGS publications increased from 11 in FY 20 to 18 in FY 21. Publications were focused on a wide array of geoscience issues and resources including mining and exploration, geologic hazards, and regional bedrock and surficial geologic maps. In addition to the 18 published products, IGS staff has produced a large number of informal deliverables, abstracts, and reports on a wide range of statewide relevant topics, including metallic and industrial minerals, natural resources, hydrogeology, oil and gas resources, regional stratigraphy, bedrock and surficial deposits, and geologic databases. The IGS publishes most of its products in-house through the Digital Mapping Laboratory, and nearly all products are made available for free download on the agency website.

2. **Externally Funded Grant and Contract Dollars**

   IGS was funded and supported through 16 grants in FY 21 which consisted of a mix from federal, state, and private industry. Grant and contract dollars increased from $639,902 in FY 20 to $662,366 in FY 21. The USGS funding represent the principal source of external support for IGS, with seven concurrent awards in FY 21. In addition, funding from state agency partners (Idaho Department of Water Resources, Idaho Transportation Department, Idaho Office of Emergency Management, and Idaho Department of Lands) has enabled hydrogeologic projects in the Big Lost River Valley and Raft River Valley, the development of a statewide landslide database, an update to Idaho's active fault database, and continuation of abandoned mines/data preservation efforts (in association with USGS). Non-government support from the private sector includes geologic mapping in the De Lamar and Swisher Mountain quadrangles in the historic DeLamar mining district by Integra Resources Inc. and geologic mapping in the Yellow Pine quadrangle adjacent to the Stibnite mining district by Wilmat Petroleum Company.

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Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 1 Achieve excellence in collecting and disseminating geologic information and mineral data to the public, governmental agencies, elected officials, educational institutions, civic and professional organizations, and the mining, energy, agriculture, utility, construction, insurance, and banking industries. Continue to strive for increased efficiency and access to survey information primarily through publications, website products, in-house collections, and customer inquiries. Emphasize website delivery of digital products and compliance with new revision of state documents requirements (Idaho Statute 33-2505).						
1. Number of Published Reports on Geology/Hydrology/Geohazards/Mineral & Energy Resources Goal 1. Objective A, Measure I	actual	31	11	11	18	----------
	target	*39*	*20*	*25*	*11*	*11*
2. Number of Website Viewers Goal 1. Objective B, Measure I	actual	487,249	137,863[1]	278,919	21,388[3]	----------
	target	*NA*	*NA*	*NA*	*140,000*	*279,000*
3. Number of Website Products Used or Downloaded Goal 1. Objective B, Measure II	actual	229,893	-------[2]	-------[2]	5,621[3]	----------
	target	*191,709*	*215,000*	*252,882*	*40,000*	*40,000*
4. Percentage of Survey documents available through these programs Goal 1. Objective C, Measure I	actual	~99%	~99%	~99%	~99%	----------
	target	*~99%*	*~99%*	*~99%*	*~99%*	*~99%*
5. Percentage of published Geologic Maps that are uploaded to the national website depicting detailed geologic mapping in Idaho Goal 1. Objective D, Measure I	actual	100%	100%	100%	100%	----------
	target	*100%*	*100%*	*100%*	*100%*	*100%*

[1] Due to the implementation of a different web statistic tool, the actual measure for FY 19 may be different than what was reported in previous Performance Reports.
[2] We did not have the data to calculate this measure due to the ongoing implementation of a different web statistic tool on our website. An estimate for this measure for FY 19 was reported in the FY 21 Strategic Plan in error.
[3] We launched our new website and started collecting web stats on April 29, 2021, so these measures are only for the period between April 29, 2021 and June 30, 2021. Caution should be used when comparing FY 21 web stats to previous years as we started using a new web statistic tool on April 29, 2021. The number of website viewers extrapolated over the entire fiscal year would be 123,622, and the number of website products used or downloaded would be 32,489.

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Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Goal 2 Promote, foster, and sustain a climate for research excellence. Develop existing competitive strengths in geological expertise. Maintain national level recognition and research competitiveness in digital geological mapping and applied research activities. Sustain and build a strong research program through interdisciplinary collaboration with academic institutions, state and federal land management agencies, and industry partners.						
6. Increase the geologic map coverage of Idaho by mapping priority areas of socioeconomic importance. Identify and study areas with geologic resources of economic importance and identify and study areas that are predisposed to geologic hazards. Goal 2. Objective A, Measure I	actual	37.9%	38.2%	38.2%	38.7%	----------
	target	*37.8%*	*40.5%*	*39.1%*	*38.6%*	*38.6%*
7. Increase externally funded grant and contract dollars with a particular focus of securing new sources of funding from the private sector. Goal 2. Objective B, Measure I	actual	$393,622	$396,556	$639,902	$662,366	----------
	target	*$457,794*	*$467,923*	*$485,000*	*$500,000*	*$500,000*
Goal 3 Support knowledge and understanding of Idaho's geologic setting and resources through earth science education. Achieve excellence in scholarly and creative activities through collaboration and building partnerships that enhance teaching, discovery, and lifelong learning.						
8. Number of educational programs provided to public and private schools and the public at large. Goal 3. Objective A, Measure I	actual	19	18	48	30	----------
	target	*19*	*15*	*19*	*18*	*18*

Performance Measure Explanatory Notes *(Optional)*

For Goal 1, Objective A, Measure I, the target for the number and scope of published reports is to be equal to or greater than the last full fiscal year reported, given comparable scope and staffing levels, as stated in the Strategic Plan. For the FY 22 benchmark, this corresponds to 11 publications produced in FY 20. The Strategic Plan specifies the number of publications produced each year is dependent on the scope of the publications; some years we publish many small-scope publications, and other years we focus on a few large-scope publications.

FY 21 Grants and Contracts

Abandoned Mine Lands Project, Task 5: R.S. Lewis (Idaho Department of Lands, March 2019-April 2021, $141,677).

Abandoned Mine Lands Project, Task 6: R.S. Lewis (Idaho Department of Lands, April 2021-March 2023, $169,445).

Data Preservation 12: R.S. Lewis and V.S. Gillerman (U.S. Geological Survey Data Preservation Program, July 2019-July 2020, $67,496).

Data Preservation 13: R.S. Lewis and V.S. Gillerman (U.S. Geological Survey Data Preservation Program, July 2020-July 2021, $68,505).

Detailed Mapping of the Holocene- and Late Quaternary-Active Traces of Northern Utah/Southern Idaho Active faults: Collaborative Research with Idaho Geological Survey and Utah Geological Survey: Z.M. Lifton (U.S. Geological Survey National Earthquake Hazard Reduction Program, July 2019-December 2020, $28,218.56).

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FY 21 Grants and Contracts (continued)

Development of a Statewide Landslide Inventory Database: Z.M. Lifton (Idaho Transportation Department Research Grant, October 2018-December 2020, $90,114).

Geologic Mapping of De Lamar and Swisher Mountain 7.5' Quadrangles: V.S. Gillerman and D.M. Feeney (Integra Resources, May 2019-June 2021, $ 103,261).

Geologic Mapping in the Idaho Cobalt Belt: R.S. Lewis (U.S. Geological Survey Earth-MRI Program, August 2019-October 2021, $100,000).

Geologic Mapping in the Preston, Weiser, Salmon, and Elk City areas: R.S. Lewis and D.M. Feeney (U.S. Geological Survey STATEMAP Program, June 2020-May 2021, $162,342).

Geologic Map Schema Databases for Weiser, Salmon, and Rexburg: R.S. Lewis and D.M. Feeney (U.S. Geological Survey STATEMAP Program, June 2020-May 2021, $156,050).

Geologic Mapping in the Yellow Pine quadrangle: R.S. Lewis (Wilmat Petroleum Company, May 2019-September 2020, $39,999).

Groundwater Budget for the Big Lost River Valley: A.L. Clark (Idaho Department of Water Resources, December 2018-October 2021, $125,000).

Mapping and Neotectonic Investigation of the Sawtooth Fault, Central Idaho: Collaborative Research with Idaho Geological Survey, Idaho State University, and BGC Engineering, Inc.: Z.M. Lifton (U.S. Geological Survey National Earthquake Hazard Reduction Program, June 2021-May 2022, $23,528.60).

Raft River Valley Hydrogeologic Investigation Phase 1: A.L. Clark (Idaho Department of Water Resources, December 2019-November 2020, $107,500).

Raft River Basin Hydrogeologic Investigation – Phase 2 (Hydrogeologic Framework and Water Budget): A.L. Clark (Idaho Department of Water Resources, January 2021-December 2023, $375,000).

Update to Idaho's Active Fault Database: Z.M. Lifton (Idaho Office of Emergency Management, October 2020-July 2021, $40,945.00).

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Part I – Agency Profile

Agency Overview

The W-I (Washington-Idaho) Veterinary Medicine Program is administered in Idaho by the Head of the Department of Animal, Veterinary, and Food Sciences, College of Agricultural and Life Sciences, University of Idaho. Originally established in 1974, the W-I Program annually provides 44 Idaho residents with access to a veterinary medical education through a cooperative agreement between the University of Idaho and Washington State University (WSU). The Doctor of Veterinary Medicine (DVM) degree is awarded by Washington State University, College of Veterinary Medicine (WSU/CVM) to students from Idaho. The University of Idaho provides experiential learning opportunities for most of the veterinary students who have an expressed interest in production agriculture and who elect food animal production medicine rotations offered by U of I faculty throughout the state. The program includes partners at Montana State University and Utah State University creating the Washington-Idaho-Montana-Utah (WIMU) regional program in veterinary medicine.

Core Functions/Idaho Code

Idaho Code § 33-3720. Professional Studies Program: Authorizes the State Board of Education to enter into contract agreements to provide access for Idaho residents to qualified professional studies programs, including the Washington-Idaho W-I (formerly WOI) Veterinary Medical Education Program [33-3717B (7)]. The original Tri-State [Washington-Oregon-Idaho (WOI)] Veterinary Education Program was authorized by the Idaho Legislature in 1973.

The University of Idaho (through the Idaho State Board of Education) contracts with WSU/CVM for admission of 11 new Idaho resident students per year; a total of 44 Idaho resident students are supported in the 4-year program annually by the Idaho contract. In addition, the program provides support for students in their 4th year of veterinary school to participate in the equivalent of 65, one-month clinical rotations specifically related to food animal production medicine offered by University of Idaho faculty. Faculty members interact with Idaho veterinarians and livestock producers providing education and recommendations concerning animal production, diagnosis and clinical assessment of disease situations.

Core Functions include:

1. Providing access to veterinary medical education at WSU/CVM for Idaho residents – the current W-I contract reserves 44 seats per year for veterinary medical students with Idaho residency.

2. Assisting Idaho in meeting its needs for veterinarians – provide Idaho-trained, Idaho-resident graduate veterinarians to meet annual employment demands for the State.

3. Providing hands-on experiential learning opportunities for senior veterinary students by teaching supplemental core rotations in food animal production medicine and clinical experience, which are offered year-round throughout Idaho.

4. Providing access to referral services for Idaho veterinarians in the areas of food animal production, diagnosis, and clinical evaluation of diseases through conduct of on-farm disease investigations for herd problems as requested by Idaho veterinarians and livestock producers.

Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$2,076,100	$2,116,500	$2,159,900	$2,100,200
Total	**$2,076,100**	**$2,116,500**	**$2,159,900**	**$2,100,200**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$456,052	$485,157	$ 505,015	$543,700
Operating Expenditures	$1,442,681	$1,513,833	$1,554,085	$1,456,500
Capital Outlay	$77,367	$17,510		
Trustee/Benefit Payments	$100,000	$100,000	$100,000	$100,000
Total	**$2,076,100**	**$2,116,500**	**$2,159,100**	**$2,100,200**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of Idaho Resident Students Enrolled Each Year	43	44	44	47
Number of One-Month Student Rotations (or equivalent) offered by UI faculty through WIMU	65	32	31	11

FY 2021 Performance Highlights *(Optional)*

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
1. Offer elective rotations in food animal medicine for experiential learning opportunities. *(Goal 1, Objective A, Measure I)*	actual	43	38	36	22	----------
	target	*40*	*40*	*40*	*40*	*40*
2. Student placement in the Northwest Bovine Veterinary Experience Program (NW-BVEP). *(Goal 1, Objective B, Measure I)*	actual	8	11	11	0*	----------
	target	*12*	*12*	*12*	*12*	*12*
3. Number and (percentage) of Idaho resident graduates licensed to practice veterinary medicine in Idaho. *(Goal 1, Objective C, Measure I)*	actual	3 (30%)	7 (64%)	6 (55%**)	4 (50%)***	----------
	target	*7 (64%)*	*7 (64%)*	*7 (64%)*	*7 (64%)*	*7 (64%)*
4. Number of grant awards received per year and amount of grant funding received per year by WIMU faculty. *(Goal 2, Objective A, Measure I)*	actual	1/ $12,000	3/ $120,500	2/ $112,000	3/ $311,897	----------
	target	*4/$200,000*	*4/$200,000*	*4/$200,000*	*4/$200,000*	*4/$200,000*

*The program was cancelled in FY 2021 due to COVID-19.
**The percentage was corrected from the previous year's performance report.
***Only 8 Idaho residents graduated in FY 2021.

Performance Measure Explanatory Notes *(Optional)*

Performance Measure 1 was modified to include all rotations offered by the University of Idaho as the Caine Center has been decommissioned with veterinary rotations offered at other locations.

Goal 1, Measure I FY 2019 reflects rotations offered by the University of Idaho at locations throughout the state.

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Part I – Agency Profile

Agency Overview

WWAMI is Idaho's state funded medical school and is under the leadership and institutional mission of the University of Idaho (UI), in partnership with the University of Washington School of Medicine (UWSOM) since 1972. In August 2015, we began a new UWSOM medical school curriculum at all six regional WWAMI sites. Students started with a multi-week clinical immersion experience, intensively learning the clinical skills and professional habits to serve them throughout their careers. Students spend a full day each week learning and practicing clinical skills for their first 18 months in a community primary care clinic and in workshops. This is in addition to their hospital-based "Colleges" training with a faculty mentor and small group of peers. This new curriculum allows our students to be on the University of Idaho campus for up to 4 terms, instead of the previous 2 terms. It also provides our medical students with the option to spend most of all four years of medical education in the State of Idaho. WWAMI enrolls 40 students per class with the first 18 months on the Moscow Campus, followed by the third- and four-year clinical rotations in Idaho and the five state WWAMI region.

The Director for the Foundation Phase of WWAMI reports to the Provost and Executive Vice President at the University of Idaho, and functions as an Assistant Dean of the UWSOM. Two Assistant Deans for the Patient Care Phase (3rd year) and the Explore and Focus Phase (4th year) are located in Boise and report to the Vice Dean for Academic, Rural and Regional Affairs at UWSOM. WWAMI at UI employs thirty-four part-time faculty (shared with other academic programs, as well as hospitals and clinics), five administrative staff and 12 employees involved in the rural medical research programs (ECHO and AHEC). Idaho students admitted to WWAMI are interviewed and selected by the Idaho Admissions Committee, a group of seven physicians appointed by the Idaho State Board of Education and UWSOM. The ten work in cooperation with the University of Washington School of Medicine Admissions Committee to admit students. All applicant interviews have been conducted through a web conferencing platform since the Covid-19 pandemic of 2020.

Idaho WWAMI is committed to helping prepare physicians for medical practice in Idaho, regardless of eventual specialty selection, as well as increasing the number of physicians who choose to practice in rural or underserved areas. In FY21, WWAMI-affiliated faculty at UI has successfully brought in $2.2M of research funding into Idaho from agencies such as the National Science Foundation (NSF), the National Institute of Health (NIH) and the Department of Health and Human Services (DHHS). In 2018, the University of Idaho WWAMI launched its ECHO Idaho program (Extension for Community Healthcare Outcomes) and is growing this evidence-based learning model that develops knowledge and capacity among healthcare providers. Over the past 3 years, the ECHO Idaho program has been successful in bringing in over $2M in grant funding to be used to expand the program throughout Idaho. In 2018, UI WWAMI launched its first Northern Idaho Health Education Center, a subcontract through the University of Washington Medicine. This $385,000, five-year grant continues to help develop and implement education and training activities within the pipeline and strengthen partnerships in rural communities throughout the State of Idaho. Cutting-edge research prepares the next generation of doctors to be well-informed and at the forefront of clinical medical practice. The WWAMI faculty at the University of Idaho and our clinical/research faculty in Boise, Pocatello, Jerome, Caldwell, Coeur d'Alene, Idaho Falls, McCall, Sandpoint, Hailey, and other rural training communities are committed to being dynamic teachers and informed biomedical scholars.

In addition, Idaho WWAMI goals include the continued development of humanitarian and service interests of our medical students, and recruitment from groups within Idaho that are traditionally underrepresented in medical school populations. WWAMI has established outreach programs to high schools and community colleges to encourage and prepare talented Idaho students from rural, first generation-college student, underprivileged, or minority backgrounds who have an interest in medicine and health careers.

Core Functions/Idaho Code

The core function of Idaho WWAMI at the University of Idaho is to provide qualified Idaho residents with access to and education in medical training as part of the Idaho State Board of Education's contract with the University of Washington School of Medicine. Idaho Code **§33-3720** authorizes the State Board of Education to enter into contractual agreements to provide access for Idaho residents to qualified professional studies programs, and specifically, the WWAMI Medical Education Program (33-3717B(7)).

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Revenue and Expenditures

Revenue	FY 2018	FY 2019	FY 2020	FY 2021
General Fund	$5,303,400	$6,399,500	$6,830,600	$6,575,600
Unrestricted Current	1,757,741	2,252,380	2,055,775	2,417,850
Total	**$7,061,141**	**$8,651,880**	**$8,886,375**	**8,993,450**
Expenditures	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Personnel Costs	$1,922,826	$2,107,967	$2,249,561	$2,484,288
Operating Expenditures	2,506,996[7]	1,624,360	770,193	2,121,764
Capital Outlay	218,117	106,774	66,746	92,220
Trustee/Benefit Payments	3,803,860	4,174,734	4,436,674	4,566,008
Total	**8,451,799**	**$8,013,835**	**$7,523,174**	**9,264,280**

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2018	FY 2019	FY 2020	FY 2021
Number of Idaho Students Applying to UW Medical School (WWAMI)	163	183	184	182
Number of Idaho Students Enrolled Each Year	40	40	40	40
Number/Percentage of Idaho WWAMI Graduates who have practiced in Idaho (cumulative)	51%	51%	51%	50%

FY 2021 Performance Highlights

For FY 2021, WWAMI was able to meet or exceed all our performance measures as evidence from our medical student performance and medical curriculum. A critical program in WWAMI is ECHO Idaho. Project ECHO (Extension for Community Health Outcomes) is a telehealth mentoring model that expands access to specialty and high-quality health care for complex medical conditions throughout Idaho. The ECHO Idaho project uses videoconferencing technology to leverage scarce resources that build the capacity of rural and frontier healthcare teams to treat complicated patients they would otherwise refer to one of Idaho's more populous areas. The ECHO Idaho project is a collaborative educational resource for all medical students, residents, and other learners in health professions programs within the state as well as for Idaho's practicing health care providers. ECHO Idaho began in March of 2018 offering two programs in Opioid Addiction and Treatment and Behavioral Health/Mental Health. Since opening ECHO Idaho, we have had tremendous statewide participation and support and have grown the program to five (Opioid Addiction and Treatment, Behavioral Health in Primary Care, Perinatal Substance Use Disorder, COVID-19 and Syphilis in Pregnancy) in 2020. Participants join from across the state, representing 44 counties, 136 cities, and 568 organizations including hospitals and clinics, Federally Qualified Health Centers, Idaho Department of Health and medical education. Collectively, over 1500 participants have received 7,135 hours of free continuing medical education.

Part II – Performance Measures

Performance Measure		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
GOAL 1: A WELL, EDUCATED CITIZENRY –Continuously improve access to medical education for individuals of all backgrounds, ages, abilities, and economic means.						
1. Cumulative Idaho WWAMI return rate for graduates who practice medicine in Idaho. *(334 returning physicians/655 total residency graduates).*	actual	51%	51%	51%	50%	----
	target	*41%[1]*	*55%[1]*	*55%[1]*	*55%[1]*	*55%[1]*
GOAL 2: CRITICAL THINKING AND INNOVATION - WWAMI will provide an environment for the development of new ideas, and practical and theoretical knowledge to foster the development of biomedical researchers, medical students, and future physicians who contribute to the health and wellbeing of Idaho's people and communities.						
2. WWAMI faculty funding from competitive federally funded grants.	actual	$1M	$2M	$2.5M	$2.2M	----
	target	*$1M[2]*	*$1M[2]*	*$2M[2]*	*$1.4M[2]*	*$2M[2]*
3. Percentage of Idaho WWAMI students participating in medical research (laboratory and/or community health).	actual	100%	100%	100%	100%	
	target	*100%[3]*	*100%[3]*	*100%[3]*	*100%[3]*	*100%[3]*
GOAL 3: Effective and Efficient Delivery Systems – Deliver medical education, training, research, and service in a manner which makes efficient use of resources and contributes to the successful completion of our medical education program goals for Idaho.						
4. The number of WWAMI rural summer training placements in Idaho each year.	actual	29	24	20	20	----
	target	*20[4]*	*20[4]*	*20[4]*	*20[4]*	*20[4]*
5. Percent of Idaho WWAMI graduates choosing primary care, psychiatry, general surgery, and OB/GYN specialties for residency training each year.	actual	67%	61%	68%	58%	----
	target	*50%[5]*	*50%[5]*	*50%[5]*	*50%[5]*	*50%[5]*
6. Pass rate on the U.S. Medical Licensing Examination (USMLE), Steps 1 & 2, taken during medical training.	actual	95%	96%	98%	98%	----
	target	*94%[6]*	*94%[6]*	*94%[6]*	*97%[6]*	*97%[6]*

Performance Measure Explanatory Notes

Association of American Medical Colleges (AAMC) Applicants and Matriculate Data:
https://www.aamc.org/data/facts/applicantmatriculant/

1. Target rate is 55% – national average or better. The benchmark is 39%, the national average of students that return to their native state to practice medicine. In Idaho, the return rate was 50%. (341 returning physicians/689 residency graduates). (Reference: 2018 State Physician Workforce Book), https://www.aamc.org/what-we-do/mission-areas/patient-care/workforce-studies/reports
2. This target rate is per WWAMI mission.
3. This target rate is per WWAMI mission.
4. The target is 50% interest in rural training experiences in the Rural Underserved Opportunities Program (RUOP). (50% of 40 students is 20 students)
5. Based on national standards for workforce specialties.
6. U.S. Pass Rate (reference: USMLE Performance Data, https://www.usmle.org/performance-data/ (National Pass rate has increased from 91% to 97%).

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ATTACHMENT 29

PERFORMANCE FOR FISCAL YEAR								
Goal/Objective	Performance Measure	Benchmark	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Goal 1: American Indian Academic Excellence								
Goal 1, Objective A: Access.	Percentage increase of American Indian students who applied for the Opportunity Scholarship (Tribal affiliation indicated in application)[1]	5% per year	31	22	37	61	51	46
	Number of American Indian students who receive the Opportunity Scholarship (Tribal Affiliation)[1]	20 students	<5	9	14	19	18	19
	Percentage of American Indian students who complete the FAFSA by the priority deadline	100% of students	NA	NA	NA	NA	NA	NA
	Number of American Indian students who participated in Advanced Opportunities[2]		141	181	135	172	166	143
	AP		37	38	32	51	47	41
	IB		7	<5	<5	6	<5	<5
	Dual Credit (Earned)[2]	125 students per year	54	75	68	97	81	74
	TechPrep	10% by year	104	142	104	115	96	45
	IndustryCert					<5	5	15
	AP Exam (three or higher)	10% by year	20 - 39%	40 - 59%	30 - 39%	30 - 39%	40 - 44%	45 - 50%
Goal 1, Objective B: Higher Level of Educational Attainment	Number of American Indian students enrolled in postsecondary institutions after Idaho high school graduation (12 month Go On population)	400	70	84	67	74	78	NA
	Number of American Indian students scoring proficient or higher on spring IRI	10% each year	NA	NA	NA	48.1%	NA	43.6%
	Number of American Indian students scoring proficient or higher on math ISAT	10% each year	NA	21%	21%	22%	NA	17.0%
	Number of American Indian students scoring proficient or higher on ELA ISAT	10% each year	NA	30%	32%	32%	NA	28.5%
	Percentage of American Indian students that articulate to postsecondary education (Go on within 12 months)	60%	42%	42%	43%	39%	39%	NA
	Time to completion for American Indian students	5 Years	NA	NA	NA	NA	NA	NA
	Graduating rates for American Indian students (150% time to degree completion)	26% each year	21%	23%	33%	26%	31%	36%
	Percentage of American Indian students earning a postsecondary degree after 5 years (**degree counts reported**)							
	Associate[10]	48	45	49	51	60	53	56
	Baccalaureate[10]	75	78	90	95	68	89	74
	Master[10]	16	18	25	17	23	26	25
	Doctorate[10]	5	<5	8	6	10	<5	9
Goal 1, Objective C: Quality of Instruction	Percentage of highly qualified teachers in targeted schools	100%		NA	NA	NA	NA	NA
	Inclusion of a culturally relevant pedagogy in the teacher preparation standards	3 Credits		NA	NA	NA	NA	NA
	Credits required in Idaho tribal history for certification	3 Credits	Not required	NA	NA	NA	NA	NA
	Number of certified American Indian educators in the state							
	Teachers	TBA	53	51	54	51	57	NA
	Administrators	TBA	3	4	5	4	4	NA
	Counselors	TBA	1	1	2	2	2	NA
Goal 2: Culturally Relevant Pedagogy								
Goal 2, Objective A: Integration into the Professional Practice	Number of education professional development credits in culturally responsive teaching	TBA		NA	NA	NA	NA	NA
Goal 2, Objective B: Knowledge of Federal Policies and Idaho's Indian Tribes	Include Idaho's tribal culture, history, and government in the K-12 content standards	Completed by 2018		NA	NA	NA	NA	NA
	Include tribal federal policies and Idaho tribal government in colleges of education teacher, counselor, and administrator certification programs	3 Credits		NA	NA	NA	NA	NA

[1] American Indian students as identified by answering "Yes" to the question "Are you an enrolled member of an Idaho tribe?" in scholarship application.

[2] SDE Report Card data, Dual Credit limited to students with earned course credits (SLDS data)

[10] FY201totals are preliminary and subject to change on subsequent data pulls

ATTACHMENT 30

HIGHER EDUCATION RESEARCH COUNCIL - PERFORMANCE MEASURES

Goal 1: Increased research at, and collaboration among, Idaho universities and colleges to advance research strengths and opportunities pertaining to critical issues in Idaho, while also providing a vision for national and global impact.

Objective 1.A: Ensure growth and sustainability of public university research efforts.

Performance Measure	FY 2016	FY 2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Statewide amount of total annual research and development expenditures as reported in the National Science Foundation (NSF) Higher Education Research and Development Survey	$154,989,123	$163,093,485	$171,052,983	$166,564,099	$170,635,458	NA	10% annual increase

Objective 1.B: Ensure the growth and sustainability of the existing collaborative research at the Center for Advanced Energy Studies (CAES).

Statewide amount of U.S. Department of Energy (DOE) research and development expenditures as reported in the National Science Foundation (NSF) Higher Education Research and Development Survey.	$8,561,218	$9,489,612	$11,022,015	$11,724,216	$13,187,742	NA	10% annual increase

Objective 1.C: Expand joint research ventures among the state universities.

Number of new fully sponsored project proposals submitted by an Idaho University that involve a subaward with another Idaho institution of higher education (in either direction).	92	119	100	82	94	82	50% annual increase
Number of new fully sponsored project awards to an Idaho University that involve a subaward with another Idaho institution of higher education (in either direction).	58	70	76	69	50	34	30% annual increase
Establish/fund at least one HERC-directed research project per year which collaborates with one other Idaho university that directly addresses issues of particular importance to the State of Idaho.	NA	NA	NA	UI*/BSU/ISU - Dr. Karen Humes - Integrated Water, Energy and Waste Management			1 per year

Goal 2: Create research and development opportunities that strengthen the relationship between state universities and the private sector.

Objective 2.A: Increase the number of sponsored projects involving the private sector.

Performance Measure	FY 2016	FY 2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Number of new sponsored projects involving the private sector.	165	163	172	202	206	193	50% annual increase

Goal 3: Contribute to the economic development of the State of Idaho.

Objective 3.A: Increase the amount of university-generated intellectual property introduced into the marketplace.

Performance Measure	FY 2016	FY 2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Number of technology transfer agreements (as defined by AUTM [Association of University Technology Managers]).	44	33	29	29	28	37	15% annual increase
Number of invention disclosures (including biomic varieties)	40	38	45	46	58	49	1 for every $2M of research expenditures
Amount of licensing revenues.	$724,316	$1,271,819	$ 1,869,718	$ 2,607,055	$ 3,450,773	$ 2,626,859	10% annual increase
Number of startup companies.	8	1	1	1	0	0	10% annual increase

Goal 4: Enhance learning and professional development through research and scholarly activity.

Objective 4.A: Increase the number of university and college students and staff involved in sponsored project activities.

Performance Measure	FY 2016	FY 2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Number of undergraduate students paid from sponsored projects.	1,683	1,811	2,100	1,926	1,993	2,050	20% annual increase
Number of graduate students paid from sponsored projects.	636	716	656	592	536	530	20% annual increase
Percentage of baccalaureate students who graduated in STEM disciplines and had a research experience.	UI: 60.4%, BSU: N/A, ISU: 13%	UI: 66.0%, BSU: N/A, ISU: 12.1%	UI: 62.7%, BSU: N/A, ISU: 19.6%	UI: 64.4% BSU: N/A ISU: 12.7%	UI: 58.1% BSU: N/A ISU: 19.1%	UI: 57.6% BSU: N/A ISU: 19.0%	20% annual increase
Number of faculty and staff paid from sponsored projects.	2,272	2,383	2,418	2,446	2,484	2,563	20% annual increase

K-20 Statewide Stratgic Plan Performance Measures	FY 2016	FY 2017	FY2018	FY2019	FY2020	FY2021	Benchmark
Percentage of students participating in undergraduate research.	48%	51%	UI: 61%, BSU: 37% ISU: 45%	UI: 58.4% BSU: 43.0% ISU: 37.7%	UI: 59.6% BSU: 43.0% ISU: 36.2%	UI: 55.5% BSU: 34.0% ISU: 37.0%	30%
Number of student internships	2,294	2,177	2,156	2,127	2,174	2,020	

ATTACHMENT 31

Idaho State Board of Education

FY2022-2027
Idaho K-20 Public Education - Strategic Plan

MISSION

To drive improvement of the K-20 education system for the citizens of Idaho, focusing on quality, results, and accountability.

VISION

A student-centered education system that creates opportunities for all Idahoans to improve their quality of life.

An Idaho Education: High Potential – High Achievement

GOAL 1: EDUCATIONAL SYSTEM ALIGNMENT – Ensure that all components of the educational system are integrated and coordinated to maximize opportunities for all students.

- **Objective A: Data Access and Transparency** - Support data-informed decision-making and transparency through analysis and accessibility of our public K-20 educational system.
- **Objective B: Alignment and Coordination** – Ensure the articulation and transfer of students throughout the education pipeline (secondary school, technical training, postsecondary, etc.).

GOAL 2: EDUCATIONAL READINESS – Provide a rigorous, uniform, and thorough education that empowers students to be lifelong learners and prepares all students to fully participate in their community and postsecondary and work force opportunities by assuring they are ready to learn at the next educational level.

- **Objective A: Rigorous Education** – Deliver rigorous programs that challenge and prepare students to transition through each level of the educational system.
- **Objective B: School Readiness** – Explore opportunities to enhance school readiness

GOAL 3: EDUCATIONAL ATTAINMENT – Idaho's public colleges and universities will award enough degrees and certificates to meet the education and forecasted workforce needs of Idaho residents necessary to survive and thrive in the changing economy.

- **Objective A: Higher Level of Educational Attainment –** Increase completion of certificates and degrees through Idaho's educational system.
- **Objective B: Timely Degree Completion –** Close the achievement gap, boost graduation rates and increase on-time degree completion through implementation of the Game Changers (structured schedules, math pathways, co-requisite support).
- **Objective C: Access** - Increase access to Idaho's robust educational system for all Idahoans, regardless of socioeconomic status, age, or geographic location.

GOAL 4: WORKFORCE READINESS - The educational system will provide an individualized environment that facilitates the creation of practical and theoretical knowledge leading to college and career readiness.

- **Objective A: Workforce Alignment –** Prepare students to efficiently and effectively enter and succeed in the workforce.
- **Objective B: Medical Education** – Deliver relevant education that meets the health care needs of Idaho and the region.

FY2022-2027
Idaho K-20 Public Education - Strategic Plan
(Approved February 2021)

An Idaho Education: High Potential – High Achievement

MISSION STATEMENT

To drive improvement of the K-20 education system for the citizens of Idaho, focusing on quality, results, and accountability.

VISION STATEMENT

A student-centered education system that creates opportunities for all Idahoans to improve their quality of life.

GUIDING VALUES

- Access
- Innovation
- Preparedness
- Resilience

GOAL 1: EDUCATIONAL SYSTEM ALIGNMENT (systemness) – Ensure that all components of the educational system are integrated and coordinated to maximize opportunities for all students.

Objective A: Data Access and Transparency - Support data-informed decision-making and transparency through analysis and accessibility of our public K-20 educational system.

Performance Measures:

I. **Development of a single K-20 data dashboard and timeline for implementation.**
   Benchmark: Completed by FY2022

Objective B: Alignment and Coordination – Ensure the articulation and transfer of students throughout the education pipeline (secondary school, technical training, postsecondary, etc.).

Performance Measures:

I. **Percent of Idaho community college transfers who graduate from four-year institutions.**
Benchmark: 25% or more

II. **Percent of postsecondary first time freshmen who graduated from an Idaho high school in the previous year requiring remedial education in math and language arts.**
Benchmark: 2 year – less than 55%
4 year – less than 20%[3]

GOAL 2: EDUCATIONAL READINESS (student-centered) – Provide a rigorous, uniform, and thorough education that empowers students to be lifelong learners and prepares all students to fully participate in their community and postsecondary and workforce opportunities by assuring they are ready to learn for the next educational level.

Objective A: Rigorous Education – Deliver rigorous programs that challenge and prepare students to transition through each level of the educational system.

Performance Measures:

I. **Performance of students scoring at grade level or higher on the statewide reading assessment (broken out by grade level, K-3).**
Benchmark: TBD (Benchmark will be set after Spring 2021 IRI results received)

II. **Growth Fall to Spring of student cohorts scoring at grade level or higher on the statewide reading assessment (broken out by grade level, K-3).**
Benchmark: TBD (Benchmark will be set after Spring 2021 IRI results received)

III. **Percentage of students meeting proficient or advance on the Idaho Standards Achievement Test (broken out by subject at each transition grade level, 5, 8, high school).**
Benchmark:

Idaho Standards Achievement Test	by 2022/ESSA Plan Goal
Math	
5th Grade	58.59%
8th Grade	57.59%
High School	53.30%
ELA	
5th Grade	68.04%
8th Grade	67.64%
High School	73.60%
Science	
5th Grade	FY21 Baseline
High School	FY21 Baseline

ATTACHMENT 31

IV. High School Cohort Graduation rate.
Benchmark: 95%[3] or more

V. Percentage of Idaho high school graduates meeting college placement/entrance exam college readiness benchmarks.
Benchmark: SAT – 60%[1] or more
ACT – 60%[1] or more

VI. Percent of high school graduates who participated in one or more advanced opportunities.
Benchmark: 80%[1] or more

VII. Percent of dual credit students who graduate high school with an Associates Degree.
Benchmark: 3%[2] or more

VIII. Percent of high school graduates who enroll in a postsecondary institution:
Within 12 months of high school graduation.
Benchmark: 60%[3] or more
Within 36 months of high school graduation.
Benchmark: 80%[4] or more

Objective B: School Readiness – Explore opportunities to enhance school readiness.

Performance Measures:

I. Percentage of students scoring at grade level on the statewide reading assessment during the Fall administration in Kindergarten.
Benchmark: TBD

GOAL 3: EDUCATIONAL ATTAINMENT (opportunity) – Ensure Idaho's public colleges and universities will award enough degrees and certificates to meet the education and forecasted workforce needs of Idaho residents necessary to survive and thrive in the changing economy.

Objective A: Higher Level of Educational Attainment – Increase completion of certificates and degrees through Idaho's educational system.

Performance Measures:

I. Percent of Idahoans (ages 25-34) who have a college degree or certificate requiring one academic year or more of study.
Benchmark: 60%[5] or more

II. Total number of certificates/degrees conferred, by institution per year:
a) Certificates
b) Associate degrees
c) Baccalaureate degrees

Total number of certificates/degrees produced, by institution annually	Benchmark
Certificates of at least one year	TBD
College of Eastern Idaho	TBD
College of Southern Idaho	TBD
College of Western Idaho	TBD
North Idaho College	TBD
Boise State University	TBD
Idaho State University	TBD
Lewis-Clark State College	TBD
University of Idaho	TBD
Associate degrees	TBD
College of Eastern Idaho	TBD
College of Southern Idaho	TBD
College of Western Idaho	TBD
North Idaho College	TBD
Boise State University	TBD
Idaho State University	TBD
Lewis-Clark State College	TBD
University of Idaho	TBD
Baccalaureate degrees	TBD
Boise State University	TBD
Idaho State University	TBD
Lewis-Clark State College	TBD
University of Idaho	TBD

III. Percentage of new full-time degree-seeking students who return (or who graduate) for second year in an Idaho postsecondary public institution.
(Distinguish between new freshmen and transfers)
Benchmark: (2 year Institutions) 75%[3] or more
(4 year Institutions) 85%[3] or more

IV. Percent of full-time first-time freshman graduating within 150% of time or less (2yr and 4yr).
Benchmark: 50%[3] or more (2yr/4yr)

Objective B: Timely Degree Completion – Close the achievement gap, boost graduation rates and increase on-time degree completion through implementation of the Game Changers (structured schedules, math pathways, co-requisite support).

Performance Measures:

I. **Percent of undergraduate, degree-seeking students completing 30 or more credits per academic year at the institution reporting.**
Benchmark: 50% or more

II. **Percent of new degree-seeking freshmen completing a gateway math course within two years.**
Benchmark: 60% or more

III. **Median number of credits earned at completion of Associate's or Baccalaureate degree program.**
Benchmark: Transfer Students: 69/138[2] or less
Benchmark: non-transfer students: 69/138[2] or less

Objective C: Access - Increase access to Idaho's robust educational system for all Idahoans, regardless of socioeconomic status, age, or geographic location.

Performance Measures:

I. **Annual number of state-funded scholarships awarded and total dollar amount.**
Benchmark: 3,000[6] or more, $16M[7] or more

II. **Proportion of postsecondary graduates with student loan debt.**
Benchmark: 50% or less[8]

III. **Percent of high school graduates who complete the Free Application for Federal Student Aid (FAFSA).**
Benchmark: 60% or more

IV. **Percent cost of attendance** (to the student)
Benchmark: 96%[4] or less of average cost of peer institutions

V. **Average net cost to attend public institution.**
Benchmark: 4-year institutions - 90% or less of peers[4] (using IPEDS calculation)

VI. **Expense per student FTE**
Benchmark: $20,000[4] or less

VII. **Number of degrees produced**
Benchmark: 15,000[3] or more

GOAL 4: WORKFORCE READINESS (opportunity) – Ensure the educational system provides an individualized environment that facilitates the creation of practical and theoretical knowledge leading to college and career readiness.

Objective A: Workforce Alignment – Prepare students to efficiently and effectively enter and succeed in the workforce.

Performance Measures:

I. **Percentage of students participating in internships.**
Benchmark: 10%[4] or more

II. **Percentage of undergraduate students participating in undergraduate research.**
Benchmark: Varies by institution[4]

III. **Percent of non - STEM to STEM baccalaureate degrees conferred in STEM fields** (CCA/IPEDS Definition of STEM fields).
Benchmark:

IV. **Increase in postsecondary programs tied to workforce needs per year.**
Benchmark: 10[9] or more

Objective B: Medical Education – Deliver relevant education that meets the health care needs of Idaho and the region.

Performance Measures:

I. **Number of University of Utah Medical School or WWAMI graduates who are residents in one of Idaho's graduate medical education programs.**
Benchmark: 8[10] graduates at any one time

II. **Idaho graduates who participated in one of the state sponsored medical programs who returned to Idaho.**
Benchmark: 60%[11] or more

III. **Percentage of Family Medicine Residency graduates practicing in Idaho.**
Benchmark: 60%[11] or more

IV. **Percentage of Psychiatry Residency Program graduates practicing in Idaho.**
Benchmark: 50%[11] or more

V. **Medical related postsecondary programs (other than nursing).**
Benchmark: 100[9] or more

KEY EXTERNAL FACTORS

Idaho public universities are regionally accredited by the Northwest Commission on Colleges and Universities (NWCCU). To that end, there are 24 eligibility requirements and five standards, containing 114 subsets for which the institutions must maintain compliance. The five standards for accreditation are statements that articulate the quality and effectiveness expected of accredited institutions, and collectively provide a

framework for continuous improvement within the postsecondary institutions. The five standards also serve as indicators by which institutions are evaluated by national peers. The standards are designed to guide institutions in a process of self-reflection that blends analysis and synthesis in a holistic examination of:

- The institution's mission and core themes;
- The translation of the mission's core themes into assessable objectives supported by programs and services;
- The appraisal of the institution's potential to fulfill the Mission;
- The planning and implementation involved in achieving and assessing the desired outcomes of programs and services; and
- An evaluation of the results of the institution's efforts to fulfill the Mission and assess its ability to monitor its environment, adapt, and sustain itself as a viable institution.

EVALUATION PROCESS

The Board convenes representatives from the institutions, agencies, and other interested education stakeholders to review and recommend amendments to the Board's Planning, Policy and Governmental Affairs Committee regarding the development of the K-20 Education Strategic Plan. Recommendations are then presented to the Board for consideration in December. Additionally, the Board reviews and considers amendments to the strategic plan annually, changes may be brought forward from the Planning, Policy, and Governmental Affairs Committee, Board staff, or other ad hoc input received during the year. This review and re-approval takes into consideration performance measure progress reported to the Board in October.

Performance towards meeting the set benchmarks is reviewed and discussed annually with the State Board of Education in October. The Board may choose at that time to direct staff to change or adjust performance measures or benchmarks contained in the K-20 Education Strategic Plan. Feedback received from the institutions and agencies as well as other education stakeholders is considered at this time.

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[1] Benchmark is set based on the increase needed to meet the state educational attainment goal (60%).
[2] Benchmark is set based on analysis of available and projected resources (staff, facilities, and funding).
[3] Benchmark is set based on an analysis of historical trends combined with the desired level of achievement and available and projected resources (staff, facilities and funding). Desired level of achievement is based on projected change needed to move the needle on the states 60% educational attainment goal.
[4] Benchmark is set based on an analysis of historical trends combined with the desired level of achievement and available and projected resources (staff, facilities and funding).

[6] Benchmarks are set based on an analysis of historical trends combined with desired level of achievement.
[7] Benchmarks are set based on performance of their WICHE peer institutions and are set to bring them either in alignment with their peer or closer to the performance level of their peer institutions.
[8] Benchmarks are set based on analysis of available and projected resources (staff, facilities, and funding) and established best practices and what can realistically be accomplished while still qualifying as a stretch goal and not status quo.
[9] New measure.

[10] Benchmark is set based on projected and currently available state resources.
[11] Benchmark is set based on an analysis of historical trends combined with the desired level of achievement and available and projected resources (staff, facilities and funding). Desired level of achievement is set at a rate greater than similar programs in other states.

SUBJECT

Board Committee Initiatives and Priorities

REFERENCE

October 21, 2020	Board received update on IRSA Committee Initiatives.
December 17, 2020	Board received update on PPGA and BAHR Committee Initiatives

BACKGROUND/DISCUSSION

The Board by-laws establish four "Committees of the Board" and the purpose, composition, and responsibility of each of these committees. These standing committees of the Board are the Planning, Policy and Governmental Affairs Committee; Business Affairs and Human Resource Committee; Instruction, Research and Student Affairs Committee; and Audit Committee. Further, the by-laws require the agenda for each regular meeting of the Board to be organized by each of the standing committees, with the exception of the Audit Committee. In addition to those responsibilities outlined in the Board's by-laws, as the Board conducts its business, initiatives or areas of interest may also be assigned to the individual committees to explore prior to formal Board action being taken.

Planning, Policy and Governmental Affairs (PPGA) Committee is responsible for developing and presenting recommendations to the Board on matters of policy, planning, and governmental affairs. The committee develops and recommends to the Board future planning initiatives and goals. It advises the Board on collaborative and cooperative measures for all education entities and branches of state government necessary to provide for the general supervision, governance and control of the state educational institutions, agencies and public schools, with the goal of producing a seamless educational system.

Assigned responsibilities include:

- Long range planning and coordination;
- Initial discussions and direction on strategic policy initiatives and goals;
- Legislative proposals and administrative rules for Board agencies and institutions;
- Coordination and communication with the Governor, the Legislature, and all other governmental entities with regard to items of legislation, Board policy and planning initiatives;
- Review and revision of Board policies, administrative rules and education-related statutes for consistency and compatibility with the Board's strategic direction;
- Reports and recommendations from workgroups and committees pertaining to education policy, planning and governmental affairs, including career technical education;
- Other matters as assigned by the Board.

The Committee is responsible for bringing forth the Board's K-20 strategic planning and performance reporting efforts and the subsequent strategic plan alignment of the institutions and agencies under the Board, including assuring conformance with the State strategic planning requirements. Based on the timeline identified in the Board's annual planning calendar, the Board's annual legislative agenda is set through t legislative ideas, legislative language, and administrative rules brought to the Board through the Committee. In addition to these annual items, the agencies under the Board's governance, as well as the Board's Indian Education Committee, Accountability Oversight Committee, and Data Management Council bring forward recommendations and requests to the Board through the Committee. This work also includes policy recommendations from outside Work groups like the previous Governor's Task Force or ongoing initiatives like the Educator Pipeline work.

Business Affairs and Human Resources (BAHR) Committee is responsible, through its various working unit or units, for making recommendations to the Board in the following general areas:

Assigned responsibilities include:

- Agency and institutional financial agenda items;
- Coordination and development of guidelines and information for agency and institutional budget requests and operating budgets;
- Long-range fiscal planning;
- Fiscal analysis of the following:

    1) New and expanded financial programs;
    2) Establishment, discontinuance or change in designation of administrative units;
    3) Consolidation, relocation, or discontinuance of programs;
    4) New facilities and any major modifications to facilities which would result in changes in programs or program capacity;
    5) Student fees and tuition; and
    6) Other matters as assigned by the Board.

The Retirement Plan Committee is a special committee which provides stewardship of the retirement plans sponsored by the Board for the exclusive benefit of plan participants and their beneficiaries.

Instruction, Research and Student Affairs Committee is responsible for developing and presenting recommendations to the Board on matters of policy and procedure concerning instruction, research and student affairs.

- Agency and institutional instruction, research and student affairs agenda items;
- Instruction, academic or career technical program approval;
- Instruction, academic or career technical program review, consolidation, modification, and discontinuance, and course offerings;

- Outreach, technology and distant learning impacting programs and their delivery;
- Long-range instruction, academic and career technical planning;
- Registration of out-of-state institutions offering programs or courses in Idaho;
- Continuing education, professional development, workforce training, programs for at-risk populations, career guidance;
- Student organizations' activities and issues; and
- Other matters as assigned by the Board.

IMPACT

This report will provide a brief summary of what the committees have been or will be working on in the near future and provide the Board with an opportunity to give input on priority areas.

ATTACHMENTS

Attachment 1 – Planning, Policy and Governmental Affairs Committee Initiatives and Priorities
Attachment 2 – Business Affairs and Human Resources Committee Initiatives and Priorities
Attachment 3 – Instruction, Research and Student Affairs Initiatives and Priorities
Attachment 4 – Higher Education Task Force – Adopted Recommendations – Committee Assignments

STAFF COMMENTS AND RECOMMENDATIONS

Attachments 1 through 3 provides a summary of initiatives each of the Board's standing committees is working on along with annual tasks that come to the Board through specific committees.

BOARD ACTION

This item is for informational purposes only.

ATTACHMENT 1

PLANNING, POLICY AND GOVERNMENTAL AFFAIRS COMMITTEE

Long-term Initiatives and Priorities

Learning Loss – How to identify/measure and mitigate learning loss due to the COVID-19 Pandemic. Work in this area will identify:

- ways school districts can identify or measure the loss in learning students have experienced due to the disruptions in education caused by the pandemic;
- strategies for mitigating the effects of the learning loss;
- state policy amendments to incentivize or help facilitate the local education agency work on mitigating learning loss; and
- funding and other resources needed to support local education agencies work to mitigate learning loss. (FY 22 Appropriation/2021 Legislative Session).

Educator Effectiveness, Preparation, Professional Development, and Pipeline – This work was started with the Board's/Idaho's participation in the Network for Transforming Educator Preparation in 2013 and encompasses: the annual educator pipeline work and development of the annual educator pipeline report; educator preparation program quality standards/metrics adopted by the Board and subsequent annual report; educator preparation program/certification standards; and expansion of professional development resources (2012/2013 K-12 Task Force Recommendation Adopted by Board). New areas include work around teaching and learning in a remote environment. Educator effectiveness and preparation are impacted through three areas the Board uses for setting statewide policy:

- Board Governing Policies and Procedures (public educator preparation programs only);
- Administrative Code (preparation program standards – public and private programs, and certification requirements) – subject to annual timeline
- Idaho Statute (Minimum state requirements for certification, Board approval of programs, etc.) – subject to annual timeline

K-12 Task Force Recommendations (2012/2013 and transition to 2019 Task Force) – This work includes moving forward/completing the original K-12 Task Force recommendations adopted by the Board and the 2019 K-12 Task Force (Our Kids, Idaho's Future) recommendations adopted by the Board:

- 2012/2013/2014 Recommendations (this is a partial list of ongoing items)
  - Mastery Based Education System
  - Idaho Core Standards – Maintain rigorous content standards
  - Literacy Proficiency
  - Accountability system based on student outcomes
  - LEA strategic planning, assessment, and continuous improvement
  - Statewide electronic and site-based collaboration system/ Mentoring/ Ongoing Job-embedded Professional Learning/ Professional Development (including

training and development of school administrators, superintendents, and school boards)/ Improved education preparation

- 2019 Recommendations (adopted February 2020)
  - Statewide Accountability: Focusing Our Efforts on K-3 Literacy
  - Greater All-Day K Opportunities to Support K-3 Literacy and Future Student Achievement
  - Building Out and Updating the Career Ladder to Elevate the Profession, and Retain Effective Educators
  - Addressing Social and Emotional Issues to Support Student Learning
  - Strategic Alignment and Increased Flexibility in K-12 Funding Formula

Postsecondary Task Force Recommendations – K-20 Guided Pathways - This effort encompasses the task force recommendations that were adopted by the Board and assigned to the committee, including:

- Consolidation of governmental affairs directors' efforts for a more coordinated and effective approach to advocating for postsecondary education with the Legislature;
- Updates to the strategic plan around the 60% educational attainment goal and transitioning from a population goal to institution production targets to meet the workforce need;
- Structural change aligning K-12 and postsecondary, including college and career advising, graduation requirement, and guided pathways (P-20).
- Workforce Development Task Force recommendation related to career technical education.

P-20W SLDS and Data Dashboard – Enhanced education data transparency and access. Continue buildout of public-facing data dashboard that allows state policy makers, parents, students, school administrators, and institution staff access to reports produced using data collected in the statewide longitudinal data system. This includes implementation of the Ad-hoc legislative workgroup data elements. Included in K-20 strategic plan in 2016 and ongoing.

Career Technical Education Workgroup Recommendations (Adopted February 2020)

State and Federal Accountability – This work is tied to the earlier K-12 task force work mentioned above, the development of the current statewide accountability framework and the evaluation and updating of the state's accountability system. This work encompasses not only the accountability framework and aligned Federal State Consolidated Plan, but also considerations regarding state graduation requirements and the state's comprehensive assessment system.

<u>Annual Policy and Strategic Planning Considerations</u>

- Administrative Rules – Negotiated Rulemaking used to set state education policy (has the force and effect of law), goes to the legislature to accept or reject each year at the end of the cycle.

ATTACHMENT 1

- Legislative Ideas/Legislation – Statewide education policy submitted to the legislature through the executive agency legislative process.
  - Legislative Ideas approved in June
  - Legislation approved in August
- Strategic Planning and Performance Measure Reporting – Sets Board/State K-20 Education Goals and measures performance towards meeting those goals (subject to statutory requirements and Division of Financial Management timelines).
- Board Governing Policies and Procedures – Used to set ongoing requirements for the institutions and agencies under the Board's governance and oversight. Those areas of policy that do not reside in Section II, Human Resources Policies and Procedures, Section III, Postsecondary Affairs, or Section V, Financial Affairs. All other sections go through Committee.

ATTACHMENT 2

BAHR Initiatives 2021-2022

1. Review of Institutional Business Models

Summary: Understanding the strategic initiatives of each institution and how enrollment trends, student interest and market needs affect financial projections for their business models would enable the Board to provide better guidance on how the Board provides guidance on strategy and long-term planning. This review would be for the BAHR Committee members to help the board consider institutional direction.

Anticipated outcomes:

- A context for engaging institutions around strategic planning
- Creating a framework for tuition and fee funding
- Establishment of the board's role in institutional planning

2. Evaluation of COVID-19 responses

Summary: In order to best understand the needs of the institutions as they address COVID-19, BAHR will review the financial and structural impacts on each college and university.

Anticipated outcomes:

- Board understanding of the challenges facing the institutions
- Addressing questions around future planning for higher education

3. Coordination of BAHR and Audit Committee function

Summary: The Business Affairs and Human Resources Committee and the Audit Committee have distinct functions, but at times there is overlap. At other times one committee or the other is made aware of information that may be beneficial for the other committee to review. For example, BAHR may see the Sources and Uses report mentioned above, but the Audit Committee may see the actual expenditures on a financial statement at the end of the year and the format for each may be distinct. This coordination would evaluate how each committee functions and better address industry standard practices for each. Should the BAHR chair also chair Audit?

Anticipated outcomes:

- Better communication between the BAHR and Audit Committees
- Review of policies and procedures to better support institutional needs
- Alignment with best practices in higher education.

4. Complete the Restructuring of Policy V.R

Summary: Policy V.R addresses tuition and fees and describes the process for annual establishment of the same. In recent years students and parents have expressed concern about the actual costs

related to education and how those costs are billed. The Board desires to review and update this policy for more simplicity in the establishment and billing of tuition and fees.

Anticipated outcomes:

- Simplification of fee structures
- Transparency for students in understanding the costs of tuition and fees
- Strategic understanding of how tuition and fees are determined at the board level.

5. Develop Policy on Public-Private Partnerships (P3's) and the Privatization of Utilities and Other Institutional Resources

Summary: UI's successful privatization of their utilities illustrates the importance of Board Policy to support the institutions' objectives. The development of this policy will support the Board's role in oversight while developing the structure to ensure proceeds from such privatization agreements are preserved for the purposes intended.

Anticipated outcomes:

- Clear direction on the process for acquiring board approval for privatization or P3 plans
- Establishment of protocols for reporting and protecting assets from agreements in a manner consistent with strategic priorities

6. Review of Sources and Uses Reports

Summary: The Sources and Uses Report has been an annual outline of the manner in which institutions budget based on the appropriation established by the legislature, the establishment of tuition and fees and revenue projects for other sources of income such as grants, auxiliary enterprises, etc. The report is helpful insofar as the Board is able to review how institutions plan to allocate their resources, but it has no companion report on the actual expenditure of those resources at the end of the year. Creation of a budget-to-actual comparison would allow the board to understand the challenges faced by the colleges and universities and foster discussion around significant variances.

Anticipated outcomes:

- Enhanced communication between the institutions and the Board around anticipated challenges
- An annual financial picture of how resources are used in relation to how the budget was set.
- A deeper perspective for the Legislature on the realities and opportunities faced at the institutions.

7. Review of Board Policies in Sections II and V

Summary: As a matter of course, policies should be reviewed on a regular basis. This project would be to begin a regular process for review of policies under BAHR's oversight and update and amend policies which may be outdated or irrelevant. This would be a multi-year strategy to assure continuity of policy review.

Anticipated outcomes:

- Regular policy review structure
- Maintenance and review of policies in light of changes in culture, statute or regulatory environment

8. Oversight of Cybersecurity Initiatives

Summary: In early 2020, the Idaho Legislature appropriated $1,000,000 ($950,000 after the 5% holdback) for a cybersecurity initiative to be undertaken by the eight higher education institutions. BAHR will review the Cybersecurity initiative at each meeting to assure that spending aligns with legislative intent and the attainment of project objectives.

Anticipated outcomes:

- Effective stewardship of the appropriation
- Guidance to assure successful outcomes of the project itself
- Oversight of compliance

ATTACHMENT 3

IRSA Priorities and Milestones for FY22

1. College Completion
Hold CCI Summit in Spring 2022 to gather information and support institutional efforts around CCA strategies.
Conduct quantitative research on success in math and college completion.
Develop a data-informed strategy for college completion efforts going forward.
2. Prior Learning Assessment and Adult Promise
Finalize military crosswalks with the General Education community.
Develop cross-functional strategy for outreach to veterans and other adult learners.
3. Open Education
Work collaboratively to update policy V.M. Intellectual Property and a new policy related to student data privacy.
Report OPAL round one outcomes to legislature and launch second round of OPAL Fellowships.
Support implementation of Project Z Degree (Zero Textbook Cost Degrees) at community colleges.
Conduct OER inventory research and produce an OER report to the Board for June 2022.
Establish strategy for expanding open education efforts in the future.
Develop and implement a communication strategy
4. Go-On Rates and Transition
Establish a statewide solution for Dual Credit transcripts, to remove procedural and financial barriers to students receiving and utilizing earned dual credits.
Reassess institutions' willingness to accept ISAT (Smarter Balanced) scores for admissions and placement decisions.
Elevate the importance of math literacy through the work of the Math Transitions Network
Secure funding to support Math Transitions Network professional development work and other next steps.
5. Online Idaho
Finalize launch of a public-facing course sharing platform.
Support development of at least two joint degrees through Online Idaho.
Conduct new evaluation/inventory of online teaching and learning needs at our institutions.
Develop a long-term business model and governance model for Online Idaho.
Procure additional funding for outreach efforts.
Spend all GEER funding by end of Fall 2022.
6. Policy Revision and Development
Complete policy revisions according to established timeline.
Develop a set of policy implementation supports, including guidance documents, purpose statements, and relevant code and statute references.

ATTACHMENT 4

Higher Education Task Force Recommendations - Committee Assignments

Recommendation	Committee Assignment
1. Recommendation – Efficiencies, Cost Savings and Service – Drive efficiencies, cost savings, and a higher level of service in back office functions by migrating from our current federated system of institutions to a more integrated, centralized and student-centric System (combined with: Centralize and standardize processes to promote system-wide efficiencies).	**BAHR –** Lead Business Affairs and HR Systems **IRSA** Admissions and Registration (student services) **PPGA** Governmental Affairs Directors consolidation of efforts.
2. Recommendation – 60% Goal – Review and update the 60% goal and establish a clear, credible, and measurable roadmap on how Idaho gets to the 60% goal. Focus on the key outcomes that are critical to the state's economic future and to the continued standard of living and quality of life for Idaho citizens.	**PPGA** Amendment to strategic plan and communications and outreach.
3. Recommendation – Structural Change and System Improvements - Implement structural change and system improvements through enhancements to critical areas of the public education system that will remove barriers as students progress through the educational pipeline and lead students to be prepared for postsecondary technical and academic training and education at the end of their high school experience. System improvements will include an enhanced statewide digital delivery system that creates a single digital campus that integrates and incorporates the Idaho educational system across the state and uses community outreach centers for support of students educational and career goals in local areas, thereby, removing barriers created by time or location restraints to opportunities for preparing students for postsecondary education as well as postsecondary resources. Identified barriers include the relevancy and rigor of the secondary senior year, more targeted advanced opportunities that lead to transferability of dual credits toward degree progress, full implementation of the Complete College America "Game Changers" through the strategies adopted by the Board's Complete College Idaho Plan, and alignment with workforce skills.	**PPGA** – Lead (Responsible for K-12 items, and policy issues related to administrative code or statute) **–** additional improvement to college and career advising and graduation requirements at the K-12 level. Administrative Code amendments would be necessary for K-12 requirement changes **IRSA** (Responsible for postsecondary items) **–** full implementation of Game Changers adopted by the Board in 2012. Implementation of a degree audit/student data analytics system for postsecondary students, development of postsecondary pathways. Development of dual credit pathways and offers that better serve students progression toward a degree or certificate.
4. Recommendation – Guided Pathways (P-20) - Develop and implement a comprehensive guided pathways program starting with early learning opportunities for students that are culturally relevant and provide support and guidance for the student through the education pipeline (early learning to prepare students for kindergarten through graduate degree attainment). An integrated guided pathways program would include parent engagement, student academic and career planning, proactive advising with early and urgent intervention (targeted/relevant), work-based learning, and community engagement (e.g. Indiana's Twenty-first Scholars and Scholar Success programs, Tennessee's Promise and Achieves programs, Iowa's BEST Program and Maryland's Achieving Collegiate Excellence and Success program). Advising activities would start no later than the 8th grade. The electronic campus platform will be used to expand access to resources and provide college and career advising and mentoring services to students in areas where other options are not available or practical or where time/life constraints may limit access to in-person resources. Educator and student access to the statewide data analytics/degree audit system will be integrated into the electronic campus platform.	**PPGA –** Lead Additional improvement to college and career advising and graduation requirements at the K-12 level. Administrative Code amendments would be necessary for K-12 requirement changes **IRSA** Implementation of a degree audit/student data analytics system**Error! Bookmark not defined.** for postsecondary students.

5. Recommendation – Improved Certificate and Degree Completion - Leverage guided pathways to improve postsecondary completion through research based effective programs that lead to on-time completion in certificate and degree programs for all students. Barriers to access for place bound or time bound students will be removed through a state digital campus allowing individuals in remote and rural areas and working adults to access postsecondary education regardless of location and scheduling needs. Early interventions and targeted services will lead to greater retention and completion of postsecondary student's undergraduate goals as well as prepare students to pursue and complete graduate and professional degrees that are equally vital to the economic growth of Idaho.	**IRSA** – Lead Development of program targeting individuals with some credits and no degree. Implementation of a degree audit/student data analytics system **PPGA** Amendments to scholarship requirements in Idaho Code and Admin Code
6. Recommendation – Provide a statewide digital delivery system - a digital campus that integrates and incorporates the current public system and partnering private institutions. This system is scalable, high quality, accessible and affordable.	**IRSA**
7. Recommendation – Systemically increase dollars to fund all eligible Idaho high school students while not losing sight of the goal of lowering cost/improving access.	**BAHR –** Lead Institutional efficiencies, lower tuition and fees, elimination/ streaming of student fees. **PPGA** Legislation for scholarships
8. Recommendation - Further careful analysis, working with a technical committee and outside experts such as National Center for Higher Education Management Systems (NCHEMS) is necessary to ensure the outcomes-based funding model is fully vetted and pressure tested and that proper weighting is provided for each of the formula's metrics. Metrics should include: 1. Verifiable Job Outs 2. 18-29 Credit Undergraduate Certificates 3. 1-Year Certificates 4. Associate Degrees 5. Bachelor Degrees 6. High Impact Completion Bonus 7. At-Risk Completion Bonus 8. Progression per Student Credit Hour Milestone 9. Transfers 10. On-Time Completion Bonus The FY 2019 higher education budget line items requested by the colleges and universities should proceed through the budget process this year rather than attempting to launch an outcomes-based funding model for the 2018/2019 year. The State Board of Education should "shadow track" the metric outcomes for the 2018/2019 academic year to allow the institutions to prepare for full implementation in the following year.	**BAHR**
9. Recommendation – Adopt the Recommendations of the Governor's Workforce Development Task Force – The Governor's Higher Education Task Force should adopt the recommendations of the Governor's Workforce Development Task Force in order to establish a coordinated implementation effort between higher education, industry and state government to meet Idaho's future workforce needs.	Varied depending on individual recommendation. Additional staff work needed in this area.
10. Recommendation – Competency-Based System – The public higher education system should shift to a competency-based system for career technical education. (Implementation of this recommendation should be included as part of the work on Recommendation 5)	**IRSA**

11. Recommendation – Partner with Industry – The public higher education system should partner with industry to include more workplace experiences as part of certificate and degree programs. (Implementation of this recommendation should be included as part of the work on Recommendation 5)	**IRSA**
12. Recommendation – Workforce Training towards Degree or Certificate Completion – Workforce training completed by an individual should count towards degree or certificate completion. (Implementation of this recommendation should be included as part of the work on Recommendation 5)	**IRSA**

TAB	DESCRIPTION	ACTION
1	BOARD POLICY III.N. STATEWIDE GENERAL EDUCATION – SECOND READING	Action Item
2	GENERAL EDUCATION MATRICULATION COMMITTEE APPOINTMENTS	Action Item
3	BOISE STATE UNIVERSITY – ONLINE BACHELOR OF APPLIED SCIENCE IN CYBER OPERATIONS AND RESILIENCE	Action Item
4	LEWIS-CLARK STATE COLLEGE – BACHELOR OF SCIENCE IN CYBERSECURITY MANAGEMENT	Action Item
5	IDAHO STATE UNIVERSITY – ONLINE BACHELOR OF SCIENCE DEGREE COMPLETION IN RESPIRATORY THERAPY	Action Item
6	IDAHO STATE UNIVERSITY – ONLINE BASIC TECHNICAL CERTIFICATE IN CLOUD COMPUTING	Action Item
7	IDAHO STATE UNIVERSITY – ONLINE GRADUATE CERTIFICATE IN LISTENING AND SPOKEN LANGUAGE	Action Item
8	EPSCoR ANNUAL REPORT	Information Item
9	IDAHO MATH TRANSITIONS NETWORK UPDATE	Information Item
10	RECOGNITION OF COMMISSION ON OSTEOPATHIC COLLEGE ACCREDITATION	Action Item

SUBJECT

Board Policy III.N., Statewide General Education – Second Reading

REFERENCE

June 1996	The Board adopted a common course listing for general education core.
December 2016	The Board approved the first reading of Board Policy III.N. clarifying oral communication competencies.
February 2017	The Board approved the second reading of Board Policy III.N.
August 2017	The Board approved the first reading of Board Policy III.N. amending the makeup of the committee and setting a timeline for competency review.
October 2017	The Board approved the second reading of Board Policy III.N.
August 2018	The Board approved the first reading of proposed amendments to Board Policy III.N. establishing a common course indexing system within the General Education Matriculation (GEM) framework to assist with transfer.
October 2018	The Board approved the second reading of proposed amendments to Board Policy III.N.
August 2019	The Board approved the first reading of proposed amendments to Board Policy III.N. clarifying process for changes to common course index.
October 2019	The Board approved the second reading of proposed amendments to Board Policy III.N.
October 2020	The Board approved the first reading of proposed amendments to Board Policy III.N. designating the Executive Director or designee as chair of the GEM Committee.
December 2020	The Board approved the second reading of proposed amendments to Board Policy III.N.
August 2021	The Board approved the first reading of proposed amendments to Board Policy III.N. expanding membership of the GEM Committee to representatives from digital learning, dual credit, and open education. This included amendments to GEM competency areas.

APPLICABLE STATUTE, RULE OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.N. and III.V.

Section 33-3729, Idaho Code

BACKGROUND/DISCUSSION

Consistent with Board Policy III.N., faculty discipline groups representing all institutions shall meet at least annually or as directed by the Board, to ensure consistency and relevance of general education competencies and courses approved for their respective General Education Matriculation (GEM) competency areas. At the October 2020 General Education Summit, the GEM Committee and Board staff facilitated a process with faculty discipline groups to conduct a thorough review and revision of the six GEM competencies.

Proposed amendments primarily clarify and streamline competency language in policy and shared rubrics for all GEM areas. Scientific Ways of Knowing amendments include updating lab course requirements. Throughout the pandemic, delivery of lab classes proved challenging under physical distancing requirements and other restrictions. As a result, this discipline group recommended updating the language to maintain quality delivery and ensure that students meet learning outcomes. Amendments were also made to Social and Behavioral Ways of Knowing, which updates the number of required competencies from four to five.

Other amendments include expanding the membership of the General Education Committee to include members representing digital learning, dual credit, and open education.

IMPACT

Approval of the proposed amendments will conclude the inaugural three-year review cycle for the Idaho GEM framework and improve alignment between institution, state, and national outcomes for discipline areas.

ATTACHMENTS

Attachment 1 - Board Policy III.N., Statewide General Education – Second Reading

BOARD STAFF COMMENTS AND RECOMMENDATIONS

There were no comments or changes between the first and second reading of this policy. Board staff recommends approval.

BOARD ACTION

I move to approve the second reading of proposed amendments to Board Policy III.N., Statewide General Education, as submitted in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

Idaho State Board of Education
GOVERNING POLICIES AND PROCEDURES
SECTION: III. POSTSECONDARY AFFAIRS
SUBSECTION: N. Statewide General Education ~~December 2020~~October 2021

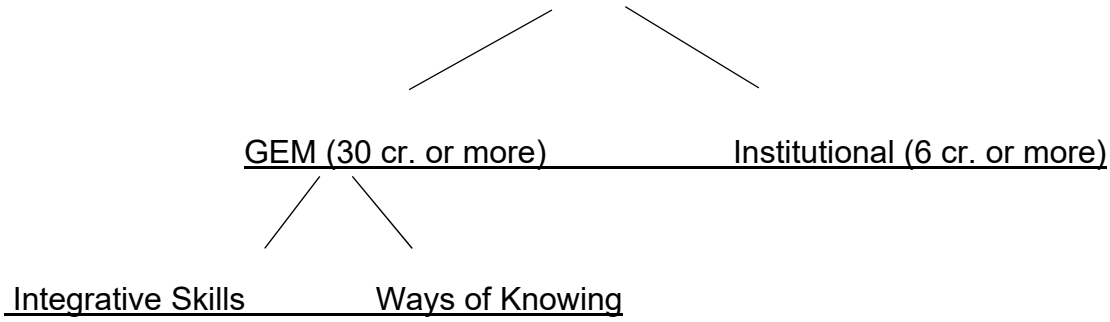
In our rapidly-changing world, students need to understand how knowledge is generated and created. They need to adapt to new opportunities as they arise as well as effectively communicate and collaborate with increasingly diverse communities and ways of knowing. In combination with major coursework, general education curriculum prepares students to use multiple strategies in an integrative manner to explore, critically analyze, and creatively address real-world issues and challenges. General education coursework provides students with an understanding of self, the physical world, and human society—its cultural and artistic endeavors as well as an understanding of the methodologies, value systems, and thought processes employed in human inquiries. General education helps instill students with the personal and civic responsibilities of good citizenship, and prepares them to be adaptive, life-long learners.

This policy shall apply to the University of Idaho, Boise State University, Idaho State University, Lewis-Clark State College, College of Eastern Idaho, College of Southern Idaho, College of Western Idaho, and North Idaho College (hereinafter "institutions").

1. The state of Idaho's general education framework for Associate of Arts, Associate of Science, and Baccalaureate degrees, outlined below in Figure 1, shall be:

   a. Thirty (30) credits or more of the general education curricula must fit within the general education Matriculation (GEM) competency areas defined in subsection 4 of this policy, and
   b. Six (6) or more credits of the general education curricula, which are reserved for institutions to address the specific mission and goals of the institution. For this purpose, institutions may create new competency areas or they may choose to count additional credits from GEM competencies. Regardless, these institutionally designated credits must have learning outcomes linked to Association of American Colleges and Universities (AAC&U) Essential Learning Outcomes.

Fig. 1: General education framework reflecting AAC&U Essential Learning Outcomes



2. The intent of the general education framework is to:

    a. Establish statewide competencies that guide institutions' determination of courses that will be designated as GEM courses
    b. Establish shared rubrics that guide course/general education program assessment; and
    c. Create a transparent and seamless transfer experience for undergraduate students.

3. There are six (6) GEM competency areas. The first two (2) emphasize integrative skills intended to inform the learning process throughout general education and major. The final four (4) represent ways of knowing and are intended to expose students to ideas and engage them in a broad range of active learning experiences. The GEM competency areas are as listed:

    a. Written Communication
    b. Oral Communication
    c. Mathematical Ways of Knowing
    d. Scientific Ways of Knowing
    e. Humanistic and Artistic Ways of Knowing
    f. Social and Behavioral Ways of Knowing

4. GEM courses in each area shall include the following competencies:

    a. Written Communication
    Upon completion of a course in this category, students are able to demonstrate the following competencies:

        i. Use flexible writing process strategies to generate, develop, revise, ~~edit, and~~ proofread, and edit texts.
        ii. Adopt strategies and genre appropriate to the rhetorical situation.
        iii. Use inquiry-based strategies to conduct research that explores multiple and diverse ideas and perspectives, appropriate to the rhetorical context.
        iv. Use rhetorically appropriate strategies to evaluate, represent, and respond to the ideas and research of others.
        v. Address readers' biases and assumptions with well-developed evidence-based reasoning.
        vi. Use appropriate conventions for integrating, citing, and documenting source material ~~as well as for surface-level language and style~~.
        vii. Read, interpret, and communicate key concepts in writing and rhetoric.

    b. Oral Communication
    Upon completion of a course in this category, students are able to demonstrate the following competencies:

i. Research, discover, and develop information resources and structure spoken messages to increase knowledge and understanding.
ii. Research, discover, and develop evidence-based reasoning and persuasive appeals for ethically influencing attitudes, values, beliefs, or behaviors.
iii. Adapt spoken messages to the diverse personal, ideological, and emotional needs of individuals, groups, or contexts.
iv. Employ effective spoken and nonverbal behaviors that support communication goals and illustrate self-efficacy.
v. Listen in order to effectively and critically evaluate the reasoning, evidence, and communication strategies of self and others.
vi. ~~Understand~~ Demonstrate knowledge of key theories, perspectives, principles, and concepts in the Communication discipline, as applied to oral communication.

c. Mathematical Ways of Knowing
Upon completion of a course in this category, a student is able to demonstrate the following competencies:

i. ~~Read, i~~Interpret~~, and communicate~~ mathematical concepts.
ii. Represent ~~and interpret~~ information/data.
iii. ~~Select, execute and explain~~ Use appropriate strategies/procedures when solving mathematical problems.
iv. ~~Apply quantitative reasoning to d~~Draw reasonable conclusions based on quantitative information~~and support appropriate conclusions~~.

d. Scientific Ways of Knowing
Upon completion of a non-lab course in this category, a student is able to demonstrate ~~at least four (4) of the following~~ competencies i-iv~~:~~. A student is able to demonstrate all five competencies, i-v, upon completion of a lab course.

i. Apply foundational knowledge and models of a discipline in the ~~natural or~~ physical or natural sciences to analyze and/or predict phenomena.
ii. ~~Understand the scientific method and a~~Apply scientific reasoning to critically evaluate~~ arguments~~ assertions.
iii. Interpret and communicate scientific information via written, spoken and/or visual representations.
iv. Describe the relevance of specific scientific principles to the human experience.
v. ~~Form and t~~Test a hypothesis in the laboratory or field using discipline-specific tools and techniques for observation, data collection and~~/or~~ analysis to form a defensible conclusion.

e. Humanistic and Artistic Ways of Knowing
Upon completion of a course in this category, students are able to demonstrate at least five (5) of the following competencies:

i. Recognize and describe humanistic, historical, or artistic works within problems and patterns of the human experience.
ii. Distinguish and apply ~~terminologies,~~ methodologies, approaches, or traditions~~processes, epistemologies, and traditions~~ specific to the discipline~~(s)~~.
iii. ~~Perceive and understand~~ Differentiate formal, conceptual, and technical elements specific to the discipline.
iv. Analyze, evaluate, and interpret texts, objects, events, or ideas in their cultural, intellectual or historical contexts.
v. Interpret artistic ~~and/~~or humanistic works through the creation of art, language, or performance.
vi. Develop critical perspectives or arguments about the subject matter, grounded in evidence-based analysis.
vii. Demonstrate self-reflection, ~~intellectual elasticity,~~ widened perspective, and respect for diverse viewpoints.

f. Social and Behavioral Ways of Knowing
Upon completion of a course in this category, students are able to demonstrate ~~at least four (4)~~ all five (5) of the following competencies.

i. Demonstrate knowledge of the theoretical and conceptual frameworks of a particular Social Science discipline.
ii. ~~Develop an understanding of~~ Describe self and the world by examining the dynamic interaction of individuals, groups, and societies as they shape and are shaped by history, culture, institutions, and ideas.
iii. Utilize Social Science approaches, such as research methods, inquiry, or problem-solving, to examine the variety of perspectives about human experiences.
iv. Evaluate how reasoning, history, or culture informs and guides individual, civic, or global decisions.
v. ~~Understand and appreciate~~ Identify the impact of the similarities and differences among and between individuals, cultures, or societies across space and time.

5. General Education Requirements

a. This subsection applies to Associate of Arts, Associate of Science, and Baccalaureate degrees. For the purpose of this policy, disciplines are indicated by course prefixes.

General education curricula must reflect the following credit distribution:

Competency Area	**Minimum Credits**
Written Communication	6
Oral Communication	2
Mathematical Ways of Knowing	3

Scientific Ways of Knowing	7 (from two different disciplines with at least one laboratory or field experience)
Humanistic and Artistic Ways of Knowing	6 (from two different disciplines)
Social and Behavioral Ways of Knowing	6 (from two different disciplines)
Institutionally-Designated Credits	6

i. GEM courses are designed to be broadly accessible to students regardless of major, thus college-level and non-GEM pre-requisites to GEM courses should be avoided unless deemed necessary by the institution.

ii. Additional GEM courses, beyond the general education curricula, may be required within the major for degree completion.

b. This subsection pertains to Associate of Applied Science (AAS) degrees.

The general education curricula for the AAS degree must contain a minimum of fifteen (15) credits, so distributed in the following areas:

Competency Area	**Minimum Credits**
Written Communication	3
Oral Communication	3
Mathematical Ways of Knowing	3
Social and Behavioral Ways of Knowing	3
Any general education course including institutionally designated courses	3

c. GEM courses and institutionally designated courses shall transfer as meeting an associated general education competency requirement at any institution pursuant to Board policy Section III.V.

6. Governance of the General Education Program and Review of Courses

a. GEM courses are developed by faculty and approved via the curriculum approval process of the institution delivering the courses. Faculty discipline groups representing all institutions shall meet at least annually or as directed by the Board, to ensure consistency and relevance of general education competencies and courses approved for their respective GEM competency areas.

b. Common Course Indexing is developed for courses offered within the GEM framework to provide greater transparency and seamlessness within transfer processes at Idaho's postsecondary institutions. Common-indexed courses are accepted as direct equivalents across institutions for transfer purposes. Common course indexing shall include common course prefix, common course number, common course title, and common GEM discipline area designation. The common

course number shall be three digits in sequence, but can be preceded by a single digit if four numbers are utilized by the institution (x###).

The common course list shall be approved by the Board on an annual basis and shall be maintained by the Board office. Changes to the list may be proposed by faculty discipline groups to the General Education Matriculation Committee. Proposed additions or removal of courses on the common course list must be reviewed by the General Education Matriculation Committee prior to Board approval. The request to remove a common-indexed course from an institution's academic catalog must be approved by the Board. The request to discontinue a course must be submitted in writing by the institution to the Board office. The request shall be submitted no less than a year in advance and provide rationale for the inability to offer the course.

c. The General Education Matriculation (GEM) Committee shall consist of a Board-appointed representative from each of the institutions; a representative from the Division of Career Technical Education; a representative from the Idaho Registrars Council, ~~as an ex-officio member~~; a representative from the digital learning community; a representative from the dual credit community, a representative from the open education community; and the Executive Director of the Board, or designee, who shall serve as the chair of the committee. To ensure alignment with AAC&U Essential Learning Outcomes and subsection 1, the Committee shall meet at least annually to review the competencies and rubrics of the general education framework. The Committee shall make recommendations to the Board regarding the general education framework and the common course list. The Committee shall review and make recommendations on the general education competencies as necessary. GEM Committee duties are prescribed by the Board, including those that may involve addressing issues related to competency areas and course offerings. The GEM Committee reports to the Council on Academic Affairs and Programs.

d. The institutions shall identify all general education courses in their curricula and identify them in a manner that is easily accessible by the public via their respective websites, as well as relevant web resources maintained by the Board office.

SUBJECT

General Education Matriculation (GEM) Committee Appointments

REFERENCE

October 2014	The Board approved the initial membership of the General Education Matriculation Committee.
June 2016	The Board appointed Jana McCurdy (CWI), Dr. Margaret Johnson (ISU), and Kenton Bird (UI) to the GEM Committee.
December 2016	The Board appointed Dr. Joanne Tokle (ISU) and John Bieter (BSU) to the GEM Committee.
August 2017	The Board appointed Lori Barber, representing CEI, to the GEM Committee.
October 2017	The Board appointed Cher Hendricks, representing UI, to the GEM Committee.
April 2019	The Board appointed Dean Panttaja representing UI, and Whitney Smith-Schuler representing CSI to the GEM Committee.
June 2019	The Board appointed Greg Wilson representing CWI, replacing Jana McCurdy to the GEM Committee.
October 2019	The Board appointed Tiffany Seeley-Case representing CSI, replacing Whitney Smith-Schuler to the GEM Committee.
June 2020	The Board appointed Martin Gibbs representing LCSC, replacing Mary Flores to the GEM Committee.
June 2021	The Board appointed Cindy Hill representing ISU and Angela Sackett-Smith representing CWI to the GEM Committee.
August 2021	The Board appointed Candyce Reynolds representing BSU and Lloyd Duman representing NIC to the GEM Committee.

APPLICABLE STATUTE, RULE, OR POLICY

Governing Policies and Procedures section III.N. General Education

BACKGROUND/DISCUSSION

Consistent with Board Policy III.N, the state General Education Matriculation Committee is responsible for reviewing the competencies and rubrics of the general education framework for each institution to ensure its alignment with the Association of American Colleges and Universities (AAC&U) Essential Learning Outcomes. Board Policy III.N also provides that faculty discipline groups have ongoing responsibilities for ensuring consistency and relevance of General Education competencies related to their discipline. The GEM Committee consists of a representative from each Idaho public postsecondary institution appointed by the Board; a representative from the Division of Career Technical Education; a representative from the Idaho Registrars Council; and the Executive Director or

designee of the Office of the State Board of Education, who serves as chair to the committee.

IMPACT

The proposed appointments add three new representatives and replace Idaho Division of Career Technical Education's representative on the GEM Committee with a representative from the Technical College Leadership Council, a committee of career technical college education deans from across the state.

ATTACHMENTS

Attachment 1 – Current GEM Committee Membership

BOARD STAFF COMMENTS AND RECOMMENDATIONS

At the August 2021 Board meeting, the first reading of Board Policy III.N was approved, expanding the membership of the GEM committee to include members representing digital learning, dual credit, and the open education community. The second reading of this policy will be considered under a separate agenda item at the October meeting. In preparation of that approval, staff is forwarding nominations of individuals to fill the new positions on the committee. Nominations also include changes to the current representative of Idaho Division of Career Technical Education to a representative from the Technical College Leadership Council.

Over the past 20 years, Chris Harper has guided teams and learning across military, non-profit, K-12, business, and higher education. Most of his work, including a focus on digital learning, has been right here in the Gem State. He currently serves as Director of the Teaching and Learning Center at the College of Southern Idaho.

Karina Smith is the Assistant Director for Concurrent Enrollment at Boise State University. She has her Ph.D. in International Education from Northcentral University, M.S. in Communication from Portland State University and her B.A. in Cultural Anthropology from the University of Alaska Anchorage. She has over 15 years of experience in higher education, working in Student Housing, Student Affairs, and Academic Advising. She oversees the student support and advising process for the Department of Concurrent Enrollment.

Kristin Whitman is a Health Sciences librarian at Idaho State University's Meridian campus. She serves as chair of ISU's Open and Affordable Educational Resources committee and was chair of the 2021 Idaho Open Education Week virtual event series. She has a Bachelor of Science in Chemistry from The College of William and Mary, a Master's in Library and Information Science from Rutgers, and an MA, Education Curriculum and Instruction from Boise State University.

Debbie Ronneburg has worked at Idaho State University for more than 25 years with most of her time spent in the College of Technology as Director of Student Services, Associate Dean, and Interim Dean. Debbie holds a Bachelor of Arts degree in English, a Master of Public Administration degree, and is near completion of her Doctor of Educational Leadership in Higher Education Administration.

Board staff recommends approval.

BOARD ACTION

I move to appoint Mr. Chris Harper, representing digital learning, to the General Education Matriculation Committee, effective immediately.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to appoint Dr. Karina Smith, representing dual credit, to the General Education Matriculation Committee, effective immediately.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to appoint Ms. Kristin Whitman, representing open education, to the General Education Matriculation Committee, effective immediately.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to appoint Dr. Debbie Ronneburg, representing career technical education, to the General Education Matriculation Committee, effective immediately.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

State Board of Education
General Education Matriculation Committee

Dean Panttaja is the Director of General Education and Interim Vice Provost for Academic Initiatives at University of Idaho. Dean Panttaja was appointed in **April, 2019.**

Greg Wilson is the General Education Coordinator at College of Western Idaho. Greg Wilson was appointed in **June, 2019.**

Tiffany Seeley-Case is the Dean of General and Transfer Education at College of Southern Idaho. Tiffany Seeley-Case was appointed in **October, 2019**

Martin Gibbs is the Dean of Liberal Arts & Sciences at Lewis-Clark State College. Martin Gibbs was appointed in **June, 2020.**

Angela Sackett-Smith is the Dean for General Education at College of Eastern Idaho. Angela Sackett-Smith was appointed in **June, 2021.**

Cindy Hill is Interim Vice Provost for Academic Affairs at Idaho State University. Cindy Hill was appointed in **June, 2021**.

Lloyd Duman is the Interim Dean of General Studies at North Idaho College. Lloyd Duman was appointed in **August 2021**.

Candyce Reynolds is the Director of the Foundational Studies Program at Boise State University. Candyce Reynolds was appointed in August 2021.

Debbie Ronneburg is the Interim Dean, College of Technology at Idaho State University, representing the Technical College Leadership Council. **Appointment is pending approval, October 2021.**

Chris Harper is the Director of the Teaching & Learning Center at the College of Southern Idaho, representing digital learning. **Appointment is pending approval, October 2021.**

Karina Smith is the Assistant Director for Concurrent Enrollment at Boise State University, representing dual credit. **Appointment is pending approval, October 2021.**

Kristin Whitman is a Health Sciences librarian at Idaho State University's Meridian campus, representing open education. **Appointment is pending approval, October 2021.**

Mandy Nelson is the Registrar at Boise State University, a representative from the Idaho Registrars Council.

Jonathan Lashley is the Associate Chief Academic Officer at the Office of the State Board of Education, who serves as Chair of the Committee as the designee of the Executive Director.

BOISE STATE UNIVERSITY

SUBJECT

Online Bachelor of Applied Science in Cyber Operations and Resilience

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.G. and Section V.R.

BACKGROUND/DISCUSSION

Boise State University (BSU) proposes to create a Bachelor of Applied Science in Cyber Operations Resilience (BAS CORe) program that will be offered wholly online. The program will operate under the guidelines of Board Policy V.R. as it pertains to wholly online programs.

The proposed BAS CORe degree is intended to be part of a statewide joint-degree collaboration among Boise State University, Lewis-Clark State College, College of Eastern Idaho, College of Southern Idaho, College of Western Idaho, and North Idaho College. Other state universities can join this collaboration at any time.

This proposed BAS CORe program is complementary to BSU's recently approved BS CORe program and utilizes the same curriculum to serve student populations with different backgrounds. All CORe programs at BSU are designed around the realities of today's cyber and physical landscape, and they prepare students to anticipate, detect, mitigate, and manage cyber, physical, and interdependencies infrastructure threats. In addition, the unique scaffolding of these programs (designed as a stackable degree program) along with the emerging importance of cyber and physical resilience prepares students with the knowledge, skills, and expertise needed for maintaining the operational effectiveness of complex business, academic, and government information and physical systems.

Because it is entirely online, the proposed program will enable BSU to reach potential students who need flexibility in their education to accommodate professional and personal responsibilities. These students may also live in rural areas of Idaho that do not have face-to-face educational opportunities.

IMPACT

The proposed CORe degree program is a part of the statewide cybersecurity initiative and the collaboration between the Idaho's higher education institutions to meet the growing workforce demand for cyber-related education. This program will collaborate and coordinate with BSU's Institute for Pervasive Cybersecurity. The unique and flexible scaffolding of the program (designed as a stackable degree program) will allow it to be part of other joint programming opportunities in cybersecurity education in Idaho.

BSU projects that the BAS CORe program will reach a size of 44 students by the fifth year, graduating approximately 25 students per year once the program is up and running. The program is scalable to meet the demand for the program.

The student fees will be in accordance with the Online Program Fee as defined in Board Policy V.R.3.a.x. The price point for the online BAS CORe program fee will be $350 per credit. When students transfer in 60 credits from approved Associates of Applied Science degrees, the remaining 60 credits to complete the Boise State University BAS in CORe will be $21,000.

ATTACHMENTS

Attachment 1 – Online BAS in Cyber Operations and Resilience Proposal

BOARD STAFF COMMENTS AND RECOMMENDATIONS

The proposed Bachelor of Applied Science in Cyber Operations and Resilience is a partnership among Boise State University, Lewis-Clark State College, College of Eastern Idaho, College of Southern Idaho, College of Western Idaho, and North Idaho College to meet a workforce need for cybersecurity professionals. The online BAS will provide students a unique, seamless path toward completing a baccalaureate degree, allowing for articulation of community college credits from a technical degree. As outlined in the program proposal, the BAS program will create:

- Pathways for career & technical education students, community college graduates with an AS, AAS, working professionals with career and technical education, and military personnel with technical education.
- Stackable certification pathways for learners to achieve career alignment without the need for long-term program commitments.
- Curriculum that awards experiential learning credits in an affordable manner.
- Accelerated BS/BAS/MS curriculum for learners looking to achieve maximum career opportunity in the shortest timeframe possible.

Under a separate agenda item, Lewis-Clark State College is proposing a new Bachelor of Science in Cybersecurity Management that will also provide students with a seamless pathway to complete a baccalaureate degree. Both programs will have course-sharing capabilities that will provide students with opportunities to take specific courses from either institution through Online Idaho and meet respective program requirements. BSU is working to finalize articulation pathways between the proposed BAS and AAS degrees offered at the four community colleges.

BSU anticipates initial enrollment of 10 students in the first year, reaching 24 by the fifth year and graduating 2-25 students once the program is up and running. Because program will be using the online program fee model, minimum enrollments are based on course registrations, which are what translate to revenue per program proposal. The minimum number to breakeven range from 75 to 1,153

annual credits and 2.5 to 38.4 annual FTEs over a five-year period. If enrollments are not met, the program will be adjusted to reflect actual activity and will be evaluated annually. If in the long term it is not fiscally sustainable, the program will be discontinued.

BSU's proposed Bachelor of Applied Science in Cyber Operations and Resilience is consistent with their Service Region Program Responsibilities and their current institution plan for Delivery of Academic Programs in Region III. As provided in Board Policy III.Z, no institution has the statewide program responsibility cybersecurity programs. Additionally, Board Policy III.Z does not apply to programs for which 90% or more of all activity is required or completed online.

BSU also requests approval to assess an online program fee of $350 per credit for a total cost of $21,000 for students transferring with 60 credits from approved Associate of Applied Science degrees. Based on the information for the online program fee provided in the proposal, staff finds that the criteria have been met for this program.

The proposal completed the program review process and was recommended for approval by the Council on Academic Affairs and Programs on September 30, 2021, and was presented to the Instruction, Research, and Student Affairs Committee on October 7, 2021, and to the Business Affairs and Human Resources Committee on October 8, 2021. Board staff recommends approval.

BOARD ACTION

I move to approve the request by Boise State University to create an Online Bachelor of Applied Science in Cyber Operations and Resilience, as presented in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to approve the request by Boise State University to charge an online program fee of $350 per credit for the Bachelor of Applied Science in Cyber Operations and Resilience, in conformance with the program budget submitted to the Board in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Institutional Tracking No. _____

Idaho State Board of Education

Proposal for Academic Degree and Certificate Program

Date of Proposal Submission:	September 2021
Institution Submitting Proposal:	Boise State University
Name of College, School, or Division:	College of Engineering
Name of Department(s) or Area(s):	Electrical and Computer Engineering Department

Official Name of the Program:	Bachelor of Applied Science in Cyber Operations and Resilience				
Implementation Date:	Spring 2022				
Degree Information:	Degree Level: Bachelor		Degree Type: B.A.S.		
CIP code (consult IR /Registrar):	43.0404				
Method of Delivery: Indicate percentage of face-to-face, hybrid, distance delivery, etc.	100% online				
Geographical Delivery:	Location(s)		Region(s)		
Indicate (X) if the program is/has: (Consistent with Board Policy V.R.)		Self-Support fee		Professional Fee	X Online Program Fee
Indicate (X) if the program is: (Consistent with Board Policy III.Z.)		Regional Responsibility		Statewide Responsibility	

Indicate whether this request is either of the following:

- [X] New Degree Program
- [ ] Consolidation of Existing Program
- [ ] Undergraduate/Graduate Certificates (30 credits or more)
- [ ] New Off-Campus Instructional Program
- [ ] Expansion of Existing Program
- [ ] Other (i.e., Contract Program/Collaborative

College Dean (Institution)	09/02/2021 Date	Vice President for Research (Institution; as applicable)	Date 9/23/21
Graduate Dean or other official (Institution; as applicable)	Date 09/03/2021	Academic Affairs Program Manager, OSBE	Date 9/27/21
EVP/Chief Fiscal Officer (Institution)	Date 09/02/2021	Chief Financial Officer, OSBE	Date 9/24/21
Provost/VP for Instruction (Institution)	Date 09/03/2021	Chief Academic Officer, OSBE	Date
President	Date	SBOE/Executive Director Approval	Date

Institutional Tracking No. _____

Idaho State Board of Education

Proposal for Academic Degree and Certificate Program

Date of Proposal Submission:	September 2021
Institution Submitting Proposal:	Boise State University
Name of College, School, or Division:	College of Engineering
Name of Department(s) or Area(s):	Electrical and Computer Engineering Department

Official Name of the Program:	Bachelor of Applied Science in Cyber Operations and Resilience					
Implementation Date:	Spring 2022					
Degree Information:	Degree Level: Bachelor		Degree Type: B.A.S.			
CIP code (consult IR /Registrar):	43.0404					
Method of Delivery: Indicate percentage of face-to-face, hybrid, distance delivery, etc.	100% online					
Geographical Delivery:	Location(s)		Region(s)			
Indicate (X) if the program is/has: (Consistent with Board Policy V.R.)		Self-Support fee		Professional Fee	X	Online Program Fee
Indicate (X) if the program is: (Consistent with Board Policy III.Z.)		Regional Responsibility		Statewide Responsibility		

Indicate whether this request is either of the following:

- [X] New Degree Program
- [ ] Undergraduate/Graduate Certificates (30 credits or more)
- [ ] Expansion of Existing Program
- [ ] Consolidation of Existing Program
- [ ] New Off-Campus Instructional Program
- [ ] Other (i.e., Contract Program/Collaborative _____)

College Dean (Institution)	Date	Vice President for Research (Institution; as applicable)	Date
Graduate Dean or other official (Institution; as applicable)	Date	Academic Affairs Program Manager, OSBE	Date
FVP/Chief Fiscal Officer (Institution)	Date	Chief Financial Officer, OSBE	Date
Provost/VP for Instruction (Institution)	Date	Chief Academic Officer, OSBE	Date
Marlene Tromp (Sep 9, 2021 10:33 MDT) President	09/09/2021 Date	SBOE/Executive Director Approval	Date

Before completing this form, refer to Board Policy Section III.G., Postsecondary Program Approval and Discontinuance. This proposal form must be completed for the creation of each new program. All questions must be answered.

Rationale for Creation or Modification of the Program

1. **Describe the request and give an overview of the changes that will result.** What type of substantive change are you requesting? Will this program be related or tied to other programs on campus? Identify any existing program that this program will replace. If this is an Associate degree, please describe transferability.

   Boise State University proposes the creation of a wholly online program that will award a Bachelor of Applied Science in Cyber Operations and Resilience. This new online degree will allow Associate of Applied Science students to seamlessly complete a Bachelor degree. The proposed program will operate under the guidelines of SBOE Policy V.R. as it pertains to wholly online programs.

   The proposed BAS in CORe degree is intended to be part of a statewide joint-degree collaboration among Boise State University, Lewis-Clark State College, College of Eastern Idaho, College of Southern Idaho, College of Western Idaho, and North Idaho College. Other state universities can join this collaboration anytime.

   The online Cyber Operations and Resilience (CORe) Bachelor of Applied Science (BAS) degree completion program will instruct and produce Cybersecurity professionals focused on operational tools, methodologies, and efficiencies, as well as ensuring system resiliency for maximum risk reduction coverage using risk appropriate costs. The goal of the CORe curriculum is to prepare learners to view and think of systems as holistic models while determining how resiliency can be achieved through interaction of people, process, and technology. CORe presents the interdependencies infrastructure has between cyber and physical in order to achieve operational effectiveness. In short, CORe is about how everything is interrelated and how strengthening the bonds of dependency can lead to a more resilient system/network/society.

   A holistic system level thinking approach is at the heart of the CORe program. The asynchronous online curriculum provides for a number of achievement modalities:
   1. Pathways for career & technical education students, community college graduates with an Associates of Science, Associates of Applied Science, working professionals with career and technical education and military personnel with technical education,
   2. Stackable certification pathways for learners to achieve career alignment without the need for long-term program commitments,
   3. A curriculum that awards experiential learning credits in an affordable manner, and
   4. Accelerated BS/BAS/MS curriculum for learners looking to achieve maximum career opportunity in the shortest time frame possible.

2. **Need for the Program.** Describe evidence of the student, regional, and statewide needs that will be addressed by this proposal to include student clientele to be served and address the ways in which the proposed program will meet those needs.

a. **Workforce and economic need:** Provide verification of state workforce needs that will be met by this program. Include job titles and cite the data source. Describe how the proposed program will stimulate the state economy by advancing the field, providing research results, etc.

Distinct from the online Bachelor of Science CORe program (aka BS CORe), the BAS in CORe allows articulation of community college credits from a technical degree and provides a unique pathway for students who have earned an associate of applied science (AAS) to pursue a bachelor's degree. BAS CORe also allows us to accept military technical credit hours.

The workforce demand for cybersecurity professionals continues to trend upward as cybersecurity increases in priority for government, corporations, and non-profit organizations. In correlation with increasing concern for cybersecurity, the labor market has also shifted to accommodate this issue. Between September 2016 and March 2021, there has been an approximate 300% increase in unique job postings for cybersecurity professionals and the intensity with which postings are made has more than doubled.

The proposed program will stimulate the Idaho economy by training a top-notch workforce that can work for a multitude of companies operating at any physical locations. This online program will provide learning opportunities to anyone in Idaho to be trained as a security professional.

The proposed BAS in CORe degree is part of a statewide joint-degree collaboration.

Identifying job titles for the proposed program or any cyber operations and resilience program is very difficult and can never encompass the types of jobs people with a cyber operations and resilience education can pursue. Therefore, we have chosen the following job titles:

- Computer and Information Analysts SOC Code 15-1210
- Information Security Analysts SOC Code 15-1212

2019 National Employment Matrix Title and Code		Employment		Job Openings Due to Growth and Replacement Needs 2019-2029
		2019	2029	
Computer and Information Analysts	15-1210	763.4	850.8	87.5
Information Security Analysts	15-1212	131.0	171.9	40.9
TOTAL				**128.4**

2018-2028 Idaho Long Term Employment Projections		Employment		Job Openings Due to Growth and Replacement Needs 2018-2028
		2018	2028	
Computer Systems Analyst	15-1121	1,591	1,740	149
Information Security Analysts	15-1122	408	456	48
TOTAL				**197**

b. Student demand. What is the most likely source of students who will be expected to enroll (full-time, part-time, outreach, etc.). Provide evidence of student demand/ interest from inside and outside of the institution.

Boise State's BS in CORe was approved at the February 2021 State Board of Education meeting and for the upcoming academic year of 2021-2022 the program already has 41 students enrolled in the program (in fall 21). The strong enrollment in the first year of the BS CORe program indicates that the program appeals to students and it is likely that the BAS CORe will not face challenges in meeting the projected enrollment and graduate targets outlined in this proposal.

It is anticipated that the BAS CORe will appeal to the following groups of potential students.

Career Starter - a student who just earned their Associates of Applied Science degree. May be employed, underemployed, or unemployed. A veteran with military technical credit hours transitioning to civilian jobs.

Career Advancer - typically a nontraditional student who is currently employed in an entry or mid-level position, looking to move into a senior-level position but needs a degree and specific skill sets who already holds an Associates of Science or Associates of Applied Science.

Career Changer - employed in a field other than cyber but wants to shift to a cyber career and needs a bachelor's degree, who holds an AAS degree.

c. Societal Need: Describe additional societal benefits and cultural benefits of the program.

A recent study by Cybersecurity Ventures[1], a respected publisher of cybersecurity content, predicts that 3.5 million cybersecurity jobs around the world will be unfilled by 2021. In the United States, the demand for professionals with cybersecurity expertise is outpacing all other occupations[2]. These reports, along with many others, underpin the need for

[1] https://cybersecurityventures.com/jobs/
[2] https://www.nist.gov/news-events/news/2018/11/new-data-show-demand-cybersecurity-professionals-

increasing workforce development initiatives founded in cybersecurity principles. The workforce shortage is across all cybersecurity domains, yet our adversaries are always advancing, always probing for vulnerabilities in corporate enterprise systems, critical infrastructure systems, and vital national security systems.

To combat this persistent threat, which is a 24/7 operation, we need all hands on deck. We must ensure students are positioned to fully support the cyber world; we need people with different perspectives, approaches, ways of thinking, and methods to solve the cyber challenges we are facing and will face. This need is especially pressing when assessing our current and future digital landscape — a tireless and ever expanding connectivity supported by societal needs and economic development, yet compromised by the common criminal to nation-state sponsored criminal activity.

At the center of this program is getting learners to think differently and understand how a stronger system and network can be built for the society to be more resilient. With the upcoming wide deployment of the 5G network, it is even more important that we have a program that addresses a major societal need. Finally, we must educate a workforce that is able to protect our critical infrastructure and our homes with resiliency in mind.

3. Program Prioritization

Is the proposed new program a result of program prioritization?

Yes__X___ No_____

If yes, how does the proposed program fit within the recommended actions of the most recent program prioritization findings.

Boise State University classified this as a high priority program. We are making investments for this to be a self-supporting program.

4. Credit for Prior Learning

Indicate from the various cross walks where credit for prior learning will be available. If no PLA has been identified for this program, enter 'Not Applicable'.

Yes. Prior learning credits will be awarded based on evidence of work experience and certifications.

5. Affordability Opportunities

Describe any program-specific steps taken to maximize affordability, such as: textbook options (e.g., Open Educational Resources), online delivery methods, reduced fees, compressed course scheduling, etc. This question applies to certificates, undergraduate, graduate programs alike.

We will be offering this program at a very market competitive rate of $350 per credit hour. This program has been designed to accept all 60 AAS credit hours from Idaho universities, colleges, and community colleges. If students have earned industry certifications, we can award credits for certifications. Students will also be able to earn internship credits, credit for prior learning and experiential learning credits.

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accelerating

Enrollments and Graduates

6. **Existing similar programs at Idaho Public Institutions.** Using the chart below, provide enrollments and numbers of graduates for similar existing programs at your institution and other Idaho public institutions for the most past four years.

Cyber education programs can be classified in three categories: (1) Cyber awareness program for everyone, (2) cyber for STEM where STEM majors learn how to design and code with security in mind, (3) cyber operations for dealing with security issues 24/7. The BAS CORe degree is in category (3).

Currently, there is no such program across Idaho. University of Idaho's BS in Cybersecurity is a Computer Science based degree meant to teach how to program securely. The Idaho State University's BAS Cyber-Physical Systems Engineering Technology degree, which launched in Fall 2020, is an industry control cybersecurity program. This degree concentrates on operational technology cybersecurity.

This Boise State program (as proposed) is on cyber operations. It will meet the needs of any organization, from local governments, counties governments, state governments, national security, and private entities.

Instit.	Program Name	Fall Headcount Enrollment in Program				Number of Graduates From Program (Summer, Fall, Spring)			
		FY18	FY19	FY20	FY21	FY18	FY19	FY20	FY21
ISU	AAS: Industrial Cybersecurity Engineering Tech	n/a	n/a	29	24	n/a	n/a	8	12
ISU	Intermediate Technology Certificate: Industrial Cybersecurity Engineering Tech	n/a	n/a	2	4	n/a	n/a	1	2
U of I	BS in Cybersecurity	n/a	n/a	3	n/a	n/a	n/a	n/a	n/a
ISU	BAS	22	21	20	34	24	11	15	22

7. **Justification for Duplication** (if applicable). If the proposed program is similar to another program offered by an Idaho public higher education institution, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. Describe why it is not feasible for existing programs at other institutions to fulfill the need for the proposed program.

The proposed program is different from the Idaho State University Cyber-Physical System Engineering Technology (UG) program and the University of Idaho Cybersecurity (UG) program because the proposed program instructs and produces cybersecurity professionals focused on operational thinking, tools, methodologies, and efficiencies, as well as ensuring system resiliency for maximum risk reduction coverage using risk appropriate costs. The goal of the CORe curriculum is to prepare learners to view and think of systems as holistic models while determining how resiliency can be achieved. CORe presents the interdependencies infrastructure has between cyber and physical in order to achieve operational effectiveness. In short, CORe is about how everything is interrelated and how strengthening the bonds of dependency can lead to a more resilient system/network/society. This BAS CORe is to serve AAS students or students with technical credits hours.

8. **Projections for proposed program:** Using the chart below, provide projected enrollments and number of graduates for the proposed program:

Proposed Program: Projected Enrollments and Graduates First Five Years											
Program Name: Bachelor of Applied Science in Cyber Operations and Resilience											
Projected Fall Term Headcount Enrollment in Program						**Projected Annual Number of Graduates From Program**					
FY22 (first year)	FY23	FY24	FY25	FY26		FY22 (first year)	FY23	FY24	FY25	FY26	
10	31	36	39	44		0	2	12	23	25	

9. **Describe the methodology for determining enrollment and graduation projections.** Refer to information provided in Question #2 "Need for the Program" above. What is the capacity for the program? Describe your recruitment efforts? How did you determine the projected numbers above?

The program's size will be scaled to demand for the program. The numbers in the table above reflect a reasonable and attainable scaling up of the program.

Marketing and recruitment efforts will include a digital marketing campaign, a web landing page, request for information form and a full program website with details regarding the key program assets, curriculum plan, and costs. In addition, a comprehensive communication plan will be implemented to attract and nurture interested students. Strategic, personalized communications will engage and support students throughout the recruitment life cycle. Our coaching approach to student services will support online students and maintain their connection to Boise State through graduation.

10. Minimum Enrollments and Graduates.

a. What are the minimums that the program will need to meet in order to be continued, and what is the logical basis for those minimums?

Because the program will be utilizing the online fee model, it is best to put minimum enrollment in terms of course registrations, which are what translate to revenue. Based on estimated expenses for instruction and for support personnel, the minimum number of course registrations to achieve breakeven is:

- Year 1: Annual credits 75, Annual FTEs 2.5
- Year 2: Annual credits 451, Annual FTEs 15
- Year 3: Annual credits 860, Annual FTEs 28.7
- Year 4: Annual credits 1,018, Annual FTEs 33.9
- Year 5: Annual credits 1,153, Annual FTEs 38.4

If enrollments do not meet expectations, expenses will adjust to reflect actual activity. The program's financial sustainability will be evaluated at least annually.

b. If those minimums are not met, what is the sunset clause by which the program will be considered for discontinuance?

Programs operating under the online program fee model at Boise State University are expected to be fiscally sustainable. If enrollments do not meet expectations, expenses will be adjusted to reflect actual activity. The program's financial sustainability will be evaluated at least annually. If it is determined to be fiscally unsustainable in the long term, it will be discontinued.

11. Assurance of Quality. Describe how the institution will ensure the quality of the program. Describe the institutional process of program review. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation.
The following measures will ensure the high quality of the new program:

Regional Institutional Accreditation: Boise State University is regionally accredited by the Northwest Commission on Colleges and Universities (NWCCU). Regional accreditation of the university has been continuous since initial accreditation was conferred in 1941. Boise State University is currently accredited at all degree levels (A, B, M, D).

Program Review: Boise State has instituted a new program review procedure. At the inception of new programs, the programs will submit to the Office of the Provost a three-year assessment plan to be scheduled into the Periodic Review/Assessment Reporting Cycle. The plan includes program learning outcomes; and an implementation plan with a timeline identifying when and what will be assessed, how the programs will gather assessment data, and how the program will use that information to make improvements. Then, every three years, the programs will provide Program Assessment Reports (PAR), which will be reviewed by a small team of faculty and staff using a PAR Rubric, which includes feedback, next steps, and a follow-up report with a summary of actions.

Program Development Support: The online Bachelor of Applied Science in Cyber Operations and Resilience is one of several that are being created via the eCampus Expansion Initiative at Boise

State University.

- Program Design: Boise State's online program development process includes a facilitated program design process to assist program faculty members in the creation of an intentional, cohesive course progression aligned to both course and program learning outcomes.
- Course Design and Development: Each course is designed and developed by a team of experts, which includes an instructional designer, a multimedia developer, a quality assurance specialist, and a course developer, who work collaboratively with the faculty member. The end result is a single master version of each course. All courses for the program are developed with a consistent look and feel using a common course template aligned with nationally recognized Quality Matters course design standards.
- Course Maintenance: In an effort to support the continuous course improvement of online master courses, there is an opportunity for each master course to undergo minor course maintenance following each time the course is offered. Input for any changes in the course is based on feedback from both instructors and students.

Academic Integrity: Academic integrity is vital to the mission of Boise State University and encompasses the totality of academic rigor, ethical behavior, intellectual curiosity, appropriate teamwork, and persistence. All assignments submitted by a student must represent his/her own ideas, concepts, and current understanding or must cite the original source. Boise State proactively supports academic integrity by providing training, maintaining a website dedicated to academic integrity, providing tools such as pedagogical strategies, workshops, and tips for designing tests, as well as establishing policies and procedures for students who violate the academic integrity policy within the Student Code of Conduct. For this new online program, we will use the following strategies to encourage academic integrity:

- During the design and development of the curriculum and assessment of each course, instructors will be informed by staff of Boise State's eCampus Center about best practices for online course design based on Quality Matters ™ and best practice strategies to promote academic integrity in online education based on WCET's recommendations (Version 2.0, June 2009)
- Through the program development process, course production, course launch support provided by the eCampus Center, and other means, instructors will be reminded about the importance of academic integrity and encouraged to report and act upon suspected violations.
- Academic integrity will be addressed within online student orientation. Programs may require online students to complete the university's Academic Integrity Online Workshop.
- At the beginning of each course, the instructor will communicate expectations regarding academic integrity to students in the syllabus and verbally and may require completion of the university's Academic Integrity Online Workshop.

Student Authentication: Because the proposed program will be offered entirely online, it is important to include mechanisms by which we authenticate the identity of students enrolled in the program. We will use the following mechanisms:

- During the admissions process, the university will confirm required official transcripts and other documentation required for admission into the program.
- Associated with access to and use of our Learning Management System, a secure log-in environment will be provided and students will be required to use strong passwords and change them every 90 days.
- When high-stakes exams are required, faculty will be encouraged to utilize remote or online proctoring services when appropriate. In those instances, students will need to

provide valid photo identification before gaining access to the graded assessments or other required activities.

- Instructors will utilize Canvas's Ouriginal plagiarism detection program when appropriate.
- Instructors are expected to be informed of and aware of the importance of student identity authentication and to report and act upon suspected violations.

12. **In accordance with Board Policy III.G., an external peer review is required for any new doctoral program.** Attach the peer review report as **Appendix A**.

N/A

13. **Teacher Education/Certification Programs** All Educator Preparation programs that lead to certification require review and recommendation from the Professional Standards Commission (PSC) prior to consideration and approval of the program by the State Board of Education.

Will this program lead to certification?

Yes_____ No__X___

If yes, on what date was the Program Approval for Certification Request submitted to the Professional Standards Commission?

14. **Three-Year Plan: If this is a new proposed program, is it on your institution's approved 3-year plan?**

Yes __X__ No _____

If yes, proceed to question 15. If no:

a. **Which of the following statements address the reason for adding this program outside of the regular three-year planning process.**

Indicate (X) by each applicable statement:

	Program is important for meeting your institution's regional or statewide program responsibilities.
	The program is in response to a specific industry need or workforce opportunity.
	The program is reliant on external funding (grants, donations) with a deadline for acceptance of funding.
	There is a contractual obligation or partnership opportunity related to this program.
	The program is in response to accreditation requirements or recommendations.
	The program is in response to recent changes to teacher certification/endorsement requirements.

b. **Provide an explanation for all statements you selected.**

Educational Offerings: Curriculum, Intended Learning Outcomes, and Assessment Plan

15. Curriculum. Provide descriptive information of the educational offering.

a. Summary of requirements. Provide a summary of program requirements using the following table.

Credit hours in required courses offered by the department(s) offering the program.	43
Credit hours in required courses offered by other departments:	
Credit hours in institutional general education curriculum	37
Credit hours in free electives	40
Total credit hours required for degree program:	120

b. Curriculum. Provide the curriculum for the program, including credits to completion, courses by title and assigned academic credit granted.

BAS Degree Completion in Cyber CORe	Credits
University Foundations	***37***
University Foundations requirements indicated in bold. See page 48 for details and lists of approved courses.	
UF 100 Foundations of Intellectual Life	**3**
UF 200 Foundations of Ethics and Diversity	**3**
FW ENGL 101 Writing and Rhetoric I	**3**
FW ENGL 102 Writing and Rhetoric II	**3**
FC Foundations of Oral Communication	**3**
FM Foundations of Mathematics course	**3**
FN Foundations of Natural, Physical, & Applied Sciences course with lab	**4**
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	**3**
FA Foundations of Arts course	**3**
FH Foundations of Humanities course	**3**
FS Foundations of Social Sciences course	**3**
FS Foundations of Social Sciences course in a second field	**3**
Required Courses *	***27***
CORE 400 Cyber Systems Thinking	**3**
CORE 405 Cyber Project Management and Design	**3**
CORE 470 Cyber Risk Management	**3**
CPS 301 Information Assurance and Critical Thinking	**3**
CPS 401 Defensive Security	**3**

CPS 402 Offensive Security	3
CPS 403 Recovery and Forensics	3
CPS 411 Networking (CompTIA Network+)	3
CPS 412 Foundational Essential for IT Cyber Security Practitioner (CompTIA Security+)	3
CORe Electives	*4-13*
CORE 401 Cyber Risk Assessment	1
CORE 410 Applied Cyber Security Programming	1
CORE 411 Artificial Intelligence & Machine Learning	1
CORE 413 Internet of Things Architecture	1
CORE 420 Cyber Security Operations Center	1
CORE 421 Cyber Business and Regulatory Operations	1
CORE 422 Cyber Red and Blue Teams	1
CORE 450 Cyber Threat Intelligence	3
CORE 460 Cyber Resilience Systems Design	3
Applied Learning	*2-6*
Internships/Experiential Learning/Certification/Credit for Prior Learning	6
Finishing Foundation (FF)	*3*
FF CORE 480 Cyber Capstone	3
AS/AAS Technical Credit Hours / Electives	*40-47*
Total	120

c. Additional requirements. Describe additional requirements such as comprehensive examination, senior thesis or other capstone experience, practicum, or internship, some of which may carry credit hours included in the list above.

CORE 480 Cyber Capstone Capstone: design experience integrating previous coursework with cyber operations and resilience design theory and methodology. Prereq: CORE 405, CORE 470, CPS 301.

Internships/Experiential Learning/Certification/Credit for Prior Learning: Students can earn internship or experiential learning credit hours. For those students with work experience, evidence of learning can be presented to earn credit hours. Traditional students can also earn credit hours through internships to prepare for their career at completion of degree.

16. Learning Outcomes: Expected Student Learning Outcomes and Connection to Curriculum.

a. Intended Learning Outcomes. List the Intended Learning Outcomes for the proposed program, using learner-centered statements that indicate what students will know, understand, and be able to do, and value or appreciate as a result of completing the

program.

- Recognize the correct fundamentals of cyber operations, resilience, risk assessment, and information assurance to both cyber-physical and information systems.
- Make decisions based on the ethics, laws, policies, and governance of the cyber security field.
- Practice acceptable tactics, techniques, and procedures necessary to enhance cyber-physical and informational security operations and resiliency.
- Recognize industry acceptable cyber security models to secure, inform, involve, and educate stakeholders in security/ resilience operations and strategies.
- Continuously evaluate and monitor the operational and resilient maturity of an entity.
- Analyze operation and resiliency policies, metrics, testing and security solutions for an entity using both rigorous risk assessment and threat intelligence people, processes, tools and measures

17. Assessment plans.

a. **Assessment Process.** Describe the assessment plan for student learning outcomes that will be used to evaluate student achievement and how the results will be used to improve the program.

The BAS in Cyber Operations and Resilience degree program will follow a systematic assessment and improvement process in which multiple approaches will be used, not only to measure student attainment of program outcomes, but to also inform programmatic improvements. The learning outcomes are mapped to courses that provide relevant content. Student work in these courses that address specific outcomes is collected and evaluated by program faculty. The outcomes are assessed on a three-year cycle with data for all outcomes collected each year, and then the results are analyzed every three years. For each outcome, student work across the program is reviewed in a comprehensive approach. A group of three faculty members and instructors review the overall attainment of the outcome based on the evidence collected. As part of the review, recommendations for improvement to the program are outlined. All faculty then review these results and make suggestions/changes for program improvement. Evaluation results inform programmatic, pedagogical, and curricular improvements.

The key knowledge unit as defined by the National Initiative for Cyber Security Education (NICE) Cybersecurity Workforce Framework, NSA CAE, and UK Cyber Security Body of Knowledge (CyBok) will also be mapped to all the courses. This will ensure we are teaching the most important skill sets and critical thinking.

Resources Required for Implementation – fiscal impact and budget.
Organizational arrangements required within the institution to accommodate the change including administrative, staff, and faculty hires, facilities, student services, library; etc.

18. Physical Facilities and Equipment: Describe the provision for physical facilities and equipment.

a. **Existing resources.** Describe equipment, space, laboratory instruments, computer(s), or other physical equipment presently available to support the successful

implementation of the program.

No impact. Since this is a cyber program, the hands-on activities can either be carried out using students' computers or using cloud computing services.

b. **Impact of new program.** What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated?

No impact is anticipated.

c. **Needed resources.** List equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. Enter the costs of those physical resources into the budget sheet.

N/A

19. **Library and Information Resources:** Describe adequacy and availability of library and information resources.

a. **Existing resources and impact of new program.** Evaluate library resources, including personnel and space. Are they adequate for the operation of the present program? Will there be an impact on existing programs of increased library usage caused by the proposed program? For off-campus programs, clearly indicate how the library resources are to be provided.

No impact is anticipated.

b. **Needed resources.** What new library resources will be required to ensure successful implementation of the program? Enter the costs of those library resources into the budget sheet.

No impact. Boise State University has ACM and IEEE subscriptions. Most publications are online and the program can get access to those publicly available resources.

20. **Faculty/Personnel resources**

a. **Needed resources.** Give an overview of the personnel resources that will be needed to implement the program. How many additional sections of existing courses will be needed? Referring to the list of new courses to be created, what instructional capacity will be needed to offer the necessary number of sections?

All of the courses in the proposed BAS in CORe are already part of the approved online undergraduate degree in Cyber Operations and Resilience (a.k.a, BS in CORe). No new courses need to be created or developed.

Instructional capacity needs to be added, as well as administrative support. An Associate Faculty Director position is added to the BAS CORe budget with an anticipated start date to align with the spring 2022 launch. This position provides sustainability for a full-time faculty position. This increases instructional capacity and provides the program director with curriculum support. This position supports three degree programs: BAS in CORe, BS

in CORe, and Master of Science in CORe. The primary funding source for this position is through the BAS CORe budget with revenue transfer of funds from the other two degrees. Also, additional teaching assistants will be added to support the growth due to BAS CORe enrollments.

b. **Existing resources.** Describe the existing instructional, support, and administrative resources that can be brought to bear to support the successful implementation of the program.

All courses in the BAS in CORe degree are shared with the BS CORe degree. Instructional and administrative support expenses have already been accounted for in the BS in CORe and MS in CORe budget.

c. **Impact on existing programs**. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained?

The BAS CORe degree will fund the Faculty Associate Director position which supports three degree programs: BAS in CORe, BS in CORe, and MS in CORe. Instructional and administrative support expenses have already been accounted for in the BS in CORe and MS in CORe budgets.

d. **Needed resources.** List the new personnel that must be hired to support the proposed program. Enter the costs of those personnel resources into the budget sheet.

The following positions will be hired for the program:

- Associate Faculty Director

Expenses for this position is included in the program budget sheet.

21. Revenue Sources

a. **Reallocation of funds:** If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs?

Not applicable. No appropriated funds are being used for the BAS CORe program.

b. **New appropriation**. If an above Maintenance of Current Operations (MCO) appropriation is required to fund the program, indicate when the institution plans to include the program in the legislative budget request.

No new appropriation will be required.

c. **Non-ongoing sources**:

i. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends?

N/A. No grant or one-time funding sources needed.

ii. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds?

N/A

d. Student Fees:

i. If the proposed program is intended to levy any institutional local fees, explain how doing so meets the requirements of Board Policy V.R., 3.b.

N/A

ii. Provide estimated cost to students and total revenue for self-support programs and for professional fees and other fees anticipated to be requested under Board Policy V.R., if applicable.

The student fee will be in accordance with the Online Program Fee as defined in the Board Policy V.R., 3.a.x. That policy enables the institution to set a price-point appropriate for the program; students will pay an online program fee in lieu of tuition. The price-point for our online program fee will be as follows: $350 per credit. When students transfer in 60 credits from approved Associates of Applied Science degrees, the remaining 60 credits to complete the Boise State University BAS in CORe will be $21,000.

We project that by the fourth year of the program, it will generate 1,018 SCH, which will yield a total revenue of $356,160.

22. Using the excel budget template provided by the Office of the State Board of Education, provide the following information:

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first **four** fiscal years of the program.
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Second and third year estimates should be in constant dollars.
- Amounts should reconcile subsequent pages where budget explanations are provided.
- If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies).
- Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

I. PLANNED STUDENT ENROLLMENT

	FY 2022		FY 2023		FY 2024		FY 2025		FY 2026	
	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount
A. New enrollments	2.3	9	13.5	29	25.8	46	30.5	51	34.6	57
B. Shifting enrollments	0.3	1	1.5	3	2.9	5	3.4	6	3.8	6
Total Enrollment	2.5	10	15.0	33	28.7	51	33.9	57	38.4	63
Student Credit Hours Generated	75		451		860		1,018		1,153	

II. REVENUE

	FY 2022		FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
1. New Appropriated Funding Request										
2. Institution Funds				$10,000		$40,000		$65,000		
3. Federal										
4. New Tuition Revenues from Increased Enrollments										
5. Student Fees		$26,250		$157,982		$301,006		$356,160		$403,574
6. Other (i.e., Gifts)		$0		$0						
Total Revenue	$0	$26,250	$0	$167,982	$0	$341,006	$0	$421,160	$0	$403,574

Ongoing is defined as ongoing operating budget for the program which will become part of the base.
One-time is defined as one-time funding in a fiscal year and not part of the base.

Budget Notes:

I.A. B. Calculation of FTE and headcount as follows:
>1 FTE = 30 credits
>Headcount determined as the distinct number of students in the program that year.
>Assume that 90% of the enrollments will be new enrollments and 10% will be shifting enrollments
>Assume 25% attrition from 1st to 2nd semester, then 3% attrition every semester. No attrition from 2nd to last semester to last semester.

II.2. The College of Engineering will support program in Yr2. Yr3 and Yr4 from revenue generated by Bachelor of Science and Master of Science in Cyber Operations and Resilience

II.5. Student Fee revenue calculated as Student Credit Hours * $350 per credit
$350 calculated as estimate of 2021-2022 per credit rate
To be conservative assume in calculations that per-credit fee does not increase over time to align with the amount charged to traditional resident students

III. EXPENDITURES

	FY 2022		FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
A. Personnel Costs										
1 FTE		0.00		1.00		1.00		1.00		1.00
2 Faculty		$0		$116,733		$120,235		$123,842		$127,559
3 Adjunct Faculty		$0		$0		$0		$0		$0
4 Graduate/Undergrad Assistants										
5. Research Personnel										
6 Directors/Administrators		$0		$0		$0		$0		$0
7. Administrative Support Personnel		$0		$0		$0		$0		$0
8 Fringe Benefits		$308		$37,300		$38,368		$39,152		$40,574
9 Other Teaching Assistants		$7,692		$7,692		$15,385		$15,385		$30,769
Total Personnel and Costs	$0	$8,000	$0	$161,726	$0	$173,988	$0	$178,379	$0	$198,900

Budget Notes (continued)

III.A.1 FTE: Calculated using Credit hour load divided by 24 - This is the Faculty Associate Director position

III.A.8 Benefits calculated at staff fringe rate of $11,650+(annual wage*20.47%) professional staff

III.A.9 Other: Teaching Assistants hired to support high enrollment courses starting year 1

	FY 2022		FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
B. Operating Expenditures										
1. Travel										
2 Marketing and Promotion										
3 Other Services										
4 Communications										
5 Materials and Supplies										
6. Rentals										
7. Materials & Goods for Manufacture & Resale										
8 Miscellaneous - Computer Hardware/Software		$2,500		$2,500		$2,500		$2,500		$2,500
Total Operating Expenditures	$0	$2,500	$0	$2,500	$0	$2,500	$0	$2,500	$0	$2,500

Budget Notes (continued):
III B 8 Miscellaneous: Computer hardware/software

	FY 2022		FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
C. Capital Outlay										
1 Library Resources										
2 Equipment										
Total Capital Outlay	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

	FY 2022		FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
D. Capital Facilities Construction or Major Renovation										
E. Other Costs										
1. Boise State University Support		$13,125		$78,991		$150,503		$178,080		$201,787
Utilities										
Maintenance & Repairs										
Other										
Total Other Costs	$0	$13,125	$0	$78,991	$0	$150,503	$0	$178,080	$0	$201,787
TOTAL EXPENDITURES:	$0	$23,625	$0	$243,217	$0	$326,991	$0	$358,958	$0	$403,188
Net Income (Deficit) to College	$0	$2,625	$0	-$75,235	$0	$14,014	$0	$62,201	$0	$387

Budget Notes (specify row and add explanation where needed; e.g., "1.A.,B. FTE is calculated using..."):

III.E.1 Boise State University Support is defined as follows:

Boise State Central Services (10.00% of revenue): A fund dedicated to funding support services for online students

Boise State eCampus Center (8.75% of revenue): Provide funding for initiative management, online course/program development and other support services

Boise State Online Innovation Fund (3.80% of revenue): Seed funding for academic programs, course development stipends to faculty, open education resource grants and eventually innovation grants

Boise State Online Marketing, Recruitment, Enrollment, Advising and Retention Fund (27.45% of revenue): A fund dedicated to marketing the program, recruiting students, enrolling qualified students, advising students and retaining students throughout the life of the program

NIC NSA to BSU BAS CORe (DRAFT)

https://catalog.nic.edu/program-guidelines/network-security-administration-aas/

Bachelor of Applied Science		
Course Number and Title	*Credits*	*NIC NSA*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	ATEC-117, CITE-289, CITE-296
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CITE 118, CITE 121, CITE 122, CITE 140, CITE 142, CITE 155, CITE 213, CITE 215, CITE 165, CITE 235, CITE 243, CITE 275, CITE 104, CITE 105, CITE 237, CITE 239 --- 47 credit hours…

NIC CIT to BSU BAS CORe (DRAFT)

https://catalog.nic.edu/program-guidelines/computer-information-technology-aas/#requirementstext

Bachelor of Applied Science		
Course Number and Title	*Credits*	*NIC CIT*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	CITE-295 or ATEC-117
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

*** CITE-116, CITE-118, CITE-119, CITE-127, CITE-104, CITE-105, CITE-121, CITE-122, CITE-206, CITE-207, CITE-213, CITE-215, CITE-208, CITE-209, CITE-217, CITE-219 ---45 credit hours…

CEI – IAC to BSU BAS CORe (DRAFT)

https://www.cei.edu/programs-of-study/business/information-assurance-and-cybersecurity

Bachelor of Applied Science		
Course Number and Title	*Credits*	*CEI - IAC*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	X
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	X
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

*** CNT 114, CNT 150, BOT 150, BOT 151, CNT 123, CNT 171, CNT 224, CNT 290, CNT 291, BOT 216, CNT 292, CNT 293 ---45 Credit Hours…

CEI – ITS to BSU BAS CORe (DRAFT)

https://www.cei.edu/programs-of-study/business/computer-networking

Bachelor of Applied Science		
Course Number and Title	*Credits*	*CEI - ITS*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

Any elective course

*** CNT 114, CNT 150, BOT 150, BOT 151, CNT 123, CNT 142, CNT 171, CNT 224, CNT 225, CNT 271, BOT 216, CNT 226, CNT 270, ---45 Credit Hours…

CSI – *C&P* to BSU BAS CORe (DRAFT)

https://csi.smartcatalogiq.com/2021-2022/Catalog/Business-and-Information-Systems-Department/Cybersecurity-and-Programming/Cybersecurity-and-Programming-Associate-of-Applied-Science

Bachelor of Applied Science		
Course Number and Title	*Credits*	*CSI – C&P*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	CISW 298 or CISS 223
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

Students can choose one Gen Ed course as they'd like.

*** CISW 111, CISW 125, CISS 107, CISS 212, CISS 213, CISW 126, CISS 131, CISS 212, CISS 216, CISW 128, CISW 217, CISS 236, CISW 240, CISW 250, CISW 245

CWI – Cybersecurity to BSU BAS CORe (DRAFT)

https://cwi.edu/program/cybersecurity

Bachelor of Applied Science		
Course Number and Title	*Credits*	*CWI – Cybersecurity*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

- One GEM Course of Students Choosing

*** CSEC 110, CSEC 123, CSEC 125, CSEC 127, CSEC 129, CSEC 131, CSEC 246, CSEC 248, CSEC 252, CSEC 255, CSEC 257, CSEC 290 --- 48 Credit hours…

CWI – NA to BSU BAS CORe (DRAFT)

https://search.cwi.edu/s/search.html?cat=top&collection=cwi-search&query=Network+Administrations+

Bachelor of Applied Science		
Course Number and Title	*Credits*	*CWI - NA*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

- One GEM Course of Students Choosing

*** NADM 140, NADM 142, NADM 144, NADM 155, NADM 157, NADM 159, NADM 260, NADM 262, NADM 264, NADM 266, NADM 268, NADM 271 ***48 Credit Hours…

CWI – CNST to BSU BAS CORe (DRAFT)

https://cwi.edu/program/cisco-networking-and-security-technologies

Bachelor of Applied Science		
Course Number and Title	*Credits*	*CWI - CNST*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

- One GEM Course of Students Choosing

*** CNST 124, CNST 127, CNST 129, CNST 135, CNST 230, CNST 238, CNST 240, CNST 242, CNST 244, CNST 248 --- 48 Credit Hours

CWI – CSS to BSU BAS CORe (DRAFT)

https://cwi.edu/program/computer-support-specialist

Bachelor of Applied Science		**CWI - CSS**
Course Number and Title	*Credits*	
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

- One GEM Course of Students Choosing

*** CSSP 103, CSSP 104, CSSP 106, CSSP 108, CSSP 109, CSSP 111, CSSP 114, CSSP 210, CSSP 212, CSSP 214, CSSP 220, CSSP 222, CSSP 224

CWI – SD to BSU BAS CORe (DRAFT)

https://search.cwi.edu/s/search.html?cat=top&collection=cwi-search&query=Software+Development

Bachelor of Applied Science		
Course Number and Title	*Credits*	*CWI - SD*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	SWDV 293
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

COMM 259 – Elective

***SWDV 120, SWDV 125, SWDV 130, SWDV 135, SWDV 140, SWDV 143, SWDV 152, SWDV 210, SWDV 220, SWDV 235, SWDV 265, SWDV 271, SWDV 280 --- 47 Credit Hours

LCSC Information Technology to BSU CORe (Draft)

http://catalog.lcsc.edu/professional-technical-programs/technical-industrial-division/associate-applied-science-degrees/information-technology/#generaleducationtext

Bachelor of Applied Science		
Course Number and Title	*Credits*	*LCSC -IT*
University Foundations Program requirements indicated in bold. See page 48 for details and lists of approved courses.		
UF 200 Foundations of Ethics and Diversity	3	
FW ENGL 101 Writing and Rhetoric I	3	X
FW ENGL 102 Writing and Rhetoric II	3	X
FC Foundations of Oral Communication	3	X
FM Foundations of Mathematics course	3-4	X
FN Foundations of Natural, Physical, & Applied Sciences course with lab	4	
FN Foundations of Natural, Physical, & Applied Sciences course in a second field	3-4	
FA Foundations of Arts course	3	
FH Foundations of Humanities course	3-4	
FS Foundations of Social Sciences course	3	X
FS Foundations of Social Sciences course in a second field	3	
CORE 400 Cyber Systems Thinking	3	
CORE 405 Cyber Project Management and Design	3	
CORE 470 Cyber Risk Management	3	
FF CORE 480 Cyber Capstone	3	
CPS 301 Information Assurance and Critical Thinking	3	
CPS 401 Defensive Security	3	
CPS 402 Offensive Security	3	
CPS 403 Recovery and Forensics	3	
CPS 411 Networking (CompTIA Network+)	3	
CPS 412 Foundational Ess for IT Cyber Security Prac (CompTIA Security+)	3	
Complete 7 Elective Credits CORE 401 Cyber Risk Assessment (1) CORE 410 Applied Cyber Security Programming (1) CORE 411 Artificial Intelligence & Machine Learning (1) CORE 413 Internet of Things Architecture (1) CORE 420 Cyber Security Operations Center (1) CORE 421 Cyber Business and Regulatory Operations (1) CORE 422 Cyber Red and Blue Teams (1) CORE 450 Cyber Threat Intelligence (3) CORE 460 Cyber Resilience Systems Design (3)	4-7	
Internships/Experiential Learning/Certification/Credit for Prior Learning	2-6	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	40-47	47 ***
Total	120	

- One GEM Course of Students Choosing

*** ISATI-125, ISATI-126, ISATI-127, ISATI-204, ISATI-205, ISATI-207, ISATI-208, ISATI-229, ISATI-230, ISATI-231, ISATI-232, ISATI-233 --- 48 Credit Hours…

LEWIS-CLARK STATE COLLEGE

SUBJECT

Bachelor of Science in Cybersecurity Management

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.G

BACKGROUND/DISCUSSION

Lewis-Clark State College (LCSC) Business & Computer Science Division is proposing a multidisciplinary degree. This degree would combine key concepts from Computer Science and Business courses and will provide a pathway to a bachelor's degree for students who have earned an associate's degree in cyber security and other technical fields. This degree program will utilize existing face-to-face and online courses from each discipline including core business, cyber security, and computer science courses. This degree will serve students interested in Cybersecurity, Computer Science, and Business Management. It will prepare them for careers that require skills within all three areas.

This program was first proposed in February 2021. Expediting this program's implementation will ensure we are meeting student and employer needs faster. This program should also assist with enrollment growth.

IMPACT

According to the U.S. Bureau of Labor Statistics' Information Security Analyst's Outlook, cybersecurity jobs are among the fastest-growing career areas nationally. Employment of information security analysts is projected to grow 31 percent from 2019 to 2029, much faster than the average for all occupations.

LCSC's program would be the only Cybersecurity Management degree in the state and will serve the L-C Valley, meeting the needs of the students and employers in this area. The local, state and national economy will be stimulated by producing cyber management graduates. As the need for information security continues to grow and privacy within the digital age increases, this degree program will provide businesses with skilled graduates to fill their employment needs. The proposed program will not require the creation of new courses, additional resources or faculty for implementation. The overall impact to physical resources and existing programs will be minimal.

ATTACHMENTS

Attachment 1 – BS in Cybersecurity Management Proposal

BOARD STAFF COMMENTS AND RECOMMENDATIONS

The proposed Bachelor of Science in Cybersecurity Management is a partnership among Boise State University, Lewis-Clark State College, College of Eastern

Idaho, College of Southern Idaho, College of Western Idaho, and North Idaho College to meet a workforce need for cybersecurity professionals. The proposed program will provide students with a seamless path toward completing a baccalaureate degree. This includes articulation of community college credits from specific technical degrees and provides an option for students to complete their third and fourth years online with LCSC. Board staff has confirmed with LC-State leadership that the long-term goal is to create online versions of the major courses in this program, to be fully offered through Online Idaho.

Under a separate agenda item, Boise State University is proposing a new online Bachelor of Applied Science in Cyber Operations and Resilience that will also provide students with a seamless pathway to complete a baccalaureate degree. Both programs will have course-sharing capabilities that will provide students with opportunities to take specific courses from either institution through Online Idaho and meet respective program requirements. LCSC is working on finalizing articulation pathways between the proposed BS and specific AAS degrees offered at the four community colleges.

The program anticipates 16 initial enrollments, reaching 26 by year five, and graduating 11-20 students per year once the program is up and running. LCSC indicates a minimum of 10 enrollments per year will be necessary to maintain the program. Should the program fall below 8 students per year, LCSC will discontinue it.

LCSC's proposed Bachelor of Science in Cybersecurity Management is consistent with their Service Region Program Responsibilities and their current institution plan for Delivery of Academic Programs in Regions I and II. As provided in Board Policy III.Z, no institution has the statewide program responsibility for cybersecurity programs.

The proposal completed the program review process and was recommended for approval by the Council on Academic Affairs and Programs on September 30, 2021, and was presented to the Instruction, Research, and Student Affairs Committee on October 7, 2021. Board staff recommends approval.

BOARD ACTION

I move to approve the request by Lewis-Clark State College to create a Bachelor of Science in Cybersecurity Management, as presented in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

Idaho State Board of Education
Proposal for **Undergraduate/Graduate Degree** Program

Date of Proposal Submission:	3/15/2021 *9/10/21 ps*						
Institution Submitting Proposal:	Lewis-Clark State College						
Name of College, School, or Division:	Business & Computer Science Division						
Name of Department(s) or Area(s):							
Program Title:	Cybersecurity Management						
Degree:	BA/BS	Degree Designation	X	Undergraduate		Graduate	
Indicate if Online Program:	X	Yes		No			
CIP code (consult IR /Registrar):							
Proposed Starting Date:	Spring 2022						
Geographical Delivery:	Location(s)	Lewiston		Region(s)			
Indicate (X) if the program is/has:		Self-Support		Professional Fee		Online Program Fee	
Indicate (X) if the program is:		Regional Responsibility		Statewide Responsibility			

Indicate whether this request is either of the following:

- [X] New Degree Program
- [ ] Consolidation of Existing Program
- [ ] Undergraduate/Graduate Certificates (30 credits or more)
- [ ] New Off-Campus Instructional Program
- [ ] Expansion of Existing Program
- [ ] Other (i.e., Contract Program/ Collaborative

College Dean (Institution)	Date 9/8/2021	Vice President for Research (Institution; as applicable)	Date 9/23/21
Graduate Dean or other official (Institution; as applicable)	Date 09/09/2021	Academic Affairs Program Manager, OSBE	Date 9/24/21
FVP/Chief Fiscal Officer (Institution)	Date 09/08/2021	Chief Academic Officer, OSBE	Date 9/27/21
Provost/VP for Instruction (Institution)	Date 09/10/2021	Chief Financial Officer, OSBE	Date
President	Date	SBOE/Executive Director Approval	Date

ATTACHMENT 1

Before completing this form, refer to Board Policy Section III.G., Postsecondary Program Approval and Discontinuance. This proposal form must be completed for the creation of each new program. All questions must be answered.

Rationale for Creation or Modification of the Program

1. **Describe the request and give an overview of the changes that will result.** Will this program be related or tied to other programs on campus? Identify any existing program that this program will replace.

   LCSC's Business & Computer Science Division is proposing a multidisciplinary degree. This degree would combine key concepts from Computer Science and Business courses. This degree program will utilize existing courses from each discipline including core business, cyber security and computer science courses.

2. **Need for the Program**. Describe the student, regional, and statewide needs that will be addressed by this proposal and address the ways in which the proposed program will meet those needs.

   Idaho's governor and its state board of education have made cyber security education a priority. According to The U.S. Bureau of Labor Statistics' Information Security Analyst's Outlook, cybersecurity jobs are among the fastest-growing career areas nationally. Employment of information security analysts is projected to grow 31 percent from 2019 to 2029, much faster than the average for all occupations. Demand for information security analysts is expected to be very high, as these analysts will be needed to create innovative solutions to prevent hackers from stealing critical information or causing problems for computer networks. (US Bureau of Labor Statistics)

   Management Analysts are #3 on the "Idaho Hot Jobs" report for 2019.
   (https://labor.idaho.gov/publications/hotjobs.pdf)

   a. **Workforce need:** Provide verification of state workforce needs that will be met by this program. Include State and National Department of Labor research on employment potential. Using the chart below, indicate the total projected annual job openings (including growth and replacement demands in your regional area, the state, and nation. Job openings should represent positions which require graduation from a program such as the one proposed. Data should be derived from a source that can be validated and must be no more than two years old.

      List the job titles for which this degree is relevant:

      1. Information Security Analyst
      2. Lead Software Security Engineer
      3. Chief Information Security Officer (CISCO)
      4. Security Architect
      5. Penetration Tester
      6. Information Security Crime Investigator/Forensics Expert

	State DOL	Federal DOL data	Other data source: (describe)

	data		
Local (Service Area)			
State		n/a	
Nation		131,000	

Information security analysts are listed on the BLS “fastest growing occupation” list and growth is projected to be at 31% annually. https://www.bls.gov/ooh/fastest-growing.htm

b. Student need. What is the most likely source of students who will be expected to enroll (full-time, part-time, outreach, etc.). Document student demand by providing information you have about student interest in the proposed program from inside and outside the institution. If a survey of s was used, please attach a copy of the survey instrument with a summary of results as **Appendix A.**

This degree will serve students interested in Business Management and Computer Science and Cybersecurity. It will prepare them for careers that require skills within all three areas.

c. Economic Need: Describe how the proposed program will act to stimulate the state economy by advancing the field, providing research results, etc.

The local, state and national economy will be stimulated by producing cyber management graduates. As the need for information security continues to grow and privacy within the digital age increases, this degree program will provide them with skilled graduates to fill their employment needs.

d. Societal Need: Describe additional societal benefits and cultural benefits of the program.

e. If Associate’s degree, transferability:

3. Program Prioritization

Is the proposed new program a result of program prioritization?

Yes_____ No__x___

If yes, how does the proposed program fit within the recommended actions of the most recent program prioritization findings.

4. Credit for Prior Learning

Indicate from the various cross walks where credit for prior learning will be available. If no PLA has been identified for this program, enter 'Not Applicable'.

N/A

5. Affordability Opportunities

Describe any program-specific steps taken to maximize affordability, such as: textbook options (e.g., Open Educational Resources), online delivery methods, reduced fees, compressed course scheduling, etc. This question applies to certificates, undergraduate, graduate programs alike.

The Bachelor of Science in Cyber Management program will include f2f and online courses housed in the institutional Canvas learning management system. This will allow students the flexibility of holding a full-time job while completing the program, thus keeping costs relatively low.

6. **Similar Programs.** Identify similar programs offered within Idaho and in the region by other in-state or bordering state colleges/universities.

Similar Programs offered <u>by Idaho public institutions</u> (list the proposed program as well)		
Institution Name	**Degree name and Level**	**Program Name and brief description if warranted**
Boise State University	**BAS**	Cyber Operations and Resilience
Similar Programs offered <u>by other Idaho institutions and by institutions in nearby states</u>		
Institution Name	**Degree name and Level**	**Program Name and brief description if warranted**

7. **Justification for Duplication with another institution listed above.** (if applicable). If the proposed program is similar to another program offered by an Idaho public institution, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. Describe why it is not feasible for existing programs at other institutions to fulfill the need for the proposed program.

With each of Idaho's colleges focusing on a different aspect of cyber security, LC State's Cybersecurity Management degree is unique and will serve the LC Valley, the state of Idaho and beyond, meeting the needs of the students and employers in Idaho. The degree has been developed in collobaration with the other public institutions in Idaho to ensure there is no duplication of programs.

8. **Describe how this request supports the institution's vision and/or strategic plan.**

This degree aligns with LC State's core themes of Opportunity, Success, and Partnerships. This degree provides an additional opportunities for education in an in-demand field. This degree contributes to the success of LC State's students and includes substantial internship opportunities to create partnerships with the business community.

9. **Assurance of Quality.** Describe how the institution will ensure the quality of the program. Describe the institutional process of program review. Where appropriate, describe applicable

specialized accreditation and explain why you do or do not plan to seek accreditation.

All business core classes in this program are part of our external accrediting body, IACBE. Rigor will be maintained and learning outcomes reported annually to this body. Standardized exit exams will be administered in the senior capstone course. Students in this program will create a final project in the Computer Science capstone that will be assessed.

10. **In accordance with Board Policy III.G., an external peer review is required for any new doctoral program.** Attach the peer review report as **Appendix B**.

11. **Teacher Education/Certification Programs** All Educator Preparation programs that lead to certification require review and recommendation from the Professional Standards Commission (PSC) and approval from the Board.

    Will this program lead to certification?
    Yes_____ No___X__

    If yes, on what date was the Program Approval for Certification Request submitted to the Professional Standards Commission?

12. **Three-Year Plan: Is the proposed program on your institution's approved 5-year plan? Indicate below.**

    Yes ____ No X

    Proposed programs submitted to OSBE that are not on the five-year plan must respond to the following questions and meet at least one criterion listed below.

    a. **Describe why the proposed program is not on the institution's five year plan.** When did consideration of and planning for the new program begin?

       This program was first proposed in February 2021. It is on LC State's three year plan. Expediting this program's implementation will ensure we are meeting student and employer needs faster. This program should also assist with enrollment growth.

    b. **Describe the immediacy of need for the program**. What would be lost were the institution to delay the proposal for implementation of the new program until it fits within the five-year planning cycle? What would be gained by an early consideration?

       The governor and the SBOE have made cyber education a very high priority. Idaho's public institutions are encoaurged to get their programs up and running as quickly as possible. The need for trained cybersecurity professionals is immediate. Unemployment rates are at historic lows. Employers are finding it difficult to fill positions, especially those requiring technical and business skills. Expediting the implementation of this program will assist LC State in meeting it's core themes of opportunity, success, and partnership.

    Criteria. As appropriate, discuss the following:

    i. How important is the program in meeting your institution's regional or statewide program responsibilities? Describe whether the proposed program is in response to a specific industry need or workforce opportunity.

ii. Explain if the proposed program is reliant on external funding (grants, donations) with a deadline for acceptance of funding.
iii. Is there a contractual obligation or partnership opportunity to justify the program?
iv. Is the program request or program change in response to accreditation requirements or recommendations?
v. Is the program request or program change in response to recent changes to teacher certification/endorsement requirements?

Curriculum, Intended Learning Outcomes, and Assessment Plan

13. Curriculum for the proposed program and its delivery.

a. Summary of requirements. Provide a summary of program requirements using the following table.

Credit hours in required courses offered by the department (s) offering the program.	76
Credit hours in required courses offered by other departments:	0
Credit hours in institutional general education curriculum	37-39
Credit hours in free electives	7
Total credit hours required for degree program:	120

b. Curriculum. Provide the curriculum for the program, including a listing of course titles and credits in each.

CS 111	Computer Science I	4.00
CS 211	Computer Science II	4.00
CS 226	Introduction to Databases: SQL	3.00
CS 311	Algorithms and Data Structures	4.00
CS 480	Capstone Design Project	4.00
CS 492	Internship	4.00
BUS 311	Foundations Management Theory	3.00
BUS 360	Leadership	3.00
BUS 365	Business Law I	3.00
BUS 370	Pro.Op. Management	3.00
ECON 300	Statistical Methods	3.00
CYB 251	Networking I	4.00
CYB 252	Networking II	4.00
CYB 253	Networking III	4.00
CYB 254	Networking IV	4.00
CYB 271	Cybersecurity I	4.00
CYB 272	Cybersecurity II	4.00
CYB 273	Cybersecurity III	4.00
CYB 274	Cybersecurity IV	4.00
CYB 300	Cyber Ethics	3.00
CYB 360	Cybersecurity Management	3.00

c. Additional requirements. Describe additional requirements such as comprehensive

examination, senior thesis or other capstone experience, practicum, or internship, some of which may carry credit hours included in the list above.

14. Program Intended Learning Outcomes and Connection to Curriculum.

a. Intended Learning Outcomes. List the Intended Learning Outcomes for the proposed program, using learner-centered statements that indicate what will students know, be able to do, and value or appreciate as a result of completing the program.

The Cybersecurity Management program is designed to prepare students for industry. The Cyber Management major fuses the three components: a strong cybersecurity management base, computer programming, and business management. The curriculum is designed to be very focused on industry needs and skills. Students will take courses in networking, advanced cyber security and business.

The goal of the Cyber Management program is to provide students with learning experiences in both the classroom and laboratory so that they will be well-prepared to:

- Design and implement object-oriented and imperative programs;
- Understand algorithms and data structures;
- Understand relational databases, and network development;
- Understand online safety in the context of the wider world;

- Understand the different types of malware, including viruses and trojans, network security, and cryptography;
- Identity theft and risk management;
- Understand and explain the concepts, theories, and practices in the functional areas of business;
- Prepare professional oral and written forms of communication;
- Evaluate and apply information technology in support of management decision making.

15. Assessment plans

a. Assessment Process. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program.

Students will be assessed in each course as well as their overall degree.

b. Closing the loop. How will you ensure that the assessment findings will be used to improve the program?

The business and computer science divisions advisory boards are solicited for feedback. Assessment results are examined semiannually by both division faculty.

c. Measures used. What direct and indirect measures will be used to assess student learning?

Earned course grades
Capstone course results

d. Timing and frequency. When will assessment activities occur and at what frequency?

In each course
Semi-annually for other measures

Enrollments and Graduates

16. Existing similar programs at Idaho Public Institutions. Using the chart below, provide enrollments and numbers of graduates for similar existing programs at your institution and other Idaho public institutions.

Existing Similar Programs: Historical enrollments and graduate numbers								
Institution and Program Name	**Fall Headcount Enrollment in Program**				**Number of Graduates From Program (Summer, Fall, Spring)**			
	FY__	FY__	FY__	FY__ (most recent)	FY__	FY__	FY__	FY__ (most recent)
BSU Cyber Operations and Resilience								

17. Projections for proposed program: Using the chart below, provide projected enrollments and number of graduates for the proposed program:

Proposed Program: Projected Enrollments and Graduates First Five Years											
Program Name:											
Projected Fall Term Headcount Enrollment in Program						**Projected Annual Number of Graduates From Program**					
FY21 (first year)	FY22	FY23	FY24	FY25	FY26	FY21 (first year)	FY22	FY23	FY24	FY25	FY26
16	18	22	24	24	26	0	0	11	12	15	20

18. Describe the methodology for determining enrollment and graduation projections. Refer to information provided in Question #2 "Need" above. What is the capacity for the program? Describe your recruitment efforts? How did you determine the projected numbers above?

19. Minimum Enrollments and Graduates.

a. Have you determined minimums that the program will need to meet in order to be

continued? What are those minimums, what is the logical basis for those minimums?

Since this degree takes no additional resources, 10 students could be considered sustainable.

b. What is the sunset clause by which the program will be considered for discontinuance if the projections or expectations outlined in the program proposal are not met?

Less than 8 students would cause the program to be cancelled.

Resources Required for Implementation – fiscal impact and budget

20. Physical Resources.

a. Existing resources. Describe equipment, space, laboratory instruments, computer(s), or other physical equipment presently available to support the successful implementation of the program.

Existing classroom space and LMS resources will be utilized for this proposed program.

b. Impact of new program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated?

Very little impact is expected. No additional faculty will be required. The additional courses will be taught by existing faculty and also used by computer science and business students.

c. Needed resources. List equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. Enter the costs of those physical resources into the budget sheet.

No additional LC State resources are projected to be utilized.

21. Library resources

a. Existing resources and impact of new program. Evaluate library resources, including personnel and space. Are they adequate for the operation of the present program? Will there be an impact on existing programs of increased library usage caused by the proposed program? For off-campus programs, clearly indicate how the library resources are to be provided.

There will be no additional impact on existing library resources.

b. Needed resources. What new library resources will be required to ensure successful implementation of the program? Enter the costs of those library resources into the budget sheet.

Courses may have some additional students. The overall impact will be minimal.

22. Personnel resources

a. Needed resources. Give an overview of the personnel resources that will be needed to implement the program. How many additional sections of existing courses will be needed? Referring to the list of new courses to be created, what instructional capacity will be needed to offer the necessary number of sections?

Very little impact is expected. No additional faculty will be required. The additional courses will be taught by existing faculty and also used by computer science and business students. No additional sections of existing courses are required.

b. Existing resources. Describe the existing instructional, support, and administrative resources that can be brought to bear to support the successful implementation of the program.

Existing courses may have some additional students. The overall impact will be minimal.

c. Impact on existing programs. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained?

No additional resources are anticipated for program implementation.

d. Needed resources. List the new personnel that must be hired to support the proposed program. Enter the costs of those personnel resources into the budget sheet.

No additional resources are anticipated for program implementation.

23. Revenue Sources

1. **Reallocation of funds: If funding is to come from the reallocation of existing state** appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs?

2. **New appropriation**. If an above Maintenance of Current Operations (MCO) appropriation is required to fund the program, indicate when the institution plans to include the program in the legislative budget request.

3. **Non-ongoing sources**:
   a. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends?
   b. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds?

4. **Student Fees**:
   a. If the proposed program is intended to levy any institutional local fees, explain how doing so meets the requirements of Board Policy V.R., 3.b.

b. Provide estimated cost to students and total revenue for self-support programs and for professional fees and other fees anticipated to be requested under Board Policy V.R., if applicable.

24. Using the budget template provided by the Office of the State Board of Education, provide the following information:

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first **four** fiscal years of the program.
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Second and third year estimates should be in constant dollars.
- Amounts should reconcile subsequent pages where budget explanations are provided.
- If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies).
- Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

ATTACHMENT 1

Program Resource Requirements.

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first **four** fiscal years of the program
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Second and third year estimates should be in constant dollars.
- Amounts should reconcile subsequent pages where budget explanations are provided.
- If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies).
- Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

I. PLANNED STUDENT ENROLLMENT

	FY 21-22		FY 22-23		FY 23-24		FY 24-25	
	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount
A. New enrollments	16	16	18	18	22	22	24	24
B. Shifting enrollments								
Total Enrollment	16	16	18	18	22	22	24	24

II. REVENUE

	FY		FY		FY		FY	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
1. New Appropriated Funding Request								
2. Institution Funds								
3. Federal								
4. New Tuition Revenues from Increased Enrollments								
5. Student Fees								
6. Other (i.e., Gifts)								
Total Revenue	$0	$0	$0	$0	$0	$0	$0	$0

ATTACHMENT 1

Ongoing is defined as ongoing operating budget for the program which will become part of the base.
One-time is defined as one-time funding in a fiscal year and not part of the base.

III. EXPENDITURES

	FY _____		FY _____		FY _____		FY _____	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
A. Personnel Costs								
1. FTE								
2. Faculty								
3. Adjunct Faculty								
4. Graduate/Undergrad Assistants								
5. Research Personnel								
6. Directors/Administrators								
7. Administrative Support Personnel								
8. Fringe Benefits								
9. Other: _____								
Total Personnel and Costs	$0	$0	$0	$0	$0	$0	$0	$0

ATTACHMENT 1

	FY _____		FY _____		FY _____		FY _____	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
B. Operating Expenditures								
1. Travel								
2. Professional Services								
3. Other Services								
4. Communications								
5. Materials and Supplies								
6. Rentals								
7. Materials & Goods for Manufacture & Resale								
8. Miscellaneous								
Total Operating Expenditures	$0	$0	$0	$0	$0	$0	$0	$0

	FY _____		FY _____		FY _____		FY _____	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
C. Capital Outlay								
1. Library Resources								
2. Equipment								
Total Capital Outlay	$0	$0	$0	$0	$0	$0	$0	$0

ATTACHMENT 1

	FY _____		FY _____		FY _____		FY _____	
D. Capital Facilities Construction or Major Renovation								
E. Other Costs								
Utilites								
Maintenance & Repairs								
Other _____								
Total Other Costs	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL EXPENDITURES:	$0	$0	$0	$0	$0	$0	$0	$0
Net Income (Deficit)	$0	$0	$0	$0	$0	$0	$0	$0

Budget Notes (specify row and add explanation where needed; e.g., "I.A.,B. FTE is calculated using…"):

I.A.B.	

ATTACHMENT 1

NIC NSA TO LC BS CYBERSECURITY MANAGEMENT

https://catalog.nic.edu/program-guidelines/network-security-administration-aas/

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK (one course from 2 categories) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	6	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	ATEC-117, CITE-289, CITE-296
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CITE 118, CITE 121, CITE 122, CITE 140, CITE 142, CITE 155, CITE 213, CITE 215, CITE 165, CITE 235, CITE 243, CITE 275, CITE 104, CITE 105, CITE 237, CITE 239 --- 39 credit hours…

ATTACHMENT 1

NIC CIT to LC BS Cybersecurity Management

https://catalog.nic.edu/program-guidelines/computer-information-technology-aas/#requirementstext

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK (one course from 2 categories) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	6	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	ATEC-117, CITE-295
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CITE-116, CITE-118, CITE-119, CITE-127, CITE-104, CITE-105, CITE-121, CITE-122, CITE-206, CITE-207, CITE-213, CITE-215, CITE-208, CITE-209, CITE-217, CITE-219 ---39 credit hours…

CEI – IAC to LC BS Cybersecurity Management

https://www.cei.edu/programs-of-study/business/information-assurance-and-cybersecurity

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	X
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK	3	
Humanistic & Artistic WOK (one from a second discipline) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	3	X
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CNT 114, CNT 150, BOT 150, BOT 151, CNT 123, CNT 171, CNT 224, CNT 290, CNT 291, BOT 216, CNT 292, CNT 293 ---39 Credit Hours…

CEI – ITS to LC BS Cybersecurity Management

https://www.cei.edu/programs-of-study/business/computer-networking

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	X
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK	3	
Humanistic & Artistic WOK (one from a second discipline) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	3	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CNT 114, CNT 150, BOT 150, BOT 151, CNT 123, CNT 142, CNT 171, CNT 224, CNT 225, CNT 271, BOT 216, CNT 226, CNT 270, ---39 Credit Hours…

CSI – *C&P* to LC BS Cybersecurity Management

https://csi.smartcatalogiq.com/2021-2022/Catalog/Business-and-Information-Systems-Department/Cybersecurity-and-Programming/Cybersecurity-and-Programming-Associate-of-Applied-Science

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	X
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK	3	
Humanistic & Artistic WOK (one from a second discipline) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	3	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	CISW 298 or CISS 223
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CISW 111, CISW 125, CISS 107, CISS 212, CISS 213, CISW 126, CISS 131, CISS 212, CISS 216, CISW 128, CISW 217, CISS 236, CISW 240, CISW 250, CISW 245 --- 39 Credit hours…

CWI – Cybersecurity to LC BS Cybersecurity Management

https://cwi.edu/program/cybersecurity

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	X
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK	3	
Humanistic & Artistic WOK (one from a second discipline) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	3	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CSEC 110, CSEC 123, CSEC 125, CSEC 127, CSEC 129, CSEC 131, CSEC 246, CSEC 248, CSEC 252, CSEC 255, CSEC 257, CSEC 290 --- 39 Credit hours…

CWI – NA to LC BS Cybersecurity Management

https://search.cwi.edu/s/search.html?cat=top&collection=cwi-search&query=Network+Administrations+

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	X
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK	3	
Humanistic & Artistic WOK (one from a second discipline) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	3	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** NADM 140, NADM 142, NADM 144, NADM 155, NADM 157, NADM 159, NADM 260, NADM 262, NADM 264, NADM 266, NADM 268, NADM 271 ---39 Credit Hours…

CSI – CNST to LC BS Cybersecurity Management

https://cwi.edu/program/cisco-networking-and-security-technologies

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	X
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK	3	
Humanistic & Artistic WOK (one from a second discipline) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	3	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CNST 124, CNST 127, CNST 129, CNST 135, CNST 230, CNST 238, CNST 240, CNST 242, CNST 244, CNST 248 --- 39 Credit Hours

CWI – CSS to LC BS Cybersecurity Management

https://cwi.edu/program/computer-support-specialist

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	X
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK	3	
Humanistic & Artistic WOK (one from a second discipline) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	3	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

*** CSSP 103, CSSP 104, CSSP 106, CSSP 108, CSSP 109, CSSP 111, CSSP 114, CSSP 210, CSSP 212, CSSP 214, CSSP 220, CSSP 222, CSSP 224 --- 39 Credit Hours

CWI – SD to LC BS Cybersecurity Management

https://search.cwi.edu/s/search.html?cat=top&collection=cwi-search&query=Software+Development

Bachelor of Science		
Course Number and Title	*Credits*	*NIC NSA*
General Education Core requirements indicated in bold.		
Written Communication ENGL 101	3	X
Written Communication ENGL 102	3	
Oral Communication COMM 101, 203, 204	3	X
Mathematical WOK Math 143	3	X
Humanistic & Artistic WOK	3	
Humanistic & Artistic WOK (one from a second discipline) LITERATURE: ENGL 175, 257, 258, 261 ARTS: ART 100; HUM 101, 150; MUS 101, 102, 150, 151; THEA 101 LANGUAGE: NP 101, 102; SPAN 101, 102	3	
Scientific WOK CS 108 BIOF 100	7	
Social & Behavioral WOK ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285; PSYC 101, 205; SOC 101, 102; SS 184, 185	3	X
Social & Behavioral WOK (one from a second discipline) ANTH 102, 120, 170; ECON 201, 202; GEOG 102; HIST 101, 102, 111, 112; HRPT 184, 185; POLS 101, 237, 285 PSYC 101, 205; SOC 101, 102; SS 184, 185	3	
Diversity (choose one) ANTH 102, 120, 170, 360; COMM 345; ENGL 258, 474; GEOG 102 HIST 101, 102, 111, 112; HRPT 184; KIN 220; NP 101, 102; POLS 285; SOC 101; SPAN 101, 102 201, 202; SS 184	3	
Ethics/Values (choose one) ID 300 A-Z ID 301 – Experiential Learning	3	
CS 211 Computer Science II	4	
CS 311 Algorithms and Data Structures	4	
CS 480 Capstone Design Project	4	
CS 492 Internship	4	SWDV 293
BUS 311 Foundations Management Theory	3	
BUS 360 Leadership	3	
BUS 365 Business Law I	3	
BUS 370 Pro.Op. Management	3	
ECON 300 Statistical Methods	3	
CYB 300 Cyber Ethics	3	
CYB 360 Cybersecurity Management	3	
General Elective Credits	7	
Technical education credits from a technical associate degree (AAS or equivalent) awarded by a regionally accredited institution.	39	39 ***
Total	120	

* Students with a 37+ on SAT or 31+ on ACT don't need these two ENGL 101/102 classes

***SWDV 120, SWDV 125, SWDV 130, SWDV 135, SWDV 140, SWDV 143, SWDV 152, SWDV 210, SWDV 220, SWDV 235, SWDV 265, SWDV 271, SWDV 280 --- 39 Credit Hours

IDAHO STATE UNIVERSITY

SUBJECT

Online Bachelor of Science Degree Completion in Respiratory Therapy

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.G. and Section V.R.

BACKGROUND/DISCUSSION

The proposed Bachelor of Science in Respiratory Therapy degree completion program is designed for practicing associate degree clinicians who want to advance their careers in health care, organizational leadership, health care education, health administration, and research. The online format provides students access to a quality education without relocating. The Commission on Accreditation for Respiratory Care (the accrediting agency) has encouraged ISU's program to develop a bachelor's degree pathway for individuals with an associate degree.

The U.S. Bureau of Labor Statistics' Occupational Outlook projects 19% growth in employment of respiratory therapists between 2019 and 2029 in the State of Idaho. In addition to the strong demand for respiratory therapists, those with bachelor's degrees are often selected for various leadership roles in their places of employment.

Students with an Associate of Science (A.S.) in Respiratory Therapy from Idaho State University (ISU) can complete the bachelor's program in one year, as the A.S. degree is 90 credits. Students with associate degrees from other institutions will have their transcripts evaluated for appropriate placement, and in many cases will be able to use credit for prior experiential learning.

IMPACT

As a start-up program, the enrollment projections are 10 full-time and up to 14 part-time students annually. As the program grows, ISU intends to support more faculty with the online program fees. ISU associate of science graduates will be recruited during the first few years of the program. ISU will also focus on recruiting practicing respiratory therapists in the region who do not have a bachelor's degree.

An online program fee of $300 per credit will be charged in place of tuition. No other fees will be charged. In setting the program fees, the goal was to provide an affordable option to students while ensuring that revenue would cover the costs of the program. The fee is similar to that of BSU's online program fee for the Respiratory Care completion program. The total cost of the program is $8,700 for students who complete the Associate of Science in Respiratory Therapy at ISU.

From an academic and fiscal standpoint, the program needs to have a minimum of 10 graduates per year. One new full-time faculty member will be hired to teach the additional online courses. First year funding for the new faculty member will come from existing funds allocated to the Respiratory Therapy program. As enrollment grows, the online program fees will sustain the faculty line.

ATTACHMENTS

Attachment 1 – Online BS Degree Completion in Respiratory Therapy Proposal

BOARD STAFF COMMENTS AND RECOMMENDATIONS

ISU indicates that the American Association of Respiratory Care is encouraging and supporting all respiratory therapy programs to add a baccalaureate degree pathway for individuals with an associate degree. Additionally, as provided in the program proposal, the Commission on Accreditation for Respiratory Care (CoARC), the program's accrediting body, affirms there is a need for "increasing numbers of respiratory therapists with baccalaureate and graduate education to serve as educators, researchers, managers, clinical specialists and in other roles throughout the healthcare delivery system." (CoARC March 2019 Board Meeting).

The proposed program is in response to an accreditation visit conducted in Fall 2018, and will provide working practitioners in rural areas with opportunities to complete their baccalaureate program where they would not otherwise be able to under a traditional offering. The Respiratory Therapy program at the College of Technology was evaluated in accordance with ISU's program health assessment process. Scores fell into the second quintile and required a Program Health Action Plan. While the proposed online Bachelor of Science program is not a direct result of ISU's program health assessment, the baccalaureate option plays a significant role in their strategy to increase enrollment.

As noted by ISU, the program will provide a unique opportunity to attract former ISU students who live and work in Eastern/Southeast Idaho, Utah, Wyoming, and Montana. This will provide the university with potential partnerships with local clinicians and industry. It will also allow ISU faculty and students to engage in research activities related to respiratory therapy in their geographic region. The proposed program anticipates 20 initial enrollments, reaching 24 by the fifth year and graduating 10-22 students annually once the program is up and running. While ISU does not identify a minimum number for student enrollment needed to sustain the program, ISU does indicate a minimum of 10 graduates per year will be necessary to maintain the program. Should the program fall below 10 graduates per year, the program will look at enhancing marketing and recruiting initiatives. If the program continues to underperform, ISU will discontinue it.

ISU's proposed Bachelor of Science in Respiratory Therapy degree completion program is consistent with their Service Region Program Responsibilities and their current institution plan for Delivery of Academic Programs in Region V. As provided in Board Policy III.Z, no institution has the statewide program responsibility for respiratory care programs. Additionally, Policy III.Z does not apply to programs for

which 90% or more of all activity is required or completed online. Staff notes that Boise State University also offers a similar online Bachelor of Science completion program in Respiratory Care with a similar fee model. While Boise State's program provides flexible opportunities for students to complete a baccalaureate program online, ISU indicates that most ISU graduates are not choosing Boise State's advanced program and are staying at ISU to complete a BS in Health Science. ISU's proposed program will offer ISU graduates a different option toward completing the baccalaureate program in Respiratory Therapy with access to local industry partners, local clinical staff, and institution faculty, as provided in their program proposal. Both Idaho State and Boise State discussed potential duplication and impacts to Boise State's existing program; and while some concerns regarding duplication remain, Boise State understands this program will be beneficial for a cohort of students in eastern Idaho.

ISU also requests approval to assess an online program fee consistent with Board Policy V.R.3.b.(x). ISU proposes to charge $300 per credit for a total program cost of $8,700 for the 29 credits required, whether a student completes their A.S. at ISU or transfers with an A.S. or Associate of Applied Science. Based on the information for the online program fee provided in the proposal, staff finds that the criteria have been met for this program. Staff notes that the program plans to use open educational resources to reduce the cost for students. There will be no purchase of textbooks required. Additionally, in accordance with ISU PLA policy, eligible students will be able to apply credits for prior learning. ISU anticipates that many students will be practicing A.S. respiratory therapists who have earned degrees from transfer institutions.

The proposal completed the program review process and was recommended for approval by the Council on Academic Affairs and Programs on September 30, 2021, and was presented to the Instruction, Research, and Student Affairs Committee on October 7, 2021, and to the Business Affairs and Human Resources Committee on October 8, 2021. Board staff recommends approval.

BOARD ACTION

I move to approve the request by Idaho State University to create an Online Bachelor of Science in Respiratory Therapy, as presented in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to approve the request by Idaho State University to charge an online program fee of $300 per credit for the Bachelor of Science in Respiratory Therapy, in conformance with the program budget submitted to the Board in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Institutional Tracking No. 2021-06

Idaho State Board of Education

Proposal for Academic Degree and Certificate Program

Date of Proposal Submission:	June 4, 2021
Institution Submitting Proposal:	Idaho State University
Name of College, School, or Division:	College of Technology
Name of Department(s) or Area(s):	Health Occupations

Official Name of the Program:	Respiratory Therapy (B.S. degree completion)					
Implementation Date:	August 1, 2022					
Degree Information:	Degree Level: Undergraduate		Degree Type: B.S.			
CIP code (consult IR /Registrar):	51.0908					
Method of Delivery: Indicate percentage of face-to-face, hybrid, distance delivery, etc.	50% Synchronous and 50% Asynchronous online					
Geographical Delivery:	Location(s)	Online	Region(s)			
Indicate (X) if the program is/has: (Consistent with Board Policy V.R.)		Self-Support fee		Professional Fee	X	Online Program Fee
Indicate (X) if the program is: (Consistent with Board Policy III.Z.)	X	Regional Responsibility		Statewide Responsibility		

Indicate whether this request is either of the following:

- [✓] New Degree Program
- [ ] Undergraduate/Graduate Certificates (30 credits or more)
- [ ] Expansion of Existing Program
- [ ] Consolidation of Existing Program
- [ ] New Off-Campus Instructional Program
- [ ] Other (i.e., Contract Program/Collaborative)

College Dean (Institution)	Date	Vice President for Research (Institution; as applicable)	Date 6/28/2021
Graduate Dean or other official (Institution; as applicable)	Date 06/04/21	Academic Affairs Program Manager, OSBE	Date 6/29/2021
FVP/Chief Fiscal Officer (Institution)	Date 06/04/21	Chief Financial Officer, OSBE	Date 6/28/2021
Provost/VP for Instruction (Institution)	Date 06/10/21	Chief Academic Officer, OSBE	Date
President	Date	SBOE/Executive Director Approval	Date

Before completing this form, refer to Board Policy Section III.G., Postsecondary Program Approval and Discontinuance. This proposal form must be completed for the creation of each new program. All questions must be answered.

Rationale for Creation or Modification of the Program

1. **Describe the request and give an overview of the changes that will result.** What type of substantive change are you requesting? Will this program be related or tied to other programs on campus? Identify any existing program that this program will replace. If this is an Associate degree, please describe transferability.

Idaho State University Respiratory Therapy program has been graduating associate degree level respiratory therapy students since 2009. Recently, however, the American Association of Respiratory Care (AARC) has published a number of documents in support of all respiratory therapy programs adding a bachelor level degree as well. The AARC has stated, "We support the development of baccalaureate and graduate education in respiratory care and encourage respiratory therapists to pursue advanced levels of education."

The Commission on Accreditation for Respiratory Care (CoARC), the program's accrediting body, also supports advanced degrees. In a March 2019 CoARC board meeting, a statement was released emphasizing the need for baccalaureate degrees in respiratory care:

> We continue to recognize the prominent role played by associate degree respiratory care programs in addressing workforce needs. We also reaffirm our position that there is the need for increasing numbers of respiratory therapists with baccalaureate and graduate education to serve as educators, researchers, managers, clinical specialists, and in other roles throughout the healthcare delivery system. The CoARC continues to work with other stakeholders to develop alternative pathways, including degree advancement, to meet this goal. (Official CoARC Communication – CoARC March 2019 Board Meeting)

Furthermore, during accreditation visits, the Respiratory Therapy program has received strong encouragement to develop a bachelor's degree pathway for associate's degree graduates.

Therefore, in response to these changes in the regulatory environment, we propose a Bachelor of Science in Respiratory Therapy, a completion degree, that will emphasize leadership, administration, research, and education in a health care environment. The program is designed to serve practicing associate's degree clinicians who are looking to advance in the fields of academia, health care, organizational leadership, health administration, and research. This program will enhance the level and quality of care being provided to patients in Southeastern Idaho. Offering the proposed bachelor's degree in an online format affords students the opportunity for a quality education from a nationally recognized university without the requirement of relocating. The online environment also accommodates those students currently residing and working in rural communities in Eastern Idaho.

This completion program requires students to already have an associate's degree in a regionally accredited respiratory therapy or respiratory care program.

After students complete the A.S. at ISU, they can go out to work in the respiratory therapy field anywhere in the nation and still complete the B.S. entirely online. At the completion of the A.S. degree, graduates are eligible to take the National Board of Respiratory Care (NBRC) credentialing

exam. The curriculum for the proposed degree will consist of new courses developed by the Idaho State University Respiratory Therapy program. Completing the B.S. degree will allow graduates to advance into leadership roles such as Director of Respiratory Therapy.

2. **Need for the Program**. Describe evidence of the student, regional, and statewide needs that will be addressed by this proposal to include student clientele to be served and address the ways in which the proposed program will meet those needs.

    a. **Workforce and economic need:** Provide verification of state workforce needs that will be met by this program. Include job titles and cite the data source. Describe how the proposed program will stimulate the state economy by advancing the field, providing research results, etc.

The U.S. Bureau of Labor Statistics' (BLS) Occupational Outlook Handbook indicates employment of respiratory therapists is projected to grow 19 percent from 2019 to 2029 in the state of Idaho, much faster than the average. "Growth in the middle-aged and elderly population will lead to an increased incidence of respiratory conditions such as chronic obstructive pulmonary disease (COPD) and pneumonia. These respiratory disorders can permanently damage the lungs or restrict lung function" (BLS, 2021).

In addition to the high demand for respiratory therapists, those with bachelor's degrees are often first to be promoted into various types of leadership roles in the facilities in which they work. Results of the AARC 2017 Human Resource survey indicate that respiratory therapists with a bachelor's degree fill the majority of the department manager, instructor, and disease manager positions over those with an associate's degree. According to the BLS Handbook, health services manager positions with bachelor's degree level requirements are expected to increase by 32 percent from 2019 to 2029, much faster than all other occupations. AARC 2015 Human Resource survey indicated over 70% of directors support and prefer bachelor's degree RTs in the workforce.

In addition to the projected growth in respiratory therapy positions associated with the aging of the national population generally, these same aging factors will lead to additional growth in job opportunities specifically, as the number of current respiratory therapists enter retirement. (Creating a Vision for Respiratory Care in 2015 and Beyond, 2009)

This new Bachelor of Science in Respiratory Therapy will provide an opportunity for respiratory therapy students and practicing respiratory therapists in Idaho and other states to acquire this additional education in Southeast Idaho without having to relocate. This will create economic growth by strengthening the ability of respiratory therapists to climb the career ladder into leadership or other respiratory related health care roles. The continued acceleration of advances in medical and clinical treatments and procedures will require a workforce that is better educated and highly skilled in terms of clinical procedures, administrative functions, and leadership support.

Additionally, the 2017 study of human resources conducted by the American Association of Respiratory Care (AARC) showed that each step up in one's degree level was worth an average of $3,071 a year after controlling for other variables that influence compensation like experience, hours worked, and credentials. For those who were paid by the hour, each education level was valued an additional $1.48 per hour on average ($3,071 per year/52 weeks per year/40 hours per week). Institutions that did not compensate therapists for higher education levels were out of step with the norm.

If access to the jobs listed below were facilitated by higher educational levels, then the listed compensation differences would be projected. Each value in the list was the difference between the average annual compensation for a therapist in each position and the average ($52,758) for those in the staff therapist position:

- Clinical Specialist +$3,792
- Industry Representative +5,361
- Research Coordinator +$6,082
- Supervisor +$10,632
- Director +17,615.

Therefore, individuals who hold higher degrees can and should expect higher compensation. When a higher degree is coupled with a position tied to more selective criteria, then the expectation for higher compensation is further magnified.

b. Student Demand. What is the most likely source of students who will be expected to enroll (full-time, part-time, outreach, etc.). Provide evidence of student demand/ interest from inside and outside of the institution.

Of the 127 graduates from the Idaho State University associate's degree Respiratory Therapy program over the last decade, 25 percent have earned a bachelor's degree in a general health science area. This indicates a desire of our students to earn a bachelor's degree. The 75 percent who went to work without obtaining the four-year degree will potentially return to complete the B.S. in Respiratory Therapy. Additionally, Idaho hospitals also recruit associate's degree prepared therapists who have earned their degrees from out of state, thus increasing the potential market for the proposed B.S. degree by Idaho State University. And lastly, the program will undoubtedly attract some out-of-state students who plan to continue to reside in their own state because of the fully online delivery.

c. Societal Need: Describe additional societal benefits and cultural benefits of the program.

The United States Census released information in March 2018 that indicates our aging population is on a trajectory to outnumber the younger population. Idaho's population is aging faster than the nation's, with people 65 and older increasing by 19 percent in the last four years compared with 14.2 percent nationwide. Along with aging comes increased need for more well-trained and educated healthcare professionals to include respiratory therapists to assist with respiratory disease and medication management.

In 2015, the Commission on Accreditation for Respiratory Care (CoARC) stated "increasing numbers of respiratory therapists with advanced education are needed to serve as educators, researchers, managers, clinical specialists, and leaders throughout the healthcare delivery system." This is especially true in the State of Idaho. With the continued acceleration of advances in medical/clinical treatments and procedures, a workforce of better-educated and higher-skilled medical/clinical administrators and leaders is needed.

3. Program Prioritization

Is the proposed new program a result of program prioritization?

Yes__X___ No____

If yes, how does the proposed program fit within the recommended actions of the most recent program prioritization findings.

The Respiratory Therapy program scores fell into the second quintile of the program health at the College of Technology and required an action plan. This new online program will reach working practitioners in rural areas that are unable to participate in a face-to-face environment to finish the bachelor's degree. As enrollment increases, the program health scores will also increase. The program will be self sustainable since the online program fees will support the faculty line.

4. Credit for Prior Learning

Indicate from the various cross walks where credit for prior learning will be available. If no PLA has been identified for this program, enter 'Not Applicable'.

Students will be able to use the ISU PLA policy to earn credits for prior learning. We anticipate that many students will be practicing A.S. Respiratory Therapists who have earned degrees from transfer institutions. Since the ISU A.S. program is a three-year program, and most associate's degrees are two years in length, there are likely deficiencies in the non-ISU RT associate's degree courses related to their work experience that they could earn through PLA. Each student will be required to submit a portfolio, by instructor permission, that shows how course learning outcomes have been met. The portfolios will be evaluated by program faculty to determine eligibility for credit. PLA will be determined on a case-by-case basis.

5. Affordability Opportunities

Describe any program-specific steps taken to maximize affordability, such as: textbook options (e.g., Open Educational Resources), online delivery methods, reduced fees, compressed course scheduling, etc. This question applies to certificates, undergraduate, graduate programs alike.

Using the online delivery method provides accessibility to any interested degree-holding student, or practicing respiratory therapists. The online fees are less than our regional and national competitors. The program plans on using Open Educational Resources to reduce the cost for students. No text books will be required for purchase. Currently, BSU charges $9,800 for their completion program (30 credits) while ISU's total cost for the program (29 credits) is $8,700.

Enrollments and Graduates

6. Existing similar programs at Idaho Public Institutions. Using the chart below, provide enrollments and numbers of graduates for similar existing programs at your institution and other Idaho public institutions for the most past four years.

Instit.	Program Name	Fall Headcount Enrollment in Program				Number of Graduates From Program (Summer, Fall, Spring)			
		FY17	FY18	FY19	FY20 (most recent)	FY17	FY18	FY19	FY20 (most recent)

ISU	**AS in Respiratory Therapy**	37	30	29	21	16	11	12	12
BSU	**BS in Respiratory Care (RRT-BS)**	NA	245	267	313	NA	52	150	126

7. **Justification for Duplication** (if applicable). If the proposed program is similar to another program offered by an Idaho public higher education institution, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. Describe why it is not feasible for existing programs at other institutions to fulfill the need for the proposed program.

The availability of this degree online from Idaho State University will influence more practicing respiratory therapists in Idaho to continue their education and obtain a B.S. in Respiratory Therapy. The online nature of this program may also appeal to associate's degree prepared therapists in many other states. Even though there is another online program offered in the state, our accrediting body is encouraging associate's degree programs to expand offerings to a baccalaureate degree. The proposed Bachelor of Science in Respiratory Therapy from Idaho State University is designed to help associate's degree graduates obtain their B.S. degree within one year vs. three to seven semesters as found with other colleges offering B.S. degrees in respiratory care. However, if graduates wish to work as respiratory therapists while completing the degree part-time, they also have the option to do so.

8. **Projections for proposed program:** Using the chart below, provide projected enrollments and number of graduates for the proposed program:

Proposed Program: Projected Enrollments and Graduates First Five Years									
Program Name: Bachelor of Science in Respiratory Therapy									
Projected Fall Term Headcount Enrollment in Program					**Projected Annual Number of Graduates From Program**				
FY23 (first year)	FY 24	FY 25	FY 26	FY 27	FY23 (first year)	FY24	FY25	FY26	FY27
20	22	22	24	24	10	16	18	20	22

9. **Describe the methodology for determining enrollment and graduation projections.** Refer to information provided in Question #2 "Need for the Program" above. What is the capacity for the program? Describe your recruitment efforts? How did you determine the projected numbers above?

As a start-up program, the enrollment projections are based on 10 full-time and up to 14 part-time students annually. This is a conservative projection. The methodology is based on the current enrollment in the face-to-face associate's degree program. We plan on starting conservatively because we will only be hiring one faculty. As the program grows, we intend to support more faculty with the

online program fees. ISU A.S. graduates will be recruited during the first few years of the program. We will also focus on recruiting practicing respiratory therapists in the region who do not have a bachelor's degree.

10. Minimum Enrollments and Graduates.

a. What are the minimums that the program will need to meet in order to be continued, and what is the logical basis for those minimums?

Idaho State University requires a minimum of 10 graduates per year to maintain program health.

b. If those minimums are not met, what is the sunset clause by which the program will be considered for discontinuance?

Should the program fall below 10 graduates per year, discussions will first take place regarding enhanced marketing and recruiting initiatives that should be considered. If the program continues to underperform, then program discontinuance measures will be implemented.

11. Assurance of Quality. Describe how the institution will ensure the quality of the program. Describe the institutional process of program review. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation.

First, Regional Institutional Accreditation: Idaho State University is regionally accredited by the Northwest Commission on Colleges and Universities (NWCCU).

Second, the associate's degree in the Respiratory Therapy program is currently accredited by CoARC, and the B.S. degree will follow the same standards.

Third, the new B.S. will also be guided by and benefit from the Respiratory Therapy program's ongoing Technical Advisory Committee (TAC) which meets at least twice a year. The TAC is made up of various community and hospital-based respiratory care providers who are in key positions to ascertain that the respiratory therapy graduates have received an excellent and relevant educational experience. All three of these Continuous Quality Improvement initiatives will ensure program quality.

12. In accordance with Board Policy III.G., an external peer review is required for any new doctoral program. Attach the peer review report as **Appendix A**.

N/A

13. Teacher Education/Certification Programs All Educator Preparation programs that lead to certification require review and recommendation from the Professional Standards Commission (PSC) prior to consideration and approval of the program by the State Board of Education.

Will this program lead to certification?

Yes_____ No__X__

If yes, on what date was the Program Approval for Certification Request submitted to the Professional Standards Commission?

N/A

14. Three-Year Plan: If this is a new proposed program, is it on your institution's approved 3-year plan?

Yes__X___ No_____

If yes, proceed to question 15. If no:

a. Which of the following statements address the reason for adding this program outside of the regular three-year planning process.

Indicate (X) by each applicable statement:

	Program is important for meeting your institution's regional or statewide program responsibilities.
	The program is in response to a specific industry need or workforce opportunity.
	The program is reliant on external funding (grants, donations) with a deadline for acceptance of funding.
	There is a contractual obligation or partnership opportunity related to this program.
	The program is in response to accreditation requirements or recommendations.
	The program is in response to recent changes to teacher certification/endorsement requirements.

b. Provide an explanation for all statements you selected.

The respiratory program promotes the health mission for the university in the state of Idaho. This proposed Bachelor of Science in Respiratory Therapy program is designed to serve practicing associate's degree clinicians who are looking to advance in the fields of academia, health care, organizational leadership, health administration, and research. This program will enhance the level and quality of care being provided to patients. Offering the proposed bachelor degree in an online format affords students the opportunity for a quality education from a nationally recognized university without the requirement of relocating.

Educational Offerings: Curriculum, Intended Learning Outcomes, and Assessment Plan

15. Curriculum. Provide descriptive information of the educational offering.

a. **Summary of requirements.** Provide a summary of program requirements using the following table.

Credit hours in required courses offered by the department (s) offering the program.	71
Credit hours in required courses offered by other departments:	12

Credit hours in institutional general education curriculum	37
Credit hours in free electives	7 minimum for transfer students
Total credit hours required for degree program:	120

b. **Curriculum.** Provide the curriculum for the program, including credits to completion, courses by title and assigned academic credit granted.

Bachelor of Science in Respiratory Therapy, ISU AS Track	**Credits**
Entry requirements: A.S. in Respiratory Therapy from Idaho State University	
Lower division credits	22
Upper division credits	32
General Education credits	37
Total credits from A.S. in Respiratory Therapy	**91**
Semester one (Fall)	
RESP 4400 Multicultural Health Care	3
RESP 4410 Health Care Research	3
RESP 4420 Leadership in Health Professions	3
RESP 4430 Recent Advances in Respiratory Care	3
RESP 4440 Caring for an Aging Population	2
Total	**14**
Semester Two (Spring)	
RESP 4450 Ethics in Health Care	3
RESP 4460 Promoting Health Care Education	3
RESP 4470 Disaster Management in Health Care	3
RESP 4480 Current Issues in Respiratory Care	3
Total	**12**
RESP 4490 Respiratory Capstone Project	3

Degree Total	**120**

Bachelor of Science in Respiratory Therapy, Transfer Track (AS or AAS)	**Credits**
Entry requirements: AS or AAS in Respiratory Care or equivalent	
Lower division (excluding general education)	48 minimum
Upper division credits	7
General education credits (must meet Idaho State Board general education requirements)	36 minimum
Total credits from AS or AAS, plus any additional required credits (must be completed prior to admission to completion program).	**91**
Semester one (Fall)	
RESP 4400 Multicultural Health Care	3
RESP 4410 Health Care Research	3
RESP 4420 Leadership in Health Professions	3
RESP 4430 Recent Advances in Respiratory Care	3
RESP 4440 Caring for an Aging Population	2
Total	**14**
Semester Two (Spring)	
RESP 4450 Ethics in Health Care	3
RESP 4460 Promoting Health Care Education	3
RESP 4470 Disaster Management in Health Care	3
RESP 4480 Current Issues in Respiratory Care	3
Total	**12**
RESP 4490 Respiratory Capstone Project	3
Degree Total	**120**

Respiratory Therapists who have earned their associate of science degrees in respiratory therapy from another academic institution and are licensed/registered to practice will in most cases be eligible to enter the program without further Respiratory Therapy course preparation.

Transfer students' academic preparation will be evaluated course by course. Credit deficits may be made up through challenge examinations, prior learning assessment, or by taking a course. Transfer students from community colleges may be seven credits short in upper-division credits and will be required to take additional courses. Students will be advised individually and directed toward courses that will be in their best interest depending on their career goals.

For those who may have earned an Associate of Applied Science degree in Respiratory Care, an analysis of their out-of-state transcript will be undertaken to assure that they have completed the necessary prerequisite and general education courses in order to be successful.

c. **Additional requirements.** Describe additional requirements such as comprehensive examination, senior thesis or other capstone experience, practicum, or internship, some of which may carry credit hours included in the list above.

The last class in the program curriculum is a comprehensive capstone project. The capstone project is a deliverable project aimed at impacting community or institutional health utilizing any of the ideas discussed throughout the program. The project will be presented to the faculty and invited peers via a program-specific web-based conference. Students will be expected to produce a defensible presentation worthy of publication in either a peer-reviewed academic journal or submission to the American Association of Respiratory Care (AARC) summer forum conference.

16. Learning Outcomes: Expected Student Learning Outcomes and Connection to Curriculum.

a. Intended Learning Outcomes. List the Intended Learning Outcomes for the proposed program, using learner-centered statements that indicate what students will know, understand, and be able to do, and value or appreciate as a result of completing the program.

Student will be able to:

Learning Outcome #1
demonstrate cultural competency in all healthcare settings.

Learning Outcome #2
apply research design, methods, and analysis to answer a central research question relevant to the advancement of the field.

Learning Outcome #3
apply leadership theory within the context of both the educational and clinical environments.

Learning Outcome #4
use the appropriate educational theory within the context of adult, professional, and patient centered programs.

17. Assessment plans.

a. Assessment Process. Describe the assessment plan for student learning outcomes that will be used to evaluate student achievement and how the results will be used to

improve the program.

An assessment plan will be created to identify assessment activities and timelines to determine student achievement in the learning outcomes indicated above. Faculty will use both direct and indirect methods to collect data. As results are gathered, faculty will meet to analyze and discuss the outcomes. Strategies will be developed to implement changes in curriculum or teaching methodologies to strengthen student learning. Changes will be assessed at the next scheduled evaluation to see whether student learning improved.

a. **Closing the loop.** How will you ensure that the assessment findings will be used to improve the program?

First, assessment results will be presented to department faculty during planned meetings throughout the academic year. Faculty will implement new strategies to improve areas of weakness and evaluate outcomes after implementation.

Second, the Respiratory Therapy program will hold semi-annual TAC meetings to get input from professionals in the field and other constituents. Program changes including curriculum changes, revisions to student learning outcomes, results of assessment, and new strategies will be discussed. Advisory committee members will help the program identify areas of weakness and provide recommendations for improvement. Faculty will implement appropriate recommendations and will report back to the committee at future meetings.

b. **Measures used.** What direct and indirect measures will be used to assess student learning?

Direct measurements will include quizzes, tests, assignments, and capstone projects.

Indirect measurements will include student evaluations, graduate and employer surveys, exit surveys with students, and job placement.

c. **Timing and frequency**. When will assessment activities occur and at what frequency?

Course-specific assessments will occur throughout each course, as well as at the end of each course when offered. The department will informally review course-related data every semester and formally review program assessment data annually. The department will conduct exit surveys with students annually. The department will monitor capstone project submissions annually.

Resources Required for Implementation – fiscal impact and budget.
Organizational arrangements required within the institution to accommodate the change including administrative, staff, and faculty hires, facilities, student services, library; etc.

18. **Physical Facilities and Equipment:** Describe the provision for physical facilities and equipment.

a. **Existing resources**. Describe equipment, space, laboratory instruments, computer(s), or other physical equipment presently available to support the successful implementation of the program.

There is no dedicated space for the new faculty member, but there is office space adjacent to the Associate of Science program that has been requested. Existing equipment, laboratory, and classroom space used in the associate's degree does not need to be expanded since the bachelor's degree program is online.

b. **Impact of new program**. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated?

There will be a requirement of an additional office space for the new FTE needed for this program. No negative impact on existing programs is anticipated.

c. **Needed resources.** List equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. Enter the costs of those physical resources into the budget sheet.

Operating expenses associated with one additional faculty, related computer equipment, and office space will be requested.

19. **Library and Information Resources:** Describe adequacy and availability of library and information resources.

a. **Existing resources and impact of new program**. Evaluate library resources, including personnel and space. Are they adequate for the operation of the present program? Will there be an impact on existing programs of increased library usage caused by the proposed program? For off-campus programs, clearly indicate how the library resources are to be provided.

Existing library resources are sufficient.

b. **Needed resources**. What new library resources will be required to ensure successful implementation of the program? Enter the costs of those library resources into the budget sheet.

No other resources are required.

20. **Faculty/Personnel resources**

a. **Needed resources.** Give an overview of the personnel resources that will be needed to implement the program. How many additional sections of existing courses will be needed? Referring to the list of new courses to be created, what instructional capacity will be needed to offer the necessary number of sections?

A new full-time faculty member will be hired to teach the additional online courses.

b. Existing resources. Describe the existing instructional, support, and administrative resources that can be brought to bear to support the successful implementation of the program.

ISU, the College of Technology (COT), the Health Occupations Department (HO), and the existing Respiratory Therapy program have a wealth of instructional and administrative support resources available that will assure the successful implementation of the new BS in Respiratory Therapy.

On the program level, the Director of the Respiratory Therapy program is a knowledgeable college-level educator with years of experience providing online education, as well as hospital-based clinical care. This same director will be the mentor for the new faculty member hired to provide instruction in this new degree program and will be in an ideal position to oversee the creation of new course content, the on-boarding of the new faculty member, student recruitment efforts, new student admissions, instructional support, and evaluation of program and student outcomes.

On the department level, a number of the other HO faculty members are expert online instructors with specialty training in "Quality Matters," a national initiative to train online faculty and upgrade online curriculum and evaluation methodologies.

On the COT level, the college sponsors its own three-member Computer Support Services department that is always available to address any computer, software, or online difficulties that may arise, as well as provide additional training to all COT instructors.

And on the university level, ISU has created an excellent computer and instructional support organization campus-wide, the Instructional Technology Resource Center (ITRC), that sponsors a "Helpline" for immediate online instructor support and holds regular in-service trainings for both computer support and online educators.

c. Impact on existing programs. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained?

There is no negative impact on existing programs. Quality and productivity of existing programs will be maintained through existing and new faculty.

d. Needed resources. List the new personnel that must be hired to support the proposed program. Enter the costs of those personnel resources into the budget sheet.

One FTE full-time respiratory therapy faculty.

21. Revenue Sources

a) **Reallocation of funds:** If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs?

First year funding for the new faculty member will come from existing university dollars allocated to the Respiratory Therapy program. As enrollment builds, the online program fees will sustain the faculty line.

b) **New appropriation**. If an above Maintenance of Current Operations (MCO) appropriation is required to fund the program, indicate when the institution plans to include the program in the legislative budget request.

Not applicable.

c) **Non-ongoing sources**:
   i. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends?

Not applicable.

   ii. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds?

Not applicable.

d) **Student Fees**:
   i. If the proposed program is intended to levy any institutional local fees, explain how doing so meets the requirements of Board Policy V.R., 3.b.

The proposed program will not levy any institutional local fees.

   ii. Provide estimated cost to students and total revenue for self-support programs and for professional fees and other fees anticipated to be requested under Board Policy V.R., if applicable.

The proposed program is requesting to use online program fees of $300 per credit instead of tuition. The total cost of the program is $8,700 for students who have completed the A.S. in Respiratory Therapy degree at ISU. This fee is similar to BSU's online program fee for the Respiratory Care completion program. No other fees will be charged.

The online program fee will be distributed to the college, central administration, and ITRC at the following rates: The program college will receive 60 percent ($180 per credit) to encourage growth in online programming and to pay for the FTE needed to administer the new curriculum. Central administration will receive 30 percent ($90 per credit) to support university infrastructure, and ITRC will receive 10 percent ($30 per credit) for technology support.

22. Using the excel budget template provided by the Office of the State Board of Education, provide the following information:

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first **four** fiscal years of the program.
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Second and third year estimates should be in constant dollars.
- Amounts should reconcile subsequent pages where budget explanations are provided.
- If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies).
- Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

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PROGRAM IDENTIFICATION **ISU #2021-06 Respiratory Therapy B.S. degree completion program**

Program Resource Requirements. Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first four fiscal years of the program. Include reallocation of existing personnel and resources and anticipated or requested new resources. Second and third year estimates should be in constant dollars. Amounts should reconcile subsequent pages where budget explanations are provided. If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies). Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

I. PLANNED STUDENT ENROLLMENT

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount
A. New enrollments	16	20	8	11	8	11	8	12	40	54
B. Shifting enrollments			8	11	8	11	8	12	24	34
Total Enrollment	16	20	16	22	16	22	16	24	64	88

II. REVENUE

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
1. New Appropriated Funding Request									$0.00	$0.00
2. Institution Funds									$0.00	$0.00
3. Federal									$0.00	$0.00
4. New Tuition Revenues from Increased Enrollments									$0.00	$0.00
5. Student Fees									$0.00	$0.00
6. Other: Online Program Fee	$132,000.00		$141,000.00		$141,000.00		$150,000.00		$564,000.00	$0.00
Total Revenue	$132,000.00	$0.00	$141,000.00	$0.00	$141,000.00	$0.00	$150,000.00	$0.00	$564,000.00	$0.00

On-going is defined as on-going operating budget for the program which will become part of the base.
One-time is defined as one-time funding in a fiscal year and not part of the base.

III. EXPENDITURES

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
A. Personnel Costs										
1. FTE	1.00		1.00		1.00		1.00		4.00	0.00
2. Faculty	$60,000.00		$60,000.00		$60,000.00		$60,000.00		$240,000.00	$0.00
3. Adjunct Faculty	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
4. Graduate/Undergrad Assistants	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
5. Research Personnel	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
6. Directors/Administrators	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
7. Administrative Support Personnel	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
8. Fringe Benefits	$23,925.40		$23,925.40		$23,925.40		$23,925.40		$95,701.60	$0.00
9. Other:									$0.00	$0.00
Total Personnel and Costs	$83,925.40	$0.00	$83,925.40	$0.00	$83,925.40	$0.00	$83,925.40	$0.00	$335,701.60	$0.00

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
B. Operating Expenditures										
1. Travel									$0.00	$0.00
2. Professional Services									$0.00	$0.00
3. Other Services									$0.00	$0.00

| | | |

Total Other Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTAL EXPENDITURES:	$83,925.40	$0.00	$83,925.40	$0.00	$83,925.40	$0.00	$83,925.40	$0.00	$335,701.60	$0.00
Net Income (Deficit)	$48,074.60	$0.00	$57,074.60	$0.00	$57,074.60	$0.00	$66,074.60	$0.00	$228,298.40	$0.00

Budget Notes (specify row and add explanation where needed; e.g., "I.A.,B. FTE is calculated using…"):

I.A.B.	The Online Program Fee reveune is based on 10 full time students completing 29 credits per year and the remaining 10-14 part time students completing 15 credits per year
	at $300 per credit.

IDAHO STATE UNIVERSITY

SUBJECT

Online Basic Technical Certificate in Cloud Computing

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.G. and Section V.R.

BACKGROUND/DISCUSSION

The proposed Basic Technical Certificate (BTC) in Cloud Computing will include courses in foundational cloud concepts, cloud developing, and cloud architecting, with the option to add courses in cloud operations, machine learning, and data analytics. Upon completion of the courses, participants will be able to test for industry certifications in Cloud Practitioning, Certified Developer, and Solutions Architect through the Amazon Web Services (AWS) Academy Cloud Developing. This BTC will create high-paying jobs for Idahoans, who can complete this work remotely. Cloud computing is an emerging employment field throughout Idaho and the U.S.

This certificate will be funded using an online program fee model, in lieu of tuition and other fees, in accordance with Board Policy V.R., subsection 3.b. The online program fee will initially be established at $300 per credit. The online program fee will cover costs associated with the program, including the development and delivery of new courses, which are designed to prepare students to successfully pass the AWS (Amazon Web Services) Certification exams.

IMPACT

The fiscal impact of the proposed program with the online program fee was estimated based on 12 new students (FTE) in the first year, 16 new students in the second year, and 20 new students in the third year. In setting the program fees, the goal was to provide an affordable option to students while ensuring that revenue would cover the costs of the program. From an academic and fiscal standpoint, the program needs to have a minimum enrollment of 12 students. Should this minimum not be reached, and partnerships still not yield the necessary participation, the program will be reevaluated for sustainability and need.

The program fee of $300/credit is competitive with similar programs at other institutions that charge fees ranging from $198/credit to $862/credit. No tuition or other fees will be charged. The total cost to a student for the 16-credit program would be $4,900.00, which includes the $4,800 program fee and $100.00 for other tools and equipment.

ATTACHMENTS

Attachment 1 – Online BTC in Cloud Computing Proposal

STAFF COMMENTS AND RECOMMENDATIONS

ISU's College of Technology proposes to add a Basic Technical Certificate in Cloud Computing within their existing Business Technology program. The proposed certificate will allow individuals to acquire industry certifications and will assist in strengthening industry partnerships.

The proposed certificate is consistent with their Service Region Program Responsibilities and their current institution plan for Delivery of Academic Programs in Region V. As provided in Board Policy III.Z, no institution has the statewide program responsibility for career technical programs. Additionally, Policy III.Z does not apply to programs for which 90% or more of all activity is required or completed online.

ISU is also requesting approval to assess an online program fee consistent with Board Policy V.R.3.b.(x). ISU proposes to charge $300 per credit for a total program cost of $4,800 for the 16 credits required. This includes $100.00 for equipment and tools for a total of $4,900. Based on the information for the online program fee provided in the proposal, staff finds that the criteria have been met for this program.

The proposal completed the program review process and was recommended for approval by the Council on Academic Affairs and Programs on September 30, 2021; and was presented to the Instruction, Research, and Student Affairs Committee on October 7, 2021, and to Business Affairs and Human Resources on October 8, 2021. Idaho Division of Career Technical Education recommends approval.

BOARD ACTION

I move to approve the request by Idaho State University to create an online Basic Technical Certificate in Cloud Computing, as presented in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to approve the request by Idaho State University to charge an online program fee of $300 per credit for the Basic Technical Certificate in Cloud Computing, in conformance with the program budget submitted to the Board in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Idaho State Board of Education

Proposal for **Career & Technical Certificate/Degree** Program

Date of Proposal Submission: July 26, 2021

Institution Submitting Proposal:	Idaho State University
Name of College, School, or Division:	College of Technology
Name of Department(s) or Area(s):	Business and Support Services

Program Identification for Proposed New or Modified Program:

Official Name of the Program:	BTC in Cloud Computing
Implementation Date:	August 10, 2022
CIP code (consult IR /Registrar):	11.0902
Method of Delivery: Indicate percentage of face-to-face, hybrid, distance delivery, etc.	Fully online, with $300 per credit online program fee

Indicate whether this request is either of the following:

(●) **New Program (check all that apply)**
- [xx] Basic Technical Certificate
- [ ] Intermediate Technical Certificate
- [ ] Advanced Technical Certificate
- [ ] Associate of Applied Science Degree

( ) **Expansion of Existing Program (check all that apply)**
- [ ] Basic Technical Certificate
- [ ] Intermediate Technical Certificate
- [ ] Advanced Technical Certificate
- [ ] Associate of Applied Science Degree

( ) **Consolidation of Existing Program**

( ) **New Off-Campus Instructional Program**

( ) **Other (i.e., Contract Program/Collaborative)**

College Dean (Institution) — Date 07/26/21

FVP/Chief Fiscal Officer (Institution) — Date 07/26/21

Provost/VP for Instruction (Institution) — Date 07/27/21

President — Date

State Administrator, ICTE — Date 8/23/2021

SBOE/Executive Director Approval — Date

Todd J. Kilburn — 08/30/21

SBOE/Chief Financial Officer — Date

Before completing this form, refer to Board Policy Section III.G., Postsecondary Program Approval and Discontinuance. This proposal form must be completed for the creation or expansion of each new program. All questions must be answered.

Rationale for Creation or Modification of the Program

1. **Describe the request and give an overview of the changes that will result.** Will this program be related or tied to other programs on campus? Identify any existing programs that this program will replace.

   The Business Technology (BT) program in the Business/Support Services (BSS) Department at the College of Technology intends to begin a Basic Technical Certificate program in Cloud Computing. This Certificate will include courses in foundational cloud concepts, cloud developing, and cloud architecting, with the option to add courses in cloud operations, machine learning, and data analytics. Upon completion of the courses, participants will be able to test for industry certifications in Cloud Practitioning, Certified Developer, and Solutions Architect through the Amazon Web Services (AWS) Academy Cloud Developing. The program is not currently tied to or related to existing programs on campus, though we are hopeful that future partnerships and relationships can be identified and strengthened as the program is implemented.

2. **Workforce and economic need for the Program**. Describe the regional and statewide workforce needs that will be addressed by this proposal and address the ways in which the proposed program will meet those needs. Include job titles and cite the data source. Describe how the proposed program will stimulate the state economy by advancing the field, providing research results, etc.

   Cloud computing is an emerging employment field throughout Idaho, the US, and the world (https://www.globalknowledge.com/us-en/content/salary-report/it-skills-and-salary-report/).

   "AWS Certified Cloud Practitioner is the entry-level certification. It may serve as a first step for those seeking an associate or specialty certification. But it's also geared toward people in nontechnical areas, such as sales, management and finance, who work with AWS. The Cloud Practitioner certification covers AWS topics such as basic infrastructure, deployment and operation, key services, security and compliance, and billing and account management. After being certified, you should be able to obtain other certifications if you want to pursue a niche in AWS." *
   (https://www.usnews.com/education/learn-aws-guide). This Basic Technical Certificate will create high-paying jobs for Idahoans, who can complete this work remotely. ***Amazon Web Services (AWS) Academy Cloud Developing***

Enrollments and Graduates

3. **Projections for proposed program:** Using the chart below, provide projected enrollments and number of graduates for the proposed program:

Proposed Program: Projected Enrollments and Graduates First Five Years											
Projected Headcount Enrollment in Program						Projected Number of Graduates from Program					
FY23 1st year	FY24	FY25	FY26	FY27		FY23 1st year	FY24	FY25	FY26	FY27	
12	16	20	25	25		9	14	18	22	22	

4. **Describe the methodology for determining enrollment and graduation projections.** Refer to information provided in Question #2 "Need" above. What is the capacity for the program? How did you determine the projected numbers above?

Anticipated enrollment for the program is hard to estimate, as this is a first of its kind program in Idaho. However, communications from other AWS Academy programs throughout the Intermountain West suggest that enrollment trends for the next four years are likely to be in the range of 25 per session.

5. **Minimum Enrollments and Graduates.** What are the minimums that the program will need to meet in order to be continued, what is the time frame for meeting minimums, and what is the action that would result if minimums are not met?

The novelty and high wage potential of the field would suggest that enrollment and persistence in this program should be high. We anticipate that the initial program enrollment will begin with 12 students, and ramp up to a program maximum of 25 within 3 years. From an academic and fiscal standpoint, the program needs to have a minimum enrollment of 12 students. Should this minimum not be reached, the program will engage in more intensive recruitment programs and look for partnerships with other academic programs, such as the CoT ITS program. Should these partnerships still not yield the necessary participation, the program will be reevaluated for sustainability and need.

6. **Assurance of Quality.** Describe how the institution will ensure the quality of the program. Describe the institutional process of program review. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation.

The program will partner with Amazon Academy, an educational support program of Amazon, LLC. While Amazon Academy does not currently offer an accreditation review program, all instructors must be certified Amazon Academy instructors before they can begin teaching any of the certification branches. In addition to this professional certification requirement, the Cloud Computing program will compile information to participate in the annual and 5-year internal program review process currently in place through the Office of Academic Affairs. The department chair, along with the Program Coordinator in Business Technology will oversee the implementation of these assessment activities, along with implementing and evaluating any action plans or other steps that are identified as being necessary during the review process.

7. **Three-Year Plan: If this is a new proposed program, is it on your institution's approved 3-year plan?**

(X) Yes ( ) No

If yes, proceed to question 8. If no:

a. **Which of the following statements best address the reason for adding this program outside of the regular three-year planning process.**

Indicate (X) by each applicable statement:

	Program is important for meeting your institution's regional program responsibilities.
	The program is in response to a specific industry need or workforce opportunity.
	The program is reliant on external funding (grants, donations) with a deadline for acceptance of funding.
	There is a contractual obligation or partnership opportunity related to this program.
	The program is in response to accreditation requirements or recommendations.

b. **Provide an explanation for all statements you selected.**

Educational Offerings: Curriculum, Intended Learning Outcomes, and Assessment Plan

8. **Curriculum. Provide descriptive information of the educational offering.**

a. **Summary of requirements.** Provide a summary of program requirements using the following table.

Credit hours in required courses offered by the department (s) offering the program.	16
Credit hours in institutional general education curriculum	0
Total credit hours required for program	16

The curriculum, as currently planned, includes creating a series of courses: Fundamentals of Cloud Computing, Cloud Developing, and Cloud Architecture. The BT program will create new courses to help introduce students to the cloud computing languages that will assist students in preparing for their AWS certifications as Cloud Practitioner, Solutions Architect - Associate, and Developer -

Associate. Proposals for these courses have been approved by the ISU Undergraduate Curriculum Council.

Cloud Computing Basic Technical Certificate Requirements *[all are new courses]*

BT 0160	Fundamentals of Cloud Computing	2 Cr
BT 0161	Introduction to Cloud Computing Languages I	3 Cr
BT 0162	Introduction to Cloud Computing Languages II	3 cr
BT 0163	Cloud Computing Architecture	4 Cr
BT 0164	Cloud Computing Operations	4 Cr
Total Credits		**16 Cr**

9. **Learning Outcomes: Expected Student Learning Outcomes and Connection to Curriculum.** List the Intended Learning Outcomes for the proposed program, using learner-centered statements that indicate what students will know, understand, and be able to do, and value or appreciate as a result of completing the program. **Attach an ICTE Program Profile (Attachment B).**

1. Define and explain the fundamental operations of cloud computing
2. Demonstrate an understanding of common programming languages and the differences between their use and applications.
3. Make decisions based on recommended architectural principles and best practices
4. Identify best practice for building secure applications
5. Identify best practice for deploying applications

a. **List any industry certifications students will be able to achieve during the duration of this program.**

This Basic Technical Certificate is aligned with the Amazon Web Services (AWS) Academy curriculum and will include courses in foundational cloud concepts, cloud developing, and cloud architecture, with the option to add courses in cloud operations, machine learning, and data analytics. Upon completion of the courses, participants will be prepared to take exams for industry certifications as Cloud Practitioner, Solutions Architect - Associate, and Developer - Associate.

10. **Assessment Plans**

a. **Assessment Process and Measures Used.** Describe the assessment plan for student

learning outcomes that will be used to evaluate student achievement and how the results will be used to improve the program. What direct and indirect measures will be used to assess student learning?

Program assessment will center on collecting evidence of student work and evaluating a sample of students and their capacity to meet or demonstrate course and program level learning outcomes on an annual basis. The initial results will establish a basis of expected student performance that can then act as a benchmark for future analysis and program review.

Direct assessment will center on collecting student results and performance on module-based quizzes related to specific course outcomes and assessing how student performance in these activities correlates to a cohort's overall capacity to satisfy the overall program learning outcomes associated with each course. In addition, performance on the Amazon precertification exam and certification exams will also be included in the annual assessment process.

Indirect assessment will examine the course syllabus, course sequencing, and time on task for each module to determine if changes need to be made in the instructional pacing of each course to improve student learning and overall performance.

The results of these annual assessments will be presented to an annual Technical Advisory Committee meeting, as per Idaho Division of Career Technical Education requirements, comprised of students, instructors, and industry partners and experts to determine how to address gaps in instruction or performance.

Overall Program Outcomes:

1. Define and explain the fundamental operations of cloud computing
2. Demonstrate an understanding of common programming languages and the differences between their use and applications.
3. Make decisions based on recommended architectural principles and best practices
4. Identify best practice for building secure applications
5. Identify best practice for deploying applications

Specific course outcomes have been identified and mapped to these overall programmatic outcomes. They include the following:

BT 0160 - Fundamentals of Cloud Computing: ***Define and explain the fundamental operations of cloud computing***

- Identify the global infrastructure components of Amazon Web Services (AWS)
- Demonstrate when to use Amazon Elastic Compute Cloud (Amazon EC2), AWS Lambda, and AWS Elastic Beanstalk
- Differentiate between Amazon Simple Storage Service (Amazon S3), Amazon Elastic Block Store (Amazon EBS), Amazon Elastic File System (Amazon EFS), and Amazon Simple Storage Service Glacier (Amazon S3 Glacier)
- Demonstrate when to use AWS database services, including Amazon Relational Database Service (Amazon RDS), Amazon DynamoDB, Amazon Redshift, and Amazon Aurora
- Explore key concepts related to Elastic Load Balancing, Amazon CloudWatch, and Amazon EC2 Auto Scaling

BT 0161 - Cloud Computing Languages I: ***Demonstrate an understanding of common programming languages and the differences between their use and applications.***

- Demonstrate competence in
  - Working with data types and variables
  - Coding control statements
  - Defining and using functions and modules
- Test and debug a program
- Demonstrate competence in
  - Working with lists and tables
  - File I/O
  - Handling exceptions
- Describe, compare, and contrast various language features.

BT 0162 - Cloud Computing Languages II: ***Demonstrate an understanding of common programming languages and the differences between their use and applications.***

- Design computer programs using the C++ programming language.
- Analyze examples of programs written in C++
- Evaluate C++ computer programs for strengths and weaknesses

BT 0163: Cloud Computing Architecture: ***Make decisions based on recommended architectural principles and best practices***

- Identify deployment and management options
- Create a cloud migration road map and plan
- Create a business continuity plan and achieve high availability
- Design architectures to decouple infrastructure and reduce interdependencies
- Differentiate between architectures for data processing and analytics, mobile back-ends, and video transcoding

BT 0164 - Cloud Computing Operations: ***Identify best practice for building secure applications; Identify best practice for deploying applications***

- Configure AWS Identity and Access Management for programmatic access
- Develop with DynamoDB
- Develop event-driven solutions with Lambda
- Configure solutions with API Gateway
- Develop solutions with SQS and SNS

Resources Required for Implementation – fiscal impact and budget

Organizational arrangements required within the institution to accommodate the change including administrative, staff, and faculty hires, facilities, student services, library; etc

11. **Physical Resources. Physical Facilities and Equipment:** Describe the provision for physical facilities and equipment.

    a. **Existing resources**. Describe equipment, space, laboratory instruments, computer(s), or other physical equipment presently available to support the successful implementation of the program.

The Cloud Computing program will be conducted completely online, eliminating the need for physical instructional space or equipment for student use. The Business Technology program has the necessary facilities and equipment necessary to support the presence of two new adjunct faculty should they choose to teach courses from ISU facilities, though this is not requisite for the successful implementation of the program. Current technology equipment will be sufficient to support the program, and bandwidth and network access normally provided to CoT program will also be sufficient for this program.

It is anticipated that any live or recorded online Instruction will take place through Zoom conferencing, and recent expansion of distance learning equipment due to COVID will work well to support these needs and will not require any additional acquisition of materials or equipment.

b. Impact of new program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated?

As stated before, the proposed program will be conducted online, and therefore, will not have any direct impact on existing programs or facilities scheduling. Adequate office space is available should the adjunct instructors hired to teach the courses require it and current available computing equipment and network access will be more than adequate. There is no anticipation that this program will create any additional disruption or interruption of current instructional activities.

c. Needed resources. List equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. Enter the costs of those physical resources into the budget sheet.

It is expected that CoT already possesses the necessary equipment for the program to operate. Access to network bandwidth for this program will be in line with currently supported levels by ISU Netcomm. However, in a desire to be self-sustaining, there is the possibility that additional, unanticipated costs may arise. In addition, the program hopes to be able to transition from adjunct to more stable full-time instruction as soon as possible. As a result, the program proposes the use of an on-line program fee, in accordance with the Online Program Fee as defined in the Board Policy V.R.,3.a.x. We will charge $300 per credit hour in lieu of tuition. This fee is derived from the assessment of 5 different institutions that offer the same or similar degree type. There is a wide disparity between these programs and individual costs; some of this gap can be explained by the differences in educational markets, as well as the scope and depth of instruction. This proposed certificate program offers a broader scope, more in-depth instruction, and more credits (16 credits and 3 certifications - which are issued by AWS after passing exams), as well as the development and delivery of new courses in computer programming languages which are not included in any similar regional programs. The proposed $300 fee is in line with other similar programs around the country.

12. Faculty/Personnel resources

a. **Needed resources.** Give an overview of the personnel resources that will be needed to implement the program. How many additional sections of existing courses will be needed? Referring to the list of new courses to be created, what instructional capacity will be needed to offer the necessary number of sections?

The proposed online program fee noted above would be sufficient to cover the cost of hiring two adjunct instructors to administer the program, as well as cover any necessary online instructional support. As the program reaches full operational enrollment capacity, the expectation would be to transition from temporary adjunct instruction to a full time instructor.

b. **Existing resources**. Describe the existing instructional, support, and administrative resources that will support the successful implementation of the program.

The proposed program is affiliated with the Business Technology program at the College of Technology. There is already sufficient administrative, technical, and instructional support afforded to this program. Adding an additional certification pathway will not encumber these support systems, nor burden existing faculty and staff unnecessarily.

c. **Impact on existing programs**. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained?

There are no expected impacts on current programs or personnel. The program coordinator for Business Technology is confident that existing workloads will not be affected by the addition of the proposed adjunct instructors.

d. **Needed resources.** List the new personnel that must be hired to support the proposed program. Enter the costs of those physical resources into the budget sheet.

The proposed program will require the hiring of two adjunct instructors who will be able to satisfy Amazon Academy instructor requirements and certifications. The costs associated with these two instructors has been included in the budget document attached to this application. It is not anticipated that additional personnel costs will be required to support the ongoing operation of this program.

13. Revenue Sources

a. **Reallocation of funds:** If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs?

There is no anticipated need for any reallocation of existing funding streams or resources.

b. **New appropriation**. If a line item request is required to fund the program, indicate when the institution plans to submit the request to Idaho Career & Technical Education

or include in the legislative budget request.

There is no request for the creation of any new funding streams or resources.

c. **Non-ongoing sources**:

i. If the funding is to come from other, one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when funding ends?

No external funding sources are anticipated or associated with this program at this time.

ii. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) to fund the program. How does the institution propose to continue the program upon termination of those funds?

N/A

d. **Student Fees**: Provide estimated total semester cost to students, including all fees authorized under V.R.

The proposed program does include plans for the approval of an online program fee of $300 per credit in lieu of tuition, plus an additional $100 fee per student for tools and equipment. The total cost for a student to complete the certificate program is $4,900.

14. Using the budget template provided by the Office of the State Board of Education, provide the following information:

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first **four** fiscal years of the program.
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Second- and third-year estimates should be in constant dollars.
- Amounts should reconcile subsequent pages where budget explanations are provided.
- If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies).
- Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

IDAHO STATE UNIVERSITY
Resource Allocation and Impact Summary

PROGRAM IDENTIFICATION — **ISU #2021-08 COT Basic Technical Certificate (BTC) in Cloud Computing**

Program Resource Requirements. Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first four fiscal years of the program. Include reallocation of existing personnel and resources and anticipated or requested new resources. Second and third year estimates should be in constant dollars. Amounts should reconcile subsequent pages where budget explanations are provided. If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies). Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

I. PLANNED STUDENT ENROLLMENT

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount
A. New enrollments		12		16		20		25	0	73
B. Shifting enrollments									0	0
Total Enrollment	0	12	0	16	0	20	0	25	0	73

II. REVENUE

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
1. New Appropriated Funding Request									$0.00	$0.00
2. Institution Funds									$0.00	$0.00
3. Federal									$0.00	$0.00
4. New Tuition Revenues from Increased Enrollments									$0.00	$0.00
5. Student Fees									$0.00	$0.00
6. Other: Online Program Fee $300/credit plus $100 tools/equipment	$58,800.00		$78,400.00		$98,000.00		$122,500.00		$357,700.00	$0.00
Total Revenue	$58,800.00	$0.00	$78,400.00	$0.00	$98,000.00	$0.00	$122,500.00	$0.00	$357,700.00	$0.00

On-going is defined as on-going operating budget for the program which will become part of the base.
One-time is defined as one-time funding in a fiscal year and not part of the base.

III. EXPENDITURES

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
A. Personnel Costs										
1. FTE									0.00	0.00
2. Faculty									$0.00	$0.00
3. Adjunct Faculty	$19,200.00		$19,200.00		$19,200.00		$19,200.00		$76,800.00	$0.00
4. Graduate/Undergrad Assistants									$0.00	$0.00
5. Research Personnel									$0.00	$0.00
6. Directors/Administrators									$0.00	$0.00
7. Administrative Support Personnel									$0.00	$0.00
8. Fringe Benefits									$0.00	$0.00
9. Other:									$0.00	$0.00
Total Personnel and Costs	$19,200.00	$0.00	$19,200.00	$0.00	$19,200.00	$0.00	$19,200.00	$0.00	$76,800.00	$0.00

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
B. Operating Expenditures										
1. Travel									$0.00	$0.00
2. Professional Services									$0.00	$0.00

3. Other Services									$0.00	$0.00
4. Communications									$0.00	$0.00
5. Materials and Supplies									$0.00	$0.00
6. Rentals									$0.00	$0.00
7. Materials & Goods for Manufacture & Resale									$0.00	$0.00
8. Miscellaneous									$0.00	$0.00
Total Operating Expenditures	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

	FY 2023		FY 2024		FY 2025		FY 2026		Cumulative Total	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
C. Capital Outlay										
1. Library Resources									$0.00	$0.00
2. Equipment									$0.00	$0.00
Total Capital Outlay	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
D. Capital Facilities Construction or Major Renovation									$0.00	$0.00
E. Information Technology Support									$0.00	$0.00
F. Other Costs										
1. Utilities									$0.00	$0.00
2. Maintenance & Repairs									$0.00	$0.00
3. Other: _____									$0.00	$0.00

Total Other Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTAL EXPENDITURES:	$19,200.00	$0.00	$19,200.00	$0.00	$19,200.00	$0.00	$19,200.00	$0.00	$76,800.00	$0.00
Net Income (Deficit)	$39,600.00	$0.00	$59,200.00	$0.00	$78,800.00	$0.00	$103,300.00	$0.00	$280,900.00	$0.00

Budget Notes (specify row and add explanation where needed; e.g., "I.A.,B. FTE is calculated using..."):

I.A.B.	This program is a 16 credit Basic Technical Certificate that is delivered wholly online. The cost is $300/credit hour, plus $100 per student for tools/equipment; totaling $4900 for the entire program.
I.A.C.	There are no capital costs associated with the delivery of this online Basic Technical Certificate.

IDAHO STATE UNIVERSITY

SUBJECT

Online, Graduate Certificate in Listening and Spoken Language

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.G. and Section V.R.

BACKGROUND/DISCUSSION

The proposed, fully online Graduate Certificate in Listening and Spoken Language is designed to meet a growing need for professionals who understand the current needs of families and children who are deaf/hard of hearing (DHH) and have had the advantage of newborn hearing screening and access to advanced hearing technology (e.g., early intervention services). The certificate will provide graduates with expertise in early intervention, spoken language development (including assessment and intervention), literacy, universal design for learning, and interprofessional collaboration in mainstream educational environments. The certificate will also provide these professionals with an alternate, lower-cost path to licensure to serve DHH children.

According to the U.S. Bureau of Labor Statistics, increased demand is expected for special education teachers, including teachers for the deaf or hard of hearing, of approximately 20% over the next decade. However, states and school districts across the nation are facing shortages of teachers of the deaf and hard of hearing, and will be unable to meet this need.

This certificate will admit students who have a stand-alone degree in Deaf Education, Early Intervention, Speech-Language Pathology, and/or are general educators. The 27 credits of coursework will lead to licensure to serve children who are DHH. ISU faculty and programs are uniquely qualified to lead out in this area. Implementing this program paves the way for increased potential for external funding and future collaborative partnerships in Idaho to better train those who serve the needs of children and families.

IMPACT

An online program fee of $925 per credit will be charged in place of tuition. The fee includes the costs of administrative support, adjunct faculty, travel needed to coordinate externships and practical experiences, and supplies associated with running the program. No other fees will be charged. The total cost of the program is $24,975 for students who complete the Graduate Certificate in Listening and Spoken Language at ISU, which is approximately half the cost of other available options for professionals seeking licensure to serve DHH students.

The way the program has been structured (fees, courses, admin support, etc.) is

intended to "flex" with enrollment growth or decline; if smaller numbers enroll, costs would go down as well. The number of graduates is expected to range between 4 and 10 students on an annual basis.

ATTACHMENTS

Attachment 1 - GC in Listening and Spoken Language Proposal

BOARD STAFF COMMENTS AND RECOMMENDATIONS

The proposed graduate certificate is a partnership with the Regional Low Incidence Facilitators in Minnesota. ISU faculty, Dr. Kristina Blaiser, Associate Professor of ISU's Speech-Language Pathology program was approached by this group to collaborate in developing a program based on a need in their state. The certificate will meet a need for professionals to have an alternative path to licensure to serve children who are deaf and hard of hearing. Dr. Blaiser is working to make sure that each course is cross-walked to ensure students who successfully complete the coursework will be eligible for licensure in Minnesota. Currently Idaho does not have licensure laws in place for this type of certification. Given that there is an identified need in Minnesota where licensure laws are in place, ISU determined that pursuing this partnership with Minnesota would enable them to create a strong and sustainable program for present and future needs. Should immediate needs arise in Idaho, and licensure provisions be put in place, ISU will be able to direct additional recruitment efforts among Idaho's working professionals, utilizing grant funds, scholarships, and/or reduced fees for in-state students.

ISU anticipates an initial enrollment of four students in the first year, and approximately five students each year thereafter. ISU does not identify minimum numbers for student enrollment or graduates needed to sustain the program. This is primarily due to the structure that will provide for flexible enrollment growth or decline. If the program underperforms, ISU will discontinue it. Discontinuing the program would result in elimination of adjunct or overload contracts, as ISU does not have plans to hire additional full-time faculty for the proposed certificate. The proposed graduate certificate is consistent with ISU's three-year plan.

ISU also requests approval to assess an online program fee of $925 per credit for the graduate certificate consisting of 27 credits, which amounts to $24,975. ISU indicates that, while the cost is higher than traditional tuition and fees at their institution, the amount is significantly lower than other programs that are offered for this specialization throughout the nation. Based on the information for the online program fee provided in the proposal, staff finds that the criteria have been met for this program.

The proposal completed the program review process and was recommended for approval by the Council on Academic Affairs and Programs on September 30, 2021. It was presented to the Instruction, Research, and Student Affairs Committee on October 7, 2021, and to the Business Affairs and Human Resources Committee on October 8, 2021. Board staff recommends approval.

BOARD ACTION

I move to approve the request by Idaho State University to create a Graduate Certificate in Listening and Spoken Language as presented in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

AND

I move to approve the request by Idaho State University to charge an online program fee of $925 per credit for the Graduate Certificate in Listening and Spoken Language, in conformance with the program budget submitted to the Board in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Institutional Tracking No. 2021-09

Idaho State Board of Education

Proposal for Academic Degree and Certificate Program

Date of Proposal Submission:	August 19, 2021
Institution Submitting Proposal:	Idaho State University
Name of College, School, or Division:	College of Health, School of Rehab. & Communication Sciences
Name of Department(s) or Area(s):	Communication Sciences & Disorders, Speech Language Pathology Program

Official Name of the Program:	Listening and Spoken Language					
Implementation Date:	August 2022					
Degree Information:	Degree Level: Graduate		Degree Type: Graduate Certificate			
CIP code (consult IR /Registrar):	51.0204					
Method of Delivery: Indicate percentage of face-to-face, hybrid, distance delivery, etc.	100% online					
Geographical Delivery:	Location(s)	fully online	Region(s)			
Indicate (X) if the program is/has: (Consistent with Board Policy V.R.)		Self-Support fee		Professional Fee	X	Online Program Fee
Indicate (X) if the program is: (Consistent with Board Policy III.Z.)	X	Regional Responsibility		Statewide Responsibility		

Indicate whether this request is either of the following:

- ☐ New Degree Program
- ☑ Undergraduate/Graduate Certificates (30 credits or more)
- ☐ Expansion of Existing Program
- ☐ Consolidation of Existing Program
- ☐ New Off-Campus Instructional Program
- ☐ Other (i.e., Contract Program/Collaborative

College Dean (Institution)	Date	Vice President for Research (Institution; as applicable)	Date
Graduate Dean or other official (Institution; as applicable)	Date 08/20/21	Academic Affairs Program Manager, OSBE	Date 9/8/2021
FVP/Chief Fiscal Officer (Institution)	Date 08/18/21	Chief Financial Officer, OSBE	Date 9/3/2021
Provost/VP for Instruction (Institution)	Date 08/20/21	Chief Academic Officer, OSBE	Date
President	Date	SBOE/Executive Director Approval	Date

Before completing this form, refer to Board Policy Section III.G., Postsecondary Program Approval and Discontinuance. This proposal form must be completed for the creation of each new program. All questions must be answered.

Rationale for Creation or Modification of the Program

1. **Describe the request and give an overview of the changes that will result.** What type of substantive change are you requesting? Will this program be related or tied to other programs on campus? Identify any existing program that this program will replace. If this is an Associate degree, please describe transferability.

   The 27-credit Listening and Spoken Language (LSL) Graduate Certificate Program is a collection of existing Communication Sciences & Disorders (CSD) and Special Education (SPED) courses that provides professionals with an *alternative path to licensure* to serve children who are Deaf/Hard-of-Hearing (DHH). These courses meet the growing need for professionals who understand the current needs of families and children who are DHH and have had the advantage of newborn hearing screening and access to advanced hearing technology (e.g., early intervention services). This program offers students expertise in early intervention, spoken language development (including assessment and intervention), literacy, universal design for learning, and interprofessional collaboration in mainstream educational environments.

   We recognize the need to make our educational resources and efforts accessible to Idaho professionals and community members. However, because additional time and groundwork is needed to align licensure and professional requirements in Idaho, residents of Idaho are not the initial target population (although Idaho residents could certainly enroll). However, by being proactive and creating a strong and sustainable program now, funded by appropriately set fees for out of state residents where immediate needs are evident and licensure laws in place, we anticipate being able to eventually focus additional recruitment efforts with our working professionals in Idaho, utilizing grant funds, scholarships and/or reduced fees for in-state students.

   Dr. Kristina Blaiser, faculty in our Speech-Language Pathology Program, was approached by a group of statewide low-incidence representatives from Minnesota based on her expertise working with pediatric populations who are Deaf/Hard-of-Hearing (DHH). In an effort to grow student enrollment, promote ISU's identity as a national leader in health care and education, and enhance community partnerships, we have developed this innovative program proposal to meet workforce, student, and societal needs (as detailed in the additional sections below).

   Our faculty and programs are uniquely qualified to lead out in this area. Implementing this program paves the way for increased potential for external funding and future collaborative partnerships in Idaho to better train those who serve the needs of children and families.

2. **Need for the Program**. Describe evidence of the student, regional, and statewide needs that will be addressed by this proposal to include student clientele to be served and address the ways in which the proposed program will meet those needs.

a. **Workforce and economic need:** Provide verification of state workforce needs that will be met by this program. Include job titles and cite the data source. Describe how the proposed program will stimulate the state economy by advancing the field, providing research results, etc.

This certificate program was developed based on a need for professionals to have an alternative path to licensure to serve children who are DHH, particularly those who use listening and spoken language as part of their communication repertoire. There is an ongoing need for asynchronous, online coursework for professionals who work full-time but still want to continue their education. There is a shortage of programs that offer Deaf Education, but this type of asynchronous, specialized learning opportunity is even more unique across the country. We project that we will have at least 4 students enrolled the first year, and approximately 5 students enrolled each year after that. We are starting conservatively but hope (and are optimistic) that enrollment will grow nationally based on communication with leaders across the country. As the Coordinator of the American Speech-Language Hearing Association's (ASHA's) Special Interest Group for Pediatric Hearing and Hearing Disorders, Dr. Blaiser has firsthand knowledge of professional needs across the country.

The program was developed in collaboration with the Regional Low Incidence Facilitators in Minnesota based on the need for this type of program (i.e., one that was inclusive of hearing technology, early intervention, spoken language assessment and intervention and offered online, asynchronous for working providers). The Director of this program is working closely to ensure that each of these courses are "cross walked" to ensure that students who have successfully completed the coursework will be eligible for licensure in the state of Minnesota. We believe that Minnesota is the first state (but not the last) that will be looking at this model for professional development to meet the ongoing needs of this low incidence population. Nationally, there is a shortage of Deaf Education Programs, and those that do exist offer a focus on an American Sign Language (ASL)-based communication modality. Given national changes in newborn hearing screening mandates and advanced hearing technology (such as hearing aids and cochlear implants), approximately 90% of families are choosing spoken language, creating a need for professional training in optimizing child outcomes in this specific communication modality.

b. **Student demand.** What is the most likely source of students who will be expected to enroll (full-time, part-time, outreach, etc.). Provide evidence of student demand/ interest from inside and outside of the institution.

This program will likely draw part-time students who are working professionals.

"According to the U.S. Bureau of Labor Statistics, there is expected to be an increased demand for special education teachers, including Teachers for the Deaf and Hard of Hearing of approximately 20 percent in the next decade. However, states and school districts across the nation are facing shortages of Teachers of the Deaf and Hard of Hearing, and will be unable to meet this need. While DHH student enrollment is on an

upward trend, and it is expected to grow by 3 million in the next decade which means we will have more deaf and hard of hearing students and fewer individuals are entering the teaching profession which contributes to the teacher shortage."
Source: https://www.deafjobwizard.com/post/overcoming-shortage-of-teachers-of-the-deaf-and-hard-of-hearing

c. **Societal Need**: Describe additional societal benefits and cultural benefits of the program.

Children who are DHH have the potential to meet the academic and communication milestones of their age-matched hearing peers when they are provided with full-time use of appropriately fit hearing technology and high quality early intervention by providers with high (and current) expectations. Providers who are trained to optimize hearing technology are necessary to realize the educational potential of children who use hearing aids and cochlear implants. ISU's CSD and SPED programs currently have the coursework needed to help support providers to provide this high quality instruction to children who are DHH, yet it is offered in different programs, through different degrees. By coordinating efforts and developing a cohesive program, we are able to better serve our communities, improve outcomes for children who are DHH, while growing and expanding ISU student enrollment.

3. Program Prioritization
Is the proposed new program a result of program prioritization?

Yes_____ No__**X**___

If yes, how does the proposed program fit within the recommended actions of the most recent program prioritization findings.

4. Credit for Prior Learning
Indicate from the various cross walks where credit for prior learning will be available. If no PLA has been identified for this program, enter 'Not Applicable'.

We will be admitting students who have a stand-alone degree in Deaf Education, Early Intervention, Speech-Language Pathology and/or are general educators. The coursework will lead to licensure to serve children who are DHH.

5. Affordability Opportunities
Describe any program-specific steps taken to maximize affordability, such as: textbook options (e.g., Open Educational Resources), online delivery methods, reduced fees, compressed course scheduling, etc. This question applies to certificates, undergraduate, graduate programs alike.

The ISU program is offering professionals an alternative pathway to licensure, outside of a typical degree that may/may not meet the needs of the employment system. Through this

innovative program, we are able to address this immediate (and widespread) need at approximately *half* the cost of what is currently available. In addition to making this program affordable, it is offered in an online, asynchronous manner (by experts in online learning) so students can keep working. In addition to these benefits, the coursework has been streamlined to focus on the immediate needs and requirements needed for licensure; we have eliminated extraneous courses that go beyond the core licensure requirements to create the most cost-effective model.

Enrollments and Graduates

6. **Existing similar programs at Idaho Public Institutions.** Using the chart below, provide enrollments and numbers of graduates for similar existing programs at your institution and other Idaho public institutions for the most past four years.

   N/A

Instit.	Program Name	Fall Headcount Enrollment in Program				Number of Graduates From Program (Summer, Fall, Spring)			
		FY__	FY__	FY__	FY__ (most recent)	FY__	FY__	FY__	FY__ (most recent)

7. **Justification for Duplication** (if applicable). If the proposed program is similar to another program offered by an Idaho public higher education institution, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. Describe why it is not feasible for existing programs at other institutions to fulfill the need for the proposed program.

   N/A

8. **Projections for proposed program:** Using the chart below, provide projected enrollments and number of graduates for the proposed program:

Proposed Program: Projected Enrollments and Graduates First Five Years
Program Name: Listening and Spoken Language (LSL) Graduate Certificate

Projected Fall Term Headcount Enrollment in Program						Projected Annual Number of Graduates From Program					
FY23 (first year)	FY24	FY25	FY26	FY27		FY 23 (first year)	FY24	FY 25	FY 26	FY 27	
4	9	10	10	10		0	4	9	10	10	

9. Describe the methodology for determining enrollment and graduation projections. Refer to information provided in Question #2 "Need for the Program" above. What is the capacity for the program? Describe your recruitment efforts? How did you determine the projected numbers above?

We will be recruiting existing professionals (at first from Minnesota and then expanding to a national level, including Idaho) to participate in the program. We will be admitting students who have a stand-alone degree in Deaf Education, Early Intervention, Speech-Language Pathology and/or are general educators.

10. Minimum Enrollments and Graduates.

a. What are the minimums that the program will need to meet in order to be continued, and what is the logical basis for those minimums?

The way the program has been structured (fees, courses, admin support, etc) is intended to "flex" with enrollment growth or decline; if smaller numbers enroll, costs would go down as well. We would hope not to turn away any students due to low enrollment.

b. If those minimums are not met, what is the sunset clause by which the program will be considered for discontinuance?

We are not hiring additional full-time faculty for this program, so if this program were discontinued, we would eliminate adjunct or overload contracts.

11. Assurance of Quality. Describe how the institution will ensure the quality of the program. Describe the institutional process of program review. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation.

We will collect surveys of student satisfaction and meet with state partners on an ongoing basis to determine if/how the program is meeting the needs. This type of formative program evaluation is built into the budget. We are not seeking accreditation but will be tracking the number of students who have successfully obtained licensure after completing the program. We will work with the Department of Institutional Effectiveness and Office of Assessment here at ISU.

12. In accordance with Board Policy III.G., an external peer review is required for any new doctoral program. Attach the peer review report as **Appendix A**.

N/A

13. Teacher Education/Certification Programs All Educator Preparation programs that lead to certification require review and recommendation from the Professional Standards Commission (PSC) prior to consideration and approval of the program by the State Board of Education.

Will this program lead to certification?

Yes_____ No_**X**___(although it is a certificate program, it leads to licensure, depending on state requirements)

If yes, on what date was the Program Approval for Certification Request submitted to the Professional Standards Commission?

14. Three-Year Plan: If this is a new proposed program, is it on your institution's approved 3-year plan?

Yes **X** No ____

If yes, proceed to question 15. If no:

a. Which of the following statements address the reason for adding this program outside of the regular three-year planning process.

Indicate (X) by each applicable statement:

	Program is important for meeting your institution's regional or statewide program responsibilities.
	The program is in response to a specific industry need or workforce opportunity.
	The program is reliant on external funding (grants, donations) with a deadline for acceptance of funding.
	There is a contractual obligation or partnership opportunity related to this program.
	The program is in response to accreditation requirements or recommendations.
	The program is in response to recent changes to teacher certification/endorsement requirements.

b. Provide an explanation for all statements you selected.

Educational Offerings: Curriculum, Intended Learning Outcomes, and Assessment Plan

15. Curriculum. Provide descriptive information of the educational offering.

a. Summary of requirements. Provide a summary of program requirements using the following table.

Credit hours in required courses offered by the department (s) offering the program.	21
Credit hours in required courses offered by other departments:	6
Credit hours in institutional general education curriculum	0
Credit hours in free electives	0
Total credit hours required for degree program:	27

b. Curriculum. Provide the curriculum for the program, including credits to completion, courses by title and assigned academic credit granted.

The program will include existing courses from CSD and SPED (listed in the table below). Only one course will be new, and we are submitting a new course proposal for the Literacy Course (CSD 6655).

CSD 6691 Foundations of Listening and Spoken Language (3 credits)
CSD 6620 Early Language Development and Disorders (3 credits)
CSD 5570 Advanced Topics for Educational Audiology (3 credits)
SPED 5523 Instructional Design (3 credits)
CSD 6691 Telepractice (3 credits)
CSD 6602 Clinical Practicum (3 credits)
SPED 5529 Multiple Disabilities (3 credits)
CSD 6655 Literacy Development (PROPOSED) (3 credits)
CSD 6652 Auditory Language Development (3 credits)

TOTAL: 27 Credits

c. Additional requirements. Describe additional requirements such as comprehensive examination, senior thesis or other capstone experience, practicum, or internship, some of which may carry credit hours included in the list above.

Students will not participate in a thesis or capstone project but will have three hours of practicum experience in rotations in their state. The Project Director will (with funds embedded within the cost/credit) will work to identify specific sites for practicum within the student's home state.

16. Learning Outcomes: Expected Student Learning Outcomes and Connection to Curriculum.

a. Intended Learning Outcomes. List the Intended Learning Outcomes for the proposed program, using learner-centered statements that indicate what students will know, understand, and be able to do, and value or appreciate as a result of completing the program.

- Understand how to optimize full-time use of well-fit hearing technology through communication and collaborative services,
- Administer and share comprehensive assessment results from hearing and/or communication skills as the foundation for a comprehensive intervention plan with high expectations,
- Implement an intensive individualized, family-centered intervention plan in person or via telepractice (with distance learning technologies), and
- Communicate assessment and intervention plans with an interdisciplinary team of parents, families, and community stakeholders

17. Assessment plans.

a. Assessment Process. Describe the assessment plan for student learning outcomes that will be used to evaluate student achievement and how the results will be used to improve the program.

- We will track the number of applicants/highly qualified applicants each year as well as how the applicants heard about the program.
- We will measure students' progress through the program as well as the timeliness of completion.
- We will survey employers and the state stakeholders to evaluate the effectiveness of the program and the program's ability to meet the educational and family needs.
- We will use formative and summative assessment measures to examine student's growth in the learning outcomes outlined above.
- We will survey students at the completion of their program to evaluate the strengths and address the weaknesses of the program.

Resources Required for Implementation – fiscal impact and budget.

Organizational arrangements required within the institution to accommodate the change including administrative, staff, and faculty hires, facilities, student services, library; etc.

18. Physical Facilities and Equipment: Describe the provision for physical facilities and equipment.

a. Existing resources. Describe equipment, space, laboratory instruments, computer(s), or other physical equipment presently available to support the successful implementation of the program.

We will be using existing equipment (computers, technology, Moodle, ITRC, Qualtrics, Zoom) to support the online, asynchronous program.

b. Impact of new program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated?

We don't foresee any negative impacts. However, from a positive perspective, as a result of the additional income from the LSL Program, there are greater opportunities for updates for the technology currently used.

c. **Needed resources.** List equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. Enter the costs of those physical resources into the budget sheet.

Any additional equipment (or ongoing equipment needs/updates) have been built into the budget.

19. **Library and Information Resources:** Describe adequacy and availability of library and information resources.

a. **Existing resources and impact of new program**. Evaluate library resources, including personnel and space. Are they adequate for the operation of the present program? Will there be an impact on existing programs of increased library usage caused by the proposed program? For off-campus programs, clearly indicate how the library resources are to be provided.

Because this is an entirely online program, there will be no impact on library space. Library personnel will potentially be asked to support requests or questions from students.

b. **Needed resources**. What new library resources will be required to ensure successful implementation of the program? Enter the costs of those library resources into the budget sheet.

None.

20. **Faculty/Personnel resources**

a. **Needed resources.** Give an overview of the personnel resources that will be needed to implement the program. How many additional sections of existing courses will be needed? Referring to the list of new courses to be created, what instructional capacity will be needed to offer the necessary number of sections?

We plan on adding LSL cohort sections to existing courses and/or offering adjunct contracts for courses as needed. The cost for these additional sections is included in the fee/credit proposed on the budget form. This will offer two advantages: 1) to increase communication/cohesion within the LSL cohort, 2) to provide support for

instructors for their additional effort.

b. Existing resources. Describe the existing instructional, support, and administrative resources that can be brought to bear to support the successful implementation of the program.

Instructors will not need to create new courses or materials for the cohort. We have added additional pro-rated administrative support and time for the Program Director into the budget to account for recruitment, advising, coordination and clinical placement.

c. Impact on existing programs. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained?

The goal is to add a cohort of students with minimal impact on existing faculty/programs as possible. This is possible because the courses included in the proposed program are either electives and/or low enrollment.

d. Needed resources. List the new personnel that must be hired to support the proposed program. Enter the costs of those personnel resources into the budget sheet.

We have two adjunct faculty included in the budget as well as funds associated with offering additional sections of the existing courses. The program director is a current faculty member who has specialized in serving children who are DHH and is experienced in administrative roles.

Starting Year 2, we have added in funding for continuing education, licensure, and professional development costs for program faculty ($2000/year), and equipment, office supplies, mailings, and small equipment purchase ($1000/year).

21. Revenue Sources

a) **Reallocation of funds:** If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs?

N/A

b) **New appropriation**. If an above Maintenance of Current Operations (MCO) appropriation is required to fund the program, indicate when the institution plans to include the program in the legislative budget request.

N/A

c) **Non-ongoing sources**:

i. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends?

N/A

ii. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds?

N/A

d) **Student Fees**:

i. If the proposed program is intended to levy any institutional local fees, explain how doing so meets the requirements of Board Policy V.R., 3.b.

As shown in the Budget form, we will be charging students $925/credit for a 27-credit program (or $24,975 for the entire certificate program). This will be an online program fee. While the cost per credit is higher than traditional tuition and fees at ISU, the amount is significantly lower than other programs that are offered for this specialization, plus it has the added flexibility of an asynchronous program that leads to licensure while the student is able to stay employed. This is a high need area, yet there are few programs nationally that offer this specialized coursework.

The $925/credit includes all of the costs associated with the courses and running the program. This includes the costs associated with a program director to oversee and coordinate the program (20% time allocated each year), a technology budget, adjunct faculty and overload contracts for teaching additional sections of existing courses, travel (as needed to coordinate externships and practical experiences) and supplies associated with running the program. Funding the program appropriately is extremely important to ensure quality and sustainability.

The program was developed in collaboration with the Regional Low Incidence Facilitators in Minnesota based on the need for this type of program. The costs associated with this program are approximately $20,000 less than their other option and the Program Director of this program is working closely to ensure that each of these courses are "cross walked" to ensure that students who have successfully completed the coursework will be eligible for licensure in the state of Minnesota. We believe that Minnesota is the first state (but not the last) who will be looking at this model for professional development to meet the ongoing needs of this low incidence population.

ii. Provide estimated cost to students and total revenue for self-support programs and

for professional fees and other fees anticipated to be requested under Board Policy V.R., if applicable.

We intend to implement an online program fee of $925 per credit in lieu of tuition, if approved. No other fees or tuition will be charged.

The total cost to students is $24,975 for the 27-credit certificate program.

For year one, we have a negative net income (-$21,274); however, the following years we have a positive net income stream of $5,297, $9,703, $7,431 each of the following years.

22. Using the excel budget template provided by the Office of the State Board of Education, provide the following information:

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first **four** fiscal years of the program.
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Second and third year estimates should be in constant dollars.
- Amounts should reconcile subsequent pages where budget explanations are provided.
- If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies).
- Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

Program Resource Requirements.

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first **four** fiscal years of the
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Second and third year estimates should be in constant dollars.
- Amounts should reconcile subsequent pages where budget explanations are provided.
- If the program is contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies).
- Provide an explanation of the fiscal impact of any proposed discontinuance to include impacts to faculty (i.e., salary savings, re-assignments).

I. PLANNED STUDENT ENROLLMENT

	FY 2023		FY 2024		FY 2025		FY 2026	
	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount
A. New enrollments		4		5		5		5
B. Shifting enrollments				4		5		5
Total Enrollment	0	4	0	9	0	10	0	10

II. REVENUE

	FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
1. New Appropriated Funding Request								
2. Institution Funds								
3. Federal								
4. New Tuition Revenues from Increased Enrollments								
5. Student Fees	$66,600.00		$116,550.00		$124,875.00		$124,875.00	
6. Other (i.e., Gifts)								

Total Revenue	$66,600	$0	$116,550	$0	$124,875	$0	$124,875	$0

Ongoing is defined as ongoing operating budget for the program which will become part of the base.
One-time is defined as one-time funding in a fiscal year and not part of the base.

III. EXPENDITURES

	FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
A. Personnel Costs								
1. FTE	0.2		0.2		0.2		0.2	
2. Faculty	$0.00		$0.00		$0.00		$0.00	
3. Adjunct Faculty	$25,000.00		$30,450.00		$30,913.50		$31,840.91	
4. Graduate/Undergrad Assistants	$0.00		$0.00		$0.00		$0.00	
5. Research Personnel	$0.00		$0.00		$0.00		$0.00	
6. Directors/Administrators	$17,841.91		$18,377.16		$18,928.48		$19,496.33	
7. Administrative Support Personnel	$10,000.00		$10,300.00		$10,609.00		$10,927.27	
8. Fringe Benefits	$13,955.93		$14,868.11		$15,266.90		$15,724.91	
9. Other: _____								
Total Personnel and Costs	$66,798	$0	$73,995	$0	$75,718	$0	$77,989	$0

	FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
B. Operating Expenditures								
1. Travel	$3,500.00		$3,500.00		$3,500.00		$3,500.00	
2. Professional Services								
3. Other Services			$2,000.00		$2,000.00		$2,000.00	
4. Communications								
5. Materials and Supplies			$1,000.00		$1,000.00		$1,000.00	
6. Rentals								
7. Materials & Goods for Manufacture & Resale								
8. Miscellaneous								
Total Operating Expenditures	$3,500	$0	$6,500	$0	$6,500	$0	$6,500	$0

	FY 2023		FY 2024		FY 2025		FY 2026	
	On-going	One-time	On-going	One-time	On-going	One-time	On-going	One-time
C. Capital Outlay								
1. Library Resources								
2. Equipment								
Total Capital Outlay	$0	$0	$0	$0	$0	$0	$0	$0

		FY 2023		FY 2024		FY 2025		FY 2026	
D. Capital Facilities Construction or Major Renovation									
E. Other Costs									
	Utilites								
	Maintenance & Repairs								
Other	Online Fee Distribution	$17,575.74		$30,757.55		$32,954.51		$32,954.51	
1)	ISU Central	$8,704.62		$15,233.09		$16,321.16		$16,321.16	
2)	ITRC/eISU	$8,871.12		$15,524.46		$16,633.35		$16,633.35	
	Total Other Costs	$17,576	$0	$30,758	$0	$32,955	$0	$32,955	$0
	TOTAL EXPENDITURES:	$87,874	$0	$111,253	$0	$115,172	$0	$117,444	$0
	Net Income (Deficit)	-$21,274	$0	$5,297	$0	$9,703	$0	$7,431	$0

Budget Notes (specify row and add explanation where needed; e.g., "I.A.,B. FTE is calculated using…"):

II.5	Per credit charge is $925. Total cost to sudents is $24,975
III.7	Administrative support personnel are part-time employees
III.B.3	$2,000 for online delivery software, continuing education costs, licensure costs, and professional development
III.B.5	$1,000 for printing & office supplies, mailings to students & clinical sites, small equipment (i.e. scanners), etc.

SUBJECT

Established Program to Stimulate Competitive Research (EPSCoR) Annual Report

REFERENCE

August 2016	EPSCoR provided their annual report to the Board
October 2017	EPSCoR provided their annual report to the Board
October 2018	EPSCoR provided their annual report to the Board
October 2019	EPSCoR provided their annual report to the Board
October 2020	EPSCoR provided their annual report to the Board

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.W. Higher Education Research

BACKGROUND/DISCUSSION

The Established Program to Stimulate Competitive Research (EPSCoR) is a federal-state partnership designed to enhance the science and engineering research, education, and technology capabilities of states that traditionally have received smaller amounts of federal research and development funds. Through EPSCoR, participating states are building a high-quality academic research base that is serving as a backbone of a scientific and technological enterprise.

Idaho EPSCoR is led by a state committee composed of 16 members, appointed by the Board, with diverse professional backgrounds from both the public and private sectors and from all regions in the state. The Idaho EPSCoR committee oversees the implementation of the Idaho EPSCoR program and ensures program goals and objectives are met. The Idaho EPSCoR office and the Idaho EPSCoR Project Director are located at the University of Idaho. Partner institutions are Boise State University and Idaho State University.

The purpose of EPSCoR awards is to provide support for lasting improvements in a state's academic research infrastructure and its research and education capacity in areas that support state and university Science and Technology Strategic Plans. Idaho EPSCoR activities include involvement in K-12 teacher preparation and research initiatives and projects ranging from undergraduate research through major state and regional research projects.

Consistent with Board Policy III.W.2.d., EPSCoR has prepared an annual report regarding current EPSCoR activities that details all projects by federal agency source, including reports of project progress from the associated external Project Advisory Board (PAB).

ATTACHMENTS

Attachment 1 – EPSCoR Annual Report
Attachment 2 – GEM3 Year 3 PAB Final Report

STAFF COMMENTS AND RECOMMENDATIONS

A full presentation and discussion of the EPSCoR Annual Report was provided to the Instruction, Research, and Student Affairs Committee on October 7, 2021.

BOARD ACTION

This item is for informational purposes only.

Idaho Established Program to Stimulate Competitive Research (EPSCoR): *Annual Report - 2021*

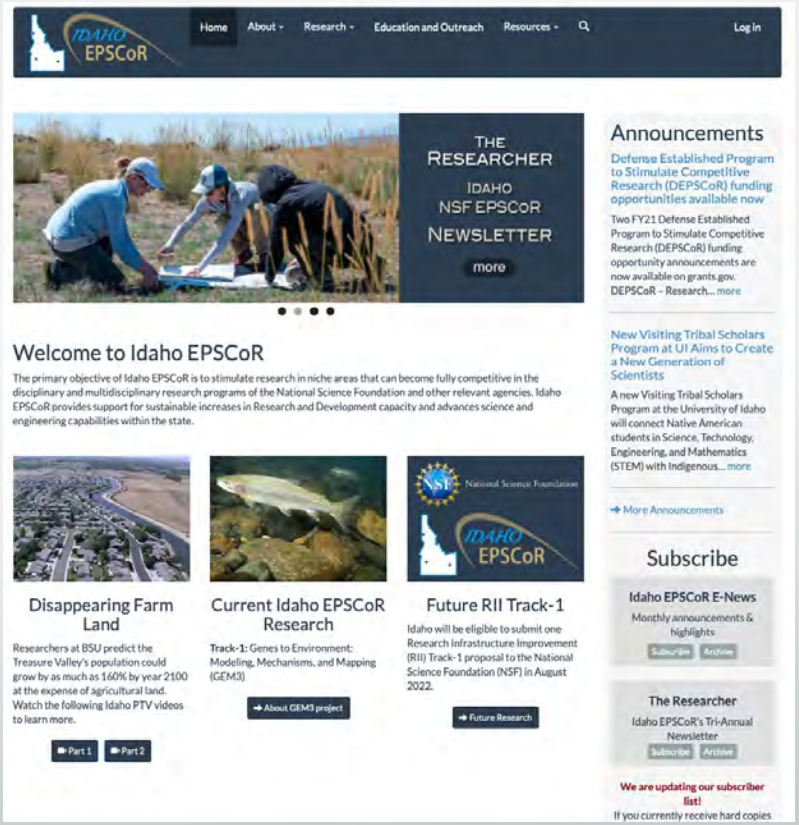
Laird Noh, Idaho EPSCoR Committee Chairman
Andrew Kliskey, Project Director
Rick Schumaker, Assistant Project Director

Idaho State Board of Education, IRSA
October 7, 2021

2021 Annual Report

www.idahoepscor.org

- EPSCoR/IDeA National Context
- NSF RII Track-1 "GEM3"
- Success Stories
- RII Track-1 Planning



Federal Funding for All Eligible States

Agency	FY19 Enacted	FY20 Enacted	FY21 Enacted	FY22 Budget Request	FY22 Coalition Goals	FY22 House Appropriations Committee	FY22 Senate Appropriations Committee
NSF	$175.60	$190.0	$200.0	$239.60	$220.0	$227.0	
NIH	$361.60	$386.6	$396.6	$410.50	$415.0	$415.0	
DOE	$20.0	$25.0	$25.0	$25.0	$25.0	$25.0	
USDA	$62.3*	$63.8*	$65.0*	$105.0	15% Language	$67.5*	
NASA	$21.0	$24.0	$26.0	$26.0	$32.0	$26.0	
DOD	$12.0	$12.0	$17.0	$0	$25.0	$5.0	
Total	**$652.5**	**$701.4**	**$729.6**	**$806.1**	**$717.0 + USDA**	**$765.5**	

Dollars in Millions.
Source: EPSCoR/ IDeA Coalition

IDAHO EPSCoR

Awards to Idaho

- ✓ RII Track-1, Track-2, Track-4
- ✓ INBRE, COBRE
- ✓ Infrastructure
- ✓ Multiple awards
- ✓ Research, Core

Active EPSCoR/IDeA Awards in Idaho

Agency	Title	Years	Institution(s)	Award Amount
NSF	Track-1: Linking Genome to Phenome to Predict Adaptive Responses of Organisms to Changing Landscapes	2018-23	U of I (w/ Boise State, Idaho State)	$20,000,000
NSF	**Track-2: Developing a Circular Bio-Based Framework For Architecture, Engineering and Construction Through Additive Manufacturing**	**2021-26**	**U of I**	**$3,974,309**
NSF	Track-2: Leveraging Big Data to Improve Prediction of Tick-Borne Disease Patterns and Dynamics	2020-24	U of I, NV, NH	$6,000,000
NSF	Track-2: Genomics Underlying Toxin Tolerance (GUTT): Identifying Molecular Innovations that Predict Phenotypes of Toxin Tolerance in Wild Vertebrate Herbivores	2018-22	Boise State (w/ NV, WY)	$6,000,000
NSF	Track-2: Using Biophysical Protein Models to Map Genetic Variation to Phenotypes	2017-21	U of I (w/ VT, RI)	$6,000,000
NSF	Track-2: A Multiscale, Multiphysics Modeling Framework for Genome-to Phenome Mapping via Intermediate Phenotypes	2018-22	KY, SC (w/ U of I)	$6,000,000

IDAHO EPSCoR

Active EPSCoR/IDeA Awards in Idaho

Agency	Title	Years	Institution(s)	Award Amount
NSF	Track-4: Investigating Evolutionary Innovations through Metagenomics	2017-21	Boise State	$131,000
NSF	Track-4: Using in-cell NMR to follow 13C-fluxomics in living cells	2017-21	Boise State	$194,000
NSF	Track-4: A Multi-omic Approach Towards an Understanding of the Environmental Implications of Antibiotics on Soil Processes	2018-21	U of I	$216,000
NSF	Track-4: Mechanical Regulation of Intra-Nuclear Mechanics and Gene Transcription	2019-21	Boise State	$213,571
NSF	Track-4: Optimizing the Chemistry of Heterointerfaces in Photovoltaics: A Combination of Electronic Structure Calculations and Machine Learning Approach	2019-21	U of I	$152,050
NSF	**Collaborative Research: Cultivating Indigenous Research Communities for Leadership and Education in STEM (CIRCLES)**	**2020-22**	**U of I**	**$76,051**

IDAHO EPSCoR

Active EPSCoR/IDeA Awards in Idaho

Agency	Title	Years	Institution(s)	Award Amount
NIH	Idaho INBRE^	2019-24	U of I	$17,664,267
NIH	COBRE: Matrix Biology	2014-24	Boise State	$20,815,235
NIH	COBRE: Center for Modeling Complex Interactions	2015-25	U of I	$21,600,000
NIH	COBRE: Emerging and Re-emerging Infectious Disease~	2016-21	IVREF	$10,000,000
NIH	~Identification and Dynamics of SARS-CoV-2 Sequence Variants in Idaho	2021	IVREF	$576,000
NIH	^SARS-CoV-2 variant surveillance using viral genome sequencing and analyses	2021	U of I	$737,106
DOE	Understanding Interfacial Chemistry and Cation Order-Disorder in Mixed-Phased Complex Sodium Metal Oxide Cathodes for Sodium Ion Batteries	2018-21	Boise State	$750,000
DOE	**DNA-Controlled Dye Aggregation – A Path to Create Quantum Entanglement**	**2019-23**	**Boise State**	**$8,000,000**

IDAHO EPSCoR

Active EPSCoR/IDeA Awards in Idaho

Agency	Title	Years	Institution(s)	Award Amount
NASA RID	Research Infrastructure Development 2019-2022	2019-22	U of I	$450,000
NASA Research	Space-Grade Flexible Hybrid Electronics	2017-21	Boise State	$848,000
NASA Research	Plasma-Jet Printing Technology for In-Space Manufacturing and In-Situ Resource Utilization	2019-22	Boise State	$749,841
NASA Research	CryoIdaho: Building Idaho's Cryosphere Research Community through Analysis of Terrain Effects on Snow and Ice Meltwater Fluxes	2021-23	Boise State	$750,000
NASA - Rapid	**Water Delivery and Gas Exchange Crop Stress Analysis for Space Exploration**	**2021-22**	**U of I**	**$36,359**
NASA - Rapid	**High-Temperature 3-D SiC Integrated Circuit Chip Packaging for Venus Surface Exploration**	**2021-22**	**U of I**	**$100,000**

IDAHO EPSCoR

Active EPSCoR/IDeA Awards in Idaho

Agency	Title	Years	Institution(s)	Award Amount
USDA	5 of 10 AFRI awards in FY19 plus*	Various	U of I, Boise State	$1,578,423
USDA	***Creating a new bioeconomy for dairies to increase nutrient recycling, enhance productivity of crops, & stimulate prosperity in rural America**	**2020-25**	**U of I**	**$10,000,000**
USDA	8 of 20 AFRI awards in FY20	Various	U of I, Boise State	$3,004,362

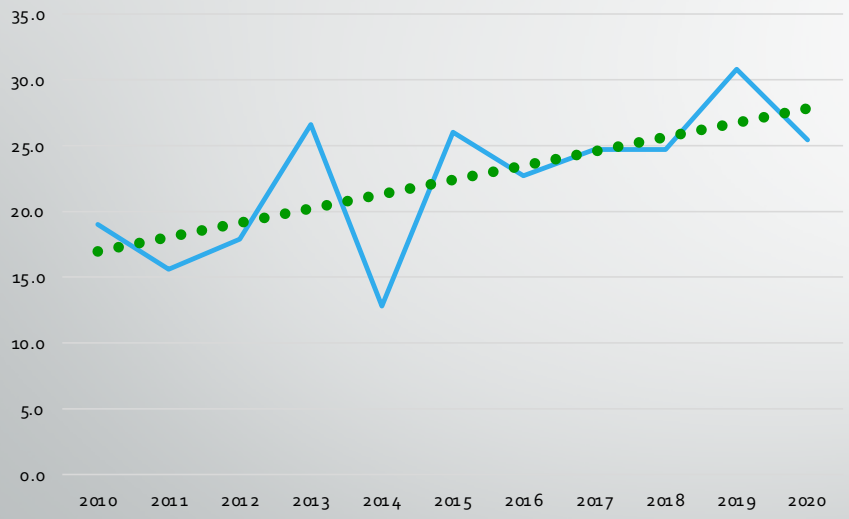
Co-Funded NSF Awards to Idaho

	# Awarded	EPSCoR Co-fund $	Project total $
FY16	5	$1,236,549	$3,117,085
FY17	3	$629,029	$1,258,583
FY18	6	$1,209,066	$3,200,014
FY19	3	$513,723	$1,586,814
FY20	10	$1,773,777	$3,727,664
Total	**27**	**$5,362,144**	**$12,890,160**

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Idaho's Research Competitiveness at NSF

Idaho's Total NSF funding ($M)



Idaho's share of total NSF funding, excluding EPSCoR RII (FY15-19)

0.27%

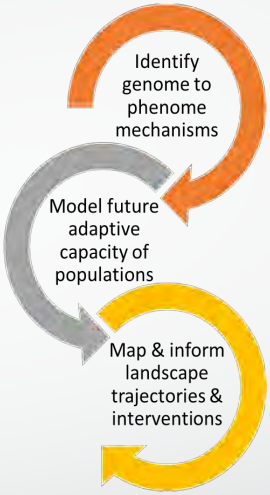


Total NSF funding to Idaho (FY20) = $25.4M,
36% increase from 2012

IDAHO EPSCoR

Idaho Track-1 RII: "GEM3" *Genes to Environment: Modeling, Mechanisms, and Mapping* - Oct 2018 – Sep 2023





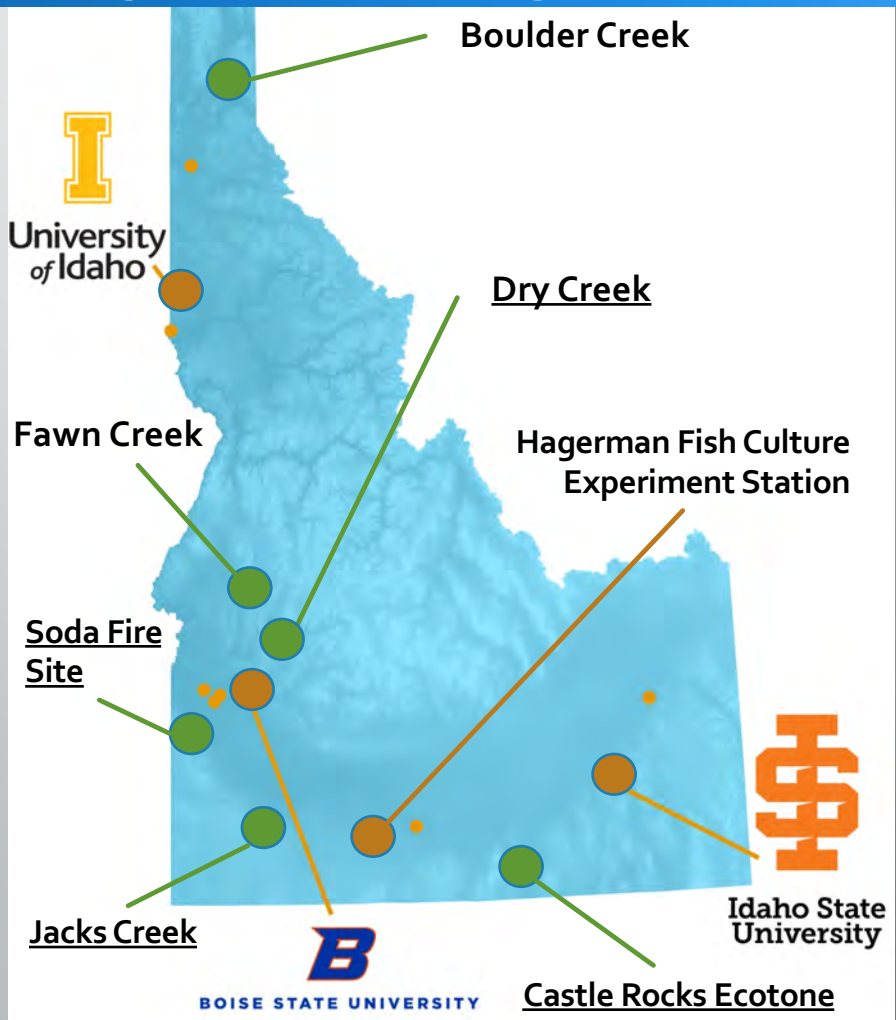


Idaho will lead the nation with thriving, collaborative, and inclusive research to discover and predict how plants, animals, and people interact and adapt to changing environments, resulting in the sustainable management of natural resources.



GEM3
Genes by Environment
Modeling · Mechanisms · Mapping

GEM3: Sagebrush Living Laboratories



Living laboratory locations

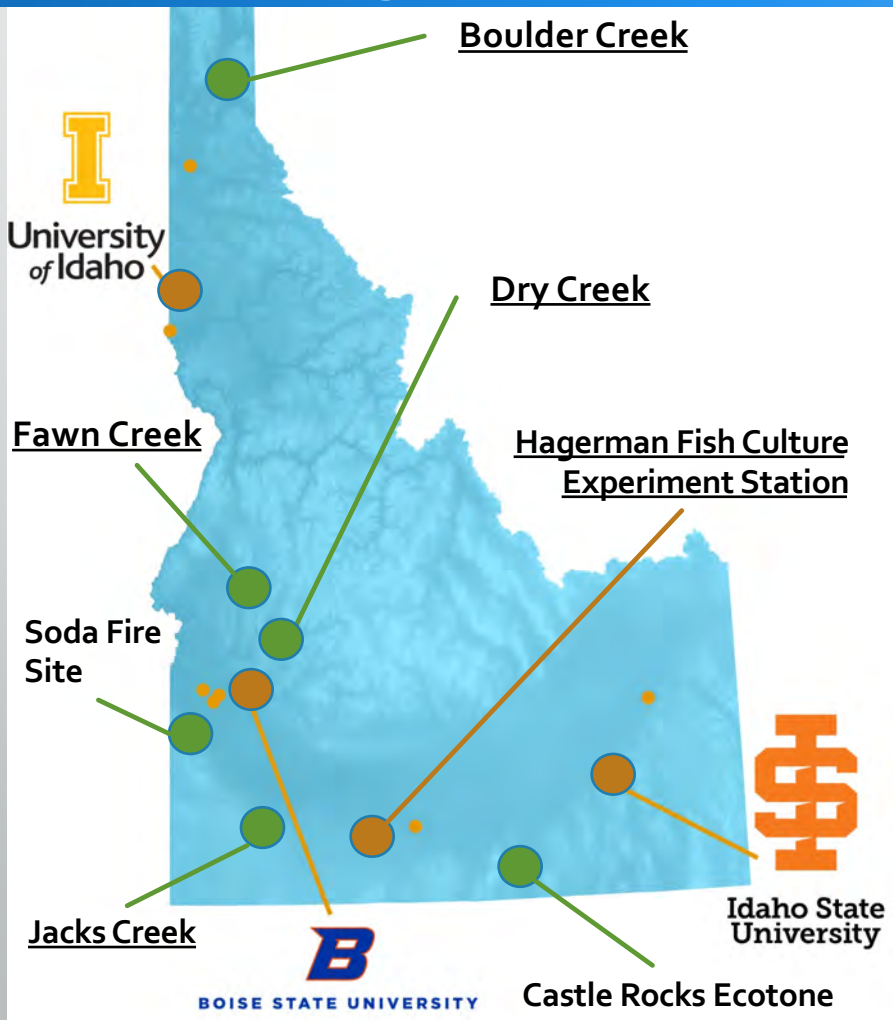
- Physical + Built laboratories
- Natural laboratories (field sites, common gardens)



IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

GEM3: Trout Living Laboratories



Living laboratory locations

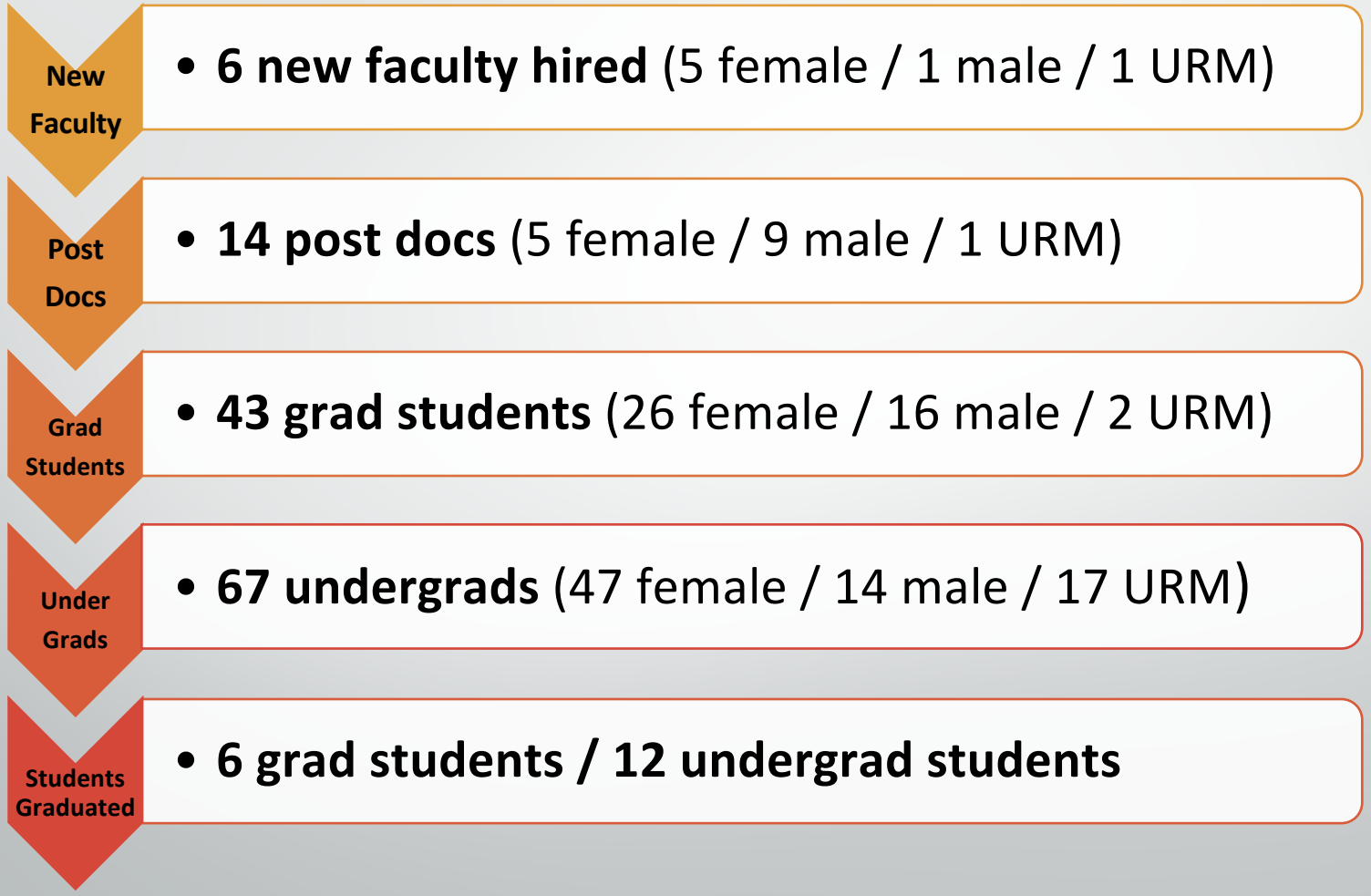
- Physical + Built laboratories
- Natural laboratories (field sites, common gardens)



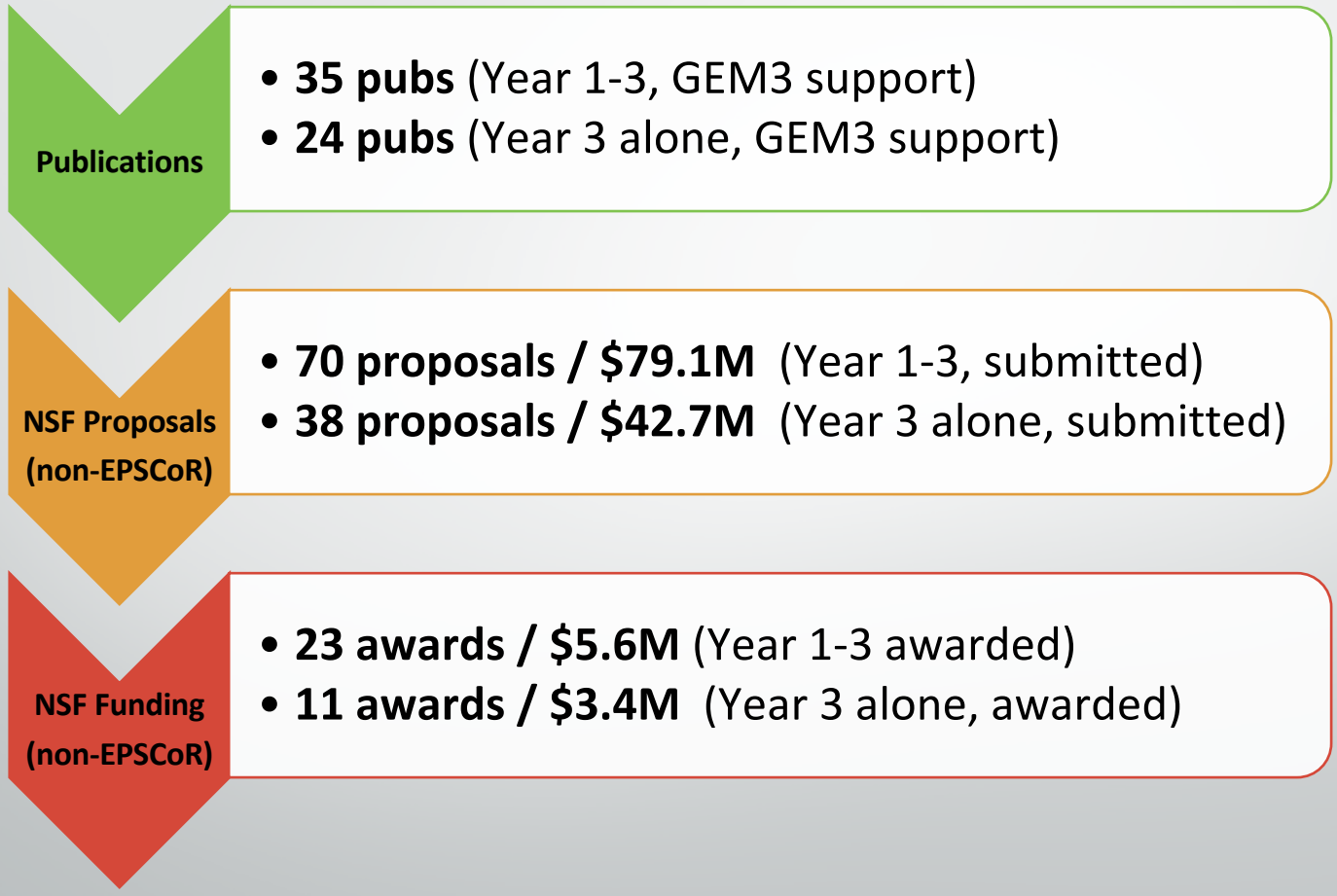
IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

GEM3 Project Outputs



GEM3 Project Outputs



GEM3 Project Outputs





- Boise State
- U of Idaho
- Idaho State

RESTORATION ECOLOGY
The Journal of the Society for Ecological Restoration
SER SOCIETY FOR ECOLOGICAL RESTORATION

REVIEW ARTICLE | Full Access

Integrating genomics in population models to forecast translocation success

Travis Seaborn, Kimberly R. Andrews, Cara V. Applestein, Tyler M. Breech, Molly J. Garrett, Andrii Zaiats, T. Trevor Caughlin

First published: 24 March 2021 | https://doi.org/10.1111/rec.13395

Abstract

Whole-genome sequencing is revolutionizing our understanding of organismal biology, including adaptations likely to influence demographic performance in different environments. Excitement over the potential of genomics to inform population dynamics has prompted multiple conservation applications, including genomics-based decision-making for translocation efforts. Despite interest in applying genomics to improve translocations, there is a critical research gap: we lack an understanding of how genomic differences translate into population dynamics in the real world. We review how genomics and genetics data could be used to inform organismal performance, including examples of how adaptive and neutral loci have been quantified in a translocation





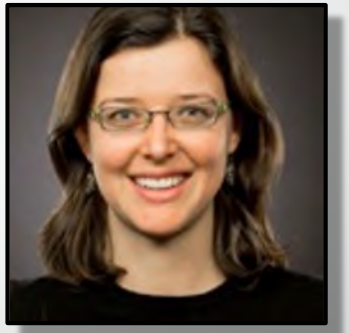


GEM3 Project Outputs

Award Abstract # 2025250
Collaborative Research: MTM 2: Using successional dynamics, biogeography, and experimental communities to examine mechanisms of plant-microbiome functional interactions

NSF Org:	EF Emerging Frontiers
Awardee:	
Initial Amendment Date:	August 25, 2020
Latest Amendment Date:	October 13, 2020
Award Number:	2025250
Award Instrument:	Standard Grant
Program Manager:	Mamta Rawat EF Emerging Frontiers BIO Direct For Biological Sciences
Start Date:	January 1, 2021
End Date:	December 31, 2024 (Estimated)
Total Intended Award Amount:	
Total Awarded Amount to Date:	$441,649.00
Funds Obligated to Date:	
History of Investigator:	Leonora Bittleston (Principal Investigator) leonorabittleston@boisestate.edu
Awardee Sponsored Research Office:	Boise State University 1910 University Drive Boise ID US 83725-0001

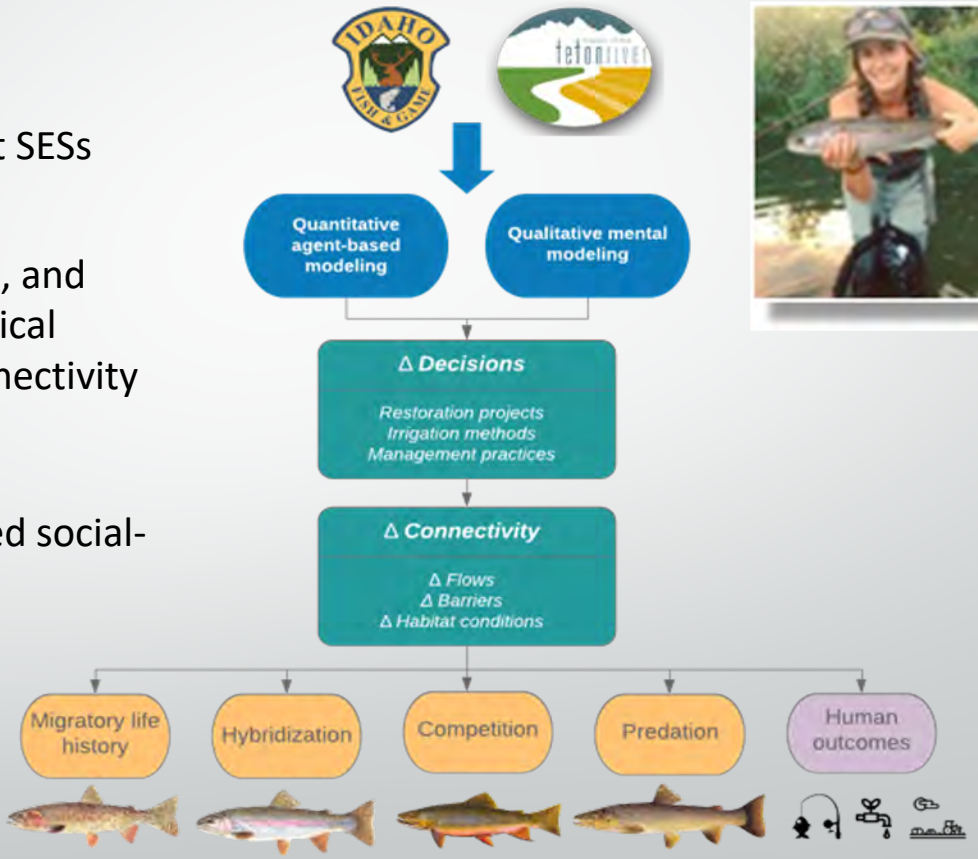
GEM3 New Hire



Leonora Bittleston
Ecological Genomics Modeling, BSU

GEM3 Graduate research – Lizzie Jossie (ISU)

- **Research problem:** Effects of connectivity conservation on Yellowstone Cutthroat Trout SESs
- **Data:**
  - 21 interviews with managers, farmers, and fishing guides about the social-ecological outcomes of re-establishing river connectivity
  - Legacy YCT life history data
- **Analysis:** Connectivity scenarios and modeled social-ecological outcomes in CDMetaPop





GEM3 Workforce Development and Education



(VIP) Vertically Integrated Project courses

- Offered a GEM3 VIP at each university
- Hired GEM3 Community College Liaison

Total: 73 students
Over 60% female
About 15% URM



Boise State University
-Environmental Sustainability
-Genome 2 Phenome
-Mapping Sagebrush Restoration

Idaho State University
-Quantifying Phenotypic Diversity in Sagebrush and Trout

University of Idaho
-Modeling the Change in Distributions due to Climate Change

GEM3 Integration of Research and Education

Summer Authentic Research Experiences (SARE)

Promote diverse participation and success in GEM3-related STEM fields.

- Paid research positions
- Seeks underrepresented minority (URM) students
- Provides an intensive laboratory & field experience
- Creates bridge between academic years
- 36 Students placed in 2021 (including 6 PUI/13 URM)



Aubrey Osorio, BSU SARE Student

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

GEM3 Partnerships: Stakeholder Advisory Groups

- MS student projects
- PhD projects
- Scenario development
- Seed grants
- Access to legacy data and joint data collection
- Long-term relationships can create synergies!





IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

GEM3 – Alignment with Idaho's S & T Plan

Contribution to Idaho S&T Goals:

- Increase research and collaboration among Idaho universities and colleges to advance research strengths and opportunities pertaining to critical issues in Idaho and the Nation
- Create research and development opportunities that strengthen the relationship between state universities and the private sector
- Contribute to the economic development of the State of Idaho
- Enhance learning and professional development through research and scholarly activity.

Contribution to Idaho S&T Priorities:

- *Natural Resource Utilization and Conservation*



IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

EPSCoR – Idaho RII Track-1 Planning

Research Theme: *Resilience for natural resource security and critical infrastructure*

Progress

- Spring 2021: Strategic planning exercise with Idaho EPSCoR Committee
- Spring – Summer 2021: Theme development via statewide listening, brainstorming, and collaboration workshops
- Summer 2021: solicitation for research innovation briefs - 8 papers received and externally reviewed

Timeline

- Fall 2021: finalize research topic
- Winter 2021-2022: assemble proposal writing team
- Spring 2022: complete first proposal draft
- Summer 2022: complete final proposal
- August 2022: submit proposal
- Spring – Summer 2023: Notification of outcome
- Fall 2023: start new Track-1 if awarded

IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

Idaho's NSF EPSCoR – Building Research Competitiveness



https://www.idahoepscor.org



https://www.idahogem3.org



https://www.nsf.gov/od/oia/programs/epscor/

IDAHO NSF EPSCOR PROJECT ADVISORY BOARD (PAB) REPORT ON THE IDAHO EPSCOR RESEARCH INFRASTRUCTURE IMPROVEMENT TRACK-1 COOPERATIVE AGREEMENT

(#IIA-1757324)

YEAR THREE

DECEMBER 2020

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INTRODUCTION

The RII project "Linking Genome to Phenome to Predict Adaptive Responses of Organisms to Changing Landscapes" was funded by the National Science Foundation (NSF) Established Program to Stimulate Competitive Research (EPSCoR) and led to the Idaho Research Infrastructure Improvement (RII) Track-1 Cooperative Agreement. The project is referred to as *GEM3* for *Genes to Environment: Modeling, Mechanisms, and Mapping*. The Idaho EPSCoR Project Advisory Board (PAB) met virtually December 8-10, 2020 as part of the *GEM3* annual meeting to hear progress toward the goals set forth in the Strategic Plan, which was updated in October 2020. The theme of the meeting was "Collaboration, Integration, Convergence," and the meeting was structured around those three areas. The PAB was asked to provide objective feedback on the progress to date as compared to the milestones for year three, as well as progress on the recommendations and responses to the NSF Reverse Site Visit (RSV) report. A roster of current PAB members is provided in Appendix A.

NSF EPSCoR funded this 60-month award in October 2018 at $20 million over five years. The State of Idaho has committed to contribute $4 million in additional funds towards the project over the five-year period. The University of Idaho (UI) is the fiscal agent for the award, and Boise State University (BSU) and Idaho State University (ISU) receive funding through subcontracts. Dr. Andy Kliskey is the Idaho EPSCoR/IDeA Project Director (PD) and the Principal Investigator (PI) for the RII Track-1 Cooperative Agreement. Co-Principal Investigators are Dr. Christopher Caudill (University of Idaho), Dr. Jennifer Forbey (Boise State University), and Dr. Colden Baxter (Idaho State University).

This report is intended to provide feedback to help the GEM3 project team as they work toward the goals and objectives of Year 3 as outlined in their Strategic Plan. This report is comprised of three parts: notable strengths of the project, challenges and recommendations, and conclusions.

STRENGTHS

The leadership structure has been expanded to include co-leads at each of the three universities and in each of the "three M's"--Mechanisms, Mapping, and Modeling. This is seen as a positive move. The leadership is clearly doing excellent work in coordinating activities and communication, prioritizing projects, and inspiring the entire team. The "30,000-foot, 10,000-foot, and 5,000-foot" diagrams representing convergence frameworks were a helpful component of the presentations, and much-improved integration of the work of the various research groups was evident. The quality of several of the presentations by postdocs and junior faculty was excellent.

The gender diversity in the leadership of GEM3 is very positive, reinforced by the numbers of females among the faculty, postdocs, grad students, and undergraduate researchers. The successes of the Summer Authentic Research Experiences (SARE) Program in attracting Shoshone-Bannock student participants were notable. SARE has also had diverse participation, with 71% of the recipients being female and 59% URM in the Summer of 2020.

The translation of GEM3 science into Spanish is a significant contribution to broadening its potential impacts and motivating non-native English speakers' interest in STEM. UI is in the final stages of hiring a Visiting Tribal Scholar for an up-to-two-year appointment. While less ambitious than a permanent faculty position, it is clearly achievable and will have a significant impact.

The addition of a Primarily Undergraduate Institution (PUI) faculty member as an interface to the PUI's around the state appears likely to improve the adoption of GEM3-developed activities and recruitment of participants into STEM activities to which they might not otherwise be exposed.

The interaction with stakeholder groups appears to have gone extremely well before the pandemic hit, and to be experiencing a revival as many have learned to deal with new forms of interaction in the pandemic environment. The idea of "decolonizing" as extendable not only to political history, but also to science, was a good addition to GEM3.

The progress in the modeling working groups is excellent. It appears to be reaching the stage where they could provide diagrams closer to the data-flow or pipeline diagrams that the RSV report called for, rather than simply block diagrams of the projects being pursued. It was clear, for example, from Chris Caudil's presentation introducing the Trout/Sage Integration Working Group, that they are asking exactly the right kinds of questions to allow model integration, rather than simply focusing on a set of independent models. This includes what is being measured as well as both the inputs and outputs for key components.

The PAB's recommendations regarding the redesign of the rainbow trout (RBT) common garden experiments to include at least diel temperature variation has been implemented. A further step has been taken in conducting temperature choice experiments by which an experimental individual trout is able to move between different temperature environments. A clever aspect of this experiment is that it is dynamically adaptive, with water temperature being adjusted according to where the trout spends most time, allowing further refinement of estimation of temperature preferences. That is a significant and commendable response to the PAB input. We encourage later experiments to continue with the PAB recommendations for adding extreme events into the experimental design - e.g., simulated multi-day heat waves. Building upon earlier experiments by conducting heat wave treatments with fish that have been kept in different environments (e.g., at different temperatures, and/or at constant vs. variable temperatures), this could generate not only interesting results but also point to differences in vulnerabilities of different populations to heat waves depending upon their recent environmental history. Such results would have clear management implications (e.g., estimation of most resilient vs. most vulnerable populations to climate change).

The modeling activity is beginning in earnest, and this workshop and other meetings are helping to connect the data generators with the data consumers (e.g., modelers). It will be important for both groups to be kept in close touch, to motivate future experiments to fill holes in the data required for modeling, and to maximize the utilization of the data to improve the models.

The efforts and progress in broadening participation were both impressive, including efforts to assure their adoption across all three universities. There was real progress in mentorship training of faculty members regarding their researchers. While the DEI chart did not show meeting goals in all areas, and some of the goals were still relatively modest, the goals were met in some areas, and significant and actionable plans were presented to broaden future participation. In the face of the roadblocks imposed by the pandemic, by the state's House Bill 440, and the Presidential Executive Order, the progress was impressive. Looking, for example, at the new hires of faculty and postdocs, the gender representation was absolutely stellar, and some progress was made in other diversity, although some losses of diverse personnel also occurred. It seems evident that Donna Llewellyn is doing an excellent job in keeping Broadening Participation goals in prominent view across GEM3, and that, despite the barriers, it is having an impact.

The two groups - Sagebrush and RBT - have come a long way in just a year and have become much more cogent, while also having broadened their research focus to better integrate and support the 3 M's. They are beginning to talk to each other more, and the current "integration" Working Group seems to be a good step forward to increase their communication and ensure the research has cross-boundary interest and significance.

The sagebrush genetics group has progressed admirably, especially given their set-backs with the loss of much of the cultures due to COVID restrictions. The literature mining tool is an excellent product on its own, as well as having given an enormous boost in identifying potentially interesting genes.

The leadership was very responsive to the input of the PAB with respect to acquiring more expertise in hydrological modeling. The new research being done in this area shows a lot of promise in helping to integrate the RBT and Sagebrush research groups - e.g., via impacts of fire.

The G2PMineR software developed in GEM3 appears to have been very useful already and to have broad applicability even beyond GEM3. Its automation of an otherwise extremely labor-intensive process could be an important step in helping GEM3 to meet some of its mechanism-related goals.

CHALLENGES & RECOMMENDATIONS

Integration and Synthesis: A key challenge is that the project needs both integration and synthesis. Integration is the act or process of uniting different themes, and synthesis is the combining of diverse concepts into a coherent whole. As the Idaho EPSCoR project grows broader and more complex in personnel, topics, and methods, the challenge is not only integration but also synthesis. The project should focus both on integration and synthesis in upcoming years. The exciting synthetic products that can come from GEM3 will be important ways to define success as the project proceeds to completion.

The progress in the modeling working groups appears to be reaching the stage where they could provide diagrams closer to the data-flow or pipeline diagrams that the RSV report called for, rather than simply diagrams showing the projects being pursued.

Stakeholder Engagement: The reality of the involvement of the stakeholders is evident in the divergence of prioritization of the various goals and objectives that is emerging. While that represents a challenge to decision-making, it is also a positive in showing that the stakeholders are actively engaged and may be willing to consider the eventual outputs of the research.

Agent Based Models: Understanding of the nature of Agent Based Models (ABMs) seems not to be universal among GEM3 participants, but it is important that all understand what is required for a phenomenon to be included in an ABM, and what kinds of conclusions can arise from agent based modeling. More training on this topic would be good for the team, perhaps in GEM3 seminars.

Sagebrush Genetics: The sagebrush genetics group has progressed well and now has an exciting set of candidate genes to target, but it will still be challenging to sort through them and determine which will give the most bang for the buck with respect to project goals.

Broadening Participation: Regarding broadening participation and Diversity, Equity, and Inclusion efforts, the PAB encourages continued pursuit and advancement of the broadening participation goals to meet the strategic targets of the award, including diversification of the faculty. We encourage continued expansion of the excellent ongoing work through increasing participation in inclusive mentoring education (e.g., by making it a requirement in order to receive funding, etc.), expanding assessment for climate/inclusion in research projects (e.g., student assessment of mentors, etc.), and inclusive pedagogy approaches for digital environments (e.g., building community through peer mentoring, etc.).

Tribal Faculty: At ISU, the more ambitious project to establish a Shoshone-Bannock Cooperative Tribal Faculty position, as a full-time, permanent faculty position is currently stalled for financial reasons at the university level. The PAB urges ISU leadership to give this position priority for establishment as soon as financial improvements allow.

PAB encourages continued pursuit and advancement of the broadening participation goals to fulfill the obligations of the National Science Foundation award, including diversification of the faculty. We encourage continued expansion of the excellent ongoing work through increasing participation in inclusive mentoring education, expanding assessment for climate/inclusion in research projects, and inclusive pedagogy approaches for digital environments.

CONCLUSIONS

The PAB observed excellent progress during this third project year. Strengths of the project include the diversity of the participants, increased collaboration across the three M's of the project, and progress toward integrating the research areas. Recommendations include focusing on both integration and synthesis in the research areas and providing additional ABM training. The PAB also strongly supports the Tribal faculty position progress at UI and ISU and urges ISU administration to prioritize the Tribal faculty line.

APPENDIX A. PROJECT ADVISORY BOARD MEMBERS

Name	Affiliation
Clifford Dahm	Professor Emeritus of Biology, University of New Mexico; Former Lead Scientist, California Delta Science Program
Jason Dunham	Supervisory Research Ecologist/Professor, USGS; Courtesy Faculty Appointment, Department of Fisheries & Wildlife-Aquatic Ecology, Oregon State University
Erik Goodman	Executive Director, BEACON Center for the Study of Evolution in Action; Professor of Electrical and Computer Engineering and of Mechanical Engineering and of Computer Science and Engineering, Michigan State University
Michael Khonsari	Dow Chemical Endowed Chair, Professor of Mechanical Engineering, Louisiana State University; Project Director, LA EPSCoR PD; Associate Commissioner for Sponsored Research and Development Programs, Louisiana Board of Regents
Christine Ortiz	Morris Cohen Professor of Materials and Science and Engineering; Bio; Biotechnology; Nanotechnology; Polymers; Massachusetts Institute of Technology
Camille Parmesan	Professor, CNRS Ecology Institute (SETE), Moulis, France; NMA Chair in Public Understanding of Marine Science & Human Health, School of Biological & Marine Sciences, Plymouth University, U.K.; Department of Geological Sciences, University of Texas at Austin, U.S.A.
Anna Waldron (PAB chair)	Associate Project Director, Missouri EPSCoR; Owner, Waldron Educational Consulting, LLC

SUBJECT

Idaho Math Transitions Network Update

REFERENCE

September 2017	Board adopted the Governor's Higher Education Task Force recommendations, which includes Complete College America 'Game Changer' strategies, including the Math Pathways strategy.
December 2017	Board reviewed implementation of Complete College America "Game Changer" strategies and the effectiveness of initiatives supported by CCI funding, including the Math Pathways strategy.
August 2018	Board provided with overview regarding Idaho's selection as a Momentum Pathways state by Complete College America

BACKGROUND/DISCUSSION

The Idaho Mathematics Transition Network (MTN) began at a convening of the Conference Board of Mathematics Sciences in Reston, VA during May 2019, with the purpose of addressing issues and engaging the necessary parties in creating solutions to modernize high school mathematics education. Across the nation, high school mathematics courses focus on a calculus-based curriculum, which does not presently align to the math pathways in higher education. Modernizing the high school mathematics curriculum will involve aligning high school math course pathways to college mathematics programs and the use of mathematics in Idaho industries. The MTN is working toward providing high school juniors and seniors choices for and success in math courses aligned to their chosen career paths.

The Steering Committee includes postsecondary math faculty from each institution of higher education in Idaho, high school mathematics teacher-leaders and administrators from each Region, and staff from the State Department of Education, the Idaho Division of Career Technical Education, and the Office of the State Board of Education. The overarching goals of the Idaho MTN include:

- Providing recommendations on redefining local criteria constituting success in high school and college mathematics.
- Identifying strategies for the effective delivery of transitional math instruction in high school and college in order to provide multiple pathways for students to achieve success in mathematics.
- Increasing the success of transitional mathematics through facilitation of communication among academic and non-academic stakeholders.
- Providing recommendation on improving content, assessment, and instruction so as to better serve students and increase their success in high school and college mathematics, subject to standards set by the Board in administrative rule or by local governing boards.

- Providing recommendation aligning high school and college mathematics courses and expectations based on the academic and career pathways of students to enable success throughout their postsecondary career and beyond.

The Math Transition Network is focused on supporting a successful transition mathematics education from a student's junior year of high school to their junior year of college.

ATTACHMENTS

Attachment 1 – Idaho Math Transitions Network Update

BOARD STAFF COMMENTS AND RECOMMENDATIONS

The MTN developed a set of planned action steps for Fiscal Year 2021. The attached update provides a progress report on each of these planned action steps, as well as next steps for Fiscal Year 2022.

This update was presented to and discussed with the Instruction, Research and Student Affairs Committee on October 7, 2021.

BOARD ACTION

This item is for informational purposes only.

ATTACHMENT 1

2021 UPDATE ON THE IDAHO MATH TRANSITIONS NETWORK

To: Kurt Liebich, President, Idaho State Board of Education

Sherri Ybarra, Superintendent of Public Instruction

Cc: Matt Freeman, Executive Director, Office of the State Board of Education

Todd Driver, Director of Content and Curriculum, State Department of Education

From: Math Transitions Network Steering Committee

Committee Facilitators:

TJ Bliss, Chief Academic Officer, Office of the State Board of Education

Cathy Beals, Mathematics Coordinator, State Department of Education

High Education Representatives:

Ann Abbott, Senior Instructor, University of Idaho

Susan Adeylotte, Associate Professor, College of Western Idaho

Joe Champion, Associate Professor, Boise State University

Ron Cresswell, Chair Mathematics Department, College of Southern Idaho

Kimberly Gores, Assistant Professor Math, North Idaho College

Randa Kress, Senior Instructor Math, Idaho State University

Spencer Payton, Mathematics Instructor, Lewis-Clark State College

Betsey Pitts, Instructor, College of Eastern Idaho

K-12 Representatives:

Chet Andes, Idaho Division of Career Technical Education

Tom Albertson, Superintendent, Lake Pend Oreille School District Region 1

Lanna Proctor, Teacher, Deary High School, Region 2

Jerod Morehouse, Teacher, Timberline High School, Region 3

L.T. Erickson, Curriculum Director, Twin Falls School District, Region 4

Jennie McClain, Teacher, Malad High School Region 5

Levi Jaynes, District Math Coordinator and High School Principal, Jefferson School District, Region 6

ATTACHMENT 1

What is the Math Transitions Network?

The Idaho Mathematics Transition Network (MTN) began at a convening of the Conference Board of Mathematics Sciences in Reston, VA during May 2019, with the purpose of addressing issues and engaging the necessary parties in creating solutions to modernize high school mathematics education. Across the nation, high school mathematics courses focus on a calculus-based curriculum, which does not presently align to the use of mathematics in Idaho colleges and careers. Modernizing the high school mathematics curriculum will involve aligning high school math course pathways to college mathematics programs and the use of mathematics in Idaho industries. The MTN is working toward providing high school juniors and seniors choices for and success in math courses aligned to their chosen career paths.

The Steering Committee includes postsecondary math faculty from each institution of higher education in Idaho, high school mathematics teacher-leaders and administrators from each Region, and staff from the State Department of Education, the Division of Career and Technical Education, and the Office of the State Board of Education. The overarching goals of the Idaho MTN include:

- Providing recommendations on redefining local criteria constituting success in high school and college mathematics.
- Identifying strategies for the effective delivery of transitional math instruction in high school and college in order to provide multiple pathways for students to achieve success in mathematics.
- Increasing the success of transitional mathematics through facilitation of communication among academic and non-academic stakeholders.
- Providing recommendations on improving content, assessment, and instruction so as to better serve students and increase their success in high school and college mathematics.
- Providing recommendations on appropriately aligning high school and college mathematics courses and expectations based on the academic and career pathways of students to enable success throughout their postsecondary career and beyond.

Focus Statement

The Math Transitions Network is focused on supporting a successful transition in mathematics education from a student's junior year of high school to their junior year of college.

2020-21 Planned Action Steps

This section reports progress on each of the 2020-2021 planned action steps.

1. **Solicit input from stakeholders about mathematics transitions through Regional meetings and surveys, with a particular emphasis on multiple pathways for student achievement.**
   - The MTN wrote and administered a survey for Idaho High Schools. Key findings from 77 of 260 high schools:
     - 67.6% of responding high schools are interested in moving toward offering more integrated, applied math courses for juniors and seniors aligned to college and career pathways.

- 61% of responding high schools use a traditional Algebra 1 – Geometry – Algebra 2 course sequence for their high school math pathway.
- 76.6% of responding high schools are offering trigonometry and/or pre-calculus as an elective for juniors and seniors.
- 1.3% of responding high schools are offering a course in data science as a math elective for juniors and seniors.
- 3.9% of responding high school are offering the dual credit course Math in the Modern Society as an elective for juniors and seniors.
- 75.3% of responding high schools have had no professional development on integrating computer science into math courses.
- 53.2% of responding high schools would be interested in participating in a long-term, intensive professional development project (3 to 5 years) focused on creating a research-based high school mathematics program.

- Offered a one credit, virtual professional development course through Northwest Nazarene University (NNU) on Catalyzing Change in Idaho High School Math for high school educators and leaders that engaged 89 participants in readings and conversations. From these conversations and the course evaluations, we identified areas of needed support for Idaho high schools and planned two professional development courses for 2021-22 school year. Key points from course evaluation data include:
  - 94% of 54 responders strongly agreed or agreed that they gained a better understanding of the need to restructure high school math programs from the course.
  - 94% of responders strongly agreed or agreed that they enjoyed collaborating with teachers from across the state.
  - Eliminating tracking practices based on math ability and connecting math instruction to industry needs were identified as the two areas that high schools needed the most support for implementing.
  - Qualitative data provided suggestions on how the MTN can support high schools in future work. Suggestions included:
    - Needs to be a statewide effort; classroom teachers cannot lead systemic change alone
    - Example units and curriculum using applied math projects
    - Data science courses curriculum and professional development
    - Cross-walk Idaho Math Content Standard with CTE Standards
    - Professional development on strategies and intervention systems to eliminate ability tracking
    - More resources and information on connections between high school math and use in Idaho industries and careers
    - Offer statewide math courses for small high schools that cannot provide a variety of courses for juniors and seniors

- Build a collection of resources
- Reduce the number of high school math standards to provide more focus and show examples of a variety of courses aligned to standards
- Regional task groups

- Established a partnership with Idaho Council of Teachers of Mathematics (ICTM) to set up membership through them.
- Established a connection to the Stem Action Center through the Stem Ecosystem Career Pathway Exploration work group.

2. **Build knowledge of potential solutions and policy recommendations.**
   - Analyzed Idaho policies in mathematics related to high school and college mathematics and noted areas schools may need support. Did not see a need for any policy changes at this time.
   - Studied high school math pathways work from other states- Ohio, Virginia, Utah, Oregon
3. **Draft recommendations for improving mathematics transitions in Idaho.**
   Created a rough draft of a *Guidance for Idaho High Schools* document
4. **Seek input from stakeholders about the draft recommendations.**
   Not completed because the document is still in draft form and not ready for review.
5. **Synthesize the draft recommendations for consideration by OSBE.**
   Developed proposal for funding of professional development for school leaders and math educators.

Additional work completed in 2020-21

- Added Steering Committee members to represent K-12 education interests from all educational regions.
- Clarified the charge in 2021 Update on the Idaho Math Transitions Network document.
- Created a Project Plan for 3, 6, 9 months.
- Created graphics on slides to clarify the vision.
- Received support for this work from the Superintendent of Public Instruction and members of the Instruction, Research and Student Affairs Committee of the State Board of Education.
- Connected the Idaho Regional Math Centers (IRMC) to the work and added time and support for the work in the FY21 RMC contracts.
- Established connections with the Idaho Division of Career Technical Education (CTE) and added a steering committee member from that division.
- Explored Ohio's mentoring program as a way of supporting high schools through a process of transforming their mathematics course pathways.

Next Steps for 2021-22

1) Offer two, one-credit professional development courses through NNU for high school math educators and leaders in follow up to the Catalyzing Change in High School Mathematics course.

Course 1: *Catalyzing Change in High School Mathematics: Algebra for All*

This course will focus on strategies for helping all students succeed in Algebra 1 in their freshman year without sorting students into courses by ability. The course will teach the developmental trajectory of algebraic understanding and strategies for differentiation. It will also discuss successful practices for providing intervention for students who struggle to pass Algebra I at the high school level.

Course 2: *Catalyzing Change in High School Mathematics: What is Data Science?*

This course will focus on building awareness of how data is used in Idaho industries for high school mathematics educators. It will help them define data science and show connections between the Idaho Content Standards for Mathematics and data science. It will also provide teaching strategies and resources.

2) Host regional math networking dinners

The MTN will partner with ICTM, the Regional Math Centers and Imagine Math to host a networking dinner in each region. These dinners will update regional mathematics leaders and industry partners on the work of the MTN and engage them in conversations designed to solicit input.

3) Create communication assets

The SDE will work with Regional Math Center staff to create communication tools such as an infographic and a slide deck and add information and resources about the MTN to the SDE mathematics webpage.

4) **Request additional funding**

The MTN is exploring funding options to add a secondary regional math specialist for each region to support Idaho high schools interested in transforming their mathematics courses and pathways.

5) Create a guidance document and a crosswalk that shows how the Idaho Mathematics Content Standards align to Career and Technical Education Standards in different career clusters.

Participants in the Catalyzing Change course expressed interest in a document that would help them integrate showing mastery of mathematics standards into Career and Technical Education courses.

6) Finish SDE guidance document on high school mathematics.

This document is in draft form and will be completed and posted on the SDE Mathematics webpage.

7) Create a consistent statewide system of placement into college mathematics courses based on current evidence-based practices.

Staff at the Dana Center from University of Texas have agreed to help facilitate this project by providing resources and expertise from similar work with dozens of states working to improve high school mathematics pathways.

SUBJECT

Recognition of Commission on Osteopathic College Accreditation

REFERENCE

February 2016	Board approved Idaho State University (ISU) to execute a collaborative affiliation agreement with the Idaho College of Osteopathic Medicine, LLC (ICOM).
August 2016	Board approved execution of a Ground Lease for ICOM to build its medical education building on the ISU Meridian campus.
February 2017	Board approved amendment of ISU's six-year plan and authorized ISU to begin engineering and cost-estimating for expansion of the Anatomy and Physiology (A/P) Lab Building Addition on the ISU Meridian campus.
August 2017	Board approved License Agreement between ISU and ICOM for the use of A/P Lab space.
April 2017	Board authorized ISU to enter into an Institution Review Board MOU with ICOM and to proceed with negotiations on an IRB Authorization Agreement.
October 2017	Board approved amendment to the License Agreement for Space between ISU and ICOM for use of the ISU A/P Lab space.
December 2020	Board received a progress report on ICOM's growth and advancement in the Treasure Valley.

APPLICABLE STATUTE, RULE, OR POLICY

Section 33-2401(1), Idaho Code

Idaho Administrative Code, IDAPA 08.01.11.100, Recognition of Accreditation Organizations

Idaho Administrative Code, IDAPA 08.01.11.200, Registration of Postsecondary Educational Institutions

BACKGROUND/DISCUSSION

Idaho College of Osteopathic Medicine (ICOM) has operated as a registered proprietary school since 2017. In accordance with IDAPA 08.01.11.200.02.d, ICOM may register as a postsecondary educational institution once it obtains full accreditation by an accreditation organization that is recognized by the Board. ICOM is presently in pre-accreditation status with the Commission on Osteopathic College Accreditation (COCA) and anticipates a final ruling to obtain full accreditation status in April 2022. ICOM's first class will graduate in May 2022.

Pursuant to IDAPA 08.01.11.100, "the Board recognizes regional and national accreditation organizations that are recognized by and in good standing with the United States Department of Education, which accredit entire colleges and

universities, and which do not accredit only courses or courses of study (such as specialized accreditation organizations)."

The United States Department of Education lists COCA as a programmatic accreditor that is recognized for the accreditation of freestanding, single purpose institutions in addition to the accreditation of specialized programs at larger institutions. ICOM is a freestanding, single purpose institution.

IMPACT

Board recognition of COCA as an accrediting organization for purposes of registration of postsecondary educational institutions will allow ICOM, once fully accredited, to register as a postsecondary educational institution that may grant degrees in Idaho. This recognition must be confirmed prior to May 2022 to allow ICOM to award to its first graduating class. Recognition of the accrediting organization will make any program accredited by COCA eligible for registration in Idaho.

BOARD STAFF COMMENTS AND RECOMMENDATIONS

Staff recommends that the Board confirm its recognition of COCA as an accrediting organization for purposes of registration of postsecondary educational institutions.

BOARD ACTION

I move to confirm Board recognition of the Commission on Osteopathic College Accreditation as an accrediting organization for purposes of registration of postsecondary educational institutions.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

TAB	DESCRIPTION	ACTION
1	LEWIS-CLARK STATE COLLEGE – ANNUAL PROGRESS REPORT	Information Item
2	IDAHO DIVISION OF VOCATIONAL REHABILITATION – ANNUAL REPORT	Information Item
3	SCHOOL SAFETY AND SECURITY PROGRAM – UPDATE	Information Item
4	SCHOOL READINESS DEFINITION/STANDARDS	Action Item
5	ARP ESSER SEA SETASIDE FUNDING REQUEST	Action Item
6	PROPOSED OMNIBUS RULE – DOCKET 08-0000-2100	Action Item
7	PROPOSED OMNIBUS RULE – DOCKET 55-0000-2100	Action Item
8	PROPOSED OMNIBUS FEE RULE – DOCKET 08-0000-2100F	Action Item
9	BOARD POLICY I.E. EXECUTIVE OFFICERS – SECOND READING	Action Item
10	BOARD POLICY IV.E. DIVISION OF CAREER TECHNICAL EDUCATION – SECOND READING	Action Item

LEWIS-CLARK STATE COLLEGE

SUBJECT

Lewis-Clark State College – Annual Progress Report

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section I.M.3

BACKGROUND/DISCUSSION

This agenda item fulfills the Board's requirement for Lewis-Clark State College to provide a progress report on the institution's strategic plan, details of implementation, status of goals and objectives and information on other points of interest in accordance with a schedule and format established by the Board's Executive Director.

IMPACT

This institutional annual report serves to provide a state of the college update and inform the Idaho Board of Education of the annual Presidential Priorities and how they are and will be used to guide the institution forward.

ATTACHMENTS

Attachment 1 – Lewis-Clark State College Annual Report

STAFF COMMENTS AND RECOMMENDATIONS

Board Policy I.M. requires each institution and agency to report to the Board annually on "progress on the approved strategic plan, details of implementation, status of goals and objectives, and expanded information on points of interest and special appropriations."

The institution annual progress report gives the Board the opportunity to discuss advancement toward the institution's strategic plan goals, initiatives the institution may be implementing to meet those goals, barriers identified and progress toward the Board's educational system initiatives. Additionally, this time will be used to update the Board on the institution program prioritization implementation. The institution's program prioritization five-year written report was provided to the Board at the August 2021 Regular Board meeting agenda.

BOARD ACTION

This item is for informational purposes only.



PROGRESS REPORT

OCTOBER 2021

LEWIS CLARK
STATE COLLEGE

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Institutional Overview

Lewis-Clark State College (LC State) is a regional state college, operating under the governance of the Idaho State Board of Education. Its mission, as approved by the Idaho State Board of Education, is…*Lewis-Clark State College prepares students to become successful leaders, engaged citizens, and lifelong learners.* In so doing, the college emphasizes:

- Undergraduate teaching and learning
    - Research plays a supporting role to teaching
- Application of learning
- Direct interaction among students and faculty (LC State does not utilize teaching assistants)
- A small-college/small-class environment that maximizes the opportunities for the success of LC State's traditional and non-traditional students

Currently classified as a *Baccalaureate College—Diverse Fields* (its Carnegie Classification), the college's instructional programs offer a wide range of academic and professional programs leading to baccalaureate and associate degrees, as well as certificate credentials. Curricular emphases include liberal arts and sciences, business, justice studies, nursing, social work, teacher preparation, career and technical education and workforce training. In addition to its traditional 4-year baccalaureate programs, the college has been assigned a collateral mission of providing community college programs within its five-county area of operations (Clearwater, Idaho, Latah, Lewis, and Nez Perce Counties) by its governing body, the State Board of Education. LC State also offers instructional programs in Coeur d'Alene and Adult Basic Education services in Grangeville and Orofino, Idaho.

In March 2020, Gov. Brad Little signed House Bill 395 which officially amended Idaho Code, allowing LC State to offer graduate level coursework. In its December 2020 meeting, the Idaho State Board of Education gave its approval for Lewis-Clark State College's proposal to offer a graduate certificate in Nursing Management and Leadership. And this fall term, 2021, LC State is offering two post-graduate certificates (Sport Coaching and Nursing Management & Leadership certificates) for the first time in its 128-year history.

Presidential Priorities (PP): A Year in Review and the Year Ahead

Every year brings new challenges and opportunities. And this year (academic year 2021-22) the Presidential Priorities are:

1. Enrollment/Conversations & Retention
2. Communication & Connection
3. Seeding Our Tomorrows…

The chart below displays the alignment between LC State's Presidential Priorities, its Strategic Plan and the Idaho State Board's Strategic Plan.

	State Board of Education Goals		
Lewis-Clark State College Strategic Plan Goals	*Educational System Alignment*	*Educational Attainment*	*Workforce Readiness*
Goal 1: Strengthen and Optimize Instructional and Co-curricular Programming	PP 3	PP 1, 2, 3	PP 1, 2, 3
Goal 2: Optimize Student Enrollment, Retention and Completion	PP 1, 2, 3	PP 1, 2, 3	PP 1, 2, 3
Goal 3: Foster Inclusion throughout Campus and Community Culture		PP 1, 2, 3	PP 1, 2, 3
Goal 4: Increase and Leverage Institutional Resources to Achieve Enrollment, Employee Retention and Campus Planning Objectives	PP 1, 2, 3	PP 2, 3	PP 2, 3

Table 1: The alignment of LC State's Presidential Priorities (PP), Strategic Plan and the Idaho State Board's Strategic Plan.

This institutional annual report serves to provide a state of the college update and inform the Idaho State Board of Education (SBOE) of the annual Presidential Priorities and how they are and will be used to guide the institution forward. For each Presidential Priority, an overview of LC State's accomplishments and challenges during the 2020-2021 academic year is presented alongside related goals and initiatives for the 2021-22 academic year, looking forward.

Presidential Priority 1: Enrollment/Conversation & Retention

Presidential Priority 1 spans all four of LC State's Strategic Plan goals, and directly impacts Goal 1, Strengthen and Optimize Instructional and Co-curricular Programming, and Goal 2, Optimize Student Enrollment, Retention, and Completion. LC State is working to optimize course and program delivery options and, during this past year in particular, leverage pandemic inspired instructional delivery into long-range modes of operation. LC State curricula include applied/experiential learning, thereby reaffirming the hallmark of an LC State education, *connecting learning to life* (LC State Strategic Plan Goal

1). Moreover, LC State continually works to optimize enrollment by targeting underserved populations to promote the higher educational needs of Idaho's current and future economy, including adult learner initiatives, Veterans Services and the remediation initiatives of Complete College America (LC State Strategic Plan Goal 2). Below we outline goal-oriented actions derived from LC State's Strategic Plan FY2022-2026, FY 21 Performance Measures Report, and other ongoing initiatives.

Expand accessibility of programs

LC State is a leader in Idaho undergraduate online education.

The year in review:

- Degree/certificate program options are now offered during weekends and evenings in alignment with Goal 1, Objective A, Performance Measures 1 of LC State's Strategic Plan.
- Course delivery modes expanded to include a new category of *virtual remote* instruction consisting of class sessions using synchronous video conferencing, different than more traditional online instruction in which coursework and class assignments are completed on students' own time (i.e., asynchronously).

The year looking forward:

- LC State launched the registration feature of Online Idaho the week of September 6th, 2021, in partnership with the University of Idaho. Students will be able to use Online Idaho to register for LC State classes for the spring 2022 term (effective November 12th when open registration begins for LC State).
    - Next steps include formulating transfer equivalencies which will provide students with course transferability information for each college and allow the Online Idaho system to manage and process course prerequisites automatically.
    - Next steps also include informative training sessions for college stakeholders (e.g., Division Chairs and Advising Center staff) and exploring the possibility of a dedicated Online Idaho web page on the LC State web site.
    - Listed below is the subset of online LC State courses listed on the Exchange. Once the Transfer Equivalencies project is complete, additional courses will be made available.
        - KIN 272 Fitness/Wellness
        - BUS 101 Introduction to Business
        - ECON 201 Principles of Macroeconomics
        - ECON 202 Principles of Microeconomics
        - AC 231 Principles of Accounting I
        - CITPT 101 Introduction to Web Design/Dev
        - CITPT 111 Web Development Basics
        - CITPT 117 Web Design Fundamentals

Graduate Programming:

The year in review:

- In March 2020, Gov. Brad Little signed House Bill 395 which officially amended Idaho Code, allowing LC State to offer graduate level coursework.
- LC State's priority areas for graduate programming serve important regional industry needs.
    - LC State serving healthcare industry needs: Along with a shortage of nurses and other medical personnel, there is a need for more qualified mid- and top-level managers in the nursing profession.
        - Fully online nursing and business classes feature content on health care policy, health care economics, human resource management, and an organization behavior or leadership offering.
        - The certificate serves bachelor's prepared nurses who wish to advance in their careers and, therefore, it is anticipated that nurses will enroll in the program on a part-time basis.
        - The program is structured such that current LC State BSN bachelor of science in nursing students can begin taking courses in their final semester.

LC State collaborated with local and regional hospitals to develop its curriculum.

"…based on the relevance of the certificate as it addresses a critical need with an exceptional curriculum in the areas with demonstrated expertise. The curriculum and learning outcomes are appropriate and the faculty are well qualified."

-Northwest Commission on Colleges and Universities (NWCCU) approval of LC State's Nursing Leadership Graduate Certificate, April 2020.

- LC State serving industry need in the field of sport coaching: The employment of coaches is expected to grow by 12% over the next decade, higher than the average for all occupations (4%).[1]
    - Being fully online, this credential will bring opportunities for advancement to those already in this growing profession, from recreation league coaches to high school and college-level, no matter where they live.
    - Curriculum will prepare students with both the technical and tactical knowledge, leadership skills, and decision-making abilities to effectively train athletes physically and mentally while adhering to best practices in competitive ethics.

Students can transfer seamlessly to Idaho State University's master's program; and ISU students can co-enroll in LC's Coaching Certificate program.

"…evidence was provided that showed that the program has been carefully developed incorporating ideas from on- and off-campus,"

[1] U.S. Bureau of Labor Statistics

-NWCCU unanimous recommendation to approve LC State's Sport Coaching graduate certificate, June 2020.

The year looking forward:

- This fall 2021 semester marks the first time in the college's 127-year history that the college offers a post-graduate credentials.

Ensure high quality program outcomes
The year in review:

- Maintained high quality instruction by meeting program-specific targets of pass rates on professional licensure or certification exams when licensure or certification is needed after graduation (Goal 1, Objective B, Performance Measure 1 of LC State's Strategic Plan).
- Examples of program achievement include:
    - In September 2020, LC State's Social Work program was ranked second nationally by EduRef.net for the Most Affordable Online Social Work Programs. LC State's program was noted for its low cost, acceptance rate, low student-to-teacher ratio, and high placement rates of graduates. This Bachelors of Social Work degree includes internships, research projects and student activities, both in a traditional in-class setting and a non-tradition online format.
    - LC State's nursing program was rated as the best among all four-year institutions in the state of Idaho by RegisteredNursing.org, a nursing advocacy organization (February, 2021).
    - LC State's registered nurse (RN) to a Bachelor of Science degree in nursing (BSN) online program ranked No. 1 in Idaho for the best overall program, the fastest program for earning a BSN, and the most affordable program (the only nursing program in the state of Idaho ranked in all three categories).

"…a convenient program that includes real-world coursework, population health and leadership practicums."

-RNtoMSN.org, June 2021

The year looking forward:

- Starting with the fall semester 2021, LC State will debut a new concept for the delivery of its Hospitality Management program to meet the post-pandemic industry needs of hospitality, travel and tourism. The program has been redesigned to be delivered efficiently to students with hands-on experiences in a variety of hospitality areas including hotel and resort management, food and beverage, culinary, travel and tourism, and event planning. The goal is to expose students to different careers in the field during the first semester in order to alleviate the problem of a lack of qualified individuals in the hospitality field.



- LC State is again offering students a pathway toward a dental hygiene degree thanks to our partnership with North Idaho College and Heritage Health. The program is delivered using online courses, internet video conferencing allowing students from each institution to participate in lectures as a large group, and then lab and clinic time on the respective campuses and in partnership with clinics. While the hybrid model is unique, it has the required in-depth development and coordination to achieve initial accreditation status, which was granted in September 2020.

Connecting Learning to Life and Student Support Services

The year in review:

- Signature Certificates were developed that knit together academic and Career & Technical Education (CTE) coursework. During AY 2020-21 these Signature Certificates were marketed. Enrollments were observed in the cybersecurity, entrepreneurship, web design and social media signature certificates.
- Freshmen advising was overhauled to include peer coaching and faculty mentorship, moving advising from transactional information exchange to a relational “coaching” model, beginning prior to enrollment and persisting throughout a student lifecycle to graduation. The Student Support Network (SSN) at LC State exists to improve our students’ ability to recognize someone in distress and to train them to respond in a helpful manner. This training increases the pool of helpers on the LC State campus who are friendly, reliable, supportive, and able to demonstrate leadership qualities inside and outside the classroom.
- LC State expanded implementation of co-curricular transcript and tracking software. Branded as the “Do More” app, students can earn leadership and career preparedness micro-credentials using this app, as well as explore co-curricular and other leadership development opportunities.
    - The Leadership micro-credential was launched.
    - The Career Readiness micro-credential will be implemented during the 2021-22 academic year, will harness skills developed inside and outside of the classroom (leadership,

communication, etc.) and will require students to engage in formal career development activities such as resume workshops and career fairs.

- The second annual virtual career fair, hosted by the college in partnership with the University of Idaho and Washington State University, included 30 businesses and graduate schools. One hundred and seventeen (117) students participated in the fair and had a total of 251 unique interactions with the businesses and graduate schools.
- In August 2020, LC State received notification from the United States Department of Education that its TRIO federal grant renewal application was not supported, a program which has been at the college for 32 years, helping students who are first generation, low-income, and/or students with disabilities. After hearing about how successful the TRIO program had been, an anonymous donor contacted LC State administrators and made a $107,000 contribution to be used to retain an academic coach, support a tutoring center, and provide additional financial assistance to students. This generous gift is testament to LC State's role and relationship within its community.
- LC State reorganized and realigned its Intramurals and Outdoor recreation program to create athletic, academic and co-curricular synergies. Intramural Sports has been embedded within the college's Athletic Department and the Outdoor Recreation program within student clubs and organizations.

The year looking forward:

- During the first two weeks of the Fall 2021 semester, there were 456 unique users logged in to the DoMore App.
    - There are approximately 250 students on track to earn the Leadership micro-credential.
    - The Career Readiness micro-credential has been fleshed out and loaded into the institution's learning management system, Canvas. It is projected to be rolled out to the campus community by October 1, 2021.
    - LC State was selected to receive the AASCU Excellence and Innovation Award for Leadership Development and Diversity in response to the *Do More: Leadership Development Program,* and will be recognized and honored during the November 2021 AASCU Annual Meeting.
- The third annual career fair, in partnership with the University of Idaho and Washington State University, is scheduled for October 7, 2021, and assuming public health conditions permit, it will be a live career fair and include a component for regional high school students.

COVID-19 Response

The year in review:

- Using the college's general plan for responding to outbreaks of infectious diseases as well as elements of our broader emergency response plan, LC State moved quickly during the 2020-21 academic year to develop immediate and long-term responses to the pandemic.
- Altered operations impacted LC State's achievement of its strategic plan goals both positively and negatively.
    - Successes in response to this pandemic include achievement of LC State's goals in relation to online

LC State kept in-person classes rolling throughout the 2020-21 academic year, when many other institutions of higher education closed.

enrollment (headcount), remediation and *30 to Finish* goals.
- While enrollment in LC State's Workforce Training courses declined, the success rates of student completions maintained at 94%.
- Those goals that were likely negatively impacted by this external factor were the enrollments of those students coming directly from high school and directly from another institutional of higher education (i.e., direct transfer). LC State's employee compensation goals were also negatively impacted by pandemic.

The year looking forward:

- In Fall 2021, LC State launched a live in-person, near-normal campus experience for AY 2021-22.
- After consultation with representatives from the Governor's Office, the state's Division of Human Resources, the Department of Health and Welfare, the Office of the State Board of Education (OSBE), the State Board of Education (SBOE), and our own Public Health - Idaho North Central District, key elements of our strategy will be:
  - An updated operations matrix inclusive of indoor space masking requirements as posted on our coronavirus resource webpage (operational risk level dashboard can be found at: www.lcsc.edu/coronavirus). Masking will happen dependent upon CDC guidance, state, and local Public Health recommendations, SBOE input, and campus and community vaccination and infection metrics.
  - Weekly campus-wide COVID-19 surveillance testing of students and employees will help us gauge infection levels and inform decisions for success. Our plan/strategy has been vetted with the state and is not contrary to the Governor's executive order.

Given the fluidity of the circumstances, LC State will remain vigilant in terms of health and safety behaviors.

- The COVID-19 hotline and dashboard will be maintained, as well as isolation and quarantine dorm space, and the expectation that individuals will self-screen and stay home if they are sick.

Increase the college's degree-seeking student enrollment

The year in review:

- The two degree-seeking populations LC State has strategically targeted to pursue this Presidential Priority are 1) first-time and direct from high school enrollment, and 2) direct transfer student enrollment. Unfortunately, both of these populations experienced enrollment declines, likely as consequence of decision patterns among these individuals as a result of the pandemic.
- The Adult Learner Program
  - The implementation of a new campus-wide web site brought an opportunity to vastly improve the college's web presents for prospective adult learners. The current Adult Learner Program web page includes information about a variety of programs or amenities catering to adult learners including information about prior learning assessment, 8-week classes, and the Idaho Opportunity Scholarship.
  - More frequent outreach to former students across all disciplines has occurred.

The year looking forward:

- When these students decide to pursue higher education, as they may have done outside of a pandemic, they will find LC State as a better institution, having evolved to serve their unique needs in a number of ways:
    - LC State is one of Idaho's online education leaders in terms of range, scope and number of online undergraduate programs and degrees.
    - A Better Deal for Adult Learners initiative
        - Create individualized success plans, which may include Prior Learning Assessment (PLA; portfolio, challenge and CLEP exams).
            - During the Fall 2021 semester teams have been formed with the specific task of revising the college's Portfolio and Experiential Learning programs/processes.
        - Expand eight-week course offerings.
        - Improve and expand the Adult Learner Website to highlight Prior Learning Assessment opportunities, degree programs that can be completed online, and other services focused on adult learners.
        - Promote the recently revamped "Bachelor of Applied Science" degree options to Associate of Applied Science degree holders. (This effort in particular will complement MOU/MOA co-admit/co-enrollment initiative).
        - A detailed plan was developed in anticipation of the Spring 2022 semester wherein former students with minimal debt to the college will be invited to re-enroll at the institution and, after a successful semester, have their debt forgiven.
    - Co-admit/co-enrollment MOUs/MOAs ratified with Idaho's two-year schools including recently with College of Eastern Idaho and College of Western Idaho. And most recently, on September 9th, 2021, LC State and Walla Walla Community College entered into an agreement to allow students from the two institutions to enroll concurrently. These partnerships will help promote students' success for those attending more than one institution by making their transition smoother, increasing curricular choices and allowing them to tailor their education experiences to fit personal goals, preferences, and needs resulting in greater student success and retention.
    - Veterans Student Programming
        - Successfully maintain the designation as a "Military Friendly School."
        - Expand outreach to National Guard and other military bases, pandemic permitting.
        - Consult and share resources with sister Idaho institutions' Veteran services offices (e.g., at Boise State University).
        - Initiate participation in the Idaho Veterans Chamber of Commerce.
    - LC State is pursuing authorization to participate in the Second Chance Pell program, which is focused on offering degree programs to inmates at Idaho's correctional institutions.
    - As we move through pandemic realities and beyond, into a post-COVID-19 world, we plan to continue to build, evolve and refine our capacities through hybrid and online education modalities. But in so doing, LC State will remain Idaho's small-college/private school experience at a public-school price.

Complete College America

The year in review:

- The metrics associated with the strategic goals of Complete College America (Credit Accumulation/ Think 30 to Finish, Remediation, and Math Pathways) experienced improvement

during an otherwise challenging year. These strategic plan findings show that LC State consistently offers students opportunities for timely degree completion.

The year looking forward:

- The metrics associated with Complete College America are being repurposed to serve as important performance metrics in assessing the institution's mission fulfillment as part of NWCCU institutional accreditation. LC State is in the third year of its seven-year accreditation cycle towards mission fulfillment. These metrics originally developed as part of the Complete College America initiative will now also serve to evidence, in part, of the institution's framework and mechanisms of mission fulfillment, using comparative peer data, focusing on equity gaps.

Institutional Data

Strategic Plan and Performance Report metrics related to this Presidential Priority are displayed below. Updated (Census-date) enrollment to include fall 2021 is anticipated by the October LC State oral institutional report.

Annual Enrollments[2]

Enrollment	FY15 (2014-15)	FY16 (2015-16)	FY17 (2016-17)	FY18 (2017-18)	FY 19 (2018-19)	FY 20 (2019-20)	FY 21 (2020-21)
Total Annual Unduplicated HC	4,663	4,779	4,883	4,919	4,912	5,291	4,835
Total Annual FTE	2,997	2,751	2,769	2,765	2,687	2,711	2,542

Retention Rates

Retention	FY15 (2014-15)	FY16 (2015-16)	FY17 (2016-17)	FY18 (2017-18)	FY 19 (2018-19)	FY 21 (2020-21)
First-Time, Full-Time, Baccalaureate-Seeking, Students	57%	58%	57%	63%	60%	61%
All Degree-Seeking Students	72%	74%	73%	75%	75%	76%

[2] As reported to the Idaho State Board of Education on the annual PSR 1, different than annual enrollment figures reported in the IPEDS 12-month Enrollment Survey.

Financial Hardship: LC State continues to have a relatively high proportion of its entering class utilizing Pell Grants. Pell grants are a common indicator of financial hardship among students. It is a certainty that financial need impacts a student's ability to enroll/attend and persist in higher education.

Percent of Full-Time First-Time Undergraduates Awarded Pell Grant	
Lewis-Clark State College	45%
Idaho State University	47%
University of Idaho	35%
Boise State University	25%

Degree & Certificate Production

Certificates & Degrees	FY15 (2014-15)	FY16 (2015-16)	FY17 (2016-17)	FY18 (2017-18)	FY 19 (2018-19)	FY 20 (2019-20)	FY 21 (2020-21)
Certificates	25	22	18	21	15	26	51
Associates	202	351	414	425	347	365	218
Baccalaureates	544	541	528	587	626	505	599

150% Graduation Rates

First-Time Full-Time Cohorts	Degree Attained w/in 150% Time	FY15 (2009 Cohort)	FY16 (2010 Cohort)	FY17 (2011 Cohort)	FY18 (2012 Cohort)	FY 19 (2013 Cohort)	FY 21 (2014 Cohort)
Entered as Bacc.-Seeking	Bacc.	21%	27%	23%	33%	32%	31%
All First-Time, Full-Time Students	Bacc., Assoc., & Certificates	30%	30%	28%	40%	38%	36%

Presidential Priority 2: Communication and Connection

As with PP 1, PP 2 spans all aspects of LC State's Strategic Plan and goals. This report will focus on its link to and impact on Strategic Plan Goal 3: Foster Inclusion throughout Campus and Community Culture. LC State is committed to providing a learning environment that affords people of all backgrounds and identities the opportunity to achieve their highest educational goals. The college's educational and enrichment programs, curricula, faculty, staff and students benefit from the promotion of awareness, acceptance, and knowledge of the distinct cultural, ethnic, and life experience differences that contribute to individual and group identity. We are especially cognizant of the distinctive relationship between LC State and Native Americans because of the historical significance, proximity and frequent collaboration with the Nez Perce Tribe and Coeur D'Alene Tribes on projects and programs of mutual benefit. Established in 2000, the President's Commission on College Diversity advises the college president on the institution's effectiveness in fostering inclusive practices that enhance cultural awareness and understanding. The Commission's vision statement provides grounding for the group's work and campus initiatives. Below we outline goal-oriented actions derived from LC State's Strategic Plan FY2022-2026, FY 21 Performance Measures Report, and other ongoing initiatives.

The year in review:

- President's Commission on College Diversity and Other Events Promoting Community and Connection
    - Successfully enacted models of inclusive practices programming that conform to social distancing and other protocols necessary to mitigate risk associated with COVID-19.
        - Native American Awareness Week events included presentations and panel discussion around Nez Perce tribe economic & environmental opportunities, Nez Perce language and leadership through serving others
        - Multicultural Awareness Week featured panel discussions, music collections, and a variety of foods to celebrate the different cultures throughout the world. During the week, attendees were encouraged to participate in a "Share Your Story" art project where anyone can upload a photo or video through social media and discuss what cultural diversity means to them.

All events were free and open to the public, and adhered to coronavirus (COVID-19) health and safety protocols.

        - LC State celebrated Black History Experience virtually during a month of celebration, discussion and cultural learning in February. Events included virtual musical theater performances, panel discussion, debate, art exhibits and poster presentations on display at the LC State Center for Arts & History.
        - Constitution Day celebration with a virtual discussion on the centennial of the ratification of the 19th Amendment to the U.S. Constitution and the women's right to vote, both in the U.S. and abroad.
        - Women's History Month was celebrated with four free virtual lunch hour presentations inspired by how women respond in times of emergencies, like the COVID-19 pandemic.
        - A virtual celebration of the annual Lewis-Clark Valley Martin Luther King Jr. and Idaho Human Rights Day of Service, coordinated by LC State, the Lewiston YWCA and community members

- The President's Award for Excellence in Diversity and Cross-Cultural Understanding was awarded to Joyce McFarland, the Education Manager for the Nez Perce Tribe. She works with LC State in a variety of capacities serving higher education students, K-12 students and teachers, and especially through the LC State Advisory Committee with the Nez Perce, Coeur d'Alene & Umatilla Tribes.
- The Land Acknowledgement that was initially introduced at the fall 2020 New Student Orientation Convocation was used in programming throughout the 2020-21 academic year, including the opening of the Schweitzer Career & Technical Education Center and Commencement. Programming events such as Multicultural Week and Native American Awareness Week also integrated the Land Acknowledgement statement.
- Diversity and inclusion flyers were updated, having been initially created in the Fall 2020 and distributed through the Admissions Office, Native American, Minority & Veterans' Services Office as well as through the college's Diversity Commission members.

The year looking forward:

- For all students, staff and faculty, emphasis will be placed on communication within our campus community in order to continue to effectively navigate an evolving landscape during the pandemic. Renewed importance will be placed on how campus community is maintained by the tactical information relayed during campus meetings, faculty/staff department meetings, one-on-ones with close colleagues and the President's *Ask & Answer* sessions as well as *Tuesdays at Two;* and the informative Monday Message.
- With regard to Student Services:
  - As LC State's Warrior OneStop matures, cross-training among Student Affairs staff will continue to take place so that students will increasingly benefit from seamless support services.
  - Extended business hours and document drop boxes will also serve to establish a service-oriented business model towards students support services.
- As has become an established norm, LC State's president participates as a member of local and regional boards (e.g., Valley Vision, SJRMC, etc.), and will build upon a successfully implemented practice of one on one, informational meetings with Idaho legislators.

Presidential Priority 3: Seeding our Tomorrows

As with PP's 1 & 2, PP 3 spans all aspects of LC State's Strategic Plan and goals. This report will focus on its link to and impact on Strategic Plan Goal 4: Increase and Leverage Institutional Resources to Achieve Enrollment, Employee Retention and Campus Planning Objectives. LC State is and should remain Idaho's most accessible and affordable 4-year school – providing a small college "private" school experience at a public-school price, which means maintaining its lowest tuition/fee position compared to its Idaho sister 4-year institutions.

The year in review:

- The tuition/fee gap between LC State and our Idaho sister institutions is approximately $1000.00/ year per student; which translates to about $2M/year relative to LC State's enrollment.
  - While some enrollment growth is needed to reach what we are calling the "sweet-spot" in terms of campus vitality and long-term financial stability (3000 FTE / 4000 HC), LC State is and should remain committed to providing an outstanding small college experience

- Serving and serving well, Idaho students [approx. 80% of LC students are Idaho residents], 1st generation, low income [Pell eligible] traditional and non-traditional students.

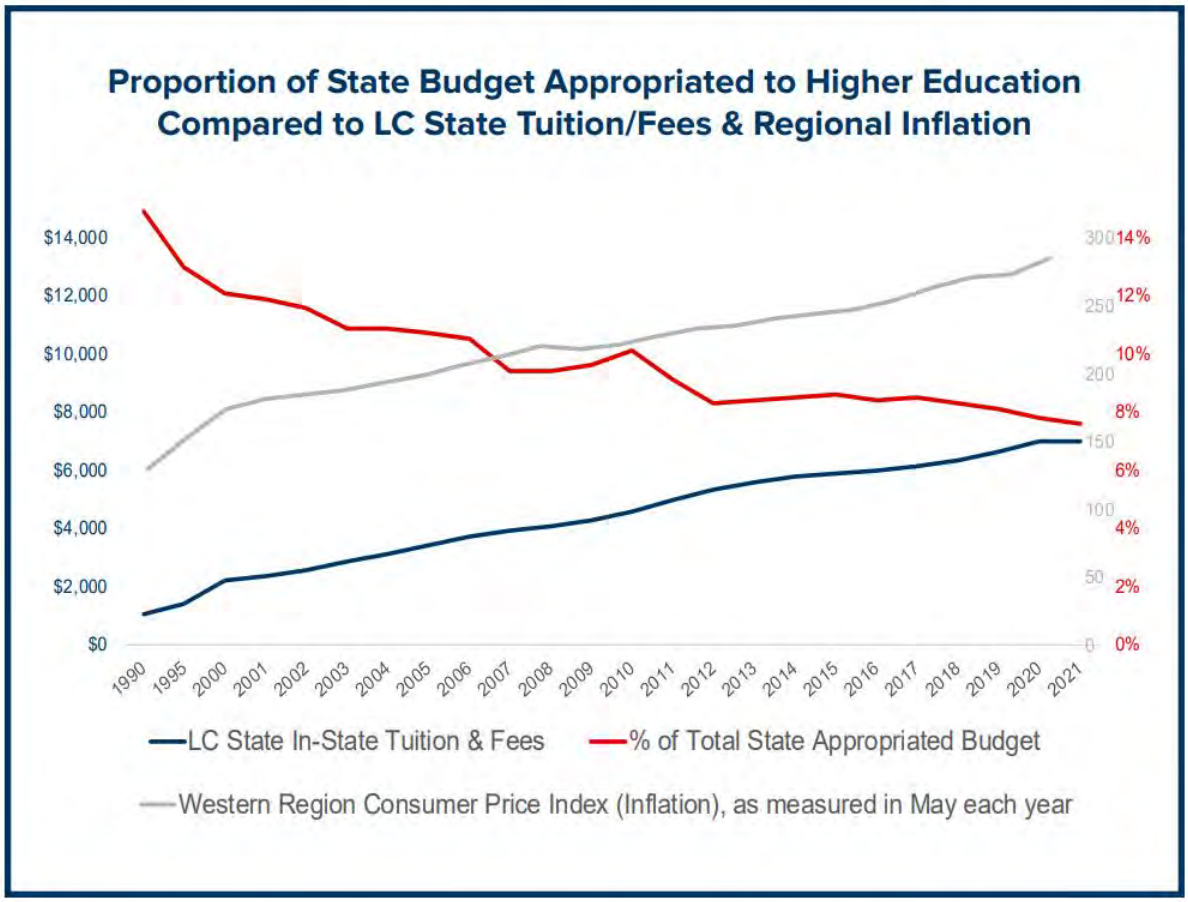


Figure 1: Graph depicting the proportion of budget appropriated to higher education in the state of Idaho compared to LC State's tuition/fees and regional inflation.

- This year, LC State engaged in a renewed analysis of its financial sustainability.
  - Historic (inherited) budget deficit, reduced reserve capacity due to capital project obligations (with price escalation), state budget reductions, and enrollment declines, LC State reduced its personnel/FTE during the 2019-20 academic year. This did stabilize the institution's finances, but these reductions in personnel are no longer sustainable and hinder the institution's ability to serve its niche education role within and on behalf of our students and the State of Idaho.
  - Employee salaries at LC State are significantly lower than our Idaho sister schools, and perhaps more germanely, relative to our SBOE approved peer and aspirational institutions. Figure 2 illustrates this reality.

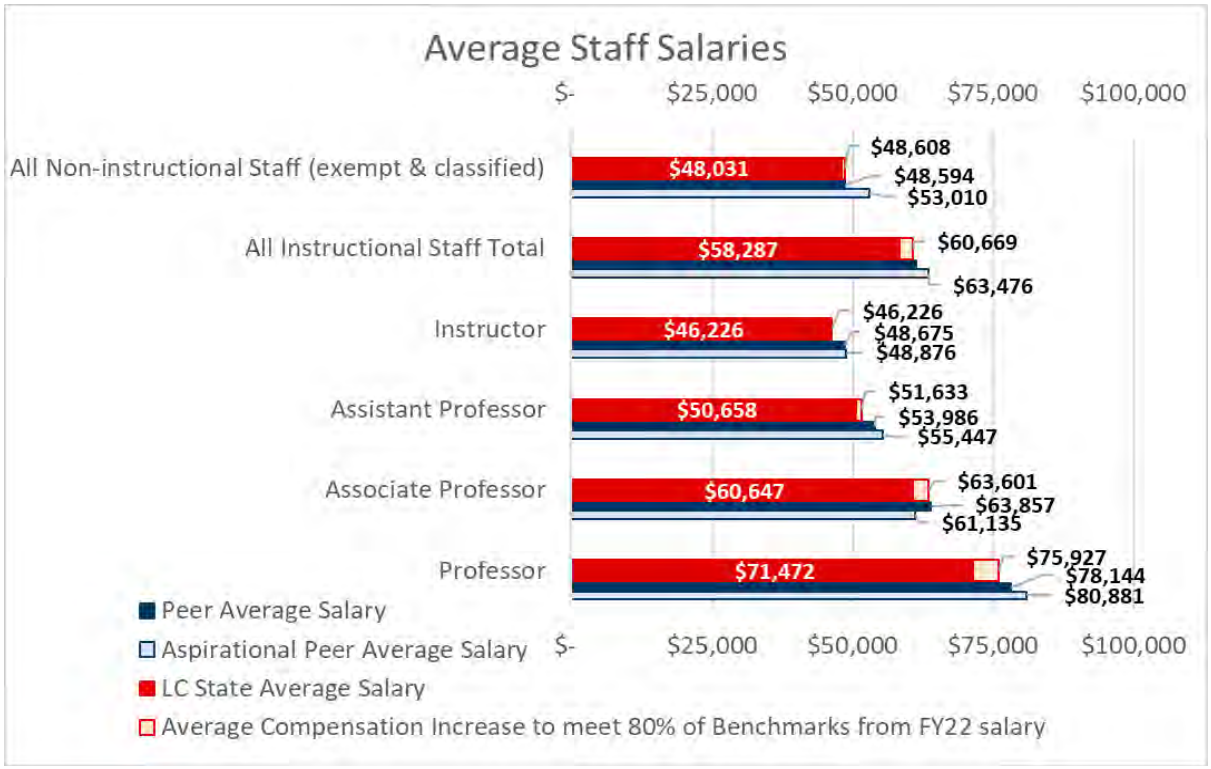


Figure 2: Graph depicting outcomes from LC State's compensation gap analysis in comparison to SBOE Peer Institutions.

- LC State is and should remain teaching-focused. Which means that large grant awards, while occasional, will likely not be a significant source of revenue for the institution. And yet, LC State has been successful in pursuing relatively large grant awards.
    - LC State was recently notified of an award from the Idaho Workforce Development Council grant for 1.3 million to fund training to strengthen the pipeline from college to career. While seven instructional programs moved to the Schweitzer CTE Center (auto mechanics, CNC machining, engineering technology, HVAC-R, industrial electronics information technology and millwright), three programs (collision repair, diesel, and welding) continue to operate in the Wittman Complex and Mechanical Technical Building (MTB) and need instructional space renovations and industry-related equipment upgrades and additions to accommodate capacity demands and program expansion. Newly vacated classrooms in MTB will also be repurposed to create a Work Force Training allied health hub on-campus.
        - The Wittman Complex renovation will allow LC State to meet program specific spatial needs required for safety compliance. Renovation will also create an enhanced learning environment inclusive of more bays, new equipment, additional training stations, and ADA compliant lab spaces.
        - The MTB renovation will allow for industry standard enhancements in the welding program labs and provide space for Work Force Training allied health programs to operate on-campus in close proximity to the college's Nursing and Radiographic Science degree programs. By creating an allied health occupations hub in MTB, the college is strategically building partnership capacity across professions on-campus where synergies, resource, and expertise sharing will thrive.

- LC State and the Idaho Division of Career Technical Education (IDCTE) are grateful to Governor Little and the Idaho legislature for their FY22 appropriation to include one-time grants to support CTE throughout Idaho. LC State plans to utilize it portion of these resources ($308,814) to add equipment and expand the capacities of the medical assisting and the hospitality programs.

The year looking forward:

- Achieving operational sustainability by focusing on personnel will facilitate enrollment-related services, supports, recruitment and retention creating enrollment stability and ultimately growth. Enrollment generated funding would be sufficient to meet non-personnel operational costs and help the college reach its strategic plan goals as the college grows toward the identified sweet-spot enrollment target, even as the span and standard services expected of institutions of higher education in support students expands dramatically across time (Figure 3); to achieve financial sustainability an additional base budget funding increase is needed to bring all personnel to at least 80% of median comparators ($818K), strategically add back some of the reduced FTE ($724K), and create a minimum wage of $12.50/hr (needed to be competitive with broader city hiring's in the state of Washington), ($32K).

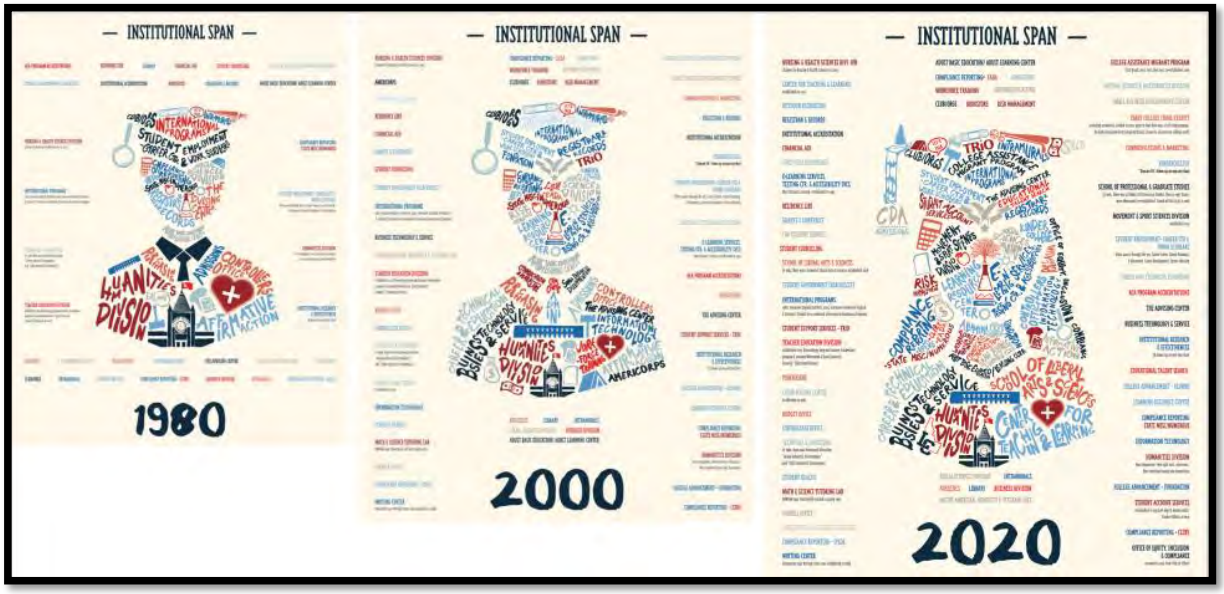


Figure 3: Depiction of the expansion of institutional span and standard services across time.

- LC State is currently focused on revising the Campus Facility Master Plan to include upgrading instructional facilities, planning for unused acreage at Cecil Andrus Way, and pursing housing for a growing residence hall population.
- FY 2022 Resource Allocation Decisions included[3]:
  - $1.6M in ongoing and one-time allocations for General Education and CTE funding to support employee equity increases, for example.
  - $400k in additional nursing program support.
  - Upgrades to LC State's Grangeville Adult Learning Center.

[3] A complete summary FY22 resource allocation decision can be found in Appendix A.

- Judicious management of CARES Act Higher Education Emergency Relief Funding (HEERF).
  - $5,576,864 awarded to support LC State students directly.
  - $7,272,185 awarded to support LC State institutional operations.

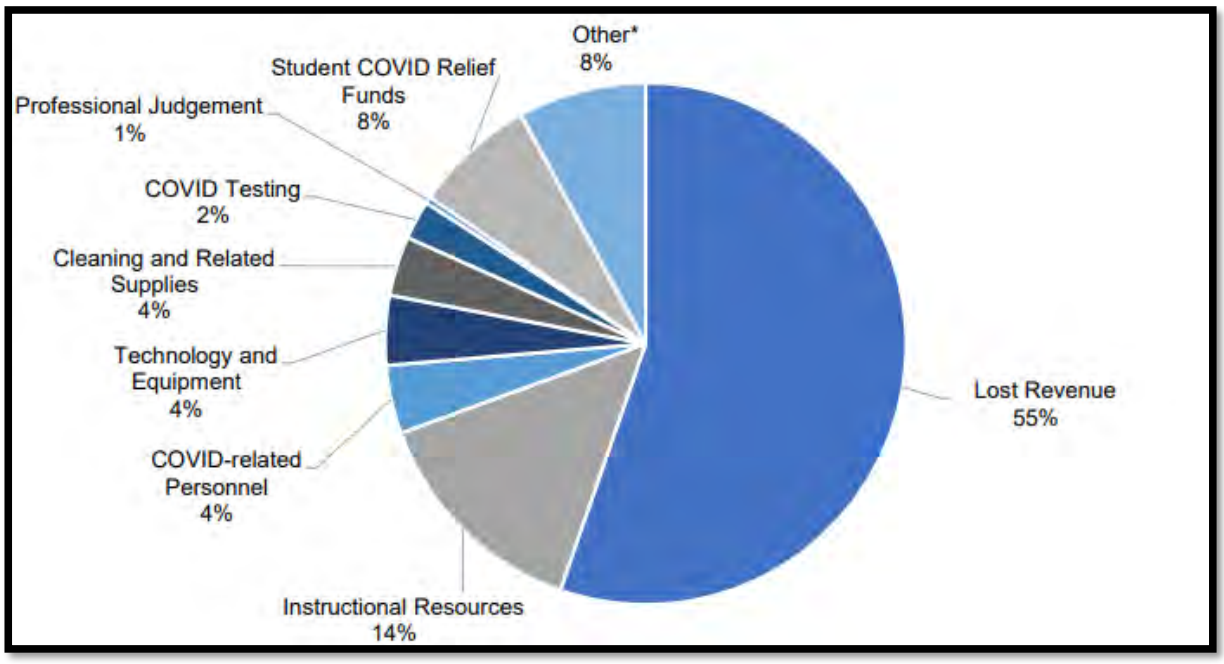


Figure 4: The allocation of CARES Act HEERF dollars used by LC State to support institutional operations.

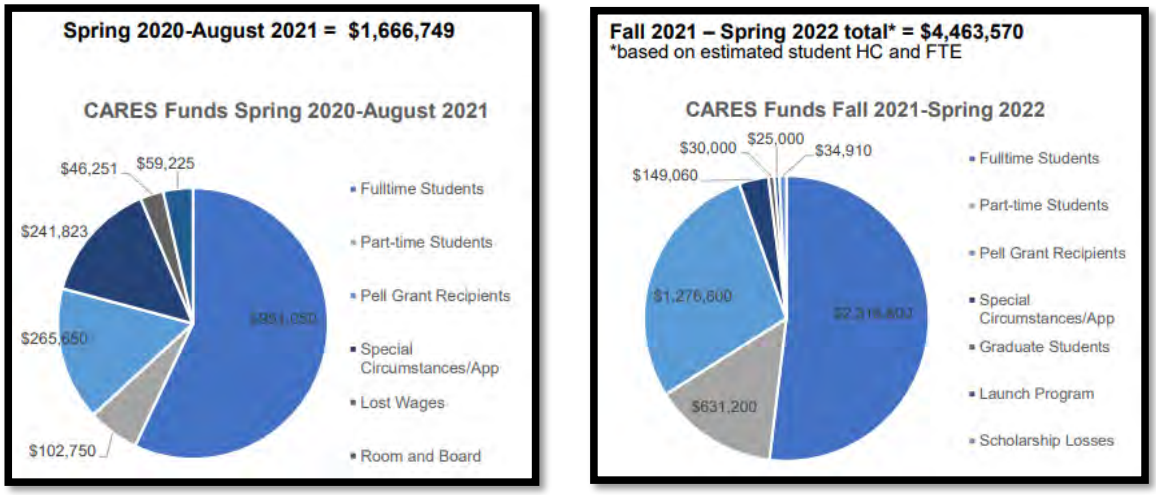


Figure 5: The allocation of CARES Act HEERF dollars used by LC State to support students.

Fundraising and Advancement Data

Key Data	FY2017	FY2018	FY2019	FY2020	FY 2021
Total Assets	$ 9,256,633	$13,047,742	$13,870,249	$12,078,104*	$16,070,808
Revenues	$1,238,957	$4,010,638	$1,352,517	$2,427,102	$2,907,670
Endowment Funds	$7,586,029	$8,200,137	$8,599,896	$8,786,877	$11,723,556
Funds Distributed for Scholarships	$449,239	$455,148	$495,318	$551,189	$532,656
Distributions to LC Programs and Capital Projects	$785,442**	$430,038	$409,102	$3,861,664*	$1,432,096

*In FY2020, the LC State Foundation began distributing donations earmarked towards the CTE Center to LC State, resulting in a decrease in total assets and increase in distributions to LC State.
**In FY2017, the LC State Foundation began distributing donations earmarked towards the Harris Field renovation.
***In FY2016, the LC State Foundation began distributing donations earmarked towards the Tennis Center renovation

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College Highlights

- **AASCU EXCELLENCE AWARD** – LC State was chosen to receive the 2021 American Association of State Colleges and Universities Excellence and Innovation Award for Leadership Development and Diversity for its Do More: Leadership Development Program.
- **BUILDING IDAHO'S FUTURE –** The college received two grants from the Building Idaho's Future program for $308,814.04 to help specifically with the college's popular hospitality management and medical assistant degree and certificate offerings.
- **NURSING ACCREDITATION –** LC State's baccalaureate degree program in nursing was granted continued accreditation for another 10 years by the Commission on Collegiate Nursing Education.
- **MOU WITH COLLEGE OF SOUTHERN IDAHO –** To help address southern Idaho's teacher shortage, LC State and the College of Southern Idaho signed a Memorandum of Understanding to allow students at the two-year junior college in Twin Falls to complete a bachelor's degree in elementary education through LC State without leaving the Magic Valley. The two schools also formed a co-admission and co-enrollment agreement earlier in the year.
- **SPORT COACHING GRAD CERTIFICATE –** The college received approval from the Northwest Commission on Colleges and Universities to offer a 12-credit online graduate program in Sport Coaching. It's second post-graduate offering in the college's 128-year history.
- **BEST NURSING PROGRAM IN IDAHO –** RNtoMSN.org ranked LC State's registered nurse (RN) to a Bachelor of Science degree in nursing (BSN) online program as No. 1 in Idaho for the best overall program, the fastest program for earning a BSN, and the most affordable program. The nursing program was also rated as the best among all four-year institutions in the state of Idaho by RegisteredNursing.org.
- **IDAHO GEM AWARD –** Amy Minervini, an English instructor in LC State's Humanities Division, was recognized as the 2021 Innovative Educator for Written Communication in the third annual Idaho GEM Innovative Educator Awards, presented by the Idaho State Board of Education's General Education Committee and Capital Educators Credit Union.
- **CAMP GRANT &TALENT SEARCH GRANT –** LC State's Assistance Migrant Program was renewed for five years with a $2,279,297 grant, as was the Talent Search Grant for $1,640,000 from the United States Department of Education.
- **NURSING GRAD CERTIFICATE –** LC State's Nursing Management and Leadership graduate certificate received approval from the Northwest Commission on Colleges and Universities to be offered in the fall. The certificate marks the first post-graduate offering in the college's 128-year history.
- **DUAL CREDIT ACCREDITATION –** The college's dual credit program was accredited by the National Alliance of Concurrent Enrollment Partnerships.
- **AUTO MECHANICS ACCREDITATION –** LC State's Auto Mechanics Technology program had its Master Automobile Service Technology (MAST) accreditation renewed for five years. The MAST accreditation is the highest level of program accreditation recognized by the National Institute for Automotive Service Excellence.
- **TOP CPA MARKS –** For the second straight year, LC State graduates recorded the highest average score and pass rate on the Certified Public Accountant exams among four-year public institutions in Idaho, according to data released by the Idaho State Board of Accountancy.

- **BLUE CROSS SCHOLARSHIPS –** The Blue Cross of Idaho Foundation for Health partnered with LC State to award $1 million in scholarships over the next 10 years to students from Idaho majoring in health care-related fields
- **RADIOGRAPHIC SCIENCE ACCREDITATION –** The Radiographic Science program at LC State was granted maintenance of accreditation by the Joint Review Committee on Education in Radiologic Technology for a period of eight years.
- **SCHWEITZER CTE CENTER OPENS –** The start of spring semester, Jan. 19, 2021, marked the official opening of the Schweitzer Career & Technical Education Center. The $27 million, 86,000-square foot state-of-the-art facility is the new home of seven of LC State's Technical & Industrial Division programs.
- **MOU WITH COLLEGE OF EASTERN IDAHO –** LC State signed a memorandum of understanding and agreement with College of Eastern Idaho for a co-admission and co-enrollment partnership as well as a financial aid consortium agreement.
- **MOU WITH CONFEDERATED TRIBES –** The college signed a Memorandum of Understanding (MOU) with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). The MOU strengthens the relationship between the two and improves the quality of educational services and opportunities provided to the tribes and students at LC State.
- **ENROLLMENT –** Despite a pandemic and dire enrollment predictions and realities across the nation, LC State's overall fall enrollment grew by 2.88 percent, while its full-time equivalent enrollment inched up 0.26 percent. Overall, LC State had 3,856 students enrolled in fall 2020.
- **CTE DONATIONS –** The J.A. and Kathryn Albertson Family Foundation donated $1 million to the Schweitzer Career & Technical Education Center. In all, the college has raised more than $7.6 million toward the CTE center.
- **BEST IN THE WEST –** LC State was named one of the top four public regional colleges in the West by U.S. News & World Report's rankings of the 2021 best colleges.
- **IDAHO FIRST & FIRST GEN** – Idaho residents accounted for 82 percent of LC State's total student head count in fall 2020. Seventy-eight percent of LC State's student body were first generation college students.
- **TUITION FREEZE** – Along with its sister institutions, LC State froze tuition in 2020-21 for the second straight year. The college continues to have the lowest tuition and fees among Idaho's public four-year institutions.
- **AFFORDABILITY MATTERS** – 82 percent of LC State students receive financial aid and nearly half are low-income (receive Pell Grant).
- **HIGH PLACEMENT RATES –** 97% of academic program graduates and 98% of career-technical graduates are successfully placed in careers, continuing education, or the military.
- **MEN'S BASKETBALL FINISHES SECOND** – The LC State men's basketball team finished second in the NAIA national tournament, its best finish ever. The team went 22-2 and won both the Cascade Conference regular season and tournament titles.
- **SUCCESS IN THE CASCADE CONFERENCE** – In its first year competing in the Cascade Collegiate Conference (CCC), LC State won four of the 10 conference championships it competed in, capturing titles in men's and women's basketball, baseball and men's cross country. Men's Track and Field standout, Leon Menton won a NAIA national title in the javelin. LC State Athletics

earned CCC President's Club honors for academic excellence with an overall composite GPA of 3.34 and 68% of the student-athletes earning Academic All-Conference Honors.

- **OLYMPIC AND MLB SUCCESS –** LC State had its second Olympic competitor when former standout and current assistant coach Sam Atkin competed in the 10,000-meter run for Great Britain. The college also has alumnus Seth Brown playing in Major League Baseball as the outfielder/first baseman for the Oakland Athletics.

Program Prioritization – Program Performance

LC State has successfully completed its second round of program performance (prioritization) for instructional and non-instructional programs, in accordance with SBOE Policy III.F. In academic year 2016-2017, the prioritization process at LC State was renamed Program Performance (PP), instructional and non-instructional programs were separated from one another, and teams with campus-wide representation were tasked to develop separate prioritization processes. Each group created criteria and indicators upon which quintiles could be built. These criteria were included in the Unit Assessment Report (UAR) documents, and reviewed, analyzed and responded to annually by program department directors, faculty, chairs, deans and vice presidents.

In spring 2020, Provost's Council, with assistance from Institutional Research & Effectiveness, reviewed three (3) years of data for each indicator to determine which could reliably be used to determine quintiles for instructional programs. At the same time, LC State faced serious budget reductions, in part due to the COVID-19 pandemic. In alignment with State Board of Education policy, 43 instructional programs were evaluated and 18-20% of all programs were placed into each quintile. During the 2020-21 academic year, each instructional program in Quintiles 1-4 developed a broad plan of action for the next three years, as guided by the criteria for quintilization. Faculty whose programs were assigned Quintile 5 conducted a more thorough program review. Two instructional programs have been discontinued as a result of the program performance work:

1. Administrative Management Assistant (CTE) and associated degrees/ certificates
2. A.S. Engineering

Non-instructional programs engaged in program performance during academic year 2020-2021, and during academic year 2021-22, these programs are making progress on the resultant work plans. Scoring focused on resources/ efficiency & effectiveness, where programs evaluated themselves against mandatory/ compliance driven services, necessary and essential services, and value-added activities. The 34 non-instructional programs were grouped resulting in 18 programs assigned Group 1, as sustainable perhaps with minor modification, and 16 programs assigned Group 2, as sustainable with modification. [No non-instructional programs were assigned group 3, as not sustainable in current operational mode.] In the coming year, non-instructional programs will continue to act upon actions identified in approved plans, and will report progress to the vice president / president in December.

Institution and Industry Collaborations

Industry Collaborations:

LC State's industry collaboration focus over the past year has been developing pathways and partnerships concentrated on the new Schweitzer CTE Center and the educational opportunities that it will precipitate. As one can imagine, there were many disruptions over the last

year, causing employers to focus inward to survive the pandemic, but in many ways industry collaborations prevailed:

- The Electronics Engineering Technology collaboration has continued and courses are being expanded to make them more available to wider audiences of students (including potentially high school audiences).
- The Dream It Do It conference is being planned for 2022 on May 17 at LC State after its cancelation during the pandemic.
- LC State is working on a partnership with the Nez Perce tribe related to health care and health care occupations to meet the needs of the tribe.
- We are expanding our relationship with the auto industry in the region to adjust our programs to meet the needs of the industry, including exploring future technologies (e.g., Hybrid and electric vehicle services).

Institution Collaborations: LC State has streamlined articulations with all Idaho community colleges and universities. The LC Express program (that reaches beyond Idaho) is an example of our accelerated efforts to provide access pathways from two-year colleges and programs. LC Express includes specialized transfer programs and agreements with the following institutions:

- North Idaho College (NIC)
- College of Western Idaho (CWI)
- College of Eastern Idaho (CEI)
- College of Southern Idaho (CSI)
- Treasure Valley Community College (TVCC)
- Walla Walla Community College (WWCC)
- Community Colleges of Spokane (SCC/SFCC)

Specific information can be found at https://www.lcsc.edu/admissions/apply/transfer-student/lc-express.

The Dental Hygiene program at North Idaho College has received approval and began January 2021.

In fall 2020 MOU/MOA agreements with CEI and CWI were launched to allow and facilitate co-admission and co-enrollment. And most recently, on September 9th, 2021, LC State and Walla Walla Community College entered into an agreement to allow students from the two institutions to enroll concurrently.

Research and Economic Development & Capital Campaign

At LC State, given its student-focused teaching mission, research and economic development are intimately linked with capital campaign/project initiatives. The most recent and primary example of this is the Schweitzer CTE Center. In the past year, construction has been completed and a ribbon cutting ceremony occurred October 23, 2020.

Schweitzer CTE Center

In Fall 2020, LC State successfully completed the construction of the Schweitzer CTE Center, a $27M project with high school pipeline programs which meet industry training demand. Seven instructional programs moved to the Schweitzer CTE Center (auto mechanics, CNC machining, engineering technology, HVAC-R, industrial electronics information technology and millwright). Despite the pandemic, during the spring 2021 (the Schweitzer CTE Center's first semester of operation), 85 unique students took at least one class in the new building, 849 total credits were earned by students in that

building, and 42 degrees or certificates were awarded to students that attended classes in the Schweitzer CTE Center.



De Armond College and University Center

An important joint capital project resulted in the DeArmond College and University Center in Coeur d'Alene. A successful ribbon cutting ceremony took place on Sept. 10, 2019.



Endowments

The LC State Foundation reported $16,070,808 in total assets as of June 30, 2021.

- $11,723,556 are endowed funds.
- Endowment distributions increased by 12% in FY21 in comparison to FY20.
- Annual fund distributions increased by 11% in FY21 in comparison to FY20.

Community Partnerships

LC State was proud to be a member of a tri-partnership that existed between the city of Lewiston, Lewiston Independent School District and LC State. Through this partnership, public infrastructure was developed in association with the Schweitzer CTE Center, Lewiston High School and Community Park. Tri-partnership construction specifics include:

- Two new roadways – Community Drive and Cecil Andrus Way
- Utilities installation including water, sewer, storm, and franchise (power, phone, cable, fiber)
- Widening of Warner Avenue from 13th Street to just west of 12th Street including a mini roundabout at 12th Street
- Intersection improvements at 10th and Cecil Andrus Way included widening, curb installation, and designated turn lanes and receiving lanes.

Representatives from LC State continue to serve on the Beautiful Downtown Lewiston Master Planning Committee. President Pemberton serves on the boards for the following organizations and industry partners:

- Valley Vision
- St. Joseph Regional Medical Center Board of Directors
- LCSC Alumni Board
- LCSC Foundation Board
- Tribe Advisory Council
- LC Valley Civic Group

Conclusion

In conclusion, LC State has been proudly serving students since 1893 as Idaho's small "private" college experience at a public-school price. Guided by its mission, LC State is fully committed to expanding access to higher education and ensuring success for all of our students. During this challenging year, LC State has emerged as a better institution, having evolved to serve the unique needs of its students under unique circumstances. This institutional annual report has served to provide a state of the college and to inform the Idaho SBOE of the annual Presidential Priorities, guiding the institution forward.

Appendix A: Summary of LC State FY22 Resource Allocation Decisions

LEWIS-CLARK STATE COLLEGE

FY22 RESOURCE ALLOCATION DECISIONS

(Includes both General Education and Career & Technical Education)

A. Salary & Benefit Cost Increases (Gen Ed/CTE):	
1. CEC/Equity Increases	$892,753
2. Faculty Promotions	-
3. Compression, Equity, & Minimum Adjustments	1,245
4. Health Insurance Changes	-
Subtotal-Salary & Benefit Cost Increases	***$893,998***
A portion of CEC Includes funding from the $400K Of Tuition Offset Approved By Legislature	
B. Legislative Line Items:	
1. Nursing Program Support	$400,000
Subtotal-Legislative Line Items	***$400,000***
C. Ongoing RRF Funded Items (Gen Ed Only):	
1. (College Advancement) Alumni Relations/Advancement Coordinator	
2. (Athletics) Athletic Trainer	
3. (Early College Programs) Increase DC Coordinator to 1.00 FTE	
4. (Physical, Life, Movement, and Sport Science) Upgrade Instructor to Assistant Professor of Math	
5. (Social Sciences) Assistant Professor of Psychology	
6. (Student Accounts) Student Accounts Coordinator- Reclassification	
7. (Physical Plant) Custodial Apprenticeship Program 7 seats	
8. (First Year Experience/SUB/CSL) Communications and Operations Coord. - Reclassification (Gen Ed/Local)	
Subtotal-Ongoing Gen Ed RRF Funded Items	***$242,013***
D. One-Time RRF Funded Items (Gen Ed Only):	
1. (Physical Plant) Paint & Flooring for Grangeville Adult Learning Center	
Subtotal-One-Time Gen Ed RRF Funded Items	***$11,000***
E. Ongoing RRF Funded Items (CTE Only):	
1. (Business Technology and Service) Culinary Arts Professor/Instructor-CTE	
2. (CTE Dean's Office) Management Assistant - Reclassification	
Subtotal-Ongoing CTE RRF Funded Items	***$65,371***
TOTAL FY22 COLLEGE RESOURCE ALLOCATIONS	**$1,612,382**

Local RRF Funded Items:

1. (e-Learning Services, Testing Center, & Accessibility Services) Lab Computers (Testing Center) - 17 computers
2. (Movement & Sport Sciences) Tumbling Mats for ACW122
3. (Movement & Sport Sciences) Heavy Bags for kickboxing
4. (First Year Experience/SUB/CSL) Communications and Operations Coord. - Reclassification (Gen Ed/Local)

Auxiliary RRF Funded Items:

1. (KinderCollege) Flooring
2. (KinderCollege) Paint
3. (Residence life) Purchase 7 smart televisions for halls
4. (Residence life) Clearwater Hall building updates
5. (Residence life) Parrish House building updates
6. (Residence life) Talkington Hall building updates
7. (SUB/ CSL) Cash Registers
8. (SUB/ CSL) Staff Computers
9. (SUB/ CSL) ASLCSC Club House Carpet
10. (SUB/ CSL) Jitterz/Patio Remodel
11. (SUB/ CSL) WCC Carpet
12. (SUB/ CSL) Senate Chamber Chairs

COVID RRF Funded Items:

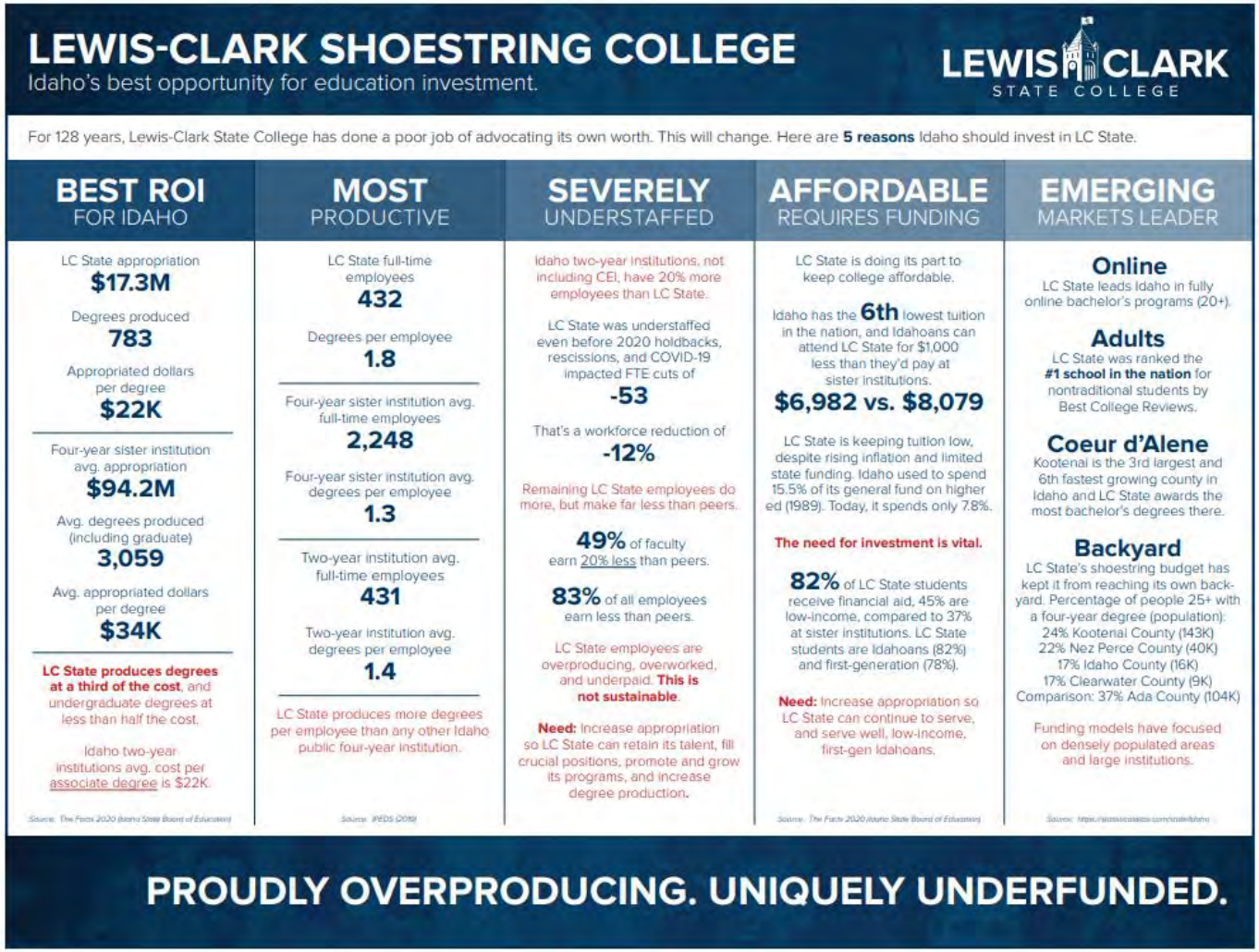
1. (Controller's Office) Financial Coordinator
2. (Business Technology and Service) OWL Camera for SGC 222 Legal Programs
3. (Technical & Industrial Division) Program Assistant - increase to 1.00 FTE
4. (Information Technology) Zoom site license and extra storage
5. (Information Technology) Cisco Umbrella Cloud Security (yearly subscription)
6. (Nursing & Health Sciences) SimCapture Pro Cloud Subscription for additional simulation bay
7. (Teacher Education Division) Convert a classroom into a showcase instructional space for methods classes
8. (Teacher Education Division) Create a showcase classroom space for delivering methods classes
9. (Student Counseling Center) Counselor - Increase to 1.00 FTE
10. (Student Counseling Center) Therapist Assisted Online (TAO)
11. (Student Counseling Center) RESPOND Training
12. (TRIO Ed. Talent Search) Academic Advisor

Internal Reallocation RRF Funded Items:

1. (Controller's Office) Perceptive Content consultation
2. (Human Resources) Funding for Wellness Program
3. (Human Resources) CUPA Salary Survey Reports
4. (Purchasing) Funding for NAEP Membership
5. (Information Technology) Meraki switches: license renewal
6. (Information Technology) UPS units
7. (Admissions Office) Five new computers

8. (Financial Aid) NextGen Scholarship System
9. (Teacher Education Division) Administrative Assistant - Lewiston (Re-Org)
10. (Library) Replacement of outdated/ non-ADA Compliant furniture

Appendix B: LC State is a Good Investment on a Shoestring Budget



IDAHO DIVISION OF VOCATIONAL REHABILITATION

SUBJECT

Idaho Division of Vocational Rehabilitation State Board of Education Annual Report

REFERENCE

October 2020	Board received annual progress report from the Division of Vocational Rehabilitation

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section I.M.3

BACKGROUND/DISCUSSION

This agenda item fulfills the Board's requirement for IDVR to provide an annual progress report on the agency's strategic plan, details of implementation, status of goals and objectives and information on other points of interest in accordance with a schedule and format established by the Board's Executive Director.

Jane Donnellan, Administrator of the Division of Vocational Rehabilitation, will provide an overview of IDVR's progress in carrying out the agency's strategic plan.

IMPACT

To inform the Board of IDVR's progress.

ATTACHMENTS

Attachment 1 – Idaho Division of Vocational Rehabilitation Presentation

BOARD STAFF COMMENTS AND RECOMMENDATIONS

Board Policy I.M. requires each institution and agency to report to the Board annually on "progress on the approved strategic plan, details of implementation, status of goals and objectives, and expanded information on points of interest and special appropriations."

The Idaho Division of Vocational Rehabilitation (IDVR) mission is to prepare individuals with disabilities for employment and career opportunities while meeting the needs of the employers and is charged with three major responsibilities: Management of the State/Federal Vocational Rehabilitation (VR) Program, Extended Employment Services (EES), and serve as the fiscal agent for the Council for the Deaf and Hard of Hearing (CDHH).

Vocational Rehabilitation (VR): The VR program is one of the oldest and most successful federal/state programs in the United States. VR serves individuals with severe disabilities that impose significant barriers to gainful employment. VR assists Idahoans with a diverse array of disabilities to prepare, obtain, advance in,

and retain employment based on their unique skills and abilities. The VR program provides services to eligible Idahoans with disabilities to assist them in transitioning from unemployment to gainful employment or to maintain employment. The VR program creates a way to self-sufficiency, and works in concert with the State Rehabilitation Council (SRC), which serves in an advisory capacity.

Extended Employment Services (EES): The EES program, funded 100% from state General Funds, provides skill development in a non-integrated setting, or long term on-the-job supports in community competitive employment for individuals with the most significant disabilities, which include developmental disabilities, traumatic brain injuries, specific learning disabilities, and mental illnesses. The program provides funding to individuals with severe disabilities who are deemed unable to maintain employment without ongoing support.

Council for the Deaf and Hard of Hearing (CDHH): CDHH is an independent agency organized under IDVR. This is a flow-through council for budgetary and administrative support purposes only, with no direct programmatic implication for IDVR. CDHH's vision is to ensure that individuals who are deaf, hard of hearing, or hearing impaired have a centralized location to obtain resources and information about services available.

BOARD ACTION

This item is for informational purposes only.


State Board of Education Presentation
October 2021
VR
Idaho Division of
Vocational Rehabilitation

IDVR PROGRAM STRUCTURE

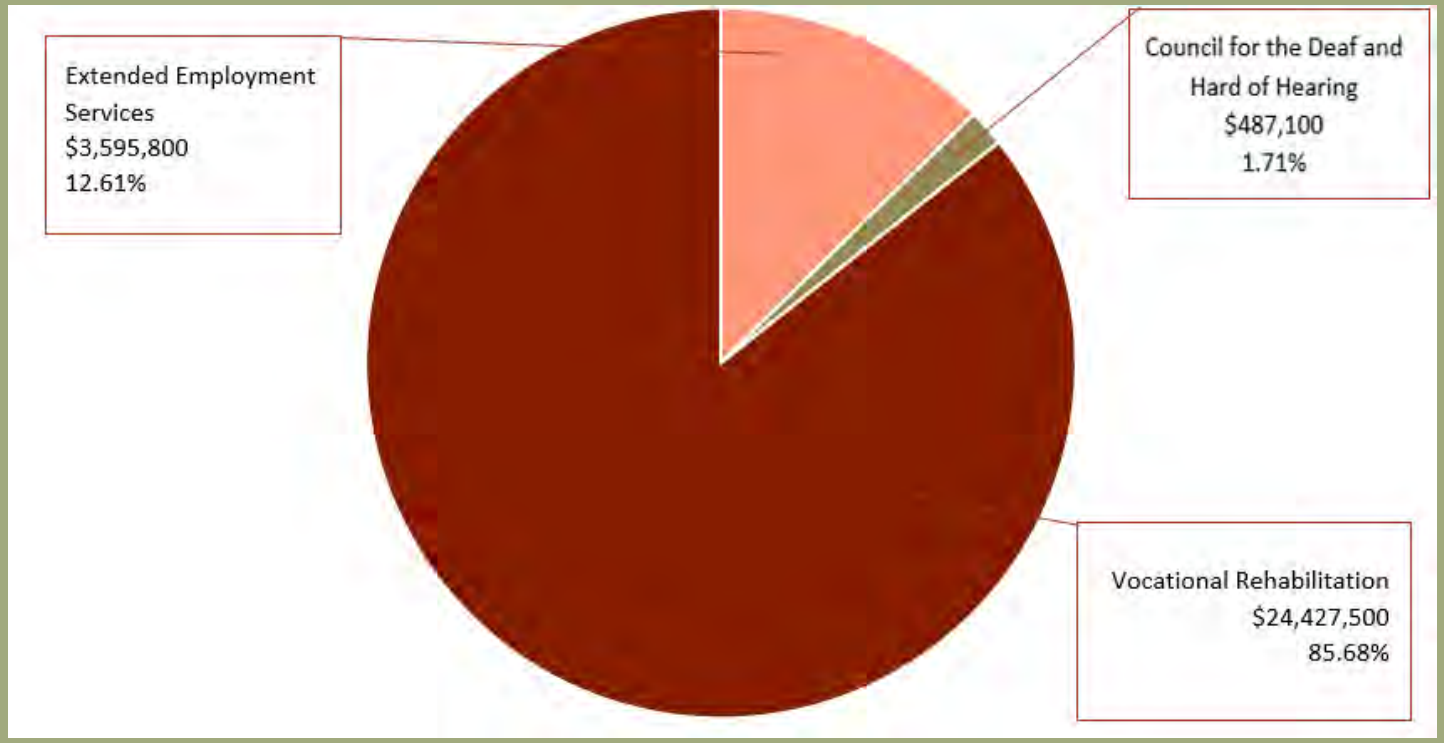
Council for the Deaf & Hard of Hearing
(CDHH)

Extended Employment Services
(EES)

Vocational Rehabilitation
(VR)

SFY 2023 BUDGET

FY23 Appropriation



IDAHO COUNCIL *for the*
DEAF AND HARD OF HEARING

2023 Line Item Budget Request

- FTE for Deaf and Hard of Hearing Program Specialist
- $94,000 budget request

EES – Legislation

- Senate Bill No. 1330 enacted into law during the 65th Legislature, 2nd Regular Sessions 2020
- Listening Sessions
  13 Sessions from August 2020 – December 2020
- Public Meetings – 4 meetings July 2021 – August 2021
- Working with Governors Office to determine next steps

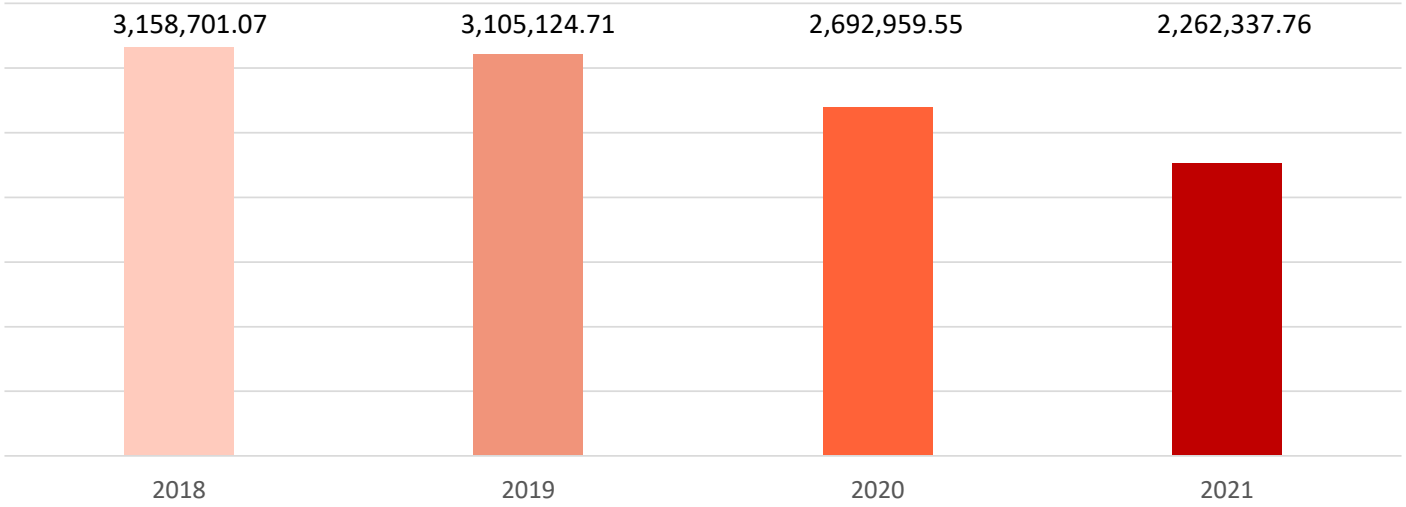
EES – Individuals Served (per year)

EES Totals	2018			2019			2020			2021		
	WS	SE	N/A	WS	SE	N/A	WS	SE	N/A	WS	SE	N/A
Individuals Eligible	117			74			51			38		
Number Served	332	392	95	318	372	74	284	339	82	262	293	63
Total Number Served	817			764			705			616		

WS= Work Services
SE = Supported Employment
N/A = EES Eligible, Working with VR

EES – Appropriation & Reversion

	Appropriation	Reversion
2018	4,423,400.00	414,405.47
2019	4,427,300.00	948,348.49
2020	4,356,300.00	1,105,740.45
2021	3,411,400.00	787,988.08



Idaho Division of Vocational Rehabilitation

A proud partner of the AmericanJobCenter® network

IDVR

MISSION

To prepare individuals with disabilities for employment and career opportunities while meeting the needs of employers.

VISION

An Idaho where all individuals with disabilities have the opportunity to participate in the workforce and employers value their contributions.

ORGANIZATIONAL STRUCTURE

U. S. Department of Education

↓

Office of Special Education & Rehabilitative Services (OSERS)

↓

Rehabilitation Services Administration (RSA)

↓

State Board of Education (SBOE)

↓

Division of Vocational Rehabilitation

VR IDAHO

VR DELIVERY SYSTEM

Individualized Service



Employer Resource



Competitive Applicants



JOB$

Region 1 Coeur d'Alene

Region 2 Lewiston

Region 4 Twin Falls

Region 5 Pocatello

Region 6 Idaho Falls

Region 3 Treasure Valley Central

Region 7 Treasure Valley West

Region 8 Treasure Valley East



VR 2022 INITIATIVES

- Apprenticeship Initiatives
- Community Rehabilitation Program (CRP) Manager
- Benefits Counseling

VR ACCOMPLISHMENTS

- **5,056** individuals served
- **658** employed working an average of 29 hours work week

Average wage increased:

$14.16	SY21
$13.88	SY20

POST SECONDARY EDUCATION & TRAINING

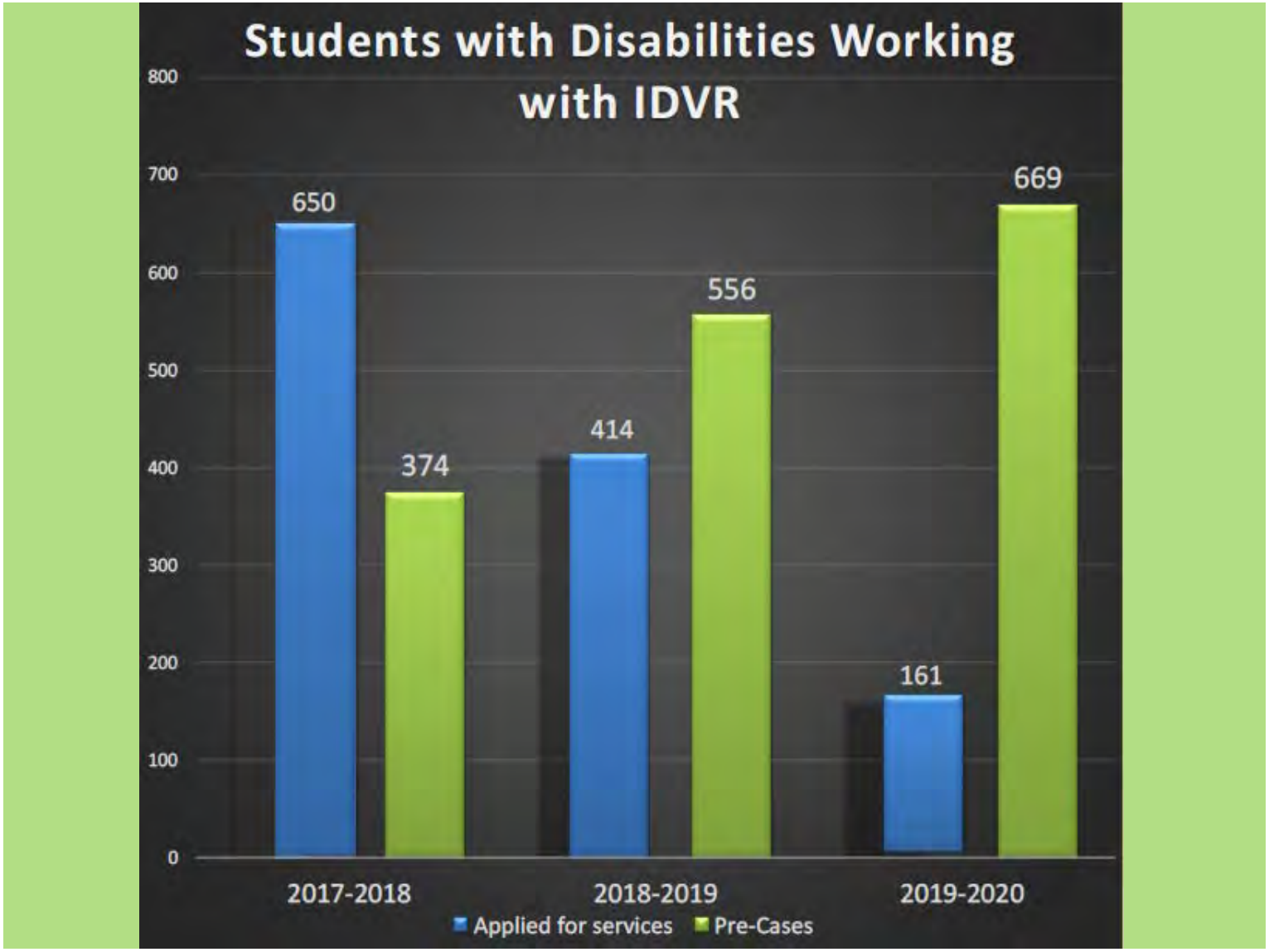
Graduate Students	13
Truck Driving Students	68
Community College Students	80
Four-Year Students	224
Occupational/Vocational Training	264

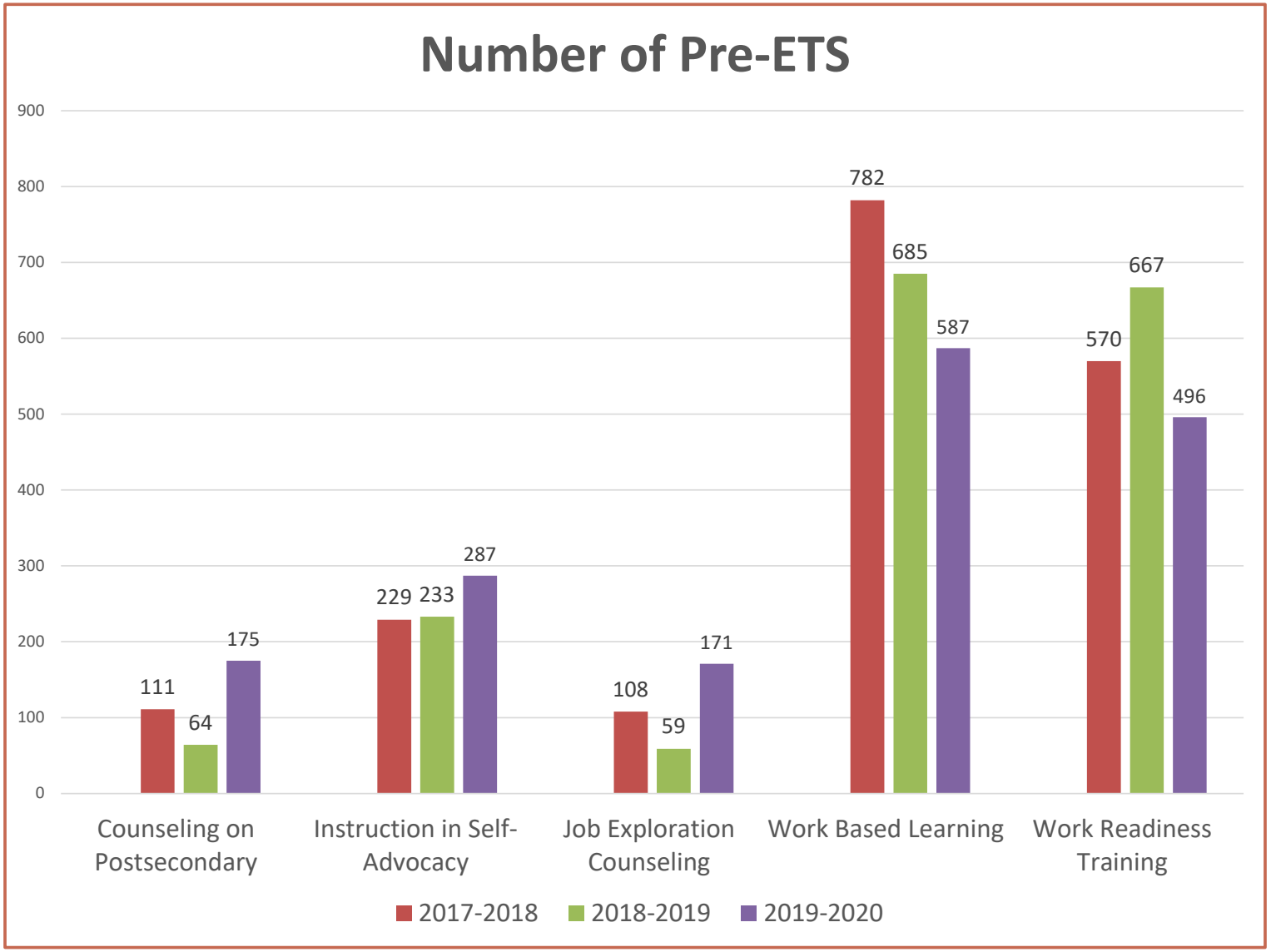


OCCUPATION AND WAGE ACROSS INDUSTRIES

OCCUPATIONS	WAGE PER HOUR
Lawyer	$85.89
Pharmacist	$41.78
Registered Nurse	$29.83
Electrician	$22.67
Construction Laborer	$18.07
Office Clerks/Admin Support	$15.25
Helpers/Production Workers	$9.60


Pre-Employment
Transition Services
Education & VR
Working Together


Students with Disabilities Working with IDVR
800
700
600
500
400
300
200
100
0
650
374
414
556
161
669
2017-2018
2018-2019
2019-2020
Applied for services
Pre-Cases


Number of Pre-ETS
900
800
700
600
500
400
300
200
100
0
111
64
175
229
233
287
108
59
171
782
685
587
570
667
496
Counseling on Postsecondary
Instruction in Self-Advocacy
Job Exploration Counseling
Work Based Learning
Work Readiness Training
2017-2018
2018-2019
2019-2020

Pre-ETS

Pre-Employment Transition Services



Pre-ETS

Pre-Employment Transition Services

IDVR and ISU Virtual Academy NExT
(New Exciting Transitions)





VR IDAHO

Highlighted New Program

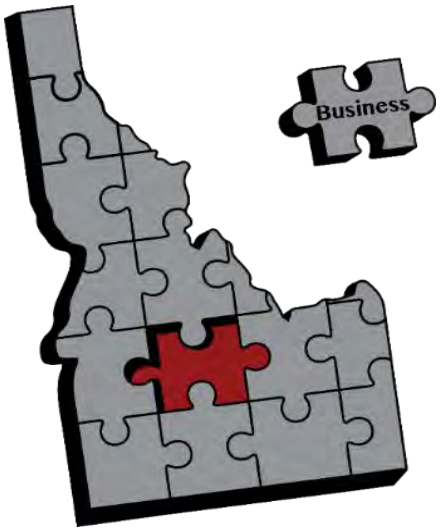
Nampa CTE- small engine repair, culinary, and welding







BUSINESS ENGAGEMENT



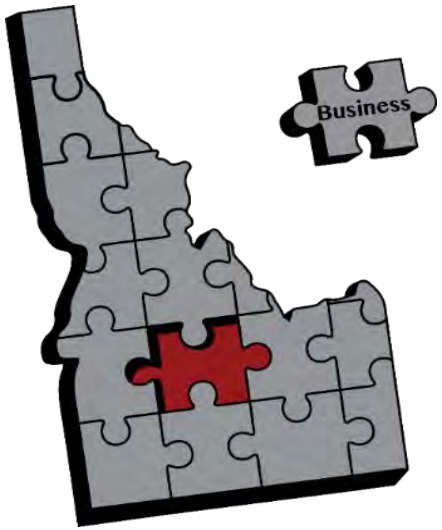
IDVR assists Idaho businesses in

hiring and retaining

qualified employees

VR IDAHO

BUSINESS ENGAGEMENT



Strategic Plan Goals

1. Develop minimum requirements and performance expectations for staff
2. Increase staff understanding of how to deliver effective services to business
3. Develop a communication plan for business engagement
4. Establish IDVR as a resource to business
5. Develop strategy for completing business engagement with outside agencies and partners
6. Increase Agency BE Performance

VR IDAHO

BUSINESS ENGAGEMENT



Regional Business Engagement Plans

IDVR implemented regional plans to assist with reaching our statewide business engagement goals as an agency.

-Regional plans began 7/1/2021

Three core areas of the plans include:

- Staff training/competency
- Number of employers served
- Developing quality relationships

VR IDAHO

BUSINESS ENGAGEMENT



Business Spotlight Events

IDVR implemented virtual business spotlight meetings in April 2021

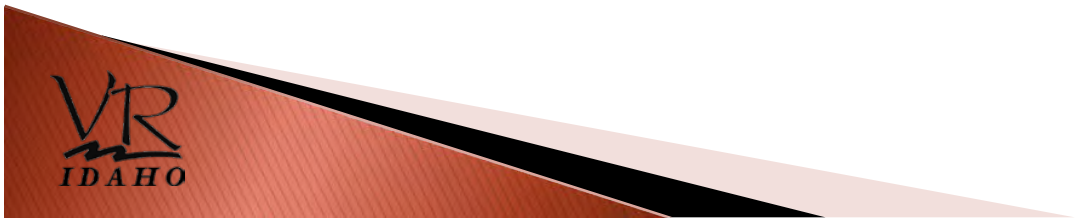
- Have hosted about two businesses a month to participate and share about their business to assist our staff in better connecting job seekers with employers and positions that meet their skills and abilities.
- Partners have been invited to these sessions to include ICBVI, VA, Oregon DVR programs, Washington DVR, and DOL partners.

CHALLENGES

SUCCESSES



QUESTIONS?



SUBJECT

Idaho School Safety and Security Program Introduction

REFERENCE

April 18, 2018	The Office of School Safety and Security provided an update of its work to the Board as part of the Work Session.
February 13, 2020	The Office of School Safety and Security provided an update to the Board on the progress conducting school district safety and security reviews.

APPLICABLE STATUTE, RULE, OR POLICY

Title 33, Chapter 59, Idaho Code

BACKGROUND/DISCUSSION

Introduction to the Idaho School Safety and Security program (ISSSP) which was transferred from the Division of Building Safety to the Office of the State Board of Education effective July 1, 2021 (Fiscal Year 2022).

The update will include an overview and discussion of the key mission areas of the ISSSP, including the triennial vulnerability assessment, prevention initiatives and mitigation efforts.

IMPACT

This update will provide the Board with an overview of the Idaho School Safety and Security program that is now housed within the Board office.

ATTACHMENTS

Attachment 1 – ISSSP Mission Overview Update

BOARD STAFF COMMENTS AND RECOMMENDATIONS

The IOSSS was created by the legislature in 2016 to promote the safety and security of the students attending any and all public schools and postsecondary institutions in the state. The goals of the IOSSS, as derived from legislative intent, are as follows:

1. Develop and employ a comprehensive process and instrument for triennial school assessments and reports.
2. Maintain accurate information on school locations and conditions, tracking facility additions and changes.
3. Identify and implement multiple modes of support for the improvement of safety and security within schools.
4. Identify and establish connection with the agencies, institutions and organizations that serve schools, school personnel, or provide some type of service useful for promoting safety and security within the school environment.

5. Identify incidents, conditions and trends that threaten schools. Research and develop effective practices for the purpose of distributing information and providing training as needed. Research and evaluate the efficacy of technological security solutions, advising schools on possible implementation.

The IOSSS has an advisory board consisting of thirteen (13) members as follows: four (4) members appointed by the governor; the State Superintendent of Public Instruction or their designee; one (1) representative from the State Board of Education; one (1) representative from the Idaho State Police; one (1) representative from the Idaho chiefs of police association; one (1) representative from the Idaho sheriffs' association; one (1) representative from the Idaho office of emergency management; one (1) representative from the Idaho fire chiefs association; and two (2) representatives from the state legislature. The primary purpose of the advisory board is to develop school safety and security guidelines.

The 2021 Legislature amended Section 33-5904, Idaho Code, renaming the Office of School Safety and Security to the School Safety and Security Program and moving it into the Office of the State Board of Education.

BOARD ACTION

This item is for informational purposes only.

Idaho Office of School Safety & Security

It is the mission of the Idaho Office of School Safety and Security to foster safer student environments by supporting school communities with assessment, training and expertise.

House Bill 514

33-5802. LEGISLATIVE INTENT:

(1) Promote the safety and security of the students attending the public educational institutions of the state;

(2) Provide recommendations, systems and training to assist public educational institutions at all levels for the safety and security of students;

(3) Enhance the safety and security resources available to public educational institutions;

(4) Ensure that periodic security assessments of statewide public educational institutions are conducted and reported;

(5) Ensure that surveys are conducted, and research information is reported to appropriate parties;

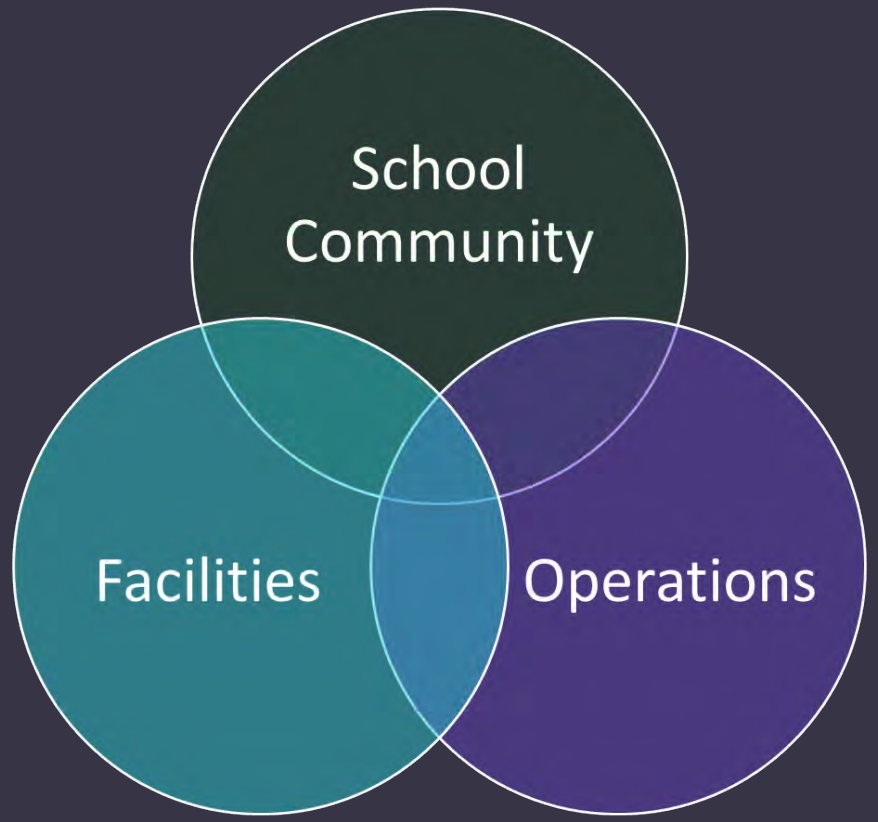
(6) Promote the use of technical methods, devices and improvements to address school security;

(7) Encourage the recognition of security design to be incorporated in future construction or renovation of public educational institutions;

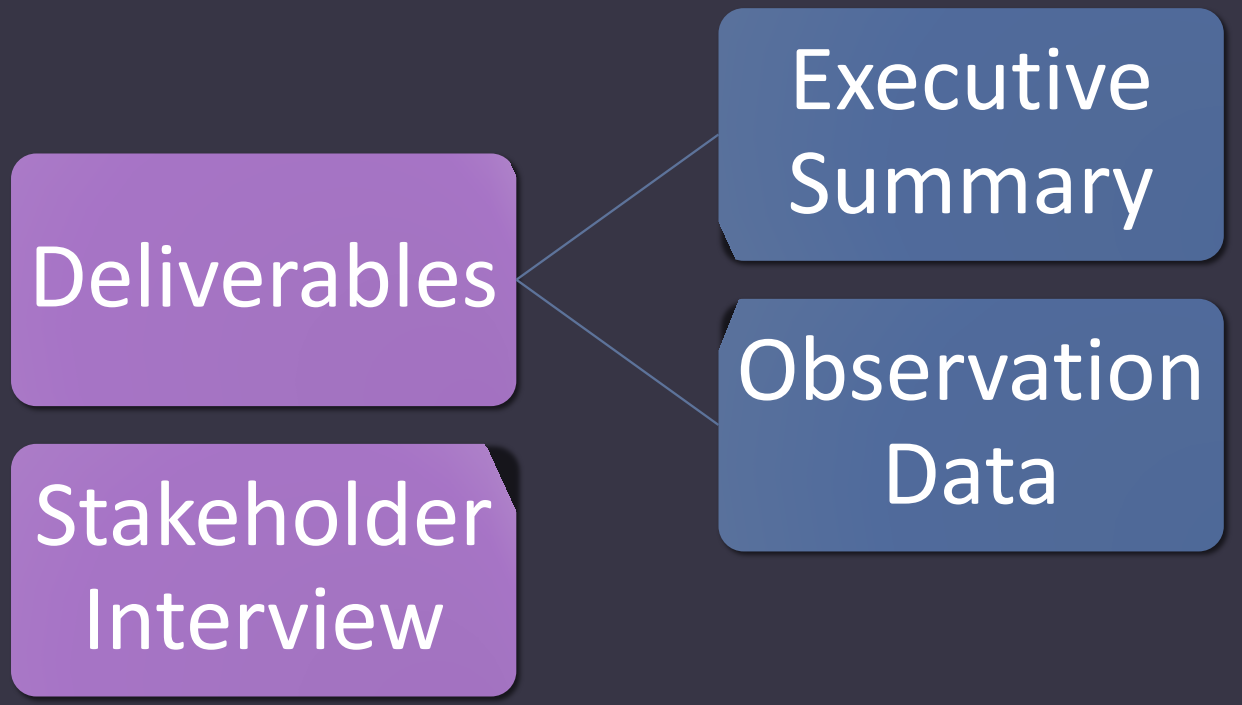
(8) Provide written reports of security assessments to appropriate school administrative authorities.

Triennial Assessment

- Assessment Elements
  - On Site Assessment
  - Intruder Assessment
  - Informal Interviews
  - Key Staff Interviews
  - Observation: Policy versus Practice



Assessment Elements



Assessment Support

- Consultation
- School-Community Outreach (School Board, PTA)
- Prioritization Assistance
- Planning Support

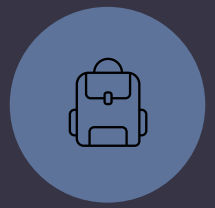
Training Initiatives

- Emergency Operations Plan (EOP)
- Communications Plan Development
- Training Development Targets
  - School Resource Officer Standardization
  - Mental Health Crisis Plan Development
  - Title IX Support

Statewide Safety Initiatives



SEE, TELL, NOW CONFIDENTIAL STUDENT TIPLINE



IDAHO STANDARD COMMAND RESPONSES FOR SCHOOLS (ISCRS)



IDAHO BEHAVIORAL THREAT ASSESSMENT TEAM MODEL



POST-INCIDENT REVIEW PROCESS DEVELOPMENT



SCHOOL RESOURCE OFFICER STANDARDIZATION

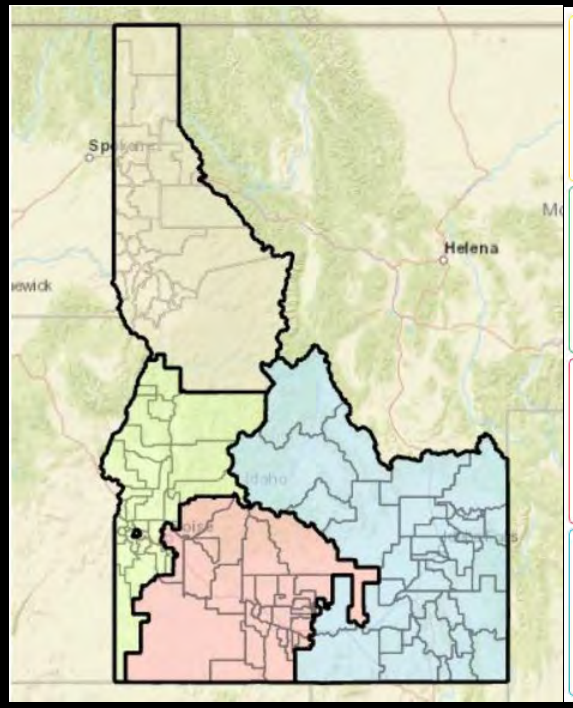
Consulting

- Operational Plans
- Policy Development
- Facility Improvement Planning
- Functional Purchasing Specifications
- Professional Development
- Interagency Coordination

Online Resources

INSERT WEBSITE LINK FOLLOWING CONFIRMATION FROM ITS THAT THE MOVE HAS BEEN COMPLETED

Regional Security Analysts



North – Mark Feddersen
(208) 625-7256
mark.feddersen@osbe.idaho.gov

Southwest- Elliot Cox
(208) 519-0973
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SUBJECT

School Readiness Guidelines

REFERENCE

February 2019	Board received an update on the Idaho Association for the Education of Young Children's initiative on school readiness, and added a new Goal 2 to the K-20 Education Strategic Plan focusing on Educational Readiness.
February 2020	Board adopted the K-12 Our Kids, Idaho's Future Task Force work and recommendations, including recommendations for focusing accountability on K-3 literacy and uniform student access to all day kindergarten.
December 2020	Board discussed kindergarten readiness during its work session.
February 2021	Board established the Idaho School Readiness Guidelines Work Group.
June 2021	Board reviewed the Draft School Readiness Guidelines and supported the Work Group's recommendation to release them for public comment prior to adoption.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho Code §33-201, §33-208, §33-1614
Idaho Administrative Code, IDAPA 08.02.03.101 – Kindergarten Curriculum

BACKGROUND/DISCUSSION

Pursuant to Section 33-201, Idaho Code, "School age" is defined as all residents of the state between the ages of five and twenty-one. Kindergarten attendance is not compulsory in Idaho. Section 33-202, Idaho Code, provides that students between the age of seven and sixteen must attend school or be instructed in the subjects commonly and usually taught in public school starting at the age of 7. For most students, this means they are not required to attend school or be instructed in the subjects commonly and usually taught in the public school until second grade.

In 2019, the Board amended Goal 2 of Idaho's K-20 Education Strategic Plan to focus on Educational Readiness. The goal encompasses earlier ongoing efforts by the Board to emphasize work around early learning literacy and recommendations adopted by the Board from the 2012/2013 Governor's K-12 Task Force and the 2019 recommendation from Governor Little's Our Kids, Idaho's Future Task Force.

In February 2021, the Board's Planning, Policy and Governmental Affairs committee established the Idaho School Readiness Guidelines Work Group (School Readiness Work Group). The work group was tasked with drafting

guidelines designed to clarify the skills children should demonstrate when they are ready to begin their kindergarten year of school. The School Readiness Work Group was chaired by Board member Linda Clark and included eleven (11) other individuals from across Idaho, including representatives of the State Department of Education, Idaho Public Television, higher education, kindergarten teachers, early childhood educators, and agency representatives. The School Readiness Work Group's membership is provided as Attachment 2.

To create the original School Readiness Guidelines Draft (as reviewed by the Board in June 2021), the work group met six (6) times as a full group and completed additional work in subgroups. Prior to developing the draft guidelines document, the work group reviewed the Idaho Early Learning eGuidelines and school readiness documents developed by other states. The purpose of the School Readiness Guidelines document is to establish a clear list of skills students should be capable of demonstrating when they are school ready. The document is designed to be accessible to parents and caregivers, and includes activities that can be facilitated to encourage skill development.

In July, Board staff released the School Readiness Guidelines Draft document and a form to gather public feedback. The guidelines document and form were posted on the State Board of Education website, and staff notified stakeholder groups and requested that the School Readiness Work Group members share the information with their networks. Staff also accepted feedback via e-mail and through in-person conversation. In total, staff received comments from fifteen (15) unique parties, as represented in Attachment 3. The School Readiness Work Group reviewed all feedback and determined whether changes to the document should be made. The majority of the feedback reviewed by the work group was positive, and all constructive feedback was given significant consideration. The updated School Readiness Guidelines document is presented for consideration by the Board, as provided as Attachment 1.

As a result of public comments, the following changes were made to the School Readiness Guidelines document:

- The checkboxes next to the skills on page 1 were changed to bullet points (aligned to the shapes used on the page 2 to categorize) to reduce the feeling that a child must check every box to be ready for school.
- Some skills on page 1 were re-ordered to put the skills students are more likely to master earlier towards the top of the lists.
- Some minor wording adjustments were made to a few skills and a hyperlink to a video was added to demonstrate the tripod / three finger grasp.
- A statement was added on the bottom of page 1 about children learning at different rates, addressing possible parental concerns, and indicating it is appropriate for English learners to master skills in their native language first.
- The introduction to the activities on page 2 was adjusted to recommend that parents and caregivers facilitate activities through play and everyday conversation.

- The resources list on page 2 was re-formatted and additional resources were added.

IMPACT

This agenda item will provide the Board with an opportunity to discuss expectations to ensure every student is ready to learn when they enter kindergarten. The consideration and potential adoption of the Idaho School Readiness Guidelines do not require any changes to any sections of Idaho Code, IDAPA, or Board policy.

ATTACHMENTS

Attachment 1 – Idaho School Readiness Guidelines
Attachment 2 – Idaho School Readiness Guidelines Work Group Membership
Attachment 3 – Idaho School Readiness Guidelines Draft Public Feedback

BOARD STAFF COMMENTS AND RECOMMENDATIONS

Currently in Idaho, no state funds are available for preschool education outside of those students that qualify for special education services, and kindergarten is only funded at a half day rate. Additionally, pursuant to Section 33-512, Idaho Code, local boards of trustees have a duty to "exclude from school, children not of school age."

The Idaho School Readiness Guidelines were developed to enhance the Board's efforts to support strategies to prepare children for school, as aligned to Board Strategic Plan Goal 2, Objective B. If adopted, the Board, State Department of Education, and partners will work together to distribute the guidelines. The guidelines are intended to be a useful resource for educators, parents, and caregivers, and staff believes the provided document is in alignment with these goals. Staff recommends adoption of the Idaho School Readiness Guidelines.

BOARD ACTION

I move to adopt the School Readiness Guidelines as provided in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

READY FOR SCHOOL 

You'll know your child is ready for kindergarten when (s)he...

Physical Development and Safety

- Names his/her body parts.
- Holds scissors correctly and cuts on a straight line and a curved line.
- Kicks a ball, hops on 1 foot, and climbs a ladder.
- Holds a pencil or crayon in a three finger grasp and uses it to write or draw.
- Eats, washes hands, blows nose, uses the toilet, fastens pants, and zips a jacket independently.
- Follows basic safety rules and understands the consequences of not following rules.
- Knows his/her first and last name and the name of his/her parent or guardian.

Social and Emotional Development

- Tries new things, shares, and takes turns.
- Asks for help to get needs met.
- Follows schedules and routines and adjusts to changes.
- Engages in an independent activity (that does not involve screen time) for at least 5 - 10 mins.
- Separates from a parent or guardian without substantial anxiety.
- Reasonably manages his/her emotions when his/her behavior is corrected.

Language and Communication Skills

- Engages in conversations with adults and children.
- Listens to others and takes turns speaking.
- Speaks clearly to be understood and uses 5 to 6 word sentences.
- Follows two and three step verbal directions.
- Recalls personal experiences and describes them to others.
- Children learning English as a second language use a combination of their native language, English, and nonverbal communication to play and work with others.

Early Literacy

- Recognizes their written name.
- Says and hears rhymes (e.g. hat and cat).
- Enjoys books and stories, and can hold a book and turn pages correctly.
- Answers simple questions about the people, places, or events in a book.
- Names several uppercase and lowercase letters.

Mathematical Thinking

- Uses comparative words (more/less, bigger/ smaller, etc.)
- Sorts items by attributes (e.g. color).
- Recognizes and creates simple patterns.
- Recognizes numerals 0 to 10.
- Counts objects by touching one object at a time, and understands the last number stated is the total count.
- Recognizes and creates groups of 2, 3, 4, or 5 objects.

Scientific Thinking

- Makes observations and asks questions about the world and how it works.
- Identifies a simple problem and tries to find solutions.
- Shows curiosity and tests ideas using trial and error.
- Records observations by drawing and describing something (s)he has noticed about the world.
- Describes cause and effect, parts of a whole, and/or change over time based on things (s)he sees in the world.

Children learn at different rates and some may need additional support. If you are concerned your child is not demonstrating these skills, please reach out to your local school district and/or health care provider for screening referral and support. Non-native English speakers should develop skills in their native language first.

Using play, reading, and every day conversation, you and your child can do these activities together to prepare for school:

- **Read to your child every day.**
- Visit your local library or book store to participate in story time or pick books to read together.
- Help your child recognize his/her name in print.
- Encourage your child to draw, build, and play with play dough. Have your child describe or tell you a story about her/his drawing or creation.
- Play games that require listening, following directions, and taking turns (Simon Says, Follow the Leader, Candy Land, Memory, etc.).
- Implement schedules and routines with your child. Help your child learn to transition easily between activities (cues like a bell or music help).
- Speak clearly to your child (without "baby talk"). Talk with him/her about what you are doing or what (s)he sees, hears, etc.
- Sing songs or recite nursery rhymes with your child.
- Encourage your child to talk about his/her feelings by modeling and discussing your feelings.
- Provide opportunities for your child to play and explore with other children in in new settings.
- Encourage outdoor play and exploration; allow your child to jump, climb, and dig.
- Discuss and practice personal safety rules with children (holding hands in crowds, wearing a bike helmet, etc.).
- Encourage your child to dress himself / herself.
- Show / point to written numbers (in books, games, and daily life) and have your child identify the name.
- Play games that involve numbers, patterns, and counting (Candy Land, Chutes and Ladders, etc.).
- Count toys while playing.
- Provide a variety of objects or toys for your child to collect, group, and compare (by color, size, shape, type, etc.).
- Give your child two objects, such as a pencil and spatula and ask questions about them (Examples: Which is longer/shorter? Which is heavier/lighter?).
- To help your child learn to make and test predictions, when reading a book, ask your child, "What might happen next?".
- When outside, ask your child questions, like: What do you see / hear? What do you think made that happen? How has that ___ changed?
- Encourage your child to draw something they have seen. Help them label specific parts of the item.
- Facilitate simple experiments with your child, predict what will happen, and discuss the results (Example: drop oil and food coloring into water).
- Read books focused on a variety of topics, including feelings, numbers, science, and learning through trial and error (Happy Hippo Angry Duck, The Very Hungry Caterpillar, The Most Magnificent Thing, etc.).

PHYSICAL DEV & SAFETY SOCIAL & EMOTIONAL DEV LANGUAGE, COMMUNICATION & LITERACY MATHEMATICAL THINKING SCIENTIFIC THINKING

Idaho State Board of Education

Additional Resources for Parents and Caregivers

- Idaho Early Learning eGuidelines
- Idaho Comprehensive Literacy Plan
- CDC Milestones Tracker App
- READY! for Kindergarten Program

ATTACHMENT 2

Idaho School Readiness Guidelines Work Group

Linda Clark, Chair
Secretary
State Board of Education

Alison Henken, Staff Support
K-12 Accountability and Projects Program Manager
Office of the State Board of Education

Alayna Knop
English Language Arts / Literacy Coordinator
State Department of Education

Shannon Dunstan
Early Childhood Coordinator
State Department of Education

Michele Carney
Associate Professor
Boise State University

Deanna Carter
Kindergarten Teacher
Twin Falls School District

Evelyn Johnson
Chief Executive Officer
Lee Pesky Learning Center

Darcy Kincaid
Assistant Professor
Lewis Clark State College

Beth Oppenheimer
Executive Director
Idaho Association for the Education of Young Children

Staci Shaw
Youth Services Consultant
Idaho Commission for Libraries

Debbie Stanger
Kindergarten Teacher
Twin Falls School District

Ludee Vermaas
Executive Director
Get Ready to Learn, Kuna!

Kari Wardle
Teacher Ambassador
Idaho Public Television

Idaho School Readiness Guidelines Draft - Public Feedback

Date of feedback	Role	Are Guidelines easy to understand	Would Guidelines help parents / caregivers prepare students for school	Concerns about draft / recommended changes	Other feedback	Changes Made and/or Work Group Response
5/21/2021	Higher education	N/A (feedback not provided through the feedback form)	N/A (feedback not provided through the feedback form)	• This document being used as an assessment that may label children prematurely as having deficits due to: Black and white/concrete language of some indicators and the check boxes indicating that there may be a need for remediation if not all boxes are checked for a child. Examples: Names several uppercase and lowercase letters; Recognizes numerals 0 to 10; Holds scissors correctly and cuts on a straight line and a curved line. • An opinion expressed was that if the order of the indicators followed a developmental sequence with the most advanced skills listed at the bottom of each list it may be helpful to see the developmental progression of the skills noted. • Use bullets instead of boxes to "check off". Suggestions: • Soften the tone of the document by having the tagline, "You'll know your child is ready for kindergarten when (s) he is showing interest in…" • Include additional developmental milestone resources such as: ASQ-3; CDC LTSAE materials; CDC Free Milestone Tracker app	• We appreciate the layout and the document only being two pages.	In response to this detailed feedback, we made several changes: - Changed the checkboxes to bullets (that align with the symbols on the back). - Did some re-ordering of the skills within categories, moving some of the skills that students are likely to acquire quicker to the top. - In regards to adding resources, we want to be thoughtful about which resources we provide / link, both in regards to the number and type. The Work Group discussed this and the members most familiar with these recommended resources felt the Milestone Tracker App would be the most useful to parents. That has been added to the resources on the second page.
6/15/2021	Community member / early education	N/A (feedback not provided through the feedback form)	N/A (feedback not provided through the feedback form)	From a non- early educator perspective, this looks good. But, do you think a parent of an almost kindergartner might look at this and think 'my child's not ready for kindergarten because they can't do one or more of these things' – if so, what is this document going to be advising that parent to do? This may be a silly thought, and if so disregard, but I wonder if looking at this might cause a parent whose child isn't 'ready' to avoid enrolling? And what if that child needs a screening? Maybe something here about 'concerned that your child isn't ready? Visit _____ for help'		This was addressed with statement added on the bottom of the first page of the document.
6/22/2021	Community member / early education	N/A (feedback not provided through the feedback form)	N/A (feedback not provided through the feedback form)	I received the draft and the one thing that I thought was missing for parent activities is asking open ended questions, such as "Tell me about ____ or Why do you think____?" Otherwise, I think it is a very good document to be shared.		The Work Group feels this is addressed, particularly with the adjusted intro on page two. The group is also hesitant to add more activities (due to space limitations).

Idaho School Readiness Guidelines Draft - Public Feedback

Date of feedback	Role	Are Guidelines easy to understand	Would Guidelines help parents / caregivers prepare students for school	Concerns about draft / recommended changes	Other feedback	Changes Made and/or Work Group Response
6/22/2021	Community member / early education	N/A (feedback not provided through the feedback form)	N/A (feedback not provided through the feedback form)		I don't know about the other members of Ready, but we use the IRI results to measure kindergarten readiness. They break down readiness into four categories: vocabulary, listening comprehension, letter knowledge, and phonemic awareness. So, if we want to raise those scores, we might went to consider preparing more targeted advice on what those terms mean and what parents can do to help their kids improve in each category. As a parent of a young child, I would have never known that those are the specific skills schools are looking for and I'm still not sure what I can do to get my little guy ready with regard to those specific skills (aside from just reading together, a lot). That said, I know that I'm basically advocating "teaching the test," but it might be the best way to raise scores in the short term and build momentum around early learning across Idaho.	The Work Group is very hesitant to align too much to a particular assessment, as there are other skills (social emotional, safety, and classroom skills) that are equally important for a child to be ready for school.
7/1/2021	Early education provider	Very easy to understand	Would be a big help	Consider using the words "recognizes and produces rhyming words"	I think this is a very succinct and helpful document for parents and others who want to know what are the essential learning outcomes for Kindergarten readiness.	While we appreciate this feedback, this wording is closer to K standard (for end of the year). We also want to make sure the document uses parent friendly language.
7/1/2021	Community member / parent	N/A (feedback not provided through the feedback form)	N/A (feedback not provided through the feedback form)	We at IPUL [Idaho Parents Unlimited] are wondering if there will be guidance for parents whose children are not doing some or all of these things. I think there must be something that explains that children with developmental delays or diagnosed disabilities may be eligible for special education services or accommodations (504) and that guides them to the information on the SDE's website. I would hate to think a parent would read this and think their child isn't "ready" for Kindergarten and confuse it with "eligible" especially a parent who isn't currently connected to developmental preschool services.		This was addressed with statement added on the bottom of the first page of the document.
7/2/2021	Early education provider	Easy to understand	Would help	Just need to make sure that parents are aware that these are the basic skills that children need for kindergarten readiness.		
7/6/2021	Higher education	Easy to understand	Would be a big help	I think you may need to define/describe the tripod grasp.		Changed to "three finger grasp" and added a hyperlink to a YouTube video to demonstrate it.
7/7/2021	Early education provider	Very easy to understand	Would be a big help	There should be and activity that encourages parents to ask open-ended questions to their children with back and forth exchanges.	This is a wonderful form and very good information for families to have about appropriate development.	We feel this is pretty well addressed. However, we are adding an intro on the Activities page to indicate that most of the activities can be done through play or regular conversation (included open-ended questions).

Idaho School Readiness Guidelines Draft - Public Feedback

Date of feedback	Role	Are Guidelines easy to understand	Would Guidelines help parents / caregivers prepare students for school	Concerns about draft / recommended changes	Other feedback	Changes Made and/or Work Group Response
7/8/2021	Elementary (K-5) teacher	Very easy to understand	Would help	When my kindergarteners begin school over half of them are not able to do many of the items on the list. They do not receive the support at home to learn these skills and do not attend preschool. Many of them are not able to cut or hold a pencil correctly. They do not know letter names/sounds or recognize numbers.	For our students in low income and EL families to have these skills before kindergarten they need to have opportunies to attend preschool. Our state needs to take a more proactive approach in early childhood learning. Funding needs to be provided for preschool and kindergarten.	
7/9/2021	Higher education	Very easy to understand	Would be a big help	This chart provides helpful school readiness to parents and is very easy to follow. I have 2 suggestions: (1) Perhaps point out somewhere in the documents that children are considered kindergarten-ready when they are able to do some or all items listed under each category. Some parents may think children need to achieve everything on the checklist in order to be kindergarten-ready. (2) Maybe embed hyperlinks to online resources on the second page when necessary. For example, the second last bullet point “Facilitate simple experiments with your child….” could be hyper-linked to some easy DIY science experiments that parents can do with children. This way there is one less hoop parents have to jump through to look for education resources:)	This chart is well-thought-out, the school-readiness tips are evidence-based. I especially love how it was color coded! Very reader friendly.	Ultimately, these are the things kids need to be able to do when they are entering school (kindergarten). The Work Group thinks the idea of embedding hyperlinks is interesting, but identifying which resources to include (which is essentialy endorsing a resource) would be challenging and there is also the risk that links will quickly become outdated.
7/9/2021	Higher education	Very easy to understand	Would help	Idaho Code 33-201 states that a child must be 5 prior to September 1st to enroll in Kindergarten. These guidelines may prove problematic in regard to early readiness. Additionally, while the guidelines are helpful, those observing behavior may not have the same understanding as those who drafted the document as this is essentially a self-reporting document.		
7/13/2021	Community member / early education	Very easy to understand	Would cause problems	As a person with a disability that has been through Idaho's education system I saw no mentioning in this document of clarification for parents of children with physical, mental, or learning disabilities. I think the way this document is written right now is both unclear and discriminatory against people with disabilities or against their parents/guardians. This document needs to be clarified in those ways to avoid the appearance of discrimination for not including the above-mentioned populations. I also find the very title of the document School Readiness Guidelines to be discriminatory and misleading. I also feel that this document is or could be seen as discriminatory against those who do not speak English as their native language, and it may be unrealistic to expect their kids to know English well enough to fit those requirements. So I feel this needs to be addressed as well, to both avoid legal issues that could potentially arise and/or moral and ethical issues for the state of Idaho.		We feel this is valuable feedback. We also do not want to assume that a child who has not developed the skills has a developmenal or learning disability. We added a statement to the front page: Children learn at different rates and some may need additional support. If you are concerned your child is not demonstrating these skills, you should reach out to your local school district and/or health care provider to be referred for screening and support. Non-native English speakers should develop skills in their native language first.

Idaho School Readiness Guidelines Draft - Public Feedback

Date of feedback	Role	Are Guidelines easy to understand	Would Guidelines help parents / caregivers prepare students for school	Concerns about draft / recommended changes	Other feedback	Changes Made and/or Work Group Response
7/15/2021	Community member / Work Group member	N/A (feedback not provided through the feedback form)	N/A (feedback not provided through the feedback form)	This looks really great. My feedback is since there seems to be a little room, it feels like we should add back in one or two items under Early Literacy. Maybe something about recognizing and/or draws basic shapes, as this is the pre-cursor to drawing and recognizing letters… Or something more specific about vocabulary, such as "Knows the names of lots of different objects and can describe them using many different words." Or maybe an ELL bullet for this box: "Children learning English as a second language should develop the skills above in their home language first."	I don't know, just food for thought. It also looks good as is.	The Work Group discussed this and felt the Early Literacy skills are appropriate. The language about English Learners was added into the statement at the bottom of the first page about different learners.
Unknown	Legislator	N/A (feedback not provided through the feedback form)	N/A (feedback not provided through the feedback form)		Concerned that the document feels very academic and that is that the expectations may be too much for little kids.	The Work Group adjusted the intro to the parent activities to encourage parents / caregivers to help kids build the skills through through play and everyday conversation. The group also feels there is quite a bit in the document focused on non-academic skills (safety, social emotional, etc.). Additionally, the kindergarten standards are academic in nature and this document is designed to help ensure children have developed some basic skills to help them thrive in kindergarten, so academics are a part of it.

SUBJECT

ARP ESSER Funds SEA Set Aside Request

REFERENCE

August 2017	Board approved Idaho's ESSA Plan, including a new state and federal accountability system that utilizes multiple measures to identify schools for recognition and support.
December 2018	Board received the Accountability Oversight Committee's FY 2019 Report, including student achievement data and an analysis on the first year of implementation of the state's new K-12 school accountability system.
February 2019	Board approved amendments to the ESSA Plan, based on recommendations from the Assessment and Accountability team at the SDE and the Accountability Oversight Committee.
June 2020	Board received the Accountability Oversight Committee's FY 2020 Report with recommendations regarding assessment and accountability, as related to analysis of the data in the SDE's 2018-2019 Student Achievement Report.
February 2021	Board adopted recommendations from the Accountability Oversight Committee related to the state's high school accountability assessment, thus initiating the negotiated rulemaking process for IDAPA 08.02.03 – Section 111, Assessment in the Public Schools.
April 2021	Board adopted recommendations from the Accountability Oversight Committee related to the K-8 school quality measure used for school identification, thus initiating the negotiated rulemaking process for IDAPA 08.02.03 – Section 112, Accountability.
June 2021	Board reviewed the Accountability Oversight Committee's FY 21 Report, including recommendations for the FY 22 Report and review of data on the impact of the pandemic on student outcomes and approved Idaho's ARP Act ESSER State Plan.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section I.Q.
Section 33-110, Idaho Code

IDAPA 08.02.03 – Section 111, Assessment in the Public Schools; IDAPA 08.02.03 – Section 112, Accountability; IDAPA 08.02.02 – Section 114, Failure to Meet Annual Measurable Progress

BACKGROUND/DISCUSSION

The Board's Accountability Oversight Committee (AOC) was established in April 2010 as an ad-hoc committee of the Board. Board policy I.Q. assigns two responsibilities to the committee:

a. Provide recommendations to the Board on the effectiveness of the statewide student achievement system and make recommendations on improvements and/or changes as needed.

b. Develop and review an annual report of student achievement. This report shall be compiled collaboratively by Board and State Department of Education staff and submitted to the committee for review. The committee will forward the report to the Board with recommendations annually.

In their FY 21 Annual Recommendations Report, the AOC outlined their plans for the FY 22 Report, including putting a significant focus on reviewing data on the impact of the Covid 19 pandemic on student outcomes. The Board included much of the AOC's proposed data in the state's ARP ESSER Plan and gave the AOC the task of conducting ongoing data analysis related to the plan.

The AOC's FY 21 Annual Recommendations Report included the following recommendation: "Support the State Department of Education in gathering and confirming accuracy of data for the FY 22 Special Focus Data analysis on the effects of the Covid 19 pandemic." One of the primary areas of concern for the committee was the need to verify the data regarding the mode of instructional delivery (in-person, hybrid, remote) before conducting detailed analysis. In addition to verifying how instruction was delivered in districts and schools during the 2020-2021 school year, due to ongoing Covid-related instructional disruptions, the AOC recommends also supporting data collection and verification for the 2021-2022 school year. The project will be overseen by Kevin Whitman as a part of preparing data for the Student Achievement Report, which will be presented to the AOC and to the Board with the AOC's FY 22 Annual Recommendations Report. The AOC is requesting $3,500.00 in FY 22 for data verification of the 2020-2021 school year and an additional $3,000.00 in FY 23 for ongoing tracking of the 2021-2022 school year. The total request, as outlined in the Project Budget (Attachment 1) is $6,500.00 of ARP ESSER state set aside funds.

The Unfinished Learning Work Group, co-chaired by Dr. Clark and Greg Wilson have been working to identified strategies for tackling the unfinished learning experienced by our students over the past two years. As part of this work, they are in the process of developing recommendations for the Board's consideration. At this time they are putting forward a recommendation to fund an accelerated learning mathematics collaborative, as outlined in Attachment 2. This request

focuses on accelerated student learning in mathematics for students in grades 3 through 9. If funded, the program will take place over three years. The first steps will be to establish regional Accelerating Math Learning Collaborative (AMLC) among Idaho school districts, and individuals with expertise in mathematics education from higher education. These collaborative groups will provide input on professional development needs and structures and engage in cycles of feedback to ensure the program activities meet the needs of districts as well as building upon research on best practices for improving student achievement. Two levels of support are envisioned (1) regional level workshops (both virtual and face-to-face) to provide an overview of and promote discussion around the recommendations to accelerate student achievement in mathematics, and (2) school-embedded classroom instructional support for implementation of and reflection on the recommendations.

IMPACT

Approval of this request will allow up to $100,000 of the ARP Act ESSER SEA set aside funds to be used by the AOC without coming back to the Board for additional approval and allow for $3.5M to be used toward the Accelerated Learning Math Collaborative as outlined in Attachment 2.

ATTACHMENTS

Attachment 1 – Mode of Instructional Delivery Data Verification Project Budget
Attachment 2 – Accelerating Learning Mathematics Proposal

BOARD STAFF COMMENTS AND RECOMMENDATIONS

The AOC's request for state set aside funds aligns to language in Idaho's ARP ESSER Plan, which indicates that state funds may be used to support research and data collection for the purpose of analyzing the impact of the pandemic. Staff recommends approval of the AOC's request for ARP ESSER state set aside funds for data verification.

To help facilitate the work of the AOC and meeting the ARP ESSER reporting requirements, staff recommends the Board preliminarily set aside $100,000 of the SEA ARP ESSER Set aside funds. If approved the proposal provided in Attachment 1 would come from this allocation.

The Unfinished Learning Work Group recommendations focus on the three areas the Board identified as priority areas for addressing the student impacts due to the pandemic. The three areas of focus are:

- Accelerated Learning/Grow – Kindergarten – Grade 4 Literacy
- Accelerated Learning – Grades 4-9 Mathematics
- High School Credit Recovery

Staff recommends approval.

BOARD ACTION

I move to approve the use of ARP ESSER state set aside funds to the Accountability Oversight Committee for data verification up to $100,000 and to approve the use of up to $3.5M for the Accelerating Math Learning Collaborative in substantial conformance to proposal submitted in Attachment 2.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

Accountability Oversight Committee
Mode of Instructional Delivery Data Verification Project Budget

Proposed Budget

Fiscal Year 2022			
Project Scope	**Estimated Hours**	**Estimated Hourly Rate**	**Total**
Retrospective data on SY 2020-2021 operating status			
Develop questionnaire for all districts	40	$25	$1,000
Distribute questionnaire and manage responses	40	$25	$1,000
Follow up with districts who did not respond	40	$25	$1,000
Compile response data and send to SBOE/SDE	20	$25	$500
		FY 22 Total	**$3,500**
Fiscal Year 2023			
Project Scope	**Estimated Hours**	**Estimated Hourly Rate**	**Total**
Ongoing tracking for SY 2021-2022 operating status			
Update questionnaire	20	$25	$500
Distribute questionnaire and manage responses	40	$25	$1,000
Follow up with districts who did not respond	40	$25	$1,000
Compile response data and send to SBOE/SDE	20	$25	$500
		FY 23 Total	**$3,000**
		Overall Total	**$6,500**

Note: The estimated hourly rate is based on the skills and knowledge needed and current employment market.

Process

Gathering Retrospective (SY 2020-2021) Data

- The AOC Chair, Board staff, and SDE staff will work together with the contractor to develop a questionnaire to gather data appropriate data from districts.
- The contractor will answer clarifying questions from LEAs and will follow-up with non-responsive districts by phone.
- The contractor would compile data from the responses and provide it to the SDE and AOC.

Ongoing Tracking (SY 2021-2022 Data)

- The contractor will update and distribute the questionnaire.
- The contractor will respond to questions and will call non-responsive districts.
- The contractor will compile data from the responses and provide it to the SDE and AOC.

ATTACHMENT 2

Accelerating Math Learning Collaborative (AMLC)

August 2021

A funding idea to improve grades 3-9 mathematics assessment and instruction to accelerate student learning in response to the pandemic educational disruptions.

A Need for Improved Student Learning in Grades 3-9 Math

Math achievement is a critical component of college and career readiness, but Idaho's grades 3-10 math proficiency rates on the ISAT have been historically low. The pandemic has likely exacerbated these issues, particularly for rural and low-income students. The tendency is for schools to focus on remediation and reteaching, however there is very little evidence these approaches will support students in accessing grade-level math content. Schools need support in envisioning, implementing, and evaluating acceleration learning mechanisms to identify what works best in their local context.

Potential Program Structure

If funded, the program will take place over three years. The first steps will be to establish regional Accelerating Math Learning Collaboratives (AMLC) among Idaho school districts, and individuals with expertise in mathematics education from higher education. These collaborative groups will provide input on professional development needs and structures and engage in cycles of feedback to ensure the program activities meet the needs of districts as well as building upon research on best practices for improving student achievement. Two levels of support are envisioned (1) regional level workshops (both virtual and face-to-face) to provide an overview of and promote discussion around the recommendations to accelerate student achievement in mathematics, and (2) school-embedded classroom instructional support for implementation of and reflection on the recommendations.

Program Goals

1. Provide all Idaho educators support (via webinars and regional workshops) to implement the Unfinished Learning workgroup's recommendations for improving grades 4-9 math achievement.
2. Provide target schools support (via Accelerating Math Learning Collaborative groups) for implementing **evidence-based practice improvement cycles** to accelerate students' math achievement within their local context.

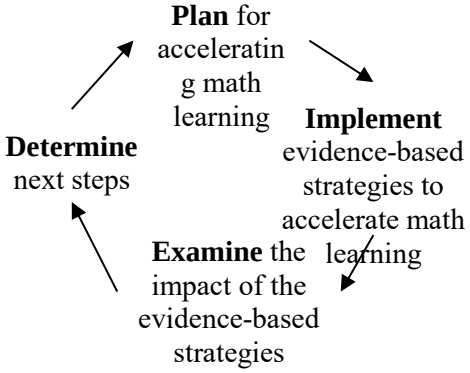
Evidence-based Practice
The process of integrating best available research with educators' clinical expertise and values to solve problems of practice.

Focus Areas

The focus areas are synthesized from the Unfinished Learning workgroup's math recommendations

- *Assessment:* coordinated assessment for identifying students who may need additional support in order to reach proficiency in grade level mathematics.
- *Structures and Schedules:* improvement cycles to test and revise local approaches to offering additional in- and out-of-school opportunities to learn.
- *Classroom Strategies:* improvement cycles to test and revise use of research-based math instructional strategies centered on high priority content standards.

Improvement Cycle



Program Activity Overview

A brief overview of program activities is provided below but is flexible depending upon the needs and decisions of the regional AMLC groups.

2021-22

- Statewide webinar and/or workshop series based on the three focus areas (all Idaho schools)
- School-based consulting to high-need schools around their assessment plans
- Cohort 1 (30 schools) AMLC group recruitment, meeting(s)[1], and summer 2022 institute

2022-23

- Statewide webinar and/or workshop series based on the three focus areas, builds upon the previous year, content determined by AMLC groups (all Idaho schools)
- Cohort 1 (30 schools) AMLC improvement cycles (plan, implement, evaluate, revise plan, repeat)
    - Classroom embedded instructional support for teachers
    - Professional learning community development for teacher leaders
- Cohort 2 (30 schools) AMLC group recruitment, meeting(s), and summer 2023 institute

2023-24

- Statewide webinar and/or workshop series based on the three focus areas, builds upon the previous year, content determined by AMLC groups (all Idaho schools)
- Cohort 2 (30 schools) AMLC improvement cycles (plan, implement, evaluate, revise plan, repeat)
    - Classroom embedded instructional support for teachers
- Cohort 1 and 2 (60 schools) AMLC professional learning community development for teacher leaders

Funding Request

$2,500,000 for **3 years**, includes statewide webinar/workshop series + two cohorts of about **60 elementary or middle schools** - adjustable between $1.7 million (~30 schools) and $3.5 million (~90 schools).

- $1.15 million for salaries
    - 20% FTE project director
    - 4 full FTE for regional math specialists (1.5 FTE in year 1, 4.0 FTE in years 2 and 3)
    - Part-time admin, student workers, web designer, data analyst
- $400,000 for fringe/benefits
- $625,000 for stipends and credits to AMLC schools/team members, classroom teachers, regional math education collaborators
- $100,000 materials, equipment, and travel
- $180,000 for Boise State Facilities and Administrative costs[2]

[1] Format - virtual vs. face-to-face - will be determined by the group members.

[2] I was under the impression that SBOE contracts had an 8% F&A rate but was told there is no F&A on SBOE contracts. However, I'm unclear if there are other university costs that need to be associated if there is no F&A. I need to check with our Office of Sponsored Projects. I left in the 8% F&A for now, which is less than the 20% if it runs through the SDE.

ATTACHMENT 2

Capacity for Change

Over the last 10 years Boise State University has developed a large network of math education personnel with extensive expertise and experience in collaboratively partnering with districts, state government agencies, and institutions of higher education across the State of Idaho.

- Boise State has collaborated regionally and statewide on numerous mathematics education professional development projects over the last several years (e.g., MoDAL, Regional Math Center, NSF ROOT grant) and employs over 20 individuals who focus their instruction and/or research on mathematics education.
- Boise State has close ties to districts in Regions 3 and 4, and to Regional Math Center personnel in other regions who have strong district connections and mathematics education expertise in each Region across the state.
- In Spring of 2021, Boise State mathematics education personnel worked on developing unfinished learning supports, including a well-attended virtual collaborative conversation around recommendations in mathematics.

Given this expertise, we expect to be able to hire/contract with the necessary personnel - who have strong ties to local districts - to support this project, in the short timeline provided.

SUBJECT

Proposed Rule, Docket 08-0000-2100

REFERENCE

May 2019	Board approved temporary and proposed rules extending all rules codified June 30, 2019.
February 2020	Board approved temporary omnibus fee rule.
August 26, 2020	Board approved proposed omnibus fee rule, Docket 08-0000-2000F.
November 2, 2020	Board approved pending omnibus fee rule.
June 2021	Board approved temporary omnibus rules, Dockets 08-0000-2100 and 55-0000-2100.
August 2021	Board approved proposed rules Dockets 08-0201-2101, 08-0202-2102, and 08-0203-2101.

BACKGROUND/DISCUSSION

Each year Idaho's Administrative Code is scheduled to expire on June 30th. As part of the legislature's annual duties during the legislative session, historically it has passed legislation to extend the codified rules, including those not rejected during the legislative session, until June 30th of the following year. However, this action has not occurred for the past three years. All codified rules expired on June 30, 2021. To mitigate the potential confusion this could cause and ensuing potential liability to the state for not implementing many provisions required by statute or the state constitution, the Governor authorized the approval of temporary rules through an omnibus process that reinstated the rules on a temporary basis effective July 1, 2021.

Each section of Administrative Code is divided by an IDAPA number, then title and chapter. As an example, IDAPA 08.02.01 is IDAPA 08, Title 02, Chapter 01. Administrative rules promulgated by the Board of Education encompass two sections of IDAPA including 14 chapters. Two chapters are found in IDAPA 55 pertaining to Career Technical Education. Twelve chapters are found in IDAPA 08.

The rules the Board will be approving through this omnibus process include the follow IDAPA Chapters:

- 08.01.02, Rules Governing the Postsecondary Credit Scholarship Program
- 08.01.10, Idaho College work Study Program
- 08.01.11, Registration of Postsecondary Education Institutions and Proprietary Schools
- 08.01.13, Rules Governing the Opportunity Scholarship Program
- 08.02.01, Rules Governing Administration
- 08.02.02, Rules Governing Uniformity
- 08.02.03, Rules Governing Thoroughness
- 08.02.04, Rules Governing Public Charter Schools
- 08.02.05, Rules Governing Pay for Success Contracting

- 08.03.01, Rules of the Public Charter School Commission
- 08.04.01, Rules of the Idaho Digital Learning Academy

The Board approved three proposed dockets at the August 2021 Board meeting amending IDAPA 08.02.01, 08.02.02. and 08.02.03. The proposed amendments included changes brought forward based on Board discussion regarding graduation requirements, assessments and accountability, amendments requested by the State Department of Education, and amendments made in compliance with the Governor's zero based regulations initiative.

IMPACT

Approval of the proposed omnibus rules will allow those rules codified at the end of the 2021 Legislative Session and those sections with negotiated amendments approved by the Board at the August Board meeting to be published and go out for 21 day public comment.

ATTACHMENTS

Attachment 1 – Proposed Rule Docket 08-0000-2100

STAFF COMMENTS AND RECOMMENDATIONS

Temporary rules go into place upon approval by the Board or on a date set by the Board through Board action at the time of approval and expire at the end of the next legislative session, unless a request is made to the Legislature to extend the temporary rules. The temporary omnibus rules approved by the Board earlier this year were effective July 1, 2021 and will expire at the end of the 2022 Legislative Session. Proposed rules approved by the Board are published in the Administrative Bulletin followed by a 21-day public comment period. At the close of the 21-day comment period rules are returned to the Board for consideration as a pending rule. Pending rules approved by the Board are submitted to the Legislature for consideration during the upcoming legislative session. The Legislature may accept or reject all or a portion of the rules presented for consideration. Those rules that are not rejected become effective at the end of the legislative session in which they are submitted.

In addition to the omnibus rules being promulgated, the Board has also approved six proposed rule dockets at the August regular Board meeting. At the request of the State Administrative Rules Office, three of these dockets, 08-0201-2101, 08-0202-2102, and 08-0203-2101 are being included in the omnibus proposed rule.

Staff recommends approval.

BOARD ACTION

I move to approve omnibus proposed rule Docket 08-0000-2100 as provided in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

IDAPA 08 – IDAHO STATE BOARD OF EDUCATION
DOCKET NO. 08-0000-2100

NOTICE OF OMNIBUS RULEMAKING - PROPOSED RULEMAKING

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking procedures. The action is authorized pursuant to Article IX, Section 2 of the Idaho Constitution and under Sections 33-101, 33-105, 33-107, 33-115, 33-116, 33-118, 33-118A, 33-119, 33-120, 33-125B, 33-130, 33-133, 33-134, 33-136, 33-203, 33-307, 33-310, 33-320, 33-523, 33-804A, 33-1002, 33-1002C, 33-1002F, 33-1004, 33-1006, 33-1007A, 33-1201, 33-1201A, 33-1202, 33-1204, 33-1205, 33-1210, 33-1212, 33-1212A, 33-1280, 33-1304, 33-1602, 33-1612, 33-1613, 33-1614, 33-1616, 33-1631, 33-2002, 33-2003, 33-2009, 33-2402, 33-2403, 33-4303, 33-4402, 33-4403, 33-4601A, 33-4605, 33-5203, 33-5205, 33-5207, 33-5208, 33-5210, 33-5504, 33-5505, and 33-5507, Idaho Code.

PUBLIC HEARING SCHEDULE: Oral comment concerning this rulemaking will be scheduled in accordance with Section 67-5222, Idaho Code.

DESCRIPTIVE SUMMARY: The following is a nontechnical explanation of the substance and purpose of the proposed rulemaking:

This proposed rulemaking publishes the following rule chapter(s) previously submitted to and reviewed by the Idaho Legislature under IDAPA 08, rules of the Idaho State Board of Education:

IDAPA 08:
- 08.01.11, Registration of Postsecondary Education Institutions and Proprietary Schools
- 08.01.13, Rules Governing the Opportunity Scholarship Program
- 08.02.01, Rules Governing Administration, adds required Sections 000-006
- 08.02.02, Rules Governing Uniformity
- 08.02.04, Rules Governing Public Charter Schools
- 08.02.05, Rules Governing Pay for Success Contracting
- 08.03.01, Rules of the Public Charter School Commission
- 08.04.01, Rules of the Idaho Digital Learning Academy

FEE SUMMARY: The following is a specific description of the fee or charge imposed or increased: NA

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: This rulemaking is not anticipated to have any fiscal impact on the state general fund because the FY2022 budget has already been set by the Legislature, and approved by the Governor, anticipating the existence of the rule(s) being reauthorized by this rulemaking.

NEGOTIATED RULEMAKING: Pursuant to Section 67-5220(2), Idaho Code, negotiated rulemaking was not feasible because engaging in negotiated rulemaking for all previously existing rules will inhibit the agency from carrying out its ability to serve the citizens of Idaho and to protect their health, safety, and welfare. Additionally, this rulemaking incorporates negotiated rulemaking conducted outside of this omnibus rulemaking under docket(s) 08-0201-2102 and 08-0202-2101 published in the July 7, 2021 Idaho Administrative Bulletin, Vol. 21-7, pages 18-19, and affects the following rule chapter(s) included in this proposed rulemaking: IDAPA 08.02.01. and 08.02.02

INCORPORATION BY REFERENCE: Pursuant to Section 67-5229(2)(a), Idaho Code, incorporated material may be obtained or electronically accessed as provided in the text of the proposed rule(s) attached hereto.

ASSISTANCE ON TECHNICAL QUESTIONS, SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning the proposed rule(s), contact Tracie Bent, Chief Planning and Policy Officer, at (208) 332-1582 or tracie.bent@osbe.idaho.gov.

ATTACHMENT 1

Anyone may submit written comments regarding the proposed rulemaking. All written comments must be directed to the undersigned and must be delivered within twenty-one (21) days after publication of this Notice in the Idaho Administrative Bulletin. Oral presentation of comments may be requested pursuant to Section 67-5222(2), Idaho Code, and must be delivered to the undersigned within fourteen (14) days of the date of publication of this Notice in the Idaho Administrative Bulletin.

DATED this October 20, 2021.

Tracie Bent
Chief Planning and Policy Officer
Office of the State Board of Education
650 W. State Street
PO Box 83720
Boise, Idaho 83720-0037
Ph: 208-332-1582
Fax: 208-334-2632

08.01.11 – Registration of Postsecondary Educational Institutions and Proprietary Schools

000. Legal Authority.
The following rules are made under authority of Sections 33-105, 33-107, 33-2402, and 33-2403, Idaho Code, to implement the provisions of Chapter 24, Title 33, Idaho Code. ( )

001. Scope.
This rule sets forth the registration requirements for postsecondary educational institutions that are required to register with the Idaho State Board of Education ("Board") under Section 33-2402, Idaho Code, and for proprietary schools required to register with the Board under Section 33-2403, Idaho Code. In addition, this rule describes the standards and criteria for Board recognition of accreditation organizations, for registration purposes. ( )

002. -- 009. (RESERVED)

010. Definitions.

01. **Accredited**. Means that a postsecondary educational institution has been recognized or approved as meeting the standards established by an accrediting organization recognized by the Board. ( )

02. **Executive Director**. Defined in Section 33-102A, shall mean the Executive Officer of the Office of the State Board of Education, or his designee. ( )

03. **Nonprofit**. Means an entity that is recognized under the Internal Revenue Code and applicable regulations as being tax exempt, or an entity such as a nonprofit or not-for-profit organization that possesses the following characteristics that distinguish it from a business enterprise: (a) contribution of significant amounts of resources from resource providers who do not expect commensurate or proportionate pecuniary return, (b) operating purposes other than to provide goods or services at a profit, and (c) absence of ownership interests like those of business enterprises. ( )

04. **Postsecondary Educational Institution**. Sometimes referred to in this rule simply as an institution, is defined in Section 33-2401(8), Idaho Code, and means an individual, or educational, business or other entity, whether legally constituted or otherwise, which maintains a presence within, or which operates or purports to operate, from a location within, the state of Idaho, and which provides a course or courses of study that lead to a degree, or which provides, offers or sells degrees. ( )

05. **Proprietary School**. Sometimes referred to in this rule simply as a school, is defined in Section 33-

2401(9), Idaho Code, and means an individual, or educational, business or other entity, whether legally constituted or otherwise, which maintains a presence within, or which operates or purports to operate, from a location within the state of Idaho and which conducts, provides, offers or sells a course or courses of study, but which does not provide, offer or sell degrees. ( )

011. -- 099. (RESERVED)

100. Recognition Of Accreditation Organizations.
For purposes of registration of postsecondary educational institutions, the Board recognizes the regional accreditation organizations that are recognized by and in good standing with the United States Department of Education, and which accredit entire colleges or universities, and which do not accredit only courses or courses of study (such as specialized accreditation organizations). Further, the Board may recognize other accreditation organizations on a case-by-case basis. A request for recognition of other accreditation organizations for purposes of registration should be made to the Board's Chief Academic Officer, who will review and evaluate the request with the input and advice of the Board's Committee on Academic Affairs and Programs (CAAP). The Board will make a final decision based on such evaluation and review. ( )

101. -- 200. (RESERVED)

201. The Board May Notify The Postsecondary Educational Institution Of Additional Information Required.
If the Board is unable to determine the nature and activities of an institution on the basis of the information provided by the institution under this rule, then the Board may notify the institution of additional information that it will be required to provide in connection with the application for registration. ( )

01. Verification of Information. The Board may verify the accuracy of submitted information by inspection, visitation, or any other means it considers necessary. The applicant institution shall be responsible for any costs the Board incurs, including travel, associated with this review. ( )

02. Criteria for Approval of Registration. To be approved for registration, the institution must demonstrate that it is in compliance with Chapter 24, Title 33, Idaho Code and this rule. An institution must remain in compliance for the registration year. ( )

03. Public Information. All information submitted to the Board in connection with the application is subject to disclosure as set forth in the Public Records Act, Title 9, Chapter 3, Idaho Code. ( )

04. Certificate of Registration or Exemption. ( )

a. A certificate of registration will be issued to a postsecondary educational institution that has paid its registration fee and has been approved under this rule. A certificate evidencing initial registration will be effective the date it is issued, and continue through June 30 of the next succeeding year. A renewal certificate will be for the period July 1 through June 30 of the next succeeding year. No institution that is registered with the Board shall advertise or represent in any manner that it is accredited by the Board. An institution may only represent that it is "Registered with the Idaho State Board of Education." Registration is not an endorsement of the institution or any of its courses, courses of study, or degrees. ( )

b. An institution exempt from registration under these rules may request a certificate of exemption. ( )

c. If a postsecondary educational institution wishes to offer additional courses, courses of study, or degrees during a registration year that were not included in its annual registration application to the Board, then the institution must submit a letter to the Board Office along with documentation of its accrediting agency's approval of those specific curriculum changes. ( )

05. Disapproval and Appeal. If a postsecondary educational institution's request for initial

registration, or renewal of registration, is disapproved by the Board, then the institution may appeal such decision by submitting written request. The request must be in writing and made to the Board office within thirty (30) days of the date the institution is notified of the disapproval. ( )

06. Withdrawal of Approval. ( )

a. The Board may refuse to renew, or may revoke or suspend approval of, an institution's registration by giving written notice and the reasons therefore to the institution. The institution may request a hearing relating to such decision under IDAPA 04.11.01, "Idaho Rules of Administrative Procedure of the Attorney General." ( )

b. Withdrawal of approval may be for one (1) or more of the following reasons: ( )

i. Violation of Chapter 24, Title 33, Idaho Code or this rule; ( )

ii. Providing false, misleading, deceptive, or incomplete information to the Board; ( )

iii. Presenting to prospective or current students information about the institution which is false, fraudulent, misleading, deceptive, or inaccurate in a material respect; ( )

iv. Refusing to allow reasonable inspection or to supply reasonable information after a written request by the Board Office has been received; or ( )

v. Loss of accreditation status. ( )

c. If any information contained in the application submitted by the institution becomes incorrect or incomplete, then the registered institution shall notify the Board office of such change within thirty (30) days. An institution that ceases operation during the course of a registration year shall immediately inform the Board Office of this event. ( )

202. -- 300. (RESERVED)

301. Approval Standards for Registration of Proprietary Schools.
The Board and its designee accepts the responsibility for setting and maintaining approval standards for proprietary schools that plan to offer courses or a set of related courses in or from Idaho in order to protect consumers and to ensure quality educational programs are provided throughout the state. A school must meet all of the standards prior to issuance of a certificate of registration and the school must provide required evidence to document compliance with the standards as identified in the application form. A certificate of registration may be denied if all of the standards are not met. ( )

01. Standard I - Legal Status and Administrative Structure. The school must be in compliance with all local, state and federal laws, administrative rules, and other regulations applicable to proprietary schools. ( )

a. The school must have a clearly stated educational purpose that is consistent with the courses or a set of related courses under consideration for approval. ( )

b. The ownership of the school, its agents, and all school officials must be identified by name and title. ( )

c. Each owner, agent, instructor and/or school official must be appropriately qualified by the trade board (as applicable) to ensure courses are of high quality and the rights of students are protected. ( )

d. Written policies must be established to govern admissions and re-admission of dismissed students, hiring procedures, and working conditions; evaluation/assessment of all employees and instructional offerings; student and instructor rights and responsibilities; grievance procedures; approval of the curriculum and other academic

procedures to ensure the quality of educational offerings. ( )

e. Procedures for assessing/evaluating the effectiveness of instruction must be established. Evaluation and assessment results must be used to improve courses or courses of study. ( )

f. All advertising, pamphlets, and other literature used to solicit students and all contract forms must accurately represent the purpose of the school, its courses or courses of study, anticipated job opportunities, and other relevant information to assist students in making an informed decision to enroll. Schools offering courses or courses of study which require clinical, practicum or internship components must provide students in writing information regarding the number of clinical, practicum or internship positions available and the location of said positions. The school must provide to each prospective student, newly-enrolled student, and returning student complete and clearly presented information indicating the school's current completion and job placement rate. ( )

02. Standard II - Courses or Courses of Study. Instruction must be the primary focus of the school. All courses or courses of study must prepare students to enter employment upon completion of the program or prepare them for self-employment. ( )

a. The requirements for each course or courses of study must be defined clearly including applicable completion requirements or other requirements such as practicums and clinicals. Courses or courses of study must follow applicable trade or occupational board training curriculum standards or be designed using effective learning strategies for students, identifying and organizing all instructional materials and specialized facilities, identifying instructional assessment methods, and evaluating the effectiveness of the course offerings. Applicants must include an attestation that courses or courses of study applicable to occupations, which are otherwise regulated, licensed, or registered with another state agency or state board, meet the regulating state agency or state board standards for licensure or certification at the time of application. The office of the state board of education does not review course or program curriculum. ( )

b. Written course descriptions must be developed for all courses or courses of study. Written course descriptions must be provided to instructors. Instructors are expected to follow course descriptions. A syllabus must be developed for each course and distributed to students at the beginning of the course. ( )

c. The school must assure that a course or courses of study will be offered with sufficient frequency to enable students to complete courses or courses of study within the minimum time for completion. ( )

d. The school must clearly state the cost of each course or courses of study and identify the payment schedule. This information, and the refund policy, must be given to students in writing. ( )

03. Standard III - Student Support Services. The school must have clearly defined written policies that are readily available to students. Polices must address students rights and responsibilities, grievance procedures, and define what services are available to support students. ( )

a. The admission of students must be determined through an orderly process established in a written policy using published criteria which must be uniformly applied. Admissions decisions must take into account the capacity of the student to grasp and complete the instructional training program and the ability of the school to handle the unique needs of the students it accepts. ( )

b. There must be a clearly defined policy to re-evaluate students dismissed from the school and, if appropriate, to readmit them. ( )

c. The school must establish and adhere to a clear and fair policy regarding due process in disciplinary matters for all students, given to each student upon enrollment in the school. The school must provide the name and contact information for the individual who is responsible for dealing with student grievances and other complaints and for handling due process procedures. ( )

d. Prior to enrollment, all prospective students must receive the following information in writing:

( )

i. Information describing the purpose, length, and objectives of the courses or courses of study; ( )

ii. Completion requirements for the courses or courses of study; ( )

iii. The schedule of tuition, fees, and all other charges and all expenses necessary for completion of the courses or courses of study; ( )

iv. Cancellation and refund policies; ( )

v. An explanation of satisfactory progress, including an explanation of the grading/assessment system; ( )

vi. The calendar of study including registration dates, beginning and ending dates for all courses, and holidays; ( )

vii. A complete list of instructors and their qualifications; ( )

viii. A listing of available student services; and ( )

e. Accurate and secure records must be kept for all aspects of the student record including, at minimum, admissions information, and the courses each student completed. ( )

04. Standard IV - Faculty/Instructor Qualifications and Compensation. ( )

a. Instructor qualifications (training and experience) must be recorded and available to students. ( )

b. There must be a sufficient number of full-time instructors to maintain the continuity and stability of courses. ( )

c. The ratio of instructors to students in each course must be sufficient to assure effective instruction. ( )

d. Commissions may not be used for any portion of the faculty compensation. ( )

e. Procedures for evaluating instructors must be established. Provisions for student evaluation are recommended. ( )

05. Standard V - Resources, Finance, Facilities, and Instructional Resources. ( )

a. Adequate financial resources must be provided to accomplish instructional objectives and to effectively support the instructional program, including classroom and training facilities, instructional materials, supplies and equipment, instructors, staff, library, and the physical and instructional technology infrastructure. ( )

b. The school must have sufficient instructional resource materials so that, together with tuition and fees, it is able to complete its educational obligations to currently enrolled students. If the school is unable to fulfill its obligations to students, the school must make arrangements for a comparable teach-out opportunity with another proprietary school or refund one hundred (100) percent of prepaid tuition. ( )

c. School financial/business records and reports must be kept separate and distinct from those of any affiliated or sponsoring person or entity. Financial records and reports at a school shall be kept in accordance

recognized financial accounting methods. ( )

d. The school must have adequate instructional resource materials available to students, either on site or through electronic means. These materials must be housed in a designated area and be available for students and instructors with sufficient regularity and at appropriate hours to support achievement of course objectives or to promote effective teaching. ( )

e. If the school relies on other schools or entities to provide library resources or instructional resources, the school must demonstrate how these arrangements effectively meet the needs of students and faculty. These arrangements must be documented through written agreements. Student and faculty use must be documented and frequently evaluated to ensure quality services are being provided. ( )

302. The Board May Notify The Proprietary School Of Additional Information Required.
If the Board is unable to determine the nature and activities of a school on the basis of the information provided by the school under this rule, then the Board may notify the school of additional information that it will be required to provide in connection with the application for registration. ( )

01. Verification of Information. The Board may verify the accuracy of submitted information by inspection, visitation, or any other means it considers necessary. The applicant school shall be responsible for any costs the Board incurs including travel, associated with this review. ( )

02. Criteria for Approval or Denial of Registration. To be approved for registration, the school must demonstrate that it is in compliance with Chapter 24, Title 33, Idaho Code and this rule, including all of the standards described in Section 301 of this rule. A school must remain in compliance for the registration year. ( )

03. Public Information. All information submitted to the Board is subject to disclosure as set forth in the Public Records Act, Title 9, Chapter 3, Idaho Code. ( )

04. Certificate of Registration or Exemption. ( )

a. A certificate of registration will be issued to a proprietary school that has paid its registration fee and been approved under this rule. A certificate evidencing initial registration will be effective the date it is issued, and continue through June 30 of the next succeeding year. A renewal certificate will be for the period July 1 through June 30 of the next succeeding year. No school that is registered with the Board shall advertise or represent in any manner that it is accredited by the Board. An institution may only represent that it is "Registered with Idaho State Board of Education." Registration is not an endorsement of the school. ( )

b. An institution exempt from registration under these rules may request a certificate of exemption. ( )

c. If a school wishes to offer additional courses or courses of study during the course of a registration year that were not included in its application to the Board prior to issuance of the certificate of registration, then the school must submit a letter to the Board Office along with appropriate approval documentation by the applicable professional or trade board, council, or commission. This letter will be added to the school's registration file. ( )

05. Disapproval and Appeal. If a proprietary school's request for initial registration or a renewal of registration is disapproved by the Board, then the school may appeal such decision in accordance with Chapter 52, Title 67, Idaho Code. The request must be in writing and made to the Board within thirty (30) days of the date the school is notified of the disapproval. ( )

06. Withdrawal of Approval. ( )

a. The Board may refuse to renew, or may revoke or suspend approval of a school's registration by giving written notice and the reasons therefore to the school. The school may request a hearing under IDAPA 04.11.01,

"Idaho Rules of Administrative Procedure of the Attorney General." ( )

b. Withdrawal of approval may be for one (1) or more of the following reasons: ( )

i. Violation of Chapter 24, Title 33, Idaho Code or this rule. ( )

ii. Providing false, misleading, deceptive, or incomplete information to the Board. ( )

iii. Presenting to prospective or current students information about the school which is false, fraudulent, misleading, deceptive, or inaccurate in a material respect; or ( )

iv. Refusing to allow reasonable inspection or to supply reasonable information after a written request by the Board has been received. ( )

c. If any information contained in the application submitted by the school becomes incorrect or incomplete, then the registered school shall notify the Board of such change within thirty (30) days. A school that ceases operation during the course of a registration year shall immediately provide written notice to the Board of this event. ( )

07. Agent's Certificate of Identification. Each proprietary school shall ensure that its agents have a valid certificate of identification, and that all of its agents are in compliance with Section 33-2404, Idaho Code. The school shall complete a criminal history check that includes, at a minimum, the State Bureau of Identification, and statewide sex offender registry for each agent having unsupervised contact with minors in the minor's home or at secondary schools, prior to making application for the agent's certificate of identification. The criminal history check shall be valid for five (5) years and be kept on file by the school. When an employee returns to any proprietary school after a break in service of six (6) months or more a new criminal history check must be obtained. When an employee changes employment between proprietary schools, a new criminal history check must be obtained by the new employer. ( )

a. The Board shall revoke any agent's certificate of identification issued or authorized under this Section and shall deny the application for issuance of a new certificate of identification of a person who pleads guilty to, or is found guilty of, notwithstanding the form of the judgment or withheld judgment, any of the following felony offenses against a child: ( )

i. The aggravated assault of a child, Section 18-905, Idaho Code, or the assault with intent to commit a serious felony against a child, Section 18-909, Idaho Code. ( )

ii. The aggravated battery of a child, Section 18-907, Idaho Code, or the battery with intent to commit a serious felony against a child, Section 18-911, Idaho Code. ( )

iii. The injury or death of a child, Section 18-1501, Idaho Code. ( )

iv. The sexual abuse of a child under sixteen (16) years of age, Section 18-1506, Idaho Code. ( )

v. The ritualized abuse of a child under eighteen (18) years of age, Section 18-1506A, Idaho Code. ( )

vi. The sexual exploitation of a child, Section 18-1507, Idaho Code. ( )

vii. Possession of photographic representations of sexual conduct involving a child, Section 18-1507A, Idaho Code. ( )

viii. Lewd conduct with a child under the age of sixteen (16) years, Section 18-1508, Idaho Code. ( )

ix. The sexual battery of a minor child sixteen (16) or seventeen (17) years of age, Section 18-1508A, Idaho Code. ( )

x. The sale or barter of a child for adoption or other purposes, Section 18-1511, Idaho Code. ( )

xi. The murder of a child, Section 18-4003, Idaho Code, or the voluntary manslaughter of a child, Section 18-4006 1., Idaho Code. ( )

xii. The kidnapping of a child, Section 18-4502, Idaho Code. ( )

xiii. The importation or exportation of a juvenile for immoral purposes, Section 18-5601, Idaho Code. ( )

xiv. The abduction of a person under eighteen (18) years of age for prostitution, Section 18-5610, Idaho Code. ( )

xv. The rape of a child, Section 18-6101 or 18-6108, Idaho Code. ( )

b. The general classes of felonies listed in Section 302 shall include equivalent laws of federal or other state jurisdictions. For the purpose of Subsection 302.07, "child" means a minor or juvenile as defined by the applicable state or federal law. ( )

08. Surety Bond. Each proprietary school shall comply with the provisions in Section 33-2406, Idaho Code, relating to a surety bond. ( )

a. The amount of the surety bond shall be not less than the total tuition and fees to be collected by the school from its students, currently engaged in instructional activities, that covers the period from the beginning through completion of the course of instruction the student has contracted and paid for. This amount shall be based upon the projected tuition and fee revenue for the coming registration year, subject to modification in the event a school experiences significant changes in tuition and fee revenue during the current year. The Executive Director shall determine the appropriate format and method by which this bond value is to be calculated and reported. ( )

b. Schools must keep a valid bond in force, via periodic renewal as needed, throughout the entire registration year with no lapse in coverage. Schools shall ensure that all bonds include "extended coverage" clauses to remain in effect for one hundred twenty (120) days after the date of a school's closure. ( )

c. No party to the surety bond may cancel without one hundred twenty (120) day prior notice to all parties, including the Office of the State Board of Education. ( )

d. The Board shall be the beneficiary of the bond and shall oversee the distribution of funds to students who file claims. Schools shall provide proof of the required bond and submit said documentation with their registration applications. ( )

303. -- 399. (RESERVED)

400. Enforcement.
The Board, acting by and through its Executive Director may initiate on its own initiative any investigation relating to a violation of the state laws or rules relating to the requirement that an institution or school register with the Board pursuant to Title 33, Chapter 24, Idaho Code. ( )

401. -- 499. (RESERVED)

500. Complaints.
A complaint concerning an institution or school operating in the State of Idaho (maintaining an Idaho presence) that pertains to a matter described herein shall be reviewed and acted upon as appropriate in accordance with the specific procedures described below: ( )

01. Violations of State Consumer Protection Laws. A complaint alleging a violation of Idaho consumer protection laws shall be instituted, reviewed, and acted upon in accordance with IDAPA 04.02.01, "Idaho Rules of Consumer Protection, Office of the Attorney General." ( )

02. Violations of State Laws or Rules Related to the Registration of Postsecondary Educational Institutions and Proprietary Schools. A complaint alleging violations of state laws or rules related to the requirement that an institution or school register with the Board shall be submitted in writing to the Board's Executive Director for investigation and appropriate enforcement action, including the remedies specified in Section 33-2408, Idaho Code. ( )

03. Complaints Related to Quality of Education, or Other Matters. ( )

a. A complaint relating to the quality of education provided by an institution or school or accreditation matters, or any other matter related to the operations or practices of an institution or school other than a state consumer protection matter, shall be submitted on a form provided by the Board to the Executive Director for review and appropriate action. ( )

b. If after initial review the Executive Director determines that the complaint relates to the quality of education or accreditation matters, the Executive Director may refer the matter to the accreditation organization of the institution or school at issue for review and recommendation. If a matter referred to an accreditation organization results in resolution of the complaint to the satisfaction of the complainant, then the matter shall be considered resolved and there shall be no further action on the matter. If the matter is not successfully resolved, then the Executive Director will review the recommendation of the accreditation organization and follow the procedures for investigations of complaints described in Subsection 500.03.c. of these rules. ( )

c. If the complaint pertains to any other matter related to the operations or practices of an institution or school, other than a state consumer protection matter, then the Executive Director will review the complaint to determine whether such complaint falls within the regulatory authority of the Board. If it does not, then Board office will notify the complainant in writing of such determination, and may offer referral of such matter to an appropriate agency or entity. If after initial review the Executive Director determines that the complaint falls within the regulatory authority of the Board, then Board staff will notify both the complainant and the respondent institution or school of the complaint resolution process to be utilized and applicable timelines. The review and investigation of a complaint shall occur as expeditiously as possible. The parties may be asked to respond in writing to the complaint, to submit to interviews, and to provide additional records, documents, statements, or other collateral information as necessary. Any request by the investigator for additional information related to such complaint must be provided promptly. The Board's investigator will review the materials submitted by all parties and at the conclusion of the investigation prepare a summary of the allegations, the investigator's findings, and a recommendation for disposition to the Executive Director. If the Executive Director determines that the facts indicate a probable violation of law or rule over which the Board has regulatory authority, then the Executive Director shall issue a written decision on the disposition of such complaint. Within thirty (30) days after a decision is issued a party aggrieved by such decision may file with the Executive Director a request for a hearing. The provisions of the Idaho Administrative Procedure Act, Chapter 52, Title 67, Idaho Code, shall apply to such hearing and to judicial review of such decision. ( )

d. If the Board office receives a complaint relating to an institution or school that is exempt from registration under Idaho law or these rules, and such institution or school has not elected to voluntarily register, then such institution or school shall be responsible for reimbursing the Board office for the actual costs incurred to process and act on such complaint. ( )

501. -- 999. (Reserved)

ATTACHMENT 1

ATTACHMENT 1

08.01.13 – Rules Governing the Opportunity Scholarship Program

000. Legal Authority.
In accordance with Sections 33-105, and 33-4303, Idaho Code, the State Board of Education (Board) shall promulgate rules implementing the provisions of Title 33, Chapter 56, Idaho Code. ( )

001. Scope.
These rules constitute the requirements for the Opportunity Scholarship Program. ( )

002. -- 009. (RESERVED)

010. Definitions.

01. Adult Learner. An individual who: ( )

a. Is not currently enrolled in a postsecondary institution accredited by a body recognized by the State Board of Education; ( )

b. Has not attended more than two (2) courses at a postsecondary institution at any time during the twenty-four (24) month period immediately prior to application for the Opportunity Scholarship; and ( )

c. Has earned twenty-four (24) or more transferable credits from a postsecondary institution accredited by a body recognized by the State Board of Education. ( )

02. Grade Point Average (GPA). The average grade earned by a student, figured by dividing the grade points earned by the number of credits attempted. ( )

03. Graduation Plan. A plan developed by the postsecondary student in consultation with the postsecondary institution that identifies the certificate or degree the student is pursuing, the course and credit requirements necessary for earning the certificate or degree, the application of previously earned credits and credits granted through prior learning assessments, the estimated number of terms remaining to complete the certificate or degree and the proposed courses to be taken during each term. ( )

011. -- 100. (RESERVED)

101. Eligibility.
Applicants must meet all of the eligibility requirements to be considered for the scholarship award. ( )

01. Undergraduate Student. An eligible student must be pursuing their first undergraduate certificate or degree from an institution accredited by a body recognized by the State Board of Education. A student may have received multiple certificates or degrees as part of the natural progression towards a recognized baccalaureate degree program. A student who is enrolled in a graduate program, but who has not yet earned a baccalaureate degree, is not eligible for an opportunity scholarship. A student enrolled in an undergraduate program is eligible for consideration for an opportunity scholarship, even if some of the student's courses are at the graduate level. ( )

02. Academic Eligibility. To be eligible for an opportunity scholarship, an applicant must meet minimum academic eligibility criteria, as follows: ( )

a. A student who has not yet graduated from secondary school or its equivalent in the state of Idaho must have an un-weighted minimum cumulative grade point of average of two point seven (2.7) or better on a scale of four point zero (4.0) to be eligible to apply for an opportunity scholarship. Cumulative grade point averages of more than one (1) decimal place shall be rounded to one (1) place. Home schooled students must provide a transcript of subjects taught and grades received signed by the parent or guardian of the student; or ( )

b. A student who has obtained a general equivalency diploma must have taken the ACT assessment

and received a minimum composite score of twenty (20) or better, or the equivalent SAT assessment and received a one thousand ten (1,010) or better, to be academically eligible to apply for an opportunity scholarship; or ( )

c. A student currently enrolled in an eligible Idaho postsecondary educational institution must have a minimum cumulative grade point average of two point seven (2.7) or better on a scale of four point zero (4.0) at such institution in order to be academically eligible to apply for an opportunity scholarship. Cumulative grade point averages of more than one (1) decimal place shall be rounded to one (1) place. ( )

d. An Adult Learner must have a minimum cumulative grade point average of two point five (2.5) or higher on a scale of four point zero (4.0). Cumulative grade point averages of more than one (1) decimal place shall be rounded to one (1) decimal place. ( )

03. Financial Eligibility. Applicants for the opportunity scholarship are selected as recipients, in part, based on demonstrated financial need. The tool used to determine financial need is the Free Application for Federal Student Aid (FAFSA), used by the United States Department of Education. The financial need of an applicant for an opportunity scholarship will be based upon the verified expected family contribution, as identified by the FAFSA Student Aid report. The Student Aid report used to calculate financial need will be the report generated on the application deadline. ( )

04. Additional Eligibility Requirements. ( )

a. A student must not be in default on a student educational loan, or owe a repayment on a federal grant, and must be in good financial standing with the opportunity scholarship program. ( )

b. If a student has attempted or completed more than one hundred (100) postsecondary academic credits, then such student must identify his or her major, the required number of credits necessary for graduation in such major, and shall submit an academic transcript that contains all courses taken and all postsecondary academic credit received to the Board office. A student shall not be eligible for an opportunity scholarship if: ( )

i. The student is not meeting satisfactory academic progress at the eligible Idaho postsecondary educational institution the student is attending at the time he or she applies for an opportunity scholarship; ( )

ii. The student has completed more than one hundred fifty percent (150%) of the courses and academic credit necessary to graduate in such major; or ( )

iii. Upon review of the student's academic transcript(s), the student cannot complete their degree/certificate in the major they have identified within two (2) semesters based on normal academic course load unless a determination by the executive director or designee has been made that there are extenuating circumstances and the student has a plan approved by the executive director or designee outlining the courses that will be taken and the completion date of the degree or certificate. ( )

102. -- 201. (RESERVED)

202. Application Process.

01. Initial Applications. An eligible student must complete and submit the opportunity scholarship program application to the Board electronically on or before the date specified in the application, but not later than the deadline set by the executive director each year if an Adult Learner and not later than March 1 for all other students. Adult Learner applications will be processed and awarded on a monthly basis up to the application deadline. An applicant without electronic capabilities may request a waiver of this requirement and, if granted, submit an application on the form established by the Board through the United States Postal Service that must be postmarked not later than the applicable application deadline. All applicants must complete and submit the FAFSA on or prior to the application deadline. ( )

02. Announcement of Award. Announcement of the award of initial scholarships will be made no later

than June 1 of each year, with awards to be effective at the beginning of the first full term following July 1 of that year. Announcements must clearly state the award is part of the state's scholarship program and is funded through state appropriated funds. Additional award announcement may be made after this date based on the availability of funds and the acceptance rate of the initial awards. ( )

03. Communication with State Officials. Applicants must respond by the date specified to any communication from officials of the opportunity scholarship program. Failure to respond within the time period specified will result in cancellation of the application or forfeiture of the scholarship unless extenuating circumstances are involved and approved by the executive director or designee. ( )

203. -- 299. (RESERVED)

300. Selection Of Scholarship Recipients.

01. Selection Process. Scholarship awards will be based on the availability of scholarship program funds. Opportunity scholarships will be awarded to applicants, based on ranking and priority, in accordance with the following criteria: ( )

a. Eligible students shall be selected based on ranking criteria that assigns seventy percent (70%) to financial eligibility, and thirty percent (30%) to academic eligibility. In the event that this weighted score results in a tie, an eligible student who submitted his application to the Board earliest in time will be assigned a higher rank. ( )

b. Notwithstanding Subsection 300.01.a. of these rules, the priority for the selection of recipients of opportunity scholarship awards shall be to scholarship recipients who received an opportunity scholarship award during the previous fiscal year, and have met all of the continuing eligibility requirements provided in these rules. ( )

02. Monetary Value of the Opportunity Scholarship. ( )

a. The Board will establish annually the educational costs for attending an eligible Idaho postsecondary educational institution for purposes of the opportunity scholarship program. ( )

b. The monetary value of the opportunity scholarship award to a student shall be based on the educational costs for attending an eligible Idaho postsecondary educational institution, less the following: ( )

i. The amount of the assigned student responsibility, established by the Board annually; ( )

ii. The amount of federal grant aid, as identified by the Student Aid Report (SAR) that is known at the time of award determination; ( )

iii. The amount of other financial aid awarded the student, from private or other sources that is known at the time of award determination. ( )

iv. The eligible maximum award amount for Adult Learners enrolled in less than twenty-four (24) credit hours or its equivalent in an academic year attending an eligible four-year postsecondary institution, or less than eighteen (18) credit hours or its equivalent in an academic year attending an eligible two-year institution, will be prorated as follows: ( )

(1) Enrolled in six (6) to eight (8) credits or its equivalent per term - fifty percent (50%) of the maximum; ( )

(2) Enrolled in nine (9) to eleven (11) credits or its equivalent per term - seventy-five percent (75%) of the maximum; and ( )

(3) Enrolled in twelve (12) or more credits or its equivalent per term - one hundred percent (100%) of the maximum. ( )

c. The amount of an opportunity scholarship award to an individual student shall not exceed the educational cost established by the Board annually, and shall not exceed the actual cost of tuition and fees at the Idaho public postsecondary educational institution the student attends or will attend, or if the student attends or will attend an Idaho private postsecondary educational institution, the average tuition at Idaho's public four (4) year postsecondary educational institutions. ( )

301. Opportunity Scholarship Award.

01. Payment. Payment of opportunity scholarship awards will be made in the name of the recipient and will be sent to a designated official at the eligible Idaho postsecondary educational institution in which the recipient is enrolled. The official must transmit the payment to the recipient within a reasonable time following receipt of the payment. ( )

02. Duration. Scholarships will be awarded on an annual basis and payments will correspond to academic terms, semesters, quarters, or equivalent units. In no instance will the entire amount of a scholarship be paid in advance to, or on behalf of, a scholarship recipient. The scholarship may cover up to four (4) educational years, or eight (8) semesters or equivalent for attendance at an eligible Idaho postsecondary educational institution. Awards are contingent on annual appropriations by the legislature and continued eligibility of the student. ( )

03. Eligibility. If a student receives an opportunity scholarship payment and it is later determined that the student did not meet all of the Opportunity Scholarship Program eligibility requirements, then the student is considered in overpayment status, and must return program funds in accordance with the eligible Idaho postsecondary educational institution's refund policy. ( )

302. Continuing Eligibility.

To remain eligible for renewal of an opportunity scholarship, the recipient must comply with all of the provisions of the Opportunity Scholarship Program and these rules: ( )

01. Credit Hours. To remain eligible for renewal of an opportunity scholarship, the scholarship recipient attending a four (4) year eligible postsecondary institution must have completed a minimum of twenty-four (24) credit hours or its equivalent each academic year that the student received an opportunity scholarship award. A scholarship recipient attending a two (2) year eligible postsecondary institution must have completed a minimum of eighteen (18) credit hours or its equivalent each academic year that the student received an opportunity scholarship award. Notwithstanding these provisions, a scholarship recipient who has received the Opportunity Scholarship as an Adult Learner may retain eligibility by completing twelve (12) or more credit hours or its equivalent each academic year the student received the Opportunity Scholarship award. All students may use the summer term to meet the annual credit accumulation requirements. ( )

02. Satisfactory Academic Progress. To remain eligible for renewal of an opportunity scholarship, the scholarship recipient must have maintained a minimum cumulative grade point average of two point seven (2.7) on a scale of four point zero (4.0) during the time that the recipient received an opportunity scholarship award at the institutions the student attended while receiving the scholarship, and must be maintaining satisfactory academic progress, consistent within federal financial aid regulations as implemented at the eligible Idaho postsecondary educational institution at which the scholarship recipient was enrolled. Students receiving an Opportunity Scholarship award as an Adult Learner must make satisfactory progress on their graduation plan established with the eligible institution at the time of admission. ( )

03. Maximum Duration of Scholarship Award. The award of an opportunity scholarship shall not exceed the equivalent of eight (8) semesters or the equivalent of four (4) academic years. ( )

04. Eligibility Following Interruption of Continuous Enrollment. A scholarship recipient whose continuous enrollment is interrupted for more than four (4) months but less than two (2) years for any reason but who

intends to re-enroll in an eligible Idaho postsecondary educational institution must file a letter of intent to withdraw no later than sixty (60) days prior to the first day of the academic term of the discontinued attendance to the Office of the State Board of Education. Failure to do so may result in forfeiture of the scholarship. The Board's Executive Director or designee will review each request for interruption and notify the individual of approval or denial of the request. In addition, the individual must file a statement with the Board declaring his intent to re-enroll as a full-time undergraduate student in an academic or career technical program in an eligible Idaho postsecondary educational institution for the succeeding academic year no later than thirty (30) days prior to the first day of the academic term in which the individual intends to re-enroll within two (2) years of the approval of the request to withdraw. Failure to do so will result in forfeiture of the scholarship unless an extension has been granted. An extension of interruption of continuous enrollment period may be granted for eligible students due to military service in the United States armed forces, medical circumstances, or other circumstances approved by the executive director. All requests for extension must be made sixty (60) days prior to the start of the succeeding academic year.

( )

303. -- 399. (RESERVED)

400. Responsibilities Of Eligible Idaho Postsecondary Educational Institutions.

01. Statements of Continuing Eligibility. An eligible Idaho postsecondary educational institution participating in this Opportunity Scholarship Program must submit statements of continuing student eligibility to the Board by the 30th day after the end of each academic year. Such statements must include verification that the scholarship recipient is still enrolled, attending part-time, if an Adult Learner, and full-time for all other scholarship recipients, maintaining satisfactory academic progress, and has not exceeded the award eligibility terms. ( )

02. Other Requirements. An eligible Idaho postsecondary educational institution must: ( )

a. Be eligible to participate in Federal Title IV financial aid programs, and must supply documentation to the Board verifying this eligibility, and prompt notification regarding any changes in this status;

( )

b. Have the necessary administrative computing capability to administer the Opportunity Scholarship Program on its campus, and electronically report student data records to the Board; ( )

c. Provide data on student enrollment and federal, state, and private financial aid for students to the Board, and ( )

d. Agree to permit periodic Opportunity Scholarship Program audits to verify compliance with Idaho law and these rules related to the program. ( )

03. Adult Learner Evaluation. Upon admission, scholarship recipients receiving an award as an Adult Learner will be administered prior learning assessments to determine eligibility for credit for prior learning, including credit for prior experiential learning. As part of this process an eligible institution will work with the student to develop a graduation plan for the program they are entering that includes estimated completion dates.

( )

401. -- 500. (RESERVED)

501. Appeals.

An opportunity scholarship applicant or recipient adversely affected by a decision made under provisions of these rules may file a written appeal of the decision within thirty (30) days following notice of the decision, and the written statement must include the basis for the appeal. Decisions based on specific requirements established in Idaho Code or these rules may not be appealed. The appeal must be submitted to the executive director of the Board. The office of the board shall acknowledge receipt of the appeal within seven (7) days. The executive director of the Board may or may not agree to review the action, or may appoint a subcommittee of three (3) persons to hear the appeal, including at least one (1) financial aid administrator at an eligible postsecondary educational institution in

Idaho. ( )

01. Transmittal to Subcommittee. If the appeal is transmitted to the subcommittee, the subcommittee will review the appeal and submit a written recommendation to the executive director of the Board within fifteen (15) days from the time the subcommittee receives the appeal document. The opportunity scholarship applicant or recipient initiating the appeal will be notified by the chairperson of the subcommittee of the time and place when the subcommittee will consider the appeal and will be allowed to appear before the subcommittee to discuss the appeal. ( )

02. Subcommittee Recommendations. Following the subcommittee's decision, the executive director of the Board will present the subcommittee's recommendation to the full Board at the next regularly scheduled meeting of the Board. The opportunity scholarship applicant or recipient initiating the appeal may, at the discretion of the executive director of the Board, be permitted to make a presentation to the Board. ( )

03. Board Decision. The decision of the Board is final, binding, and ends all administrative remedies, unless otherwise specifically provided by the Board. The Board will inform the opportunity scholarship applicant or recipient in writing of the decision of the Board. ( )

502. -- 999. (RESERVED)

ATTACHMENT 1

08.02.01 – Rules Governing Administration

000. Legal Authority.
All rules in IDAPA 08.02.01, "Rules Governing Administration," are promulgated pursuant to the authority of the State Board of Education under Article IX, Section 2 of the Idaho Constitution and under Sections 33-101, 33-105, 33-107, 33-116, 33-117, 33-308, 33-320, 33-310B, 33-512, 33-513, 33-905, 33-1279, 33-1403, 33-1405, 33-2004 and Chapter 10, Title 33, Idaho Code. Specific statutory references for particular rules are also noted as additional authority where appropriate. ( )

001. Scope.
Uniform and thorough standards and governance by the State Board of Education for the establishment and maintenance of a general, uniform and thorough system of public education. ( )

002. Written Interpretations.
In accordance with Section 67-5201(19)(b)(iv), Idaho Code, any written interpretations of the rules of this chapter are available at the Office of the State Board of Education located at 650 W. State St., Room 307, Boise, Idaho 83702. ( )

003. -- 006. (RESERVED)

007. Waivers.
The State Board of Education may grant a waiver of any rule not required by state or federal law to any school district upon written request. The Board will not grant waivers of any rule required by state or federal law. State and federal law includes case law (including consent decrees), statutes, constitutions, and federal regulations. ( )

008. Definitions.

01. Course. A unit of instruction that may be determined based on the amount of instructional time or predetermined level of content and course outcomes. ( )

02. Virtual Course. A course where instruction is provided in an on-line ~~or virtual~~ format and does not necessarily include face-to-face instruction. ( )

009. -- 049. (RESERVED)

050. Altering School District Boundaries.
The State Board of Education sets forth the following rules to govern the application and hearing procedures for alteration of school boundaries pursuant to Section 33-308, Idaho Code. A written application from the person or persons requesting alteration of school district boundaries, including the reasons for making the request, will be submitted to the ~~State Board~~ Department of Education. ~~The application shall also contain that information as required by Section 33-308, Idaho Code:~~ ( )

01. Written Statement of Support. A written statement supporting or opposing the proposed alteration will be prepared by each board of trustees no later than ten (10) days following its first regular meeting held following receipt of the written application prepared by the person or persons requesting the alteration. Such request and supporting materials shall be forwarded to the Superintendent of Public Instruction. ( )

02. Review of Request. The Superintendent of Public Instruction shall appoint a hearing officer in accordance with State Board of Education Governing Policies and Procedures to review the proposed alteration of boundaries. ( )

03. Criteria for Review of Request. The hearing officer shall review the proposed alteration of boundaries taking into account the following criteria: ( )

a. Will the alteration as proposed leave a school district with a bonded debt in excess of the limit

proscribed by law; ( )

b. Is the proposed alteration in the best interests of the children residing in the area described in the petition. In determining the best interests of the children the hearing officer shall consider all relevant factors which may include: ( )

i. The safety and distance of the children from the applicable schools; ( )

ii. The views of the interested parties as these views pertain to the interests of the children residing in the petition area; ( )

iii. The adjustment of the children to their home and neighborhood environment; and ( )

iv. The suitability of the school(s) and school district which is gaining students in terms of capacity and community support. ( )

04. Market Value. The market value, for tax purposes, of the two (2) districts prior to the requested transfer and of the area proposed to be transferred will be provided. ( )

05. Decision by State Board Education. The recommendation from the hearing on the matter shall be forwarded to the State Board of Education for decision in accordance with the Board's Governing Policies and Procedures. ( )

06. Additional Information. The applicant may submit any additional information which is deemed to be appropriate in assisting the State Board of Education to make the decision. ( )

051. -- 149. (RESERVED)

150. Deviation From Standard Employment Contract Form.
The State Superintendent of Public Instruction has approved a standard employment contract form. Any deviation from this contract form must be approved by the State Superintendent of Public Instruction and reviewed for reapproval once every three (3) years. ( )

151. -- 199. (RESERVED)

200. Emergency Closure - Teacher Strike Or Withholding Of Service.
The State Board of Education does not recognize a teacher strike or the withholding of service as sufficient cause to declare an emergency closure. The primary concern of the State Board of Education is for the instructional program available to students. ( )

201. -- 249. (RESERVED)

250. Pupil Accounting And Required Instructional Time.

~~**01. Required Instructional Time**. Excluding transportation to and from school, lunch periods, passing times, and recess, schools must schedule at least the following instructional times: kindergarten, four hundred fifty (450) hours per year or equivalent amount of instruction through an online, distance, or blended learning format; grades one through three (1-3), eight hundred ten (810) hours per year or equivalent amount of instruction through an online, distance, or blended learning format; grades four through eight (4-8), nine hundred (900) hours per year or equivalent amount of instruction through an online, distance, or blended learning format; and grades nine through twelve (9-12), nine hundred ninety (990) hours per year or equivalent amount of instruction through an online, distance, or blended learning format. The equivalent amount of instruction shall be based on the amount of time reported for the same course or amount of coursework delivered in an in-person setting.~~ ( )

~~**02. Required Attendance**. All pupils will complete four (4) years of satisfactory attendance in grades~~

~~nine through twelve (9-12) to graduate from an accredited high school, except those who are approved for early graduation.~~ ( )

~~03~~01. **Day in Session When Counting Pupils in Attendance**. ( )

a. A school day for grades one through twelve (1-12) may be counted as a "day in session" when the school is in session and students are under the guidance and direction of teachers in the teaching process for not less than four (4) hours or its equivalent of instruction per day. Lunch periods, breaks, passing time and recess will not be included in the four (4) hours. For kindergarten, each session will be at least two and one-half (2 1/2) hours per day. ( )

b. Half-day Session. A half-day in session occurs when the students in grades one through twelve (1-12) are under the guidance and direction of teachers in the teaching process for a minimum of two and one-half (2 1/2) hours or its equivalent of instruction or the teachers are involved in staff development activities for not less than two and one-half (2 1/2) hours. Students attending less than a half-day in session may have their hours aggregated by week for reporting purposes. ( )

~~**c.** Teacher In-service Activities. For grades one through twelve (1-12), not more than twenty-two (22) hours may be utilized for teacher in-service activities, based on the district approved calendar. In the event a school district chooses to utilize full days instead of half-days, the attendance reported for these full days will be the average of the attendance for the other days of that same week.~~ ( )

~~04~~02. **Day of Attendance - Kindergarten**. A day of attendance for a kindergarten pupil is one in which a pupil is under the direction and guidance of a teacher while school is in session or under homebound instruction. A homebound student is one who is unable to attend school for at least ten (10) consecutive days due to illness, accident or an unusual disabling condition. Attendance will be reported in half-day increments. Particularly, enrollment figures are not to be used for the beginning nor closing weeks of school. ( )

~~05~~03. **Day of Attendance (ADA) - Grades One Through Twelve (1-12)**. A day of attendance is one in which a pupil is under the guidance and direction of a teacher or other authorized school district personnel while school is in session ~~or is a homebound student~~and under the instruction of a teacher employed by the district in which the pupil resides or employed through the Idaho digital learning academy, with the exception as stated in "day in session" above. ~~A homebound student is one who is unable to attend school for at least ten (10) consecutive days due to illness, accident or an unusual disabling condition~~. Attendance will be reported in full or half-days. ( )

~~06~~04. **Full-Time Equivalent (FTE) Enrollment Reporting**. ( )

~~**a.** Kindergarten students enrolled in one (1) LEA for a total number of courses that equal six hundred (600) or more minutes per week shall equal zero point five (0.5) FTE. Grade one (1) through grade twelve (12) students enrolled in one (1) LEA for a total number of courses that equal one thousand two hundred (1,200) or more minutes per week shall equal one (1) FTE.~~ ( )

~~**b.** Kindergarten students enrolled in one (1) or more LEAs for a total number of courses at all LEAs that equal less than six hundred (600) minutes per week, the FTE shall be based on the percentage of time each student's courses are of six hundred (600) minutes. Grade one (1) through grade twelve (12) students enrolled in one (1) or more LEAs for a total number of courses at all LEAs that equal less than one thousand two hundred (1,200) minutes per week, the FTE shall be based on the percentage of time each student's courses are of one thousand two hundred (1,200) minutes.~~ ( )

~~**c.** Kindergarten students enrolled in more than one (1) LEA for a total number of courses at all LEAs that equal six hundred (600) or more minutes per week and less than or equal to seven hundred fifty (750) minutes per week the FTE shall be fractionalized based on percentage of time for which the student is enrolled. Grade one (1) through grade twelve (12) students enrolled in more than one (1) LEA for a total number of courses at all LEAs that equal one thousand two hundred (1,200) or more minutes per week and less than or equal to the respective amounts in the following subsections the FTE shall be fractionalized based on percentage of time for which the student is~~

~~enrolled:~~( )

~~i. Kindergarten: seven hundred fifty (750) minutes.~~ ( )

~~ii. Grade one (1) through grade three (3): one thousand three hundred fifty (1,350) minutes.~~ ( )

~~iii. Grade four (4) through grade eight (8): one thousand five hundred (1,500) minutes.~~ ( )

~~iv. Grade nine (9) through grade twelve (12): one thousand six hundred fifty (1,650) minutes.~~ ( )

~~**d.** Students enrolled in more than one (1) LEA for a total number of courses at all LEAs that equal more than the following minutes the FTE shall be based on the percentage of time for which the student is enrolled:~~ ( )

~~i. Grade one (1) through grade three (3): one thousand three hundred fifty (1,350) minutes.~~ ( )

~~ii. Grade four (4) through grade eight (8): one thousand five hundred (1,500) minutes.~~ ( )

~~iii. Grade nine (9) through grade twelve (12): one thousand six hundred fifty (1,650) minutes.~~ ( )

a. Full-time equivalent (FTE) enrollment will be based on the courses in which students are reported to be enrolled. To appropriately account for the differences in courses and schedules, FTE will be calculated using the minutes per week metric of the reported courses which is an indicator of the amount of content delivered in the course.

b. For each student, the minutes per week of all reported courses will be summed to provide a total course minutes per week, and this number will be used to determine the FTE enrollment of the individual student. The student will generate an FTE enrollment equal to the proportion of the total minutes per week of the reported courses for the student divided by 1200 with a maximum FTE of:

i. Kindergarten: 0.5 FTE
ii. Grades one (1) to twelve (12): 1.0 FTE

c. Students enrolled in more than one (1) LEA will have their FTE enrollment fractionalized between the LEAs in which they are enrolled by dividing the course minutes per week that the student is enrolled at each LEA by the total course minutes per week for the student reported by all LEAs.

~~e~~**d.** Courses in LEAs with block scheduling that result~~s~~ in students ~~attending courses~~receiving instruction for a period greater than one (1) week ~~in order to encompass all courses the student is enrolled in for the term~~ will use an average ~~minutes per week over the applicable time period to determine the courses minutes per week~~of the course minutes per week over a two-week period as the minutes per week for the course. ( )

~~f~~**e.** Students enrolled in an alternative summer school or alternative night school program of two hundred twenty-five (225) or more hours of instruction may be counted as an additional zero point two five (0.25) FTE. Alternative summer school enrollment will be included in the October 1 reporting period. ( )

~~g~~**f.** Students enrolled in an alternative summer school or alternative night school program of less than two hundred twenty-five (225) hours FTE will be determined based on the proportional share of two hundred twenty-five (225) hours the program consists of. ( )

~~h~~**g.** Students enrolled in more than one (1) LEA in grade seven (7) through grade twelve (12) shall count enrollment at all LEAs for determining eligibility of overload courses identified in Sections 33-4601 and 33-4602, Idaho Code. ( )

251. DATA COLLECTION.

LEA's will report the required information for state and federal reporting and decision-making. The reporting will be done in accordance with the requirements established in Chapter 10, Title 33, Idaho Code, or as needed for state and federal purposes. Each LEA is required to verify and assure the accuracy of the data submitted on a timeframe established by the state board of education or its designee. ( )

01. State Data System. In accordance with the provisions of Section 33-133, Idaho Code, the following data elements will be added to the state data system: ( )

a. Grade Point Average (GPA); and ( )

b. Chronic Absenteeism. ( )

c. Student address.

252. DATA VALIDITY

01. Responsibility. LEA Administrators are responsible for the accuracy of the data submitted by the LEA.

a. Data must be verified and corrected within 30 business days, based on the LEA's calendar, of receiving written notification of issues in submitted data. The timeline for correcting data may be extended if LEA staff are actively working with state longitudinal data system staff to correct the issue.

b. Data reported by the LEAs used for funding purposes, including placement on the career ladder, must come through the state longitudinal data system. When discrepancies are identified, it is the responsibility of the LEA to update the submitted data prior to any adjustments being made. Funding will be withheld until such data is corrected.

253. UNIQUE EDUCATION IDENTIFIER.

01. Assignment. Each student enrolling in an Idaho public LEA or participating in a public educational program will be assigned a unique student identifier. The unique education identifier shall follow the student and will be used by each LEA in which the student is enrolled or participating. The unique student identifier will follow the student into the public postsecondary education. ( )

a. LEAs must obtain unique student identifiers by providing the following information for each student: ( )

i. Complete legal name, including first, middle, last, and suffix as written on a legal document such as birth certificate, passport, visa, or other such legal document. ( )

ii. Date of birth. ( )

iii. Gender. ( )

b. LEAs may be required to provide any or all of the following additional information to help ensure unique identification such as: ( )

i. Prior school attended, if known.

ii. Zip code of residence.

iii. Race and Ethnicity. ( )

iv. Birth parents' first and last name. ( )

v. Parents' or guardians' first and last name(s). ( )

vii. County of birth. ( )

251~~1~~3. -- 299. (RESERVED)

300. Funds Withheld - Late Submission Of Records.
All ~~professional staff~~required records ~~and noncertified employee records~~ from each ~~school district~~LEA will ~~be sent to the State Department of Education by October 15 of each year~~reported by the required deadlines. If an ~~district~~ LEA is delinquent ~~with the forms~~in reporting and is determined to be noncompliant, ~~apportionment~~ payment to that ~~district~~ LEA will be withheld until such time as the ~~district~~ LEA has met its obligation. ( )

301. -- 349. (RESERVED)

350. Early Graduation.
Any high school student who completes the number of credits and exiting standards required by both the state and the school district prior to completing eight (8) semesters of high school work may petition the local superintendent and board of trustees to graduate early. When calculating the aggregate average daily attendance for the educational support program, students graduating from high school prior to the end of the school year will have their ADA for the first semester (second trimester) counted as if they were in attendance during the second semester (third trimester) of the school year. ( )

351. -- 399. (RESERVED)

400. Special Education Funding For Districts With Approved Programs.

01. Reimbursement for Exceptional Child Support Units. State reimbursement provided by exceptional child support units is based on the following formula: ( )

a. Preschool students will generate funding based upon the weekly hours and minutes they are enrolled in special education. ( )

b. From the fall elementary enrollment of kindergarten through grade six (K-6), subtract elementary residential facility students and multiply the result by six one-hundredths (.06). Add the elementary residential facility students to the product. ( )

c. From the fall regular secondary enrollment of grades seven through twelve (7-12), subtract secondary residential facility students and multiply the result by fifty-five one-thousandths (.055). Add the secondary residential facility students to the product. ( )

d. Add the juvenile detention facility students to the total. ( )

e. Use the exceptional child divisor to determine the number of exceptional child units. Secondary programs with a smaller divisor may use the smaller divisor for their secondary computation. ( )

f. Elementary and secondary exceptional child support units will be calculated using one hundred percent (100%) Average Daily Attendance (ADA): the ADA will be subtracted from their respective regular elementary and secondary administrative unit for computing the support unit. ( )

02. Contracting for Educational and Related Services.

a. A school district which contracts for special education services with another agency may claim reimbursement up to a maximum amount of state funding, as annually determined by the State Department of Education, less the district's certified annual tuition rate. When any agency contracts for the education of exceptional

children, all such children will be enrolled in the district of their residence and the agency will certify to the home school district the daily record of attendance of such student. ( )

b. For special education contracts between local school districts, the district receiving service will pay the district providing service the amount of the providing district's local annual tuition rate as certified under the provision of Idaho Code. The school district providing service will include students served within such contract within the total number of special education students used to calculate exceptional education support units. Charges for additional costs may be negotiated between the districts. ( )

c. The State Department of Education will determine if public and private schools and facilities meet state standards for an approved special education program. Any agency aggrieved by the Department of Education's final decision may appeal that decision to the State Board of Education. ( )

401. -- 449. (RESERVED)

450. Reimbursement To Districts For Substitute Teacher Costs.
The Professional Standards Commission (PSC) is authorized to reimburse the employing district for a classroom teacher member of the PSC for the costs incurred in the employment of a substitute teacher for a member while the member is engaged in PSC business. Such reimbursement may be made for each instance in which a substitute is employed as a replacement for a member beyond six (6) days during a given school year. Reimbursement may be made upon request by the employing district submitted in a manner determined by the PSC. Reimbursement will be based upon the prevailing rate for substitutes in that district. ( )

451. -- 499. (RESERVED)

500. School District Building Account (Non-Lottery Money).
The board of trustees of any school district may apply to the State Board of Education to receive a payment or payments from the School District Building Account as authorized under Section 33-905(3a), Idaho Code. ( )

01. Application for Payment. The application for payments from the School District Building Account will include: ( )

a. A statement of need; ( )

b. A statement of the condition and use of all of the district's existing facilities including the dates of construction and any significant remodeling or additions; ( )

c. A history of the district's classroom student/teacher ratios, how these ratios have been affected by a lack of classroom space, and how these ratios would be improved by the project being requested. This statement should include building by building ratios as well as the overall district student/teacher ratio; ( )

d. A statement of the district's existing tax levies for school plant facilities and bond interest redemption, along with how these levies relate to the district's levy capacity; ( )

e. A statement of the district's market value for assessment purposes as such valuation existed on December 31 of the previous year, as well as other factors, if any, that affect the district's ability to finance school construction; ( )

f. A statement of past efforts to levy for the project for which funding is being requested; ( )

g. A description of any unique or special circumstances that should be considered in the evaluation of the application; ( )

02. Application Deadline. The deadline for submitting applications will be January 30th of each year. ( )

03. Eligibility. The State Board of Education will be responsible for determining which school districts receive payments from the School District Building Account. The State Board will: ( )

a. Review all applications submitted by the established deadline, taking into consideration the criteria of need, wealth, and effort established in Section 33-905, Idaho Code; ( )

b. Require resubmission of an application only when there have been substantial changes in the district which could alter the status of original determination; ( )

c. Determine a priority of school districts eligible to receive monies from the School District Building Account. Such priority will be based on a point system. Once established, the priority will be annually reviewed. Unless significant new information has been submitted which impacts the original determination, the priority will not be altered; ( )

d. Determine a priority within forty-five (45) days of the application submission deadline; and ( )

e. Award to each successful grantee twenty-five percent (25%) of the costs of the approved project. ( )

04. Point System for Determining Priority. The point system for determining the priority of eligible districts is based on the following rating and weighted values: ( )

a. Need: zero through ten (0-10) points, three and one half (3.5) weighted value for each point awarded; ( )

b. Effort: zero through ten (0-10) points, two (2.0) weighted value for each point awarded; ( )

c. Ability: zero through ten (0-10) points, two (2.0) weighted value for each point awarded; ( )

d. Past efforts (levies attempted but failed): zero through ten (0-10) points, five tenths (.5) weighted value for each point awarded; ( )

e. Student/teacher ratio improvement: zero through ten (0-10) points, one (1.0) weighted value for each point awarded; and ( )

f. Unique/special circumstances zero through ten (0-10) points: one (1.0) weighted value for each point awarded. ( )

05. Documentation of Revenue Sources. The school district will, within twelve (12) months of receipt of the approved state portion, submit documentation to the State Board of Education of the approved revenue source or sources that will be used to raise the district's portion. Failure to meet this requirement will result in return of the state grant along with any interest accrued on these monies. ( )

501. -- 549. (RESERVED)

550. Out-Of-State Tuition.

01. Annual Agreement. An annual agreement for out-of-state tuition, signed by a local board of trustees and approved by the State Board of Education, may allow students who are residents of an Idaho school district that borders on an adjacent state to attend school in the adjacent state for educational services in kindergarten through grade twelve (K-12). ( )

02. State Support Program Allowance. An Idaho school district will be eligible to receive from the

state educational support program an amount equal to the cost of the out-of-state tuition contract less the amount of local district contribution times the percentage the average daily attendance (ADA) of tuition students is to the total ADA in the school district. ( )

551. -- 599. (RESERVED)

600. Reimbursement To Districts For A Feasibility Study Of High School Or School District Consolidation.

01. Application Procedure. Applications for reimbursement will be submitted to the State Superintendent of Public Instruction in narrative form with the following supporting documents: ( )

a. A copy of the feasibility study; ( )

b. A copy of the consolidation plan, when appropriate; ( )

c. A summary of school board deliberations or joint sessions that were held by the participating school boards; ( )

d. A summary of all public hearings held, if any; and ( )

e. An itemized listing of reimbursable costs. ( )

02. Reimbursable and Non-Reimbursable Costs. Allowable costs for a feasibility study may include contracts for technical services, and the costs of public hearings, telephone bills, supplies, materials, publications, and travel. The costs of the following items will not qualify for reimbursement: ( )

a. A salary of any person regularly employed part-time or full-time by the school district; ( )

b. Rental of district-owned facilities; ( )

c. Costs incurred more than three (3) years prior to the application. ( )

03. Maximum Reimbursement Allowed. The total costs reimbursed will not exceed ten thousand dollars ($10,000) for each feasibility study. A school district may receive reimbursement for more than one (1) feasibility study, but the aggregate total reimbursement for all studies will not exceed ten thousand dollars ($10,000) during any consecutive three (3) year period. ( )

04. Notification of Approval. Upon verifying applicant school district's fiscal encumbrance for a feasibility study, the State Department of Education will notify the district and include the reimbursement payment in the district's apportionment payment for the year in which the expenses were incurred. ( )

601. -- 649. (RESERVED)

650. General Education Development Tests/Idaho High School Equivalency Certificate.
The primary objective of the State Board of Education is to have all students complete their formal education and graduate from high school. However, students who drop out of school and believe it is in their best interest to take the (General Education Development) GED. test may do so under the following conditions and, upon successful completion of all GED requirements, may apply for an Idaho High School Equivalency Certificate (HSEC).
( )

01. General Education Development Tests. General Education Development (GED) tests are given by approved testing centers for a statewide fee set by the Idaho Division of Career Technical Education. Candidates must make the minimum score for passing the GED test as established by the GED Testing service. ( )

02. Age Criteria. The applicant must satisfy one (1) of the following age criteria: ( )

a. The applicant must be at least eighteen (18) years of age; ( )

b. The applicant may be sixteen (16) or seventeen (17) years of age and be one (1) year or more behind in credits earned, expelled, recommended by the school, pregnant, or a parent. In such cases, the applicant is eligible if the applicant's school verifies in writing that the student meets one of the above criteria and this verification is on file at the testing center prior to any testing. The school may give its verification only after the applicant and his or her parent or guardian submit in writing a request for the applicant to take the GED tests and the applicant and the applicant's parent or guardian have met with school officials to review and discuss the request. (In cases where the applicant is not living with a parent or guardian, the parent or guardian's verification is not necessary.); ( )

c. The applicant may be sixteen (16) or seventeen (17) years of age and be entering college, the military, or an employment training program, enrolled in an Adult Basic Education Program, enrolled in the Job Corps, or incarcerated. In such cases, the applicant is eligible if the institution involved applies in writing for the applicant to take the GED tests and this application is on file at the testing center prior to any testing. ( )

03. Proof of Identity. Test takers must present proof of identification that shows legal name, date of birth, signature, address and photograph. Valid drivers' licenses, passports, military, and other forms of government-issued identification are acceptable. Two (2) forms of identification may be provided to meet these criteria. ( )

04. Idaho High School Equivalency Certificate. The State Department of Education will issue an Idaho High School Equivalency Certificate (HSEC) to eligible applicants. To be eligible to receive an HSEC, an applicant must submit the following documents to the Division of Career Technical Education: ( )

a. An official report of GED test results showing successful completion of all requirements applicable to the version of the GED test taken by the applicant. Test scores are accepted as official only when reported directly by the State's approved vendor for transcripts and records management, the Transcript Service of the Defense Activity for Non-Traditional Education Support (DANTES), or, in special cases, the GED Testing Service . ( )

b. Individuals who took the exam prior to January 1, 2014, must also furnish documentation that they met the American Government requirement of the State of Idaho. This requirement may be met by resident study in high school or college, correspondence study from an accredited university, DANTES, or by successfully passing the American Government test furnished by the testing center. ( )

c. A completed form DD295 on all service personnel. This form is not required of veterans and non-veteran adults. ( )

d. A copy of a discharge if the applicant is a veteran of military service. ( )

~~**e.** Applicants should submit their request using the form furnished by the Division of Career Technical Education, along with the ten dollar ($10) processing fee and appropriate documentation of above requirements. After the applicant completes this form and pays the ten dollar ($10) processing fee, the applicant will be awarded an Idaho High School Equivalency Certificate (HSEC).~~ ( )

651. -- 800. (RESERVED)

801. Continuous Improvement Planning And Training.
In accordance with Section 33-320, Idaho Code, every local education agency (LEA) shall develop and maintain a strategic plan that includes a continuous improvement process focused on improving student performance of the LEA. ( )

01. Definitions. ( )

a. Administrator. As used in this section administrator means the superintendent of the school district or administrator of a charter school. ( )

b. Board. Board means the Idaho State Board of Education. ( )

c. Executive Director. Executive Director means the Executive Director of the Idaho State Board of Education. ( )

d. Local Education Agency Board. As used in this section local education agency or LEA Board means the board of trustees of a school district or board of directors of a charter school. ( )

e. Local Education Agency. As used in this section local education agency (LEA) means public school district or charter school. ( )

f. Continuous Improvement Plan. As used in this section, a continuous improvement plan focuses on annual measurable outcomes and the analysis of data to assess and prioritize needs and measure outcomes. ( )

02. Reimbursement Eligibility. LEA's may request reimbursement for training conducted pursuant to Section 33-320, Idaho Code. Such training must be available to local governing board members and school district and charter school administrators. To be eligible for reimbursement the training and trainer must meet the following criteria: ( )

a. Training. The training must cover one (1) or more the follow subjects: ( )

i. Continuous improvement planning training. Continuous improvement planning training must include, but is not limited to, training on continuous process improvement, use and analysis of data, and methods for setting measurable targets based on student outcomes; ( )

ii. School finance; ( )

iii. Administrator evaluations, including, but not limited to, specifics on the Idaho state evaluation requirements and framework; ( )

iv. Ethics; or ( )

v. Governance. ( )

b. Documentation of Training. Training records shall be kept by the LEA showing: ( )

i. The length of the training in hours; ( )

ii. The subject(s) covered by the training; ( )

iii. The participants included in the training or validation of attendance of specific participants as applicable; and ( )

iv. The curriculum, agenda, or other documentation detailing the content of the training. ( )

c. Training Format. A majority of the LEA board and the administrator must collaborate on the continuous improvement plan and engage students, parents, educators and the community, as applicable to the training subject and format. The training facilitator must be physically present or have the ability to interact directly with all training participants. Sufficient time must be provided during the sessions to give the participants an opportunity to discuss issues specific to the LEA. ( )

d. Trainer Qualifications. The trainer must meet the following qualifications: ( )

i. May not be a current employee of the LEA; ( )

ii. Must have two (2) years of documented training experience in the area of training being provided for the LEA; and ( )

iii. Must provide at least three (3) recommendations from individuals who participated in past training sessions conducted by the trainer. These recommendations must be included with the application to determine the trainer's qualifications. ( )

e. Qualified Trainers. Trainer qualifications will be determined by the Office of the State Board of Education. The State Board of Education will maintain a list of qualified trainers and the subject areas in which they are qualified. ( )

i. An individual or company may submit an application for consideration to be placed on the list of qualified trainers or the LEA may submit the application on behalf of the individual or company. ( )

ii. Applications must be submitted to the Executive Director in a format established by the Executive Director. ( )

iii.
Trainer qualifications must be determined prior to the LEA's request for reimbursement of training costs. ( )

f. Eligible Reimbursements. Up to one thousand (1,000) dollars of travel expenses per training may be reimbursed. Refreshments are not an eligible reimbursement expense.

03. Audit. If requested, LEA's must provide training documentation or other information to verify eligibility prior to reimbursement. ( )

~~**04. Annual Literacy Intervention Plan**. Annually each LEA will report on the effectiveness of the LEA's literacy intervention plan. Plans and reports are due by October 1 of each year. Plans shall include at a minimum: ( )~~

~~**a.** Projected literacy plan budget for the current school year; ( )~~

~~**b.** Metrics chosen by the LEA to determine effectiveness of the literacy plan and annual performance benchmarks; and ( )~~

~~**c.** Performance on metrics chosen to show program effectiveness for at a minimum the previous academic year. ( )~~

~~**05. College and Career Advising and Mentoring Plans**. Annually each LEA shall submit their college and career advising and mentoring plan to the State Board of Education by October 1. ( )~~

~~**a.** Plans shall include required metrics and at least one (1) or more additional metrics chosen by the LEA to determine effectiveness of the college and career advising and mentoring plan, baseline data and annual benchmarks. ( )~~

~~**b.** Performance on all effectiveness metrics shall be reported annually in the LEA's Continuous Improvement Plan annual report. ( )~~

~~**c.** At a minimum effectiveness metrics must include: ( )~~

~~i. Percent of learning plans reviewed annually by grade level, in grade nine (9) through grade twelve (12);~~ ( )

~~ii. Number and percent of students who go on to some form of postsecondary education one (1) and two (2) years after graduation; and~~ ( )

~~iii. Number of students graduating high school with a career technical certificate or an associate degree.~~ ( )

~~**802. Literacy Growth Targets.**~~

~~**01. Statewide Trajectory Growth Targets**. Statewide trajectory annual growth targets are based on aggregated student performance on the spring administration of the statewide reading assessments. Local growth targets are set by the LEA based on the LEA's available resources and student demographics. Statewide trajectory growth targets indicated the statewide goal for year over year increases in the percentage of students reading at grade level.~~ ( )

~~**a.** Year one (1) and two (2):~~ ( )

~~i. Kindergarten – one percent (1%).~~ ( )

~~ii. Grade one (1) – one percent (1%).~~ ( )

~~iii. Grade two (2) – one percent (1%).~~ ( )

~~iv. Grade three (3) – one percent (1%).~~ ( )

~~**b.** Year three (3), four (4), five (5), and six (6):~~ ( )

~~i. Kindergarten – one point eight percent (1.8%).~~ ( )

~~ii. Grade one (1) – two percent (2%).~~ ( )

~~iii. Grade two (2) – one point six percent (1.6%).~~ ( )

~~iv. Grade three (3) – one point two percent (1.2%).~~ ( )

~~**02. Annual Review**. The State Board of Education will review the statewide student proficiency levels and the statewide trajectory growth targets annually.~~ ( )

803. Statewide Average Class Size.
For the purpose of determining the statewide average class size used in school district staff allowance calculations, school districts shall be grouped as follows: ( )

01. Group 1. Group 1 shall consist of school districts with an elementary divisor, pursuant to Section 33-1004, Idaho Code, of twenty (20) for grades one (1) through three (3) and twenty-three (23) for grades four (4) through six (6), and a secondary divisor of eighteen point five (18.5.) ( )

02. Group 2. Group 2 will consist of school districts with an elementary divisor, pursuant to Section 33-1004, Idaho Code, of twenty (20) for grades one (1) through three (3) and twenty-three (23) for grades four (4) through six (6), and a secondary divisor less than eighteen point five (18.5.) ( )

03. Group 3. Group 3 will consist of school districts with elementary divisors, pursuant to Section 33-1004, Idaho Code, of nineteen (19) or twenty (20) for grades one (1) through six (6), and a secondary divisor of less than eighteen point five (18.5.) ( )

04. **Group 4**. Group 4 will consist of school districts with elementary divisors, pursuant to Section 33-1004, Idaho Code, of less than nineteen (19) for grades one (1) through six (6), and a secondary divisor of less than eighteen point five (18.5.) ( )

804. -- 999. (RESERVED)

ATTACHMENT 1

08.02.02 – Rules Governing Uniformity

000. Legal Authority.
All rules in IDAPA 08.02.02, "Rules Governing Uniformity," are promulgated pursuant to the authority of the State Board of Education under Article IX, Section 2 of the Idaho Constitution and under Sections 33-105, 33-107, 33-116, and 33-1612, Idaho Code. Specific statutory references for particular rules are also noted as additional authority where appropriate. ( )

001. Scope.
Uniform standards and governance by the State Board of Education pertinent to Teacher Certification, School Facilities, Accreditation, Transportation, School Release Time, Driver's Education and Juvenile Detention Centers. ( )

002. -- 003. (RESERVED)

004. Incorporation By Reference.
The State Board of Education adopts and incorporates by reference into its rules: ( )

01. Idaho Standards for the Initial Certification of Professional School Personnel as approved on ~~June 9, 2019~~October, 2021. Copies of this document can be found on the Office of the State Board of Education website at https://boardofed.idaho.gov. ( )

02. Standards for Idaho School Buses and Operations as approved on November 15, 2017. The Standards for Idaho School Buses and Operations are available at the Idaho State Department of Education, 650 W. State St., Boise Idaho, 83702 and can also be accessed electronically at https://boardofed.idaho.gov. ( )

03. Operating Procedures for Idaho Public Driver Education Programs as approved on June 16, 2016. The Operating Procedures for Idaho Public Driver Education Programs are available at the Idaho State Department of Education, 650 W. State St., Boise, Idaho, 83702 and can also be accessed electronically at https://boardofed.idaho.gov. ( )

005. -- 006. (RESERVED)

007. Definitions.

01. Clinical Experience. Guided, hands-on, practical applications and demonstrations of professional knowledge of theory to practice, skills, and dispositions through collaborative and facilitated learning in field-based assignments, tasks, activities, and assessments across a variety of settings. Clinical experience includes field experience and clinical practice as defined in this section. ( )

02. Clinical Practice. Student teaching or internship opportunities that provide candidates with an intensive and extensive culminating field-based set of responsibilities, assignments, tasks, activities, and assessments that demonstrate candidates' progressive development of the professional knowledge, skills, and dispositions to be effective educators. Clinical practice includes student teaching and internship. ( )

03. Credential. The general term used to denote the document on which all of a person's educational certificates and endorsements are listed. The holder is entitled to provide educational services in any and/or all areas listed on the credential. ( )

04. Endorsement. Term used to refer to the content area or specific area of expertise in which a holder is granted permission to provide services. ( )

05. Field Experience. Early and ongoing practice opportunities to apply content and pedagogical knowledge in Pre-K-12 settings to progressively develop and demonstrate knowledge, skills, and dispositions. ( )

06. Individualized Professional Learning Plan. An individualized professional development plan based on the Idaho framework for teaching evaluation as outlined in Section 120 of these rules to include interventions based on the individual's strengths and areas of needed growth. ( )

07. Institutional Recommendation. Signed form or written verification from an accredited institution with a state board approved educator preparation program stating that an individual has completed the program, received a basic or higher rating in all components of the approved Idaho framework for teaching evaluation, has an individualized professional learning plan, has demonstrated the ability to produce measurable student achievement or student success, has the ability to create student learning objectives, and is now being recommended for state certification. Institutional recommendations must include statements of identified competency areas and grade ranges. Institutional Recommendation for administrators must additionally include a competency statement indicating proficiency in conducting accurate evaluations of instructional practice based upon the state's framework for evaluation as outlined in Section 120 of these rules. ( )

08. Internship. Full-time or part-time supervised clinical practice experience in Pre-K-12 settings where candidates progressively develop and demonstrate their knowledge, skills, and dispositions. ( )

09. Local Education Agency (LEA). An Idaho public school district or charter school pursuant to Section 33-5203(8), Idaho Code. ( )

10. Paraprofessional. A noncertificated individual who is employed by a local education agency to support educational programming. Paraprofessionals must work under the direct supervision of a properly certificated staff member for the areas they are providing support. Paraprofessionals cannot serve as the teacher of record and may not provide direct instruction to a student unless the paraprofessional is working under the direct supervision of a teacher. ( )

a. To qualify as a paraprofessional the individual must have a high school diploma or general equivalency diploma (GED) and: ( )

i. Demonstrate through a state board approved academic assessment knowledge of and the ability to assist in instructing or preparing students to be instructed as applicable to the academic areas they are providing support in; or ( )

ii. Have completed at least two (2) years of study at an accredited postsecondary educational institution~~,~~; or ( )

iii. Obtained an associate degree or higher level degree; demonstrate through a state board approved academic assessment knowledge of and the ability to assist in instructing or preparing students to be instructed as applicable to the academic areas they are providing support in. ( )

b. Individuals who do not meet these requirements will be considered school or classroom aides. ( )

c. Duties of a paraprofessional include, but are not limited to, one-on-one tutoring; assisting in classroom management; assisting in computer instruction; conducting parent involvement activities; providing instructional support in a library or media center; acting as a translator in instructional matters; and providing instructional support services. Non-instructional duties such as providing technical support for computers, personal care services, and clerical duties are generally performed by classroom or school aides, however, this does not preclude paraprofessionals from also assisting in these non-instructional areas. ( )

11. Pedagogy. Teaching knowledge and skills. ( )

12. Practicum. Full-time or part-time supervised, industry-based experience in an area of intended

career technical education teaching field to extend understanding of industry standards, career development opportunities, and application of technical skills. ( )

13. Semester Credit Hours. Two (2) semester credit hours are equivalent to three (3) quarter credit hours.

13. Student Learning Objective (SLO). A measurable, long-term academic growth target that a teacher sets at the beginning of the year for all student or for subgroups of students. SLOs demonstrate a teacher's impact on student learning within a given interval of instruction based upon baseline data gathered at the beginning of the course. ( )

14. Student Teaching. Extensive, substantive, and supervised clinical practice in Pre-K-12 schools for candidates preparing to teach. ( )

15. Teacher Leader. A teacher who facilitates the design and implementation of sustained, intensive, and job-embedded professional learning based on identified student and teacher needs. ( )

16. Teacher of Record. The teacher who is primarily responsible for planning instruction, delivering or supervising the instruction provided to a class of students, assessing student performance, and designating final grades.

008. -- 011. (RESERVED)

012. Accredited Institution.
For purposes of educator certification, an accredited school, college, university, or other educator training institution is considered by the Idaho State Board of Education to be one that is accredited by a regional accrediting association recognized by the State Board of Education or an alternative or non-traditional model approved by the State Board of Education. ( )

013. Certification Of Teachers Trained In Foreign Institutions.
~~Considering credentials for teacher certification submitted by persons trained in the institutions of foreign countries will be initiated by a translation and evaluation of the applicant's credentials.~~ ( )
An educator graduated from a foreign institution educator preparation program shall be considered an out of state applicant for certification purposes and may be issued a nonrenewable, three (3) year interim certificate. The applicant must provide transcripts and/or credentials that have been translated and evaluated by an approved evaluation service.

014. Certificates Issued To Applicants From Regionally Accredited Institutions.
Idaho ~~C~~certificates may be issued to applicants completing educator preparation programs from regionally accredited institutions recognized by the state board of education meeting requirements for certification or equivalent (i.e., those based on a baccalaureate degree) in other states when they substantially meet the requirements for ~~the Idaho Certificate~~a standard Idaho educator certificate. ( )

015. Idaho Educator Credential.
All standard educator certificates are valid for five (5) years and are renewable, subject to the applicable renewal requirements set by the state board of education and any applicable conditions applied to an individual's certificate by the professional standards commission.

01. Standard Instructional Certificate. A Standard Instructional Certificate makes an individual eligible to teach all grades, subject to the grade ranges and subject areas of the valid endorsement(s) attached to the certificate. A standard instructional certificate may be issued to any person who has a baccalaureate degree or higher from an accredited college or university and who meets the following requirements: ( )

~~**a.** Professional education requirements:~~ ( )

~~i~~a. **Minimum Credit Hours.** Earned a minimum of twenty (20) semester credit hours~~, or thirty (30) quarter credit hours,~~ in the philosophical, psychological, methodological foundations, instructional technology, and in the professional subject matter of education, which shall include ~~at least three (3) semester credit hours, or four (4) quarter credit hours, in reading and its application to the content area;~~demonstration of competencies as specified in the Idaho comprehensive literacy plan; and ( )

~~ii~~b. **Student Teaching.** ~~The required minimum credit hours must include~~Completed ~~at least~~a minimum of ten (10) undergraduate or six (6) graduate semester credit hours, ~~or nine (9) quarter credit hours,~~ of student teaching ~~in the grade range and subject areas as applicable to the endorsement~~; and ( )

~~b~~**c.** Completed ~~an~~ a state board approved educator preparation program and ~~have~~ received an institutional recommendation from ~~an accredited college or university~~ the program specifying the grade ranges and subjects for which ~~they are~~ the applicant is eligible to receive an endorsement~~. in;~~ ( )

~~c~~**i.** ~~Individuals seeking~~To receive an endorsement ~~must complete preparation~~ in ~~at least~~ two (2) fields of teaching~~. One (1) of the teaching fields~~, preparation must consist of completion of at least thirty (30) semester credit hours, ~~or forty-five (45) quarter credit hours~~in one (1) field of teaching and ~~a second field of teaching consisting~~completion of at least twenty (20) semester credit hours, ~~or thirty (30) quarter credit hours~~in a second field of teaching.

ii. To receive endorsement in (1) field of teaching, ~~P~~preparation ~~of not less than~~must consist of completion of at least forty-five (45) semester credit hours, ~~or sixty-seven (67) quarter credit hours,~~ in a single subject area ~~may be used in lieu of the two (2) teaching field requirements~~; ( )

d. ~~Proficiency in areas noted above is measured by completion of the credit hour requirements provided herein. Additionally, each candidate must meet~~Met or exceeded the state qualifying score on the state board approved content area and pedagogy assessments. ( )

~~**e.** The Standard Instructional Certificate is valid for five (5) years. Six (6) semester credit hours are required every five (5) years in order to renew the certificate.~~ ( )

02. Standard Pupil Service Staff Certificate. Persons who serve as school counselors, school psychologists, ~~speech-language pathologists,~~ school social workers, and school nurses ~~and school audiologists~~ are required to hold the Standard Pupil Service Staff Certificate, with the respective endorsement(s) for which they qualify. Persons who serve as a speech-language pathologist, school audiologist, ~~an~~ occupational therapist, or physical therapist may be required, as determined by the local educational agency, to hold the Pupil Service Staff Certificate with respective endorsements for which they qualify. ( )

a. School Counselor ~~(K-12)~~ Endorsement. To be eligible for a ~~Pupil Service Staff Certificate~~ School Counselor ~~(K-12)~~ endorsement, a candidate must have satisfied the following requirements. ~~The Pupil Service Staff Certificate with a School Counselor (K-12) endorsement is valid for five (5) years. Six (6) semester credit hours are required every five (5) years in order to renew the endorsement.~~ ( )

i. Hold a master's degree and provide verification of completion of an approved program of graduate study in school counseling, including sixty (60) semester credits, from a college or university approved by the Idaho State Board of Education or the state educational agency of the state in which the program was completed. The program must include successful completion of seven hundred (700) clock hours of supervised field experience, seventy-five percent (75%) of which must be in a K-12 school setting. This K-12 experience must be in each of the following levels: elementary, middle/junior high, and high school. Previous school counseling experience may be considered to help offset the field experience clock hour requirement; and ( )

ii. An institutional recommendation is required for a School Counselor ~~(K-12)~~ endorsement. ( )

b. School Counselor – Basic ~~(K-12)~~ Endorsement. ( )

i. Individuals serving as a school counselor pursuant to Section 33-1212, Idaho Code, shall be granted a ~~Pupil Service Staff Certificate with a~~ School Counselor – Basic ~~(K-12)~~ endorsement. The endorsement is valid for five (5) years or until such time as the holder no longer meets the eligibility requirements pursuant to Section 33-1212, Idaho Code. ~~Six (6) semester credit hours are required every five (5) years in order to renew the endorsement.~~ ( )

ii. Individuals who received their endorsement pursuant to Section 33-1212, Idaho Code, prior to July 1, 2018, will be transitioned into the School Counselor – Basic ~~(K-12)~~ endorsement. Renewal date will remain the same as the initial credential. ( )

c. School Psychologist Endorsement. ~~This endorsement is valid for five (5) years. In order to renew the endorsement, six (6) professional development credits are required every five (5) years.~~ The renewal credit requirement may be waived if the applicant holds a current and valid National Certification for School Psychologists (NCSP) offered through the National Association of School Psychologists (NASP). To be eligible for ~~initial~~ a school psychologist endorsement, a candidate must complete a minimum of sixty (60) graduate semester credit hours which must be accomplished through one (1) of the following options: ( )

i. Completion of an approved thirty (30) semester credit hour~~, or forty-five (45) quarter credit hours,~~ master's degree in education or psychology and completion of an approved thirty (30) semester credit hour~~, or forty-five (45) quarter credit hour,~~ School Psychology Specialist Degree program, and completion of a minimum of twelve hundred (1,200) clock-hour internship within a local education agency under the supervision of the training institution and direct supervision of a certificated school psychologist; ( )

ii. Completion of an approved sixty (60) semester credit hour, ~~or ninety (90) quarter credit hour,~~ master's degree program in School Psychology, and completion of a minimum of twelve hundred (1,200) clock-hour internship within a local education agency under the supervision of the training institution and direct supervision of a certificated school psychologist; ( )

iii. Completion of an approved sixty (60) semester credit hour~~, or ninety (90) quarter credit hour,~~ School Psychology Specialist degree program which did not require a master's degree as a prerequisite, with laboratory experience in a classroom, which may include professional teaching experience, student teaching or special education practicum, and completion of a minimum twelve hundred (1,200) clock-hour internship within a local education agency under the supervision of the training institution and direct supervision of a certificated school psychologist; and ( )

iv. Earn a current and valid National Certification for School Psychologists (NCSP) issued by the National Association of School Psychologists (NASP). ( )

d. Interim ~~Endorsement~~ Certificate – School Psychologist Endorsement. This ~~endorsement~~ certificate will be ~~granted for~~issued to those who do not meet the educational requirements but hold a ~~master's~~ baccalaureate degree or higher in ~~school~~ psychology and are ~~pursuing an educational specialist degree~~working toward a standard pupil service staff certificate with school psychologist endorsement. This ~~non-renewable endorsement~~certificate will be issued for three (3) years while the applicant is meeting the educational requirements~~.~~ or obtaining the applicable experience leading to certification. If the educational requirements cannot be met within the three (3)-year time frame of the certificate, the employing LEA may request one (1)-time renewal of this interim certificate for the applicant. ( )

e. School Nurse Endorsement. ~~This endorsement is valid for five (5) years. Six (6) credits are required every five (5) years in order to renew the endorsement. Initial endorsement may be accomplished through completion of either requirements in Subsections 015.02.e.i. or 015.02.e.ii.~~To be eligible for a school nurse endorsement, a candidate must complete one (1) of the following options: ( )

i. ~~The candidate must p~~Possess a valid professional nursing (RN) license issued by the Idaho State Board of Nursing, and a baccalaureate degree in nursing, education, or a health-related field from an accredited

institution. ( )

ii. ~~The candidate must p~~Possess a valid professional nursing (RN) license issued by the Idaho State Board of Nursing; have two (2) years of full-time (or part-time equivalent) school nursing, community health nursing, or any other area of pediatric, adolescent, or family nursing experience.~~; and have completed six (6) semester credit hours from a university or college in any of the following areas:~~ ( )

~~(1) Health program management.~~ ( )

~~(2) Nursing leadership.~~ ( )

~~(3) Pediatric nursing or child development.~~ ( )

~~(4) Population of community health.~~ ( )

~~(5) Health care policy, ethics, or cultural competency.~~ ( )

~~(6) Research and/or statistics.~~ ( )

f. Interim ~~Endorsement~~ Certificate - School Nurse Endorsement. This ~~endorsement~~ certificate will be ~~granted for~~issued to those who do not meet the educational and/or experience requirements but who hold a valid professional nursing (RN) license in Idaho. ~~An Interim School Nurse Endorsement~~ This non-renewable certificate will be issued for three (3) years while the applicant is meeting the educational or experience requirements~~, or both, and it is not renewable~~. ( )

g. Speech-Language Pathologist Endorsement. ~~This endorsement is valid for five (5) years. Six (6) credits are required every five (5) years in order to renew the endorsement. The initial~~ To be eligible for a speech-language pathologist endorsement~~,~~ ~~will be issued to candidates who~~ a candidate must possess a master's degree from an accredited college or university in a speech/language pathology program approved by the State Board of Education~~, and who receive an institutional recommendation from an accredited college or university~~. The renewal credit requirement may be waived if the applicant holds a current and valid Certificate of Clinical Competence in Speech-Language Pathology offered through the American Speech-Language-Hearing Association and/or a current and valid speech-language pathologist license issued by the appropriate Idaho state licensing board. ~~(7-1-21)T~~

h. Interim ~~Endorsement~~ Certificate - Speech-Language Pathologist Endorsement. This ~~endorsement~~ certificate will be ~~granted for~~issued to those who do not meet the educational requirements but hold a baccalaureate degree in speech-language pathology and are pursuing a master's degree. This ~~endorsement~~ certificate will be issued for three (3) years while the applicant is meeting the educational requirements~~, and is not renewable~~. If the educational requirements cannot be met within the three (3)-year timeframe of the certificate, the employing LEA may request one (1)-time renewal of this interim certificate for the applicant if the applicant holds a valid occupational license or is supervised by a speech-language pathologist with a standard pupil service certificate. ~~(7-1-21)T~~

i. Audiology Endorsement. ~~This endorsement is valid for five (5) years. Six (6) credits are required every five (5) years in order to renew the endorsement. The initial endorsement will be issued to candidates who~~To be eligible for an audiology endorsement, a candidate must possess a master's degree from an accredited college or university in an audiology program approved by the State Board of Education~~, and who receive an institutional recommendation from an accredited college or university~~. The renewal credit requirement may be waived if the applicant holds a current and valid Certificate of Clinical Competence in Audiology offered through the American Speech-Language-Hearing Association and/or a current and valid audiologist license issued by the appropriate Idaho state licensing board. ~~(7-1-21)T~~

j. School Social Worker Endorsement. ~~This endorsement is valid for five (5) years. Six (6) credit hours are required every five (5) years in order to renew the endorsement. Initial~~To be eligible for a school social worker endorsement ~~shall be accomplished by meeting~~, a candidate must meet the following requirements:

i. A master's degree in social work (MSW) from a postsecondary institution accredited by an organization recognized by the State Board of Education. The program must be currently approved by the state educational agency of the state in which the program was completed; and ( )

ii. An institutional recommendation from ~~an Idaho S~~state ~~B~~board ~~of Education~~ approved program; and ( )

iii. The successful completion of a school social work practicum in a preschool through grade twelve 12 (Pre-K-12) setting. Post-LMSW extensive experience working with children and families may be substituted for the completion of a school social work practicum in a Pre-K-12 setting; and ( )

iv. A current and valid social work license pursuant to chapter 32, title 54, Idaho Code, and the rules of the State Board of Social Work Examiners. ( )

k. Occupational Therapist Endorsement. ~~A~~To be eligible for an occupational therapist endorsement, a candidate ~~with~~ must have a current and valid ~~O~~occupational ~~T~~therapy license issued by the Occupational Therapy Licensure Board of Idaho ~~will be granted an Occupational Therapist endorsement~~. The ~~Pupil Service Staff Certificate with an Occupational Therapist endorsement is valid for five (5) years. Six (6) semester credit hours are required every five (5) years in order to renew the endorsement. C~~candidate must maintain current and valid ~~O~~occupational ~~T~~therapy ~~L~~licensure for the endorsement to remain valid. ( )

l. Physical Therapist Endorsement. ~~A~~to be eligible for a physical therapist endorsement a candidate ~~with~~ must have a current and valid ~~P~~physical ~~T~~therapy license issued by the Idaho Physical Therapy Licensure Board ~~will be granted a Physical Therapist endorsement~~. The ~~Pupil Service Staff Certificate with a Physical Therapist endorsement is valid for five (5) years. Six (6) semester credit hours are required every five (5) years in order to renew the endorsement. C~~candidate must maintain current and valid ~~P~~physical ~~T~~therapy ~~L~~licensure for the endorsement to remain valid. ( )

03. Standard Administrator Certificate. ~~Every p~~Persons who serve~~s~~ as superintendent, director of special education, secondary school principal, or principal of an elementary school with eight (8) or more teachers (including the principal), or ~~is~~ are assigned to conduct the summative evaluation of certified staff ~~is~~are required to hold an Administrator Certificate. The certificate may be endorsed for service as school principal, superintendent, or director of special education. Assistant superintendents are required to hold the Superintendent endorsement. Assistant principals or vice-principals are required to hold the School Principal endorsement. Directors of special education are required to hold the Director of Special Education endorsement. Possession of an Administrator Certificate does not entitle the holder to serve as a teacher at a grade level for which the educator is not qualified or certificated. ~~All administrator certificates require candidates to meet the Idaho Standards for School Principals . The Administrator Certificate is valid for five (5) years. Six (6) semester credit hours are required every five (5) years in order to renew the certificate.~~ ( )

a. School Principal Endorsement. To be eligible for ~~an Administrator Certificate endorsed for~~the School Principal endorsement, a candidate must ~~have satisfied~~meet the following requirements: ( )

i. Hold a master's degree from an accredited college or university. ( )

ii. ~~Have~~ Complete four (4) years of full-time certificated experience working with students, while under contract in an accredited school setting. ( )

iii. ~~Have c~~Complete~~d~~ an administrative internship in a state~~-~~ board approved program, or have one (1) year of experience as an administrator. ( )

iv. Provide verification of completion of a state-approved program of at least thirty (30) semester credit hours~~, forty-five (45) quarter credit hours,~~ of graduate study in school administration for the preparation of school principals at an accredited college or university. This program shall include the demonstration of proficiency in conducting instructional and pupil service staff evaluations based on the statewide framework for evaluation, and

competencies ~~of~~in the Idaho Standards for School Principals. ( )

v. Receive ~~A~~an institutional recommendation ~~is required~~ for a School Principal ~~E~~endorsement. ( )

b. Superintendent Endorsement. To be eligible for ~~an Administrator Certificate with a~~the Superintendent endorsement, a candidate must ~~have satisfied~~meet the following requirements: ( )

i. Hold an education specialist or doctorate degree or complete a comparable post-master's sixth year program at an accredited college or university. ( )

ii. Have four (4) years of full-time certificated/licensed experience working with students while under contract in an accredited school setting. ( )

iii. ~~Have c~~Complete~~d~~ an administrative internship in a state~~-~~ board approved program for the superintendent endorsement or have one (1) year of out-of-state experience as an assistant superintendent or superintendent. ( )

iv. Provide verification of completion of an approved program of at least thirty (30) semester credit hours, ~~or forty-five (45) quarter credit hours,~~ of post-master's degree graduate study for the preparation of school superintendents at an accredited college or university. This program in school administration ~~and interdisciplinary supporting areas shall~~must include ~~the~~ demonstration of proficiency in conducting instructional and pupil service staff evaluations based on the statewide framework for evaluation, and demonstration of competencies in the Idaho standards for ~~S~~superintendents ~~Leadership, in additional to~~and the ~~competencies in the~~ Idaho Standards for School Principals. ( )

v. ~~An~~ Receive an institutional recommendation ~~is required~~ for a ~~School~~ Superintendent ~~E~~endorsement ~~(Pre-K-12).~~ ( )

c. Director of Special Education Endorsement. To be eligible for ~~an Administrator Certificate endorsed~~ for the Director of Special Education endorsement, a candidate must ~~have satisfied all of~~meet the following requirements: ( )

i. Hold a master's degree from an accredited college or university; ( )

ii. Have four (4) years of full-time certificated/licensed experience working with students Pre-K-12, while under contract in a school setting; ( )

iii. ~~Obtain college or university~~Provide verification of ~~demonstrated the competencies of the Director of Special Education in Idaho Standards for Initial Certification of Professional School Personnel~~a state board approved program of graduate study of school administration for the preparation of directors of special education at an accredited college or university. This program shall include demonstration of proficiency in conducting instructional and pupil service staff evaluations based on the statewide framework for evaluation, and demonstration of competencies in the Idaho Standards for Directors of Special Education and the Idaho Standards for School Principals. Coursework shall include knowledge and competence in understanding the Individuals with Disabilities Education Act, utilizing the Idaho Special Education Manual, special education funding and fiscal accountability, results-driven leadership and accountability in special education, and instructional, behavioral, and management strategies for supporting students in the least restrictive environment~~;~~. ~~Obtain college or university verification of demonstrated the competencies of the Director of Special Education in Idaho Standards for Initial Certification of Professional School Personnel;~~ ( )

~~iv. Obtain college or university verification of demonstrated competencies in the following areas, in addition to the competencies in the Idaho Standards for School Principals: Concepts of Least Restrictive Environment; Post-School Outcomes and Services for Students with Disabilities Ages Three (3) to Twenty-one (21); Collaboration Skills for General Education Intervention; Instructional and Behavioral Strategies; Individual Education Programs~~

~~(IEPs); Assistive and Adaptive Technology; Community Based Instruction and Experiences; Data Analysis for Instructional Needs and Professional Training; Strategies to Increase Program Accessibility; Federal and State Laws and Regulations and School District Policies; Resource Advocacy; and Technology Skills for Referral Processes, and Record Keeping;~~ ( )

iv. Have completed an administrative internship in the area of administration of special education; and ( )

v~~i~~. An institutional recommendation is required for Director of Special Education endorsement. ( )

04. ~~Certification Standards For Career Technical Educators~~Career Technical Certification Requirements. ~~Teachers of career technical courses or programs in secondary schools must hold an occupational specialist certificate and an endorsement in an appropriate occupational discipline. All occupational certificates must be approved by the Division of Career Technical Education regardless of the route an individual is pursuing to receive the certificate.~~ ( )

~~05~~a. Standard Degree Based Career Technical ~~Certification~~Certificate. Persons who hold a degree based career technical certificate are eligible to teach in a career technical area, subject to the grade range(s) and subject area(s) of the valid endorsement(s) attached to the certificate. All degree based career technical certificates require candidates to meet the Idaho Core Teaching Standards. The degree based career technical certificate is valid for five years. A degree based career technical certificate may be issued to any person who has a baccalaureate degree from an accredited college or university and meets the following requirements: ( )

~~a~~i. ~~Individuals graduating from an approved occupational teacher preparation degree program qualify to teach in the following seven (7) disciplines: agricultural science and technology; business technology education; computer science technology; engineering; family and consumer sciences; marketing technology education; and technology education. Occupational teacher preparation course work must meet the Idaho Standards for the Initial Certification of Professional School Personnel. The occupational teacher education program must provide appropriate content to constitute a major in the identified field. Student teaching shall be in an approved program and include experiences in the major field. Applicants shall have accumulated one thousand (1,000) clock hours of related work experience or practicum in their respective field of specialization, as approved by the Division of Career Technical Education. The certificate is valid for five (5) years. Six (6) semester credit hours are required every five (5) years pursuant to Section 060 of these rules.~~ Earned a minimum of twenty (20) semester credit hours in the philosophical, psychological, methodological foundations, instructional technology, and in the professional subject matter of education, which shall include demonstration of competencies as specified in the Idaho Comprehensive Literacy Plan; ( )

ii. Earned a minimum of twelve (12) semester credit hours in career technical education foundation coursework to include principles and philosophies of career technical education, evaluation and assessment in career technical education, leadership and career technical student organization leadership, career guidance and transition, occupational analysis and curriculum development, and lab safety; ( )

iii. Accumulated one thousand (1,000) clock hours of related industry experience, or practicum as approved by the higher education institution, in the respective field of specialization; ( )

iv. Completed a total of at least ten (10) undergraduate semester credit hours or six (6) graduate semester credit hours of student teaching: ( )

v. Completed a state board approved educator preparation program and received an institutional recommendation specifying the grade ranges and subjects for which the person is eligible to receive an endorsement; ( )

(1) To receive endorsement in two (2) fields of teaching, preparation must consist of at least thirty (30) semester credit hours in one (1) field of teaching and completion of at least twenty (20) semester credit hours in a

second field of teaching. ( )

(2) To receive endorsement in one (1) field of teaching, preparation must consist of completion of at least forty-five (45) semester credit hours in a single subject area. ( )

vi. Met or exceeded the state qualifying score on the state board-approved content area and pedagogy assessments. ( )

vii. Six (6) semester credit hours are required every five (5) years to renew. The renewal credit may be waived if the applicant holds a current, valid certificate from the National Board for Professional Teaching Standards at the time of renewal. Credits must be earned during the validity period of the certificate . ( )

b. Career Technical Education Program Administrator Certificate. The ~~C~~career ~~T~~technical ~~E~~education program ~~a~~Administrator certificate is required for an individual serving as an administrator, director, or manager of career technical education programs ~~at the state Division of Career Technical Education or~~ in Idaho public schools. Individuals must meet one (1) of the two (2) following prerequisites to qualify for the ~~C~~career ~~T~~technical ~~E~~education program ~~A~~administrator ~~C~~certificate. The certificate is valid for five (5) years. Six (6) semester credit hours are required every five (5) years pursuant to Section 060 of these rules to renew. ( )

~~i~~(1). Qualify for or hold an ~~A~~advanced ~~O~~occupational ~~S~~specialist certificate or hold an occupational endorsement on a degree based career technical certificate; provide evidence of a minimum of four (4) years teaching, three (3) of which must be in a career technical education discipline; hold a master's degree; and complete at least fifteen (15) semester credits of administrative course work to include required credits in~~:~~:. ( )

~~(1) Applicants must have completed credits in:~~ education finance, administration and supervision of personnel, and legal aspects of education~~; and conducting evaluations using the statewide framework for teacher evaluations.~~ ( )

~~(2) Additional~~ Remaining course~~-~~work may be selected from ~~any of the following areas~~: administration and supervision of occupational programs; instructional supervision; administration internship; curriculum development; curriculum evaluation; research in curriculum; school community relations; communication; teaching the adult learner; coordination of work-based learning programs; and/or measurement and evaluation. ( )

~~ii.~~(2) Hold a superintendent or principal endorsement on a standard administrator certificate and provide evidence of a minimum or four (4) years teaching, three (3) of which must be in a career technical discipline or successfully complete the Division of Career Technical Education twenty-seven (27) month Idaho career technical education leadership institute. ( )

~~06~~**c. Industry-Based Occupational Specialist Certificate**. ~~The industry based Occupational Specialist Certificates are industry based career technical certifications issued in lieu of a degree based career technical certificate. Certificate holders must~~ Persons who hold an occupational specialist career technical certificate are eligible to t~~r~~each in a career techn~~cailn~~ical program pathway~~-~~(s), subject to the grade range(s) and pathway areas(s) of the valid endorsement(s) attached to the certificate. All occupational specialist career technical certificates require candidates to meet the core teaching standards of the Idaho Standards for Initial Certification of Professional School Personnel. An occupational specialist career technical certificate may be issued to an experienced industry expert entering the teaching profession and meeting the following eligibility requirements: ( )

~~a~~**i.** Possess either a high school diploma or General Educational Development (GED) certificate; meet provisions of Idaho Code; and, verify technical skills through work experience, industry certification or testing as listed below. When applicable, requirements of occupationally related state agencies must also be met. Since educational levels and work experiences vary, applicants may be determined qualified under any one (1) of the following three (3) options: ( )

~~i.~~(1) Have three (3) years or six thousand (6,000) hours of recent, gainful employment in the occupation for which certification is requested, at least half of which must have been during the immediate previous five (5) years;

or ( )

~~ii.~~(2) Have a baccalaureate degree in the specific occupation or related area, plus one (1) year or two thousand (2,000) hours of recent, gainful employment in the occupation for which certification is requested, at least half of which must have been during the immediate previous five (5) years; or ( )

~~iii.~~(3) Hold or have held an industry certification in a field closely related to the content area in which the individual seeks to teach as approved by the Division of Career Technical Education. ( )

~~b~~ii. Limited Occupational Specialist Certificate. This certificate is issued to individuals who are new to teaching in Idaho public schools or new to teaching in career technical education in Idaho public schools. The certificate is an interim certificate and is valid for three (3) years and is non-renewable. Applicants must meet all of the minimum requirements established in Subsection 015.06.a. of these rules. Individuals on a limited occupational specialist certificate must complete one (1) of the two (2) following pathways during the validity period of the certificate: ( )

~~i.~~(1) Pathway I - Coursework: Within the three-year period of the Limited Occupational Specialist Certificate, the instructor must satisfactorily complete the pre-service training prescribed by the Division of Career Technical Education and demonstrate competencies in principles/foundations of occupational education and methods of teaching occupational education. Additionally, the instructor must satisfactorily demonstrate competencies in two (2) of the following areas: career pathways and guidance; analysis, integration, and curriculum development; and measurement and evaluation. ( )

~~ii.~~(2) Pathway II – Cohort Training: Within the first twelve (12) months, the holder must enroll in the Division of Career Technical Education sponsored education pedagogy training and complete all requirements within the three-year validity period of the interim certificate. ( )

~~c.~~iii. Standard Occupational Specialist Certificate. ( )

~~i.~~(1) This certificate is issued to individuals who have held a limited occupational specialist certificate and completed one (1) of the pathways for ~~completions~~renewable certification. ( )

~~ii.~~(2) The Standard Occupational Specialist Certificate is valid for five (5) years. Six (6) semester credit hours are required every five (5) years pursuant to Section 060 of these rules to renew. Credit equivalency will be based on verification of forty-five (45) hours of participation at approved technical conferences, institutes, or workshops where participation is prorated at the rate of fifteen (15) hours per credit; or one hundred twenty (120) hours of approved related work experience where hours worked may be prorated at the rate of forty (4) hours per credit; or any equivalent combination thereof~~, and having on file a new professional development plan for the next certification period.~~. ( )

~~d.~~iv. Advanced Occupational Specialist Certificate. This certificate is issued to individuals who~~:~~ ( )

~~i. A~~are eligible for the Standard Occupational Specialist Certificate; and ( )

~~ii. P~~provide evidence of completion of a teacher training degree program or eighteen (18) semester credits of Division of Career Technical Education approved education or content-related course work in addition to the twelve (12) semester credits required for the Standard Occupational Specialist Certificate (a total of thirty (30) semester credits~~); and~~ ( )

~~iii. Have on file a new professional development plan for the next certification period.~~ ( )

~~iv.~~ . The Advanced Occupational Specialist Certificate is valid for five (5) years. Six (6) semester credit hours are required every five (5) years pursuant to Section 060 of these rules to renew. ( )

075. Postsecondary Specialist Certificate. A Postsecondary Specialist certificate will be granted to a current academic faculty member whose primary employment is with any accredited Idaho postsecondary institution. To be eligible to teach in the public schools under this postsecondary specialist certificate, the candidate must supply a recommendation from the employing institution (faculty's college dean). The primary use of this state-issued certificate is for distance education, virtual classroom programs, and public and postsecondary partnerships. ( )

a. Renewal. This certificate is good for five (5) years and is renewable. To renew thethis certificate, the renewal application must be accompanied with a new written recommendation from the postsecondary institution (faculty's college dean level or higher). ( )

b. Fees. The fee is the same as an initial or renewal certificate as established in Section 066 of these rules. ( )

eb. The candidate must meet the following qualifications: ( )

i. Hold a master's baccalaureate degree or higher in the content area being taught; ( )

ii. Be currently employed by the postsecondary institution in the content area to be taught; and ( )

iii. Complete and pass a criminal history background check as required by Section 33-130, Idaho Code. ( )

086. American Indian Tribal Language Certificate. Each IndianThe five (5) federally recognized tribes of Idaho shall provide to the State Department of Education the names of those highly and uniquely qualified individuals who have been designated to teach the tribe's nativetribal language(s) in accordance with Section 33-1280, Idaho Code. Individuals identified by the tribe(s) may applyTo be eligible for an Idaho American Indian Tribal Languages Certificate certificate as American Indian languages teachers.an applicant designated to teach tribal language(s) shall submit a complete application. If approved the certificate shall be issued for five years and is renewable. ( )

a. The Office of Indian Education at the State Department of Education will process an application that has met the requirements of the Tribe(s) for an American Indian languages teacher. ( )

b. Once an application with Tribal approval has been received, it will be reviewed and, if approved, it will be forwarded to the Office of Certification for a criminal history background check as required in Section 33-130, Idaho Code. The application must include a ten-finger fingerprint card or scan and a fee for undergoing a background investigation check pursuant to Section 33-130, Idaho Code. ( )

c. The Office of Certification will review the application and verify the applicant is eligible for an Idaho American Indian Certificate. The State Department of Education shall authorize an eligible applicant as an American Indian languages teacher. An Idaho American Indian Certificate is valid for not more than five (5) years. Individuals may apply for a renewal certificate. ( )

097. Junior Reserved Officer Training Corps (Junior ROTC) Instructors. ( )

a. Each local education agency with a Junior ROTC program shall provide the State Department of Education a list of individuals who have completed an official armed forces training program to qualify as To be eligible for a Junior ROTC instructors in high schoolsIinstructor certificate, an applicant shall submit a complete application and provide a notarized copy of their certificate(s) or letter of completion of an armed forces Junior ROTC training program. ( )

b. Authorization Letter. Upon receiving the items identified in Subsection 015.09.a. If approved the certificate shall be issued for five years and is renewable.

~~10~~8. **Additional Renewal Requirements**. In addition to specific certificate or endorsement renewal requirements, applicants must meet the following renewal requirements as applicable: ( )

a. Administrator certificate renewal. In order to recertify, holders of an administrator certificate must complete a course consisting of a minimum of three (3) semester credits in the Idaho framework for teachers' evaluation pursuant to Section 33-1204, Idaho Code. Credits must be earned through an approved educator preparation program and include a laboratory component. The laboratory component must include in-person or video observation and scoring of teacher performance using the statewide framework for teacher's evaluation. The approved course must include the following competencies: ( )

i. Understanding professional practice in Idaho evaluation requirements, including gathering accurate evidence and artifacts, understanding and using the state framework for evaluation rubric with fidelity, proof of calibration and interrater reliability, ability to provide effective feedback for teacher growth, and understanding and advising teachers on individualized learning plan and portfolio development. ( )

ii. Understanding student achievement and growth in the Idaho evaluation framework, including understanding how measurable student achievement and growth measures impact summative evaluation ratings and proficiency in assessment literacy. ( )

016. Idaho Interim Certificate.
A three (3) year interim certificate may be issued to ~~those~~ applicants who hold a valid certificate~~/~~ or license from another state or other entity that participates in the National Association of State Directors of Teacher Education and Certification (NASDTEC) Interstate Agreement pursuant to Section 33-4104, Idaho Code, or who are engaged in or completed a non-traditional route to teacher certification as prescribed herein. An interim certificate gives the holder the same rights and responsibilities as an individual with a standard certificate. ( )

01. Interim Certificate Not Renewable. Interim certification is only available on a one (1) time basis except under extenuating circumstances approved by the State Department of Education or Division of Career Technical Education. ~~It will be the responsibility of the individual to~~An applicant must meet the requirements of the applicable alternate authorization route or non-traditional route ~~and~~ to obtain a ~~full~~ standard Idaho Educator Credential during the term of the interim certificate. ( )

02. Non-Traditional Route to Teacher Certification. An individual may acquire interim certification through a state board approved non-traditional route to teacher certification program. The non-traditional route may be used for first-time certification, subsequent certificates, and additional endorsements. ( )

a. Individuals who possess a baccalaureate degree or higher from an ~~accredited~~ institution of higher education accredited by an entity recognized by the state board of education may ~~utilize this non-traditional route to an~~receive an interim instructional certificate. To ~~complete this non-traditional route~~receive the interim certificate, the individual must: ( )

i. Complete or enroll in a state board approved program; and ( )

ii. Pass the state board approved pedagogy and content area assessment~~; and~~. ( )

~~iii. Complete the Idaho Department of Education background investigation check.~~ ( )

b. ~~Interim Certificate~~Standard certification. Upon completion of ~~this certification process~~the non-traditional route the applicant must~~, the individual will be awarded an interim certificate. During the term of the interim certificate, the individual must teach and~~ complete a two (2) year state board approved teacher mentoring program and receive two (2) years of successful evaluations ~~per~~pursuant to Section 33-1001, Idaho Code. ( )

~~c. Interim Certificate Not Renewable. This interim certification is available on a one (1) time basis. The individual is responsible for obtaining a valid renewable standard instructional certificate during the three (3) year~~

~~interim certification term.~~ ( )

~~**d.** Types of Certificates and Endorsements. The non-traditional route may be used for first-time certification, subsequent certificates, and additional endorsements.~~ ( )

03. Idaho Comprehensive Literacy Course. ~~For a~~All Idaho teachers working on an interim certificate~~s,~~ (alternate authorizations, nontraditional routes, reinstatement~~s~~, or coming from out of ~~the~~ state), must complete~~ion of~~ a state board approved Idaho Comprehensive Literacy course or assessment~~, or approved secondary equivalent shall be~~ as a one-time requirement for ~~full~~ standard instructional certificate~~ion~~. ( )

~~**a.** Those individuals who qualify for an Idaho certificate through state reciprocity shall be granted a three-year, non-renewable interim certificate to allow time to meet the Idaho Comprehensive Literacy Course requirement.~~ ( )

04. Teaching for Mathematical Thinking ~~for Instruction~~. ~~For a~~All Idaho teachers or administrators working on an interim certificates (alternate authorizations, nontraditional routes, reinstatements or coming from out of ~~the~~ state), with an All Subjects (K-8) endorsement, any mathematics endorsement, Exceptional Child ~~Generalist~~ Education endorsement, Blended Early Childhood/Early Childhood Special Education endorsement, or Administrator certificate must complete ~~a~~the state board approved Teaching for Mathematical Thinking ~~for Instruction~~, ~~or another State Department of Education approved alternative~~ course, as a one-time requirement for full certification. ( )

~~**05. Technology**. Out of state applicants may be reviewed by the hiring local education agency for technology deficiencies and may be required to take technology courses to improve their technology skills.~~ ( )

06. Reinstatement of Expired Certificate. An individual holding an expired Idaho certificate may be issued an ~~nonrenewable three year~~ interim certificate. During the validity period of the interim certificate, the applicant must meet the following requirements to obtain ~~full~~ standard certification during the term of the interim certificate:

( )

a. Two (2) years of successful evaluations as per Section 33-1001, Idaho Code. ( )

b. Measured annual progress on specific goals identified on the applicant's Individualized Professional Learning Plan. ( )

c. Completion of ~~S~~six (6) credit renewal requirement. ( )

d. ~~Any applicable requirement for~~Completion of the Idaho Comprehensive Literacy Course or Teaching for Mathematical Thinking ~~for Instruction~~ as ~~indicated in Subsections 016.02 and 016.03~~provided herein. ( )

~~**07. Foreign Institutions.** An educator having graduated from a foreign institution may be issued a non-renewable, three-year interim certificate. The applicant must also complete the requirements listed in Section 013 of these rules.~~ ( )

08. Codes of Ethics. All laws and rules governing standard certificated staff with respect to conduct, discipline, and professional standards shall apply to all certified staff serving in an Idaho public school, including those employed under an interim certificate. ( )

017. Content, Pedagogy And Performance Assessment For Certification.

01. Assessments. State Board of Education approved content, pedagogy and performance area assessments shall be used to ensure qualified teachers are employed in Idaho's classrooms. The Professional Standards Commission shall recommend assessments and qualifying scores to the State Board of Education for

approval. ( )

~~02. Out-of-State Waivers. An out-of-state applicant for Idaho certification holding a current certificate may request a waiver from the above requirement. The applicant shall provide evidence of passing a state board approved content, pedagogy and performance area assessment(s) or hold current National Board for Professional Standards Teaching Certificate.~~ ( )

03. Idaho Comprehensive Literacy Assessment. All applicants for initial Idaho certification ~~(K-12)~~ from a state board-approved educator preparation program must demonstrate competency in comprehensive literacy. Areas to be included in the assessment are: phonological awareness, phonics, fluency, vocabulary, comprehension, writing, and assessments and intervention strategies. Each Idaho public higher education institution shall be responsible for the assessment of teacher candidates in its educator preparation program. The assessment must measure teaching skills and knowledge congruent with current research on best literacy practices for elementary students or secondary students (adolescent literacy) dependent upon level of certification and English Language Learners. In addition, the assessment must measure understanding and the ability to apply strategies and beliefs about language, literacy instruction, and assessments based on current research and best practices congruent with International Reading Association/National Council of Teachers of English standards, National English Language Learner's Association professional teaching standards, National Council for Accreditation of Teacher Education standards, and state accreditation standards. ( )

018. -- 020. (RESERVED)

021. Endorsements.
Holders of an Instructional Certificate or Occupational Specialist Certificate ~~may be granted endorsements in areas as provided herein~~must have one (1) or more endorsements attached to their certificate and as applicable to the type of certification. Instructional staff are eligible to teach in the grades and content areas of their endorsements. Idaho preparation programs shall prepare candidates for endorsements in accordance with the Idaho Standards for Initial Certification of Professional School Personnel. An official statement from the college of education of competency in a ~~teaching~~ content area or field is acceptable in lieu of required credits if such statements are created in consultation with the department or division of the accredited college or university in which the competency is established and are approved by the director of teacher education of the recommending college or university. Statements must include the number of credits the competency evaluation is equivalent to. To add an endorsement to an existing certificate, an individual shall complete the credit hour requirements as ~~provided herein~~established by the state board of education and ~~also~~ meet or exceed the state qualifying score on ~~appropriate,~~a state approved content, pedagogy and performance assessments. ~~When converting semester credit hours to quarter credit hours, two (2) semester credit hours is equal to three (3) quarter credit hours.~~ ( )

01. Clinical Experience Requirement. All endorsements require supervised clinical experience in the relevant content area, or a State Department of Education or Division of Career Technical Education approved alternative clinical experience as applicable to the area of endorsement. ( )

02. Alternative Authorization - Teacher to New Endorsement. This alternative authorization allows a local education agency to request additional endorsement for a candidate. This authorization is valid for one (1) year and may be renewed for two (2) additional years with evidence of satisfactory progress. The candidate shall provide evidence of pursuing one of the following options: ( )

a. Option I -- An official statement of competency in a teaching area or field from the college of education of an accredited college or university is acceptable in lieu of courses if the statement is created in consultation with the department or division in which the competency is established and is approved by the director of teacher education of the recommending college or university. ( )

~~**b.** Option II -- National Board. By earning National Board Certification in content specific areas, teachers may gain endorsement in a corresponding subject area.~~ ( )

c. Option II~~I~~ -- Master's degree or higher. By earning a graduate degree in a content specific area,

candidates may add an endorsement in that same content area to a valid instructional certificate. Successful completion of a one (1) year, state board approved mentoring program is required to maintain the endorsement after the first year. ( )

d. Option ~~IV~~III -- Content area assessment and mentoring. A candidate may add ~~A~~an endorsement~~s may be added~~ by successfully completing a state board-approved content areas assessment ~~within the first year of authorization~~ and a one-year, state board-approved mentoring program within the first year of authorization. ( )

03. National Board Certification. An applicant holding an instructional certificate and current national board certification may add an endorsement in a corresponding content-specific area.

~~**022. Instructional Certificate Endorsements A - D.**~~

~~**01. All Subjects (K-8)**. Allows one to teach in any educational setting (K-8). Twenty (20) semester credit hours, or thirty (30) quarter credit hours in the philosophical, psychological, methodological foundations, instructional technology, and professional subject matter must be in elementary education including at least six (6) semester credit hours, or nine (9) quarter credit hours, in developmental reading. This endorsement must be accompanied by at a minimum one (1) additional subject area endorsement allowing teaching of that subject through grade 9 or kindergarten through grade 12. ( )~~

~~**02. American Government /Political Science (5-9 or 6-12)**. Twenty (20) semester credit hours to include: a minimum of six (6) semester credit hours in American government, six (6) semester credit hours in U.S. history survey, and a minimum of three (3) semester credit hours in comparative government. Remaining course work must be selected from political science. Course work may include three (3) semester credit hours in world history survey. ( )~~

~~**03. Bilingual Education (K-12)**. Twenty (20) semester credit hours leading toward competency as defined by Idaho Standards for Bilingual Education Teachers to include all of the following: upper division coursework in one (1) modern language other than English, including writing and literature, and advanced proficiency according to the American Council on the Teaching of Foreign Languages guidelines; cultural diversity; ESL/bilingual methods; linguistics, second language acquisition theory and practice; foundations of ESL/bilingual education, legal foundations of ESL/bilingual education, identification and assessment of English learners, biliteracy; at least one (1) semester credit hour in bilingual clinical field experience. ( )~~

~~**04. Biological Science (5-9 or 6-12)**. Twenty (20) semester credit hours including coursework in each of the following areas: molecular and organismal biology, heredity, ecology and biological adaptation. ( )~~

~~**05. Blended Early Childhood Education/Early Childhood Special Education (Birth - Grade 3)**. The Blended Early Childhood Education/Early Childhood Special Education (Birth - Grade 3) endorsement allows one to teach in any educational setting birth through grade three (3). To be eligible, a candidate must have satisfied the following requirements a minimum of thirty (30) semester credit hours in the philosophical, psychological, and methodological foundations, in instructional technology, and in the professional subject matter of early childhood and early childhood special education. The professional subject matter shall include course work specific to the child from birth through grade three (3) in the areas of child development and learning; curriculum development and implementation; family and community relationships; assessment and evaluation; professionalism; clinical experience including a combination of general and special education in the following settings: birth to age three (3), ages three to five (3-5), and grades K-3 general education. ( )~~

~~**06. Blended Elementary Education/Elementary Special Education (Grade 4 - Grade 6)**. The Blended Elementary Education/Elementary Special Education (Grade 4 - Grade 6) endorsement allows one to teach in any grade four (4) through grade six (6) education setting, except in a middle school setting. This endorsement may only be issued in conjunction with the Blended Early Childhood Education/Early Childhood Special Education (Birth - Grade 3) endorsement. To be eligible for a Blended Elementary Education/Elementary Special Education (Grade 4 - Grade 6) endorsement, a candidate must have satisfied the following requirements: Completion of a program of a minimum of twenty (20) semester credit hours in elementary education and special education coursework to include:~~

methodology and content knowledge (mathematics, literacy, science, health, physical education art), technology, assessment, and clinical experiences in grades four (4) through six (6). ( )

07. Chemistry (5-9 or 6-12). Twenty (20) semester credit hours in the area of chemistry, to include coursework in each of the following areas: inorganic and organic chemistry. ( )

08. Communication (5-9 or 6-12). Follow one (1) of the following options: ( )

a. Option I Twenty (20) semester credit hours to include methods of teaching speech/communications plus course work in at least four (4) of the following areas: interpersonal communication/human relations; argumentation/personal persuasion; group communications; nonverbal communication; public speaking; journalism/mass communications; and drama/theater arts. ( )

b. Option II Possess an English endorsement plus at least twelve (12) semester credit hours distributed among the following: interpersonal communication/human relations, public speaking, journalism/mass communications, and methods of teaching speech/communication. ( )

09. Computer Science (5-9 or 6-12). ( )

a Twenty (20) semester credit hours of course work in computer science, including course work in the following areas: data representation and abstraction; design, development, and testing algorithms; software development process; digital devices systems network; and the role of computer science and its impact on the modern world; or ( )

b. Occupational teacher preparation pursuant to Subsections 015.04 through 015.06. ( )

10. Deaf/Hard of Hearing (Pre-K-12). Completion of a minimum of thirty-three (33) semester credit hours in the area of deaf/hard of hearing with an emphasis on instruction for students who use sign language or completion of a minimum thirty-three (33) semester credit hours in the area of deaf/hard of hearing with an emphasis on instruction for students who use listening and spoken language. Coursework to include: American Sign Language, listening and spoken language development, hearing assessment, hearing assistive technology, students with disabilities, pedagogy for teaching students who are deaf or hard of hearing, assessments, and clinical practice. ( )

023. Instructional Certificate Endorsements E - L.

01. Early Childhood Special Education (Pre-K-3). The Early Childhood Special Education (Pre-K-3) endorsement is non-categorical and allows one to teach in any Pre-K-3 special education setting. This endorsement may only be added to the Exceptional Child Generalist (K-8 or K-12) endorsement. To be eligible a candidate must have satisfied the following requirements: ( )

a. Completion of a program of a minimum of twenty (20) semester credit hours in the area of early childhood education to include course work in each of the following areas: child development and behavior with emphasis in cognitive language, physical, social and emotional areas, birth through age eight (8); curriculum and program development for young children ages three to eight (3-8); transitional services; methodology: planning, implementing and evaluating environments and materials for young children ages three to eight (3-8); guiding young children's behavior: observing, assessing and individualizing ages three to eight (3-8); identifying and working with atypical young children ages three to eight (3-8) parent-teacher relations; and clinical practice at the Pre-K - 3 grades. ( )

02. Earth and Space Science (5-9 or 6-12). Twenty (20) semester credit hours including course work in each of the following areas: earth science, astronomy, and geology. ( )

03. Economics (5-9 or 6-12). Twenty (20) semester credit hours to include a minimum of three (3) semester credit hours of micro-economics, a minimum of three (3) semester credit hours of macro-economics, and a

minimum of six (6) semester credit hours of personal finance/consumer economics/economics methods. Remaining course work may be selected from business, economics, or finance course. ( )

04. Engineering (5-9 or 6-12). Twenty (20) semester credit hours of engineering course work. ( )

05. English (5-9 or 6-12). Twenty (20) semester credit hours, including coursework in all of the following areas: grammar, American literature, British literature, multicultural/world literature, young adult literature, and literary theory. Additionally, a course in advanced composition, excluding the introductory sequence designed to meet general education requirements, and a course in secondary English language arts methods are required. ( )

06. English as a Second Language (ESL) (K-12). Twenty (20) semester credit hours leading toward competency as defined by Idaho Standards for ESL Teachers to include all of the following: a modern language other than English; cultural diversity; ESL methods; linguistics; second language acquisition theory and practice; foundations of ESL/bilingual education, legal foundations of ESL/bilingual education, identification and assessment of English learners; and at least one (1) semester credit in ESL clinical field experience. ( )

07. Exceptional Child Generalist (K-8, 6-12, or K-12). The Exceptional Child Generalist endorsement is non-categorical and allows one to teach in any special education setting, applicable to the grade range of the endorsement. Regardless of prior special education experience, all initial applicants must provide an institutional recommendation that an approved special education program has been completed, with clinical experience to include student teaching in an elementary or secondary special education setting. To be eligible, a candidate must complete thirty (30) semester credit hours in special education, or closely related areas, as part of an approved special education program. ( )

08. Geography (5-9 or 6-12). Twenty (20) semester credit hours including course work in cultural geography and physical geography, and a maximum of six (6) semester credit hours in world history survey. The remaining semester credit hours must be selected from geography. ( )

09. Geology (5-9 or 6-12). Twenty (20) semester credit hours in the area of geology. ( )

10. Gifted and Talented (K-12). Twenty (20) semester credit hours leading toward competency as defined by Idaho Standards for Teachers of Gifted and Talented Students, to include coursework in the following areas of gifted and talented education: foundations, creative and critical thinking, social and emotional needs, curriculum, instruction, assessment and identification, differentiated instruction, program design, and clinical practice. ( )

11. Health (5-9, 6-12, or K-12). Twenty (20) semester credit hours to include course work in each of the following areas: organization/administration/planning of a school health program; health, wellness, and behavior change; secondary methods of teaching health, to include field experience in a traditional classroom; mental/emotional health; nutrition; human sexuality; substance use and abuse. Remaining semester credits must be in health related course work. To obtain a Health K-12 endorsement, applicants must complete an elementary health methods course. ( )

12. History (5-9 or 6-12). Twenty (20) semester credit hours to include a minimum of six (6) semester credit hours of U.S. history survey and a minimum of six (6) semester credit hours of world history survey. Remaining course work must be in history. Course work may include three (3) semester credit hours in American government. ( )

13. Humanities (5-9 or 6-12). An endorsement in English, history, music, visual art, drama, or foreign language and twenty (20) semester credit hours in one of the following areas or ten (10) semester credit hours in each of two (2) of the following areas: literature, music, foreign language, humanities survey, history, visual art, philosophy, drama, comparative world religion, architecture, and dance. ( )

14. Journalism (5-9 or 6-12). Follow one (1) of the following options: ( )

a. Option I – Twenty (20) semester credit hours to include a minimum of fourteen (14) semester credit hours in journalism and six (6) semester credit hours in English and/or mass communication. ( )

b. Option II – Possess an English endorsement with a minimum of six (6) semester credit hours in journalism. ( )

15. Literacy (K-12). Twenty (20) semester credit hours leading toward competency as defined by Idaho Standards for Literacy Teachers to include the following areas: foundations of literacy (including reading, writing, listening, speaking, viewing, and language); development and diversity of literacy learners; literacy in the content area; literature for youth; language development; corrective/diagnostic/remedial reading; writing methods; and reading methods. To obtain a Literacy endorsement, applicants must complete the Idaho Comprehensive Literacy Course or the Idaho Comprehensive Literacy Assessment. ( )

024. Instructional Certificate Endorsements M - Z.

01. Mathematics (6-12). Twenty (20) semester credit hours including course work in each of the following areas: Euclidean and transformational geometry, linear algebra, discrete mathematics, statistical modeling and probabilistic reasoning, and the first two (2) courses in a standard calculus sequence. A minimum of two (2) of these twenty (20) credits must be focused on secondary mathematics pedagogy. Statistics course work may be taken from a department other than the mathematics department. ( )

02. Mathematics - Middle Level (5-9). Twenty (20) semester credit hours in Mathematics content course work in algebraic thinking, functional reasoning, Euclidean and transformation geometry and statistical modeling and probabilistic reasoning. A minimum of two (2) of these twenty (20) credits must be focused on secondary mathematics pedagogy. Six (6) semester credit hours of computer programming may be substituted for six (6) semester credits in mathematics content. ( )

03. Music (5-9 or 6-12 or K-12). Twenty (20) semester credit hours leading toward competency as defined by Idaho Standards for Music Teachers to include course work in the following: theory and harmony; aural skills, music history; conducting; applied music; and piano proficiency (class piano or applied piano), and secondary music methods/materials. To obtain a Music K-12 endorsement, applicants must complete an elementary music methods course. ( )

04. Natural Science (5-9 or 6-12). Follow one (1) of the following options: ( )

a. Option I – Must hold an existing endorsement in one of the following areas: biological science, chemistry, Earth science, geology, or physics; and complete a total of twenty four (24) semester credit hours as follows: ( )

i. Existing Biological Science Endorsement. Eight (8) semester credit hours in each of the following areas: physics, chemistry, and Earth science or geology. ( )

ii. Existing Physics Endorsement. Eight (8) semester credit hours in each of the following areas: biology, chemistry, and Earth science or geology. ( )

iii. Existing Chemistry Endorsement. Eight (8) semester credit hours in each of the following areas: biology, physics, and Earth science or geology. ( )

iv. Existing Earth science or Geology Endorsement. Eight (8) semester credit hours in each of the following areas: biology, physics, and chemistry. ( )

b. Option II – Must hold an existing endorsement in Agriculture Science and Technology; and complete twenty four (24) semester credit hours with at least six (6) semester credit hours in each of the following areas: biology, chemistry, Earth science or geology, and physics. ( )

05. Online Teacher (K-12). To be eligible for an Online Teacher (K-12) endorsement, a candidate must have satisfied the following requirements: ( )

a. Meets the state's professional teaching and/or licensure standards and is qualified to teach in his/her field of study. ( )

b. Provides evidence of online course time as a student and demonstrates online learning experience. ( )

c. Has completed an eight (8) week online clinical practice in a K-12 program, or has one (1) year of verifiable and successful experience as a teacher delivering curriculum online in grades K-12 within the past three (3) years. ( )

d. Provides verification of completion of a state approved program of at least twenty (20) semester credit hours of study in online teaching and learning at an accredited college or university or a state approved equivalent. ( )

e. Demonstrates proficiency in the Idaho Standards for Online Teachers. ( )

06. Physical Education (PE) (5-9 or 6-12 or K-12). Twenty (20) semester credit hours to include course work in each of the following areas: personal and teaching competence in sport, movement, physical activity, and outdoor skills; secondary PE methods; administration and curriculum to include field experiences in physical education; student evaluation in PE; safety and prevention of injuries; fitness and wellness; PE for special populations; exercise physiology; kinesiology/biomechanics; motor behavior; and current CPR and first aid certification. To obtain a PE K-12 endorsement, applicants must complete an elementary PE methods course. ( )

07. Physical Science (5-9 or 6-12). Twenty (20) semester credit hours in the area of physical science to include a minimum of eight (8) semester credit hours in each of the following: chemistry and physics. ( )

08. Physics (5-9 or 6-12). Twenty (20) semester credit hours in the area of physics. ( )

09. Psychology (5-9 or 6-12). Twenty (20) semester credit hours in the area of psychology. ( )

10. Science – Middle Level (5-9). Twenty four (24) semester credit hours in science content coursework including at least eight (8) credits in each of the following: biology, earth science, and physical science to include lab components. Science foundation standards must be met. ( )

11. Social Studies (6-12). Must have an endorsement in history, American government/political science, economics, or geography plus a minimum of twelve (12) semester credit hours in each of the remaining core endorsements areas: history, geography, economics, and American government/political science. ( )

12. Social Studies – Middle Level (5-9). Twenty (20) Semester credit hours in social studies content coursework including at least five (5) credits in each of the following: history, geography, and American government/political science or economics. Social studies foundations must be met. ( )

13. Sociology (5-9 or 6-12). Twenty (20) semester credit hours in the area of sociology. ( )

14. Sociology/Anthropology (5-9 or 6-12). Twenty (20) semester credit hours including a minimum of six (6) semester credit hours in each of the following: anthropology and sociology. ( )

~~15. **Teacher Leader**. Teacher leaders provide technical assistance to teachers and other staff in the local education agency with regard to the selection and implementation of appropriate teaching materials, instructional strategies, and procedures to improve the educational outcomes for students. Candidates who hold this endorsement facilitate the design and implementation of sustained, intensive, and job-embedded professional learning based on identified student and teacher needs.~~ ( )

~~a. Teacher Leader – Instructional Specialist – Eligibility of Endorsement. To be eligible for a Teacher Leader – Instructional Specialist endorsement on the Standard Instructional Certificate, a candidate must have satisfied the following requirements:~~ ( )

~~i. Education requirement: Hold a Standard Instructional Certificate. Content within coursework to include clinical supervision, instructional leadership, and advanced pedagogical knowledge, and have demonstrated competencies in the following areas: providing feedback on instructional episodes; engaging in reflective dialogue centered on classroom instruction, management, and/or experience; focused goal setting and facilitation of individual and collective professional growth; understanding the observation cycle; and knowledge and expertise in data management platforms.~~ ( )

~~ii. Experience: Completion of a minimum of three (3) years' full-time certificated teaching experience while under contract in an accredited school setting.~~ ( )

~~iii. Provides verification of completion of a state approved program of at least twenty (20) post baccalaureate semester credit hours of study at an accredited college or university or a state approved equivalent. Program shall include ninety (90) supervised contact hours to include a combination of face-to-face and field-based professional development activities and evidence that knowledge gained and skills acquired are aligned with Idaho Teacher Leader Standards.~~ ( )

~~b. Teacher Leader – Literacy – Eligibility for Endorsement. To be eligible for a Teacher Leader – Literacy endorsement on the Standard Instructional Certificate, a candidate must have satisfied the following requirements:~~ ( )

~~i. Education Requirements: Hold a Standard Instructional Certificate and have demonstrated content competencies in the Idaho Literacy Standards. Coursework and content domains required include foundational literacy concepts; fluency, vocabulary development, and comprehension; literacy assessment concepts; and writing process, which are all centered on the following emphases: specialized knowledge of content and instructional methods; data driven decision making to inform instruction; research-based differentiation strategies; and culturally responsive pedagogy for diverse learners.~~ ( )

~~ii. Experience: Completion of a minimum of three (3) years' full-time certificated experience while under contract in an accredited school setting.~~ ( )

~~iii. Provides verification of completion of a state-approved program of at least twenty (20) post baccalaureate semester credit hours of study at an accredited college or university or a state approved equivalent. Program shall include ninety (90) supervised contact hours to include a combination of face-to-face and field-based professional development activities and evidence that knowledge gained and skills acquired are aligned with Idaho Teacher Leader Standards. The candidate must meet or exceed the state qualifying score on appropriate state approved literacy content assessment.~~ ( )

~~c. Teacher Leader – Mathematics – Eligibility for Endorsement. To be eligible for a Teacher Leader – Mathematics endorsement on the Standard Instructional Certificate, a candidate must have satisfied the following requirements:~~ ( )

~~i. Education Requirements: Hold a Standard Instructional Certificate and have demonstrated content competencies. Coursework and content domains required include number and operation, geometry, algebraic reasoning, measurement and data analysis, and statistics and probability, which are centered on the following emphases: structural components of mathematics; modeling, justification, proof, and generalization; and specialized~~

mathematical knowledge for teaching. ( )

ii. Experience: Completion of a minimum of three (3) years' full time certificated teaching experience while under contract in an accredited school setting. ( )

iii. Provides verification of completion of a state approved program of at least twenty (20) post baccalaureate semester credit hours of study at an accredited college or university or a state approved equivalent. Program shall include ninety (90) supervised contact hours to include a combination of face to face and field based professional development activities and evidence that knowledge gained and skills acquired are aligned with Idaho Teacher Leader Standards. The candidate must meet or exceed the state qualifying score on appropriate state approved math content assessment. ( )

d. Teacher Leader – Special Education – Eligibility for Endorsement. To be eligible for a Teacher Leader – Special Education endorsement on the Standard Instructional Certificate, a candidate must have satisfied the following requirements: ( )

i. Education Requirements: Hold a Standard Instructional Certificate endorsed Generalist K-12, K-8, or 5-9 and have demonstrated content competencies in the following areas: assessment of learning behaviors; individualization of instructional programs based on educational diagnosis; behavioral and/or classroom management techniques; program implementation and supervision; use of current methods, materials, and resources available and management and operation of special education management platforms; identification and utilization of community or agency resources and support services; counseling, guidance, and management of professional staff; and special education law, including case law. ( )

ii. Experience: Completion of a minimum of three (3) years' full time certificated experience, at least two (2) years of which must be in a special education classroom setting, while under contract in an accredited school setting. ( )

iii. Provides verification of completion of a state approved program of at least twenty (20) post baccalaureate semester credit hours of study at an accredited college or university or a state approved equivalent. Program shall include ninety (90) supervised contact hours to include a combination of face to face and field based professional development activities and evidence that knowledge gained and skills acquired are aligned with Idaho Teacher Leader Standards. ( )

16. Teacher Librarian (K-12). Twenty (20) semester credit hours of coursework leading toward competency as defined by Idaho Standards for Teacher Librarians to include the following: collection development/materials selection; literature for children and/or young adults; organization of information to include cataloging and classification; school library administration/management; library information technologies; information literacy; and reference and information service. ( )

17. Theater Arts (5-9 or 6-12). Twenty (20) semester credit hours leading toward competency as defined by Idaho Standards for Theater Arts Teacher, including coursework in each of the following areas: acting and directing, and a minimum of six (6) semester credits in technical theater/stagecraft. To obtain a Theater Arts (6-12) endorsement, applicants must complete a comprehensive methods course including the pedagogy of acting, directing and technical theater. ( )

18. Visual Arts (5-9, 6-12, or K-12). Twenty (20) Semester credit hours leading toward competency as defined by Idaho Standards for Visual Arts Teachers to include a minimum of nine (9) semester credit hours in: foundation art and design. Additional course work must include secondary arts methods, 2-dimensional and 3-dimensional studio areas. To obtain a Visual Arts (K-12) endorsement, applicants must complete an elementary art methods course. ( )

19. Visual Impairment (Pre-K-12). Completion of a program of a minimum of thirty (30) semester credit hours in the area of visual impairment. An institutional recommendation specific to this endorsement is required. To be eligible for a Visually Impaired endorsement, a candidate must have satisfied the following

~~requirements: ( )~~

~~**20. World Language (5-9, 6-12 or K-12).** Twenty (20) semester credit hours to include a minimum of twelve (12) intermediate or higher credits in a specific world language. Course work must include two (2) or more of the following areas: grammar, conversation, composition, culture, or literature; and course work in foreign language methods. To obtain an endorsement in a specific foreign language (K-12), applicants must complete an elementary methods course. To obtain an endorsement in a specific foreign language, applicants must complete the following: ( )~~

~~**a.** Score an intermediate high (as defined by the American Council on the Teaching of Foreign Languages or equivalent) on an oral proficiency assessment conducted by an objective second party; and ( )~~

~~**b.** A qualifying score on a state approved specific foreign language content assessment, or if a specific foreign language content assessment is not available, a qualifying score on a state approved world languages pedagogy assessment) ( )~~

0~~25~~22. -- 027. (RESERVED)

028. Professional Endorsements.
Eligibility for the professional and advanced professional endorsement pursuant to Section 33-1201A, Idaho Code, may be established by providing additional evidence demonstrating effective teaching for the purpose of determining proficiency and student achievement in the event required standards for the professional endorsement are not met. ( )

01. Measurable Student Achievement and Student Success Indicators. Evidence of a majority of the applicable staff person's students meeting measurable student achievement targets, or student success indicator targets, may be demonstrated by the certificated staff member providing evidence that students from an accredited private or out-of-state public school have met targets set by the certificated staff member. The measurable student achievement or student success indicators must be comparable to the measurable student achievement or student success indicator targets established by the hiring school for certificated staff in similar employment areas and similar grade ranges pursuant to Section 33-1001, Idaho Code. ( )

~~**02. Performance Criteria**. Evidence of meeting the performance criteria as applicable to the professional or advanced professional endorsement pursuant to Section 33-1001, Idaho Code, may be provided through the submittal of annual evaluations showing standards aligned to the Idaho framework for teaching evaluation standards. ( )~~

03. Validity of Evidence. Evidence provided must show that the certificated staff member met each of the proficiency and student achievement requirements in each year required. ( )

04. Evaluation of Evidence. The local education agency administrator shall be responsible for evaluating the evidence provided and determining alignment with the school district or charter schools measurable student achievement and student success indicators and alignment with the Idaho framework for teaching evaluation standards. The reviewing administrator shall sign an affidavit stating the evidence meets the district and state standards for measurable student achievement and student success indicators and performance criteria. The local education agency shall report the equivalent performance criteria rating the certificated staff member received and indicate if any equivalent components were rated as unsatisfactory and the measurable student achievement or student success indicator used with verification that the majority of their students have met the measurable student achievement targets or student success indicators. Targets must be comparable to targets set for like groups of students at the hiring school. The state board of education or state department of education may request to review the evidence provided for determining proficiency and student achievement. ( )

029. -- 041. (RESERVED)

042. Alternative Authorization.

Alternative authorization allows a local education agency with an area of need to request certification for a candidate ~~when a professional position cannot be filled with someone who has the correct certification in an area of need identified by the local education agency~~. This authorization grants an interim certificate that allows individuals to serve as the ~~educator~~ teacher of record while pursuing standard certification. ~~The educator of record is defined as the person who is primarily responsible for planning instruction, delivering instruction, assessing students formatively and summatively, and designating the final grade. Alternative authorization is valid for one (1) year and may be renewed for two (2) additional years with e~~Evidence of satisfactory progress toward standard certification must be provided each year. ~~Interim certification is valid for no more than three (3) years total.~~ Individuals who ~~are~~ hold a current~~ly~~ instructional certificate~~d to teach but who are in need of an endorsement in another area~~ may obtain ~~an~~ additional endorsements through an alternative authorization – teacher to new endorsement ~~as described~~ as prescribed in Subsection 021~~.02~~ of these rules. ( )

01. Alternative Authorization -- Teacher To New Certification. This alternative authorization allows a local education agency to request additional certification for a candidate who already holds a current and valid Idaho ~~instructional~~ certificate ~~when a professional position cannot be filled with someone who has the correct certification~~ in a new certification area. ( )

a. Prior to application, ~~a~~the candidate must hold a baccalaureate degree or higher and a current and valid Idaho ~~instructional~~ certificate. The local education agency must attest to the candidate's ability to fill the position. ( )

b. ~~A~~The candidate must participate in a state board- approved educator preparation program. ( )

i. The candidate will work toward completion of a state board-approved educator preparation program. The candidate must complete a minimum of nine (9) semester credits annually to maintain eligibility for renewal; and ( )

ii. The participating educator preparation program shall provide procedures to assess and credit equivalent knowledge, dispositions, and relevant life/work experiences. ( )

02. Alternative Authorization -- Content Specialist. This alternative authorization allows a local education agency to request an instructional certificate for an individual who possesses distinct content knowledge and skills to teach in ~~an area of need identified by the local education agency~~a content area. ( )

a. Initial Qualifications. ( )

i. A candidate must hold a baccalaureate degree or have completed all of the requirements of a baccalaureate degree except the student teaching portion; and ( )

ii. Prior to entering the classroom, the local education agency shall ensure the candidate is qualified to teach in the content area ~~of identified need~~. The candidate shall meet or exceed the state qualifying score on the appropriate state board-approved content or pedagogy assessment, including demonstration of content knowledge through a combination of employment, experience, and education. ( )

b. State Board Approved Educator~~ion~~ Preparation Program. ( )

i. Prior to authorization, a consortium comprised of a state board-approved educator preparation program representative, a local education agency representative, and the candidate shall determine the preparation needed and develop a plan to meet the Idaho Standards for Initial Certification of Professional School Personnel. The educator preparation program shall provide procedures to assess and credit: equivalent knowledge, dispositions, and relevant life or ~~/~~work experiences. The plan must include a state board-approved mentoring program. While teaching under the alternative authorization, the mentor shall provide a minimum of one (1) classroom observation per month, which will include feedback and reflection. The plan must include annual progress goals that must be met for annual renewal; ( )

ii. The candidate must complete a minimum of nine (9) semester credit hours or its equivalent of accelerated study in education pedagogy prior to the end of the first year of authorization. The number of required credits will be specified in the consortium developed plan; and ( )

iii. At the time of authorization the candidate must enroll in and work toward completion of the plan. The candidate must complete a minimum of nine (9) semester credits annually to maintain eligibility for renewal. The candidate must complete the plan to receive a certificate of completion. ( )

03. Alternative Authorization - Pupil Service Staff. This alternative authorization allows a local education agency to request ~~endorsement/~~certification and endorsement for a candidate when a position requiring the Pupil Service Staff Certificate cannot be filled ~~with someone who has the school counselor or school social worker endorsement~~. ( )

a. Initial Qualifications. The applicant must complete the following: ( )

i. Prior to application, a candidate must hold a baccalaureate degree or higher; and ( )

ii. The local education agency must attest to the ability of the candidate to fill the position. ( )

b. Educator Preparation Program. ( )

i. At the time of authorization the candidate must enroll in and work toward completion of a state board approved educator preparation program through a participating college/university and the local education agency. The educator preparation program must include annual progress goals. ( )

ii. The candidate must complete a minimum of nine (9) semester credits annually to maintain eligibility for renewal. ( )

iii. The participating educator preparation program will provide procedures to assess and credit equivalent knowledge, dispositions, and relevant life/work experiences. ( )

iv. The candidate must meet all requirements for the endorsement/certificate as provided herein. ( )

04. Alternative Authorization Renewal. Annual renewal will be based on the school year and satisfactory progress toward completion of the applicable alternate authorization requirements. ( )

043. -- 059. (RESERVED)

060. Application Procedures / Professional Development.
To obtain a new, renew, or reinstate an Idaho Educator Credential, the applicant must submit an application on a form supplied by the State Department of Education or the Division of Career Technical Education as applicable to the type of certificate. All applications for new, renewed, or reinstated occupational specialist certificates must be submitted to the Division of Career Technical Education. The following requirements must be met to renew or reinstate an Idaho Educator Credential. ( )

01. State Board of Education Requirements for Professional Development. All certificated personnel must complete at least six (6) semester credit hours or equivalent professional development within the five (5) year validity period of the certificate being renewed. ( )

02. Credit. Graduate or undergraduate credit will be accepted for renewal. Credit must be transcripted and completed through a college or university accredited by an entity recognized by the state board of education.

a. At least three (3) semester credits shall be taken for postsecondary credit and verified by official or unofficial transcript. Individuals found to have intentionally altered transcripts used for verification, who would have not otherwise met this renewal requirement, will be investigated for violations of the Code of Ethics for Idaho Professional Educators. Any such violations may result in disciplinary action.

~~a~~**c.** Credits taken for ~~recertification~~ certificate renewal must be ~~educationally~~ related to the individualized professional learning plan or ~~related to~~ the professional practice of the applicant. ( )

i. Credits must be specifically tied to content areas and/or an area of any other endorsement; or ( )

ii. Credits must be specific to pedagogical best practices or for administrative/teacher leadership; or ( )

iii. Credits must be tied to a specific area of need designated by local education agency administration. ( )

iv. Credits must be taken during the validity period of the certificate. ( )

~~**b.** Graduate or undergraduate credit will be accepted for recertification. Credit must be transcripted and completed through a college or university accredited by an entity recognized by the State Board of Education. For pupil service staff, continuing education units completed and applied to the renewal of an occupational license issued by the appropriate Idaho state licensing board will be accepted for recertification. The continuing education units must be recognized by the appropriate Idaho state licensing board.~~ ( )

~~**c.** Credits and continuing education units must be taken during the validity period of the certificate.~~ ( )

d. All requests for equivalent in-service training to apply toward ~~recertification~~renewal, except occupational specialist certificates, must be ~~made through the State Department of Education upon recommendation of the board of trustees consistent with the State Department of Education guidelines~~approved by the local education agency. Individuals holding Occupational Specialist Certificates must ~~be made~~make requests through the Division of Career Technical Education. Applicants must receive ~~prior~~ approval ~~of~~ for in-service training and course work prior to applying for renewal. All in-service training must be aligned with the ~~individual's~~ applicant's individualized professional learning plan or related to professional practice. Fifteen (15) contact hours are equivalent to one (1) semester credit. ( )

e. ~~At least fifteen (15) hours of formal instruction must be given for each hour of in-service credit granted.~~ Pupil service staff certificate holders who hold a professional license through the appropriate Idaho state licensing board may use renewal of their professional license toward the renewal of their pupil service staff certificate in lieu of the requirements herein. ( )

f. Renewal~~Recertification~~ credits may not be carried over from one (1) ~~recertification~~ renewal period to the next. ( )

03. Professional Development Plans. Local education agencies will have professional development plans.

~~**g.** An appeals process, developed by the State Department of Education in conjunction with the Professional Standards Commission or the Division of Career Technical Education, as applicable to the certificate type, shall be available to applicants whose credits submitted for recertification, in part or as a whole, are rejected for any reason if such denial prevents an applicant from renewing an Idaho certificate. An applicant whose credits submitted for recertification are rejected, in part or as a whole, within six (6) months of the expiration of the applicant's current certification shall be granted an automatic appeal and a temporary certification extension during the appeal or for one (1) year, whichever is greater.~~ ( )

~~02. State Board of Education Professional Development Requirements. ( )~~

~~a. Local education agencies will have professional development plans. ( )~~

~~b. All certificated personnel will be required to complete at least six (6) semester credits or the equivalent within the five (5) year period of validity of the certificate being renewed. ( )~~

~~c. At least three (3) semester credits will be taken for university or college credit. Verification may be by official or unofficial transcript. Individuals found to have intentionally altered transcripts used for verification, who would have not otherwise met this renewal requirement, will be investigated for violations of the Code of Ethics for Idaho Professional Educators. Any such violations may result in disciplinary action. ( )~~

~~d. Pupil Service Staff Certificate holders who hold a professional license through the appropriate Idaho state licensing board may use continuing education units applied toward the renewal of their professional license toward the renewal of the Pupil Service Staff Certificate. Fifteen (15) contact hours are equivalent to one (1) semester credit. ( )~~

061. -- 075. (RESERVED)

076. Code Of Ethics For Idaho Professional Educators (Sections 33-1208 And 33-1209, Idaho Code).
Believing in the worth and dignity of each human being, the professional educator recognizes the supreme importance of pursuing truth, striving toward excellence, nurturing democratic citizenship and safeguarding the freedom to learn and to teach while guaranteeing equal educational opportunity for all. The professional educator accepts the responsibility to practice the profession according to the highest ethical principles. The Code of Ethics for Idaho Professional Educators symbolizes the commitment of all Idaho educators and provides principles by which to judge conduct. ( )

01. Aspirations and Commitments. ( )

a. The professional educator aspires to stimulate the spirit of inquiry in students and to provide opportunities in the school setting that will help them acquire viable knowledge, skills, and understanding that will meet their needs now and in the future. ( )

b. The professional educator provides an environment that is safe to the cognitive, physical and psychological well-being of students and provides opportunities for each student to move toward the realization of his goals and potential as an effective citizen. ( )

c. The professional educator, recognizing that students need role models, will act, speak and teach in such a manner as to exemplify nondiscriminatory behavior and encourage respect for other cultures and beliefs. ( )

d. The professional educator is committed to the public good and will help preserve and promote the principles of democracy. He will provide input to the local school board to assist in the board's mission of developing and implementing sound educational policy, while promoting a climate in which the exercise of professional judgment is encouraged. ( )

e. The professional educator believes the quality of services rendered by the education profession directly influences the nation and its citizens. He strives, therefore, to establish and maintain the highest set of professional principles of behavior, to improve educational practice, and to achieve conditions that attract highly qualified persons to the profession. ( )

f. The professional educator regards the employment agreement as a pledge to be executed in a manner consistent with the highest ideals of professional service. He believes that sound professional personal relationships with colleagues, governing boards, and community members are built upon integrity, dignity, and mutual respect. The

professional educator encourages the practice of the profession only by qualified persons. ( )

02. Principle I - Professional Conduct. A professional educator abides by all federal, state, and local education laws and statutes. Unethical conduct shall include the conviction of any felony or misdemeanor offense set forth in Section 33-1208, Idaho Code. ( )

03. Principle II - Educator/Student Relationship. A professional educator maintains a professional relationship with all students, both inside and outside the physical and virtual classroom. Unethical conduct includes, but is not limited to: ( )

a. Committing any act of child abuse, including physical or emotional abuse; ( )

b. Committing any act of cruelty to children or any act of child endangerment; ( )

c. Committing or soliciting any sexual act from any minor or any student regardless of age; ( )

d. Committing any act of harassment as defined by local education agency policy; ( )

e. Soliciting, encouraging, or consummating a romantic relationship (whether written, verbal, virtual, or physical) with a student, regardless of age; ( )

f. Soliciting or encouraging any form of personal relationship with a student that a reasonable educator would view as undermining the professional boundaries necessary to sustain an effective educator-student relationship; ( )

g. Using inappropriate language including, but not limited to, swearing and improper sexual comments (e.g., sexual innuendos or sexual idiomatic phrases); ( )

h. Taking or possessing images (digital, photographic, or video) of students of a harassing, confidential, or sexual nature; ( )

i. Inappropriate contact with any minor or any student regardless of age using electronic or social media; ( )

j. Furnishing alcohol or illegal or unauthorized drugs to any student or allowing or encouraging a student to consume alcohol or unauthorized drugs except in a medical emergency; ( )

k. Conduct that is detrimental to the health or welfare of students; and ( )

l. Deliberately falsifying information presented to students. ( )

04. Principle III - Alcohol and Drugs Use or Possession. A professional educator refrains from the abuse of alcohol or drugs during the course of professional practice. Unethical conduct includes, but is not limited to: ( )

a. Being on school premises or at any school-sponsored activity, home or away, involving students while possessing, using, or consuming illegal or unauthorized drugs; ( )

b. Being on school premises or at any school-sponsored activity, home or away, involving students while possessing, using, or consuming alcohol; ( )

c. Inappropriate or illegal use of prescription medications on school premises or at any school-sponsored events, home or away; ( )

d. Inappropriate or illegal use of drugs or alcohol that impairs the individual's ability to function; and ( )

e. Possession of an illegal drug as defined in Chapter 27, Idaho Code, Uniform Controlled Substances. ( )

05. Principle IV - Professional Integrity. A professional educator exemplifies honesty and integrity in the course of professional practice. Unethical conduct includes, but is not limited to: ( )

a. Fraudulently altering or preparing materials for licensure or employment; ( )

b. Falsifying or deliberately misrepresenting professional qualifications, degrees, academic awards, and related employment history when applying for employment or licensure; ( )

c. Failure to notify the state at the time of application for licensure of past revocations or suspensions of a certificate or license from another state; ( )

d. Failure to notify the state at the time of application for licensure of past criminal convictions of any crime violating the statutes or rules governing teacher certification; ( )

e. Falsifying, deliberately misrepresenting, or deliberately omitting information regarding the evaluation of students or personnel, including improper administration of any standardized tests (changing test answers; copying or teaching identified test items; unauthorized reading of the test to students, etc.); ( )

f. Falsifying, deliberately misrepresenting, or deliberately omitting reasons for absences or leaves; ( )

g. Falsifying, deliberately misrepresenting, or deliberately omitting information submitted in the course of an official inquiry or investigation; ( )

h. Falsifying, deliberately misrepresenting, or deliberately omitting material information on an official evaluation of colleagues; and ( )

i. Failure to notify the state of any criminal conviction of a crime violating the statutes and/or rules governing teacher certification. ( )

06. Principle V - Funds and Property. A professional educator entrusted with public funds and property honors that trust with a high level of honesty, accuracy, and responsibility. Unethical conduct includes, but is not limited to: ( )

a. Misuse, or unauthorized use, of public or school-related funds or property; ( )

b. Failure to account for school funds collected from students, parents, patrons, or other donors from all sources, including online donation platforms; ( )

c. Submission of fraudulent requests for reimbursement of expenses or for pay; ( )

d. Co-mingling of public or school-related funds in personal bank account(s); ( )

e. Use of school property for private financial gain; ( )

f. Use of school computers to deliberately view or print pornography; and, ( )

g. Deliberate use of poor budgeting or accounting practices. ( )

07. Principle VI - Compensation. A professional educator maintains integrity with students, colleagues, parents, patrons, or business personnel when accepting gifts, gratuities, favors, and additional compensation. Unethical conduct includes, but is not limited to: ( )

a. Unauthorized solicitation of students or parents of students to purchase equipment, supplies, or services from the educator who will directly benefit; ( )

b. Acceptance of gifts from vendors or potential vendors for personal use or gain where there may be the appearance of a conflict of interest; ( )

c. Tutoring students assigned to the educator for remuneration unless approved by the local board of education; and, ( )

d. Soliciting, accepting, or receiving a financial benefit greater than fifty dollars ($50) as defined in Section 18-1359(b), Idaho Code. ( )

e. Keeping for oneself donations, whether money or items, that were solicited or accepted for the benefit of a student, class, classroom, or school. ( )

08. Principle VII - Confidentiality. A professional educator complies with state and federal laws and local school board policies relating to the confidentiality of student and employee records, unless disclosure is required or permitted by law. Unethical conduct includes, but is not limited to: ( )

a. Sharing of confidential information concerning student academic and disciplinary records, personal confidences, health and medical information, family status or income, and assessment or testing results with inappropriate individuals or entities; and ( )

b. Sharing of confidential information about colleagues obtained through employment practices with inappropriate individuals or entities. ( )

09. Principle VIII - Breach of Contract or Abandonment of Employment. A professional educator fulfills all terms and obligations detailed in the contract with the local board of education or education agency for the duration of the contract. Unethical conduct includes, but is not limited to: ( )

a. Abandoning any contract for professional services without the prior written release from the contract by the employing local education agency; ( )

b. Willfully refusing to perform the services required by a contract; and, ( )

c. Abandonment of classroom or failure to provide appropriate supervision of students at school or school-sponsored activities to ensure the safety and well-being of students. ( )

10. Principle IX - Duty to Report. A professional educator reports breaches of the Code of Ethics for Idaho Professional Educators and submits reports as required by Idaho Code. Unethical conduct includes, but is not limited to: ( )

a. Failure to comply with Section 33-1208A, Idaho Code, (reporting requirements and immunity); ( )

b. Failure to comply with Section 16-1605, Idaho Code, (reporting of child abuse, abandonment or neglect); ( )

c. Failure to comply with Section 33-512B, Idaho Code, (suicidal tendencies and duty to warn); and ( )

d. Having knowledge of a violation of the Code of Ethics for Idaho Professional Educators and failing to report the violation to an appropriate education official. ( )

11. Principle X - Professionalism. A professional educator ensures just and equitable treatment for all members of the profession in the exercise of academic freedom, professional rights and responsibilities while following generally recognized professional principles. Unethical conduct includes, but is not limited to: ( )

a. Any conduct that seriously impairs the Certificate holder's ability to teach or perform his professional duties; ( )

b. Committing any act of harassment toward a colleague; ( )

c. Failure to cooperate with the Professional Standards Commission in inquiries, investigations, or hearings; ( )

d. Using institutional privileges for the promotion of political candidates or for political activities, except for local, state or national education association elections; ( )

e. Willfully interfering with the free participation of colleagues in professional associations; and ( )

f. Taking, possessing, or sharing images (digital, photographic, or video) of colleagues of a harassing, confidential, or sexual nature. ( )

077. Definitions For Use With The Code Of Ethics For Idaho Professional Educators (Sections 33-1208 And 33-1209, Idaho Code).

01. Administrative Complaint. A document outlining the specific, purported violations of Section 33-1208, Idaho Code, or the Code of Ethics for Idaho Professional Educators. ( )

02. Allegation. A purported violation of the Code of Ethics for Idaho Professional Educators or Idaho Code. ( )

03. Certificate Denial. The refusal of the state to grant a certificate. ( )

04. Certificate Suspension. A time-certain invalidation of any Idaho certificate. ( )

05. Conditioned Certificate. Stated Certificate conditions as determined by the Professional Standards Commission (Section 33-1209(02), Idaho Code). ( )

06. Educator. A person who held, holds, or applies for an Idaho Certificate (Section 33-1201, Idaho Code). ( )

07. Education Official. An individual identified by local school board policy, including, but not limited to, a superintendent, principal, assistant principal, or school resource officer (SRO). ( )

08. Executive Committee. A decision-making body comprised of members of the Professional Standards Commission, including the chair and/or vice-chair of the Commission. A prime duty of the Committee is to review alleged violations of the Code of Ethics for Idaho Professional Educators to determine probable cause and recommend possible disciplinary action. ( )

09. Hearing. A formal review proceeding that ensures the respondent due process. The request for a hearing is initiated by the respondent and is conducted by a panel of peers. ( )

10. Hearing Panel. A minimum of three (3) educators appointed by the chair of the Professional Standards Commission and charged with the responsibility to make a final determination regarding the charges specifically defined in the Administrative Complaint. ( )

11. Investigation. The process of gathering factual information concerning a valid, written complaint in preparation for review by the Professional Standards Commission Executive Committee, or following review by the Executive Committee at the request of the deputy attorney general assigned to the Professional Standards Commission. ( )

12. No Probable Cause. A determination by the Executive Committee that there is not sufficient evidence to take action against an educator's certificate. ( )

13. Principles. Guiding behaviors that reflect what is expected of professional educators in the state of Idaho while performing duties as educators in both the private and public sectors. ( )

14. Probable Cause. A determination by the Executive Committee that sufficient evidence exists to issue an administrative complaint. ( )

15. Reprimand. A written letter admonishing the Certificate holder for their conduct. ( )

16. Respondent. The legal term for the professional educator who is under investigation for a purported violation of the Code of Ethics for Idaho Professional Educators. ( )

17. Revocation. The invalidation of any Certificate held by the educator. ( )

18. Stipulated Agreement. A written agreement between the respondent and the Professional Standards Commission to resolve matters arising from an allegation of unethical conduct following a complaint or an investigation. The stipulated agreement is binding to both parties and is enforceable under its own terms. ( )

078. -- 099. (RESERVED)

100. Official Vehicle For Approving Educator Preparation Programs.
~~Section 33-114, Idaho Code~~

01. The Official Vehicle for the Approval of Traditional Educator Preparation Programs. ~~The official vehicle for the approval of t~~Traditional educator preparation programs will be~~is the Council for the Accreditation of Educator Preparation (CAEP)~~ accredited by an accrediting body that approves educator preparation programs and is recognized by the state board of education~~standards~~ and meets the approved Idaho Standards for the Initial Certification of Professional School Personnel. ~~The Idaho Standards are based upon the accepted national standards for educator preparation and include state specific, core teaching requirements. The State Department of Education will transmit to the head of each Idaho college or Department of Education a copy of all revisions to the Idaho Standards for the Initial Certification of Professional School Personnel. Such revisions will take effect and must be implemented within a period not to exceed two (2) years after notification of such revision.~~ The Idaho Standards for the Initial Certification of Professional School Personnel will be posted on the state board of education and state department of education websites. All standards will include an implementation date. ( )

02. Non-Traditional Educator Preparation Program. ~~The State Board of Education must approve all non-traditional route to teacher certification programs. The programs must include, at a minimum, the following components:~~To be considered for approval each non-traditional educator preparation program must include the following components: ( )

~~**a.** Pre-assessment of teaching and content knowledge; ( )~~

~~**b.** An academic advisor with knowledge of the prescribed instruction area;~~ ( )

c. ~~Exams~~ Assessment of pedagogy and content knowledge; and ( )

d. ~~Be aligned~~ Alignment to the Idaho Standards for the Initial Certification of Professional School Personnel.

( )

03. Reference Availability. The Idaho Standards for the Initial Certification of Professional School Personnel, ~~incorporated by reference in Subsection 004.01,~~ are available for inspection on the Office of the State Board of Education's website at www.boardofed.idaho.gov. ( )

04. Continuing Approval. Approved educator preparation programs will be reviewed for continued approval on a timeline and in a format established by the state board of education. Program reviews will take into consideration the instructional methodology used by the approved program. ( )

~~**a.** The state of Idaho will follow the Council for Accreditation of Educator Preparation (CAEP) standards model by which institutions shall pursue continuing approval through a full program review every seven (7) years. The full program review shall be based upon the Idaho Standards for Initial Certification of Professional School Personnel.~~ ( )

~~**b.** The state of Idaho will additionally conduct focused reviews of state specific, core teaching requirements in the interim, not to exceed every third year following the full program review.~~ ( )

~~**c.** All approved non-traditional educator preparation programs will be reviewed for continued approval on the same schedule as traditional educator preparation programs. Reviews will include determination of continued alignment with the approved Idaho Standards for the Initial Certification of Professional School Personnel and effectiveness of program completers.~~ ( )

05. Payment Responsibilities for Educator Preparation Program Reviews. The Professional Standards Commission is responsible for Idaho educator preparation program reviews, including assigning responsibility for paying for program reviews. To implement the reviews, it is necessary that: ( )

a. The Professional Standards Commission pay for all state review team expenses for on-site teacher preparation reviews from its budget. ( )

b. Requesting institutions pay for all other expenses related to on-site educator preparation program reviews, including ~~the~~ all standards review. ( )

101. -- 109. (RESERVED)

110. Personnel Standards.
The State Board of Education supports the efforts made by the Idaho Legislature to lower class size. Significant progress has been made in grades one through three (1-3). The State Board of Education believes that class sizes in grades four through six (4-6) are too high. Districts are encouraged to lower all class sizes as funds become available. Each district will develop personnel policies and procedures to implement the educational program of the district. The policies and procedures will address representation in each of the following personnel areas, as appropriate to student enrollment and the needs of each attendance area. Districts should strive to achieve ratios consistent with state class size ratio goals.

TEACHERS	STATE GOALS
Kindergarten	20

Grades 1, 2, 3	20
Grades 4, 5, 6	26
Middle School/Jr. High	160 teacher load
High School	160 teacher load
Alternative School (7-12)	18 average daily class load

INSTRUCTIONAL PERSONNEL

Schools are encouraged to explore technological options that provide for credible alternative delivery systems. Present and emerging information transmission technology may provide for greater teacher/pupil class size ratios.

PUPIL PERSONNEL	
(Certificated School Counselors, Social Workers, Psychologists)	400:1 * student/district average
Secondary Media Generalist and Assistants	500:1 * student/district average
Elementary Media Generalist or Assistants	500:1 * student/district average
Building Administrative Personnel	Not to exceed 500:1 * district average

* The stated pupil to personnel ratio is the goal; each school district will assign personnel as appropriate to student enrollment and the needs of each attendance area.

Classroom Assistants - State Goal: will be provided where the student/teacher ratio is deemed excessive by the district or where other student special needs exist (e.g., limited English proficiency or special education).

Classified Personnel - State Goal: will be employed in each building to support the needs of the staff, students, and community. ( )

111. Bullying, Harassment And Intimidation Prevention And Response.

01. Dissemination of Information. School districts and charter schools shall make reasonable efforts to ensure that information on harassment, intimidation and bullying of students is disseminated annually to all school personnel, parents and students. ( )

02. Professional Development. The content of ongoing professional development for school staff related to bullying, harassment and intimidation shall include: ( )

a. School philosophy regarding school climate and student behavior expectations; ( )

b. Definitions of bullying, harassment, and intimidation; ( )

c. School prevention strategies or programs including the identification of materials to be distributed annually to students and parents; ( )

d. Expectations of staff intervention for bullying, harassment, and intimidation; ( )

e. School process for responding to bullying, harassment, and intimidation including the reporting process for students and staff, investigation protocol, the involvement of law enforcement, related student support services and parental involvement; and ( )

f. Other topics as determined appropriate by the school district or charter school. ( )

03. Graduated Consequences. Graduated consequences for a student who commits acts of bullying, harassment, and intimidation shall include a series of measures proportional to the act(s) committed and appropriate to the severity of the violation as determined by the school board of trustees, school administrators, or designated personnel depending upon the level of discipline. Graduated consequences should be in accordance with the nature of the behavior, the developmental age of the student, and the student's history of problem behaviors and performance. ( )

a. Graduated consequences may include, but are not limited to: ( )

i. Meeting with the school counselor; ( )

ii. Meeting with the school principal and student's parents or guardian; ( )

iii. Detention, suspension or special programs; and ( )

iv. Expulsion. ( )

b. The graduated consequences are not intended to prevent or prohibit the referral of a student who commits acts of harassment, intimidation or bullying to available outside counseling services or to law enforcement, or both, pursuant to Section 18-917A, Idaho Code. ( )

c. Students with disabilities may be afforded additional protections under the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act; school districts and charter schools shall comply with applicable state and federal law when disciplining students with individualized education programs (IEPs) or 504 plans for committing acts of bullying, harassment, and intimidation. ( )

04. Intervention. School district and charter school employees are authorized and expected to intervene or facilitate intervention on behalf of students facing harassment, intimidation, and bullying. Intervention shall be reasonably calculated to: ( )

a. Correct the problem behavior; ( )

b. Prevent another occurrence of the problem; ( )

c. Protect and provide support for the victim of the act; and ( )

d. Take corrective action for documented systemic problems related to harassment, intimidation, or bullying. ( )

05. Reporting. Annual reporting will occur at the end of the school year through an aggregate report identifying the total number of bullying incidents by school districts and charter schools, grade level, gender, and repeat offenders. The State Department of Education shall provide school districts and charter schools with the guidelines and forms for reporting. ( )

112. Suicide Prevention In Schools.
As schools offer annual professional development for school staff related to preventing, intervening, and responding to suicide, the content shall include: ( )

01. Prevention. School philosophy regarding school climate and the promotion of protective factors; data on suicide for the region or state, or both; risk and protective factors for students; suicide myths and facts; and how to develop community partnerships. ( )

02. Intervention. How to utilize safe and appropriate language and messaging when addressing students; warning signs of suicide ideation for students; local and school-based protocols for aiding a suicidal individual; local protocols for seeking help for self and students; identification of appropriate mental health services and community resources for referring students and their families; information about state statutes on responsibility, liability, and duty to warn; confidentiality issues; and the need to ask others directly if they are suicidal. ( )

03. Postvention. Evidence-based protocol for responding to a student/staff suicide. ( )

113. -- 119. (RESERVED)

120. Local District Evaluation Policy -- Instructional Staff And Pupil Service Staff Certificate Holders. Each school district board of trustees will develop and adopt policies for certified staff performance evaluation using multiple measures in which criteria and procedures for the evaluation of certificated personnel are research based. For pupil service staff, those standards shall be aligned with the profession's national standards. For instructional staff, those standards shall be aligned to the state evaluation framework, Charlotte Danielson Framework for Teaching Second Edition, domains and components specified in Subsection 120.01 of this rule, and must be determined based on professional practice. For all certification personnel, domain or component ratings, or both, may be weighted based on the individual's individualized professional learning plan. If weighting the summative evaluation toward only two or three of the domains, the evaluation must indicate how this aligns with the individualized professional learning plan. The summative evaluation rating must be based on a combination of professional practice and student achievement as specified in Subsections 120.02 and 120.03. The process of developing criteria and procedures for certificated personnel evaluation will allow opportunities for input from those affected by the evaluation; i.e., trustees, administrators, teachers, and parents. The evaluation policy will be a matter of public record and communicated to the certificated personnel for whom it is written. ( )

01. Standards. Each district evaluation model shall be aligned to state evaluation framework minimum standards that are based on Charlotte Danielson's Framework for Teaching Second Edition domains and components of instruction. Those domains and components include: ( )

a. Domain 1 - Planning and Preparation: ( )

i. Demonstrating Knowledge of Content and Pedagogy; ( )

ii. Demonstrating Knowledge of Students; ( )

iii. Setting Instructional Outcomes; ( )

iv. Demonstrating Knowledge of Resources; ( )

v. Designing Coherent Instruction; and ( )

vi. Designing Student Assessments. ( )

b. Domain 2 - The Classroom Environment: ( )

i. Creating an Environment of Respect and Rapport; ( )

ii. Establishing a Culture for Learning; ( )

iii. Managing Classroom Procedures; ( )

iv. Managing Student Behavior; and ( )

v. Organizing Physical Space. ( )

c. Domain 3 - Instruction and Use of Assessment: ( )

i. Communicating with Students; ( )

ii. Using Questioning and Discussion Techniques; ( )

iii. Engaging Students in Learning; ( )

iv. Using Assessment in Instruction; and ( )

v. Demonstrating Flexibility and Responsiveness. ( )

d. Domain 4 - Professional Responsibilities: ( )

i. Reflecting on Teaching; ( )

ii. Maintaining Accurate Records; ( )

iii. Communicating with Families; ( )

iv. Participating in a Professional Community; ( )

v. Growing and Developing Professionally; and ( )

vi. Showing Professionalism. ( )

02. Professional Practice. All certificated instructional employees must receive an evaluation in which at least a majority of the evaluation ratings must be based on Professional Practice. All measures included within the Professional Practice portion of the evaluation must be aligned to the ~~Charlotte Danielson Framework for Teaching Second Edition~~state evaluation framework domains and components. Professional Practice shall include a minimum of two (2) documented observations annually, with at least one (1) observation being completed by January 1 of each year. In situations where certificated personnel are unavailable for two (2) documented classroom observations, due to situations such as long-term illness, late year hire, etc., one (1) documented classroom observation is acceptable. At least one (1) documented summative evaluation must include a rating for all components within each domain or indicate how the evaluation is weighted toward specific domains and aligned to the individualized professional learning plan of the applicable professional standards used for evaluation of certified personnel. In addition to the domains and components of the state evaluation framework, ~~D~~district evaluation models shall also include at least one (1) of the following as a measure to inform the Professional Practice portion of each certificated instructional employee evaluations: ( )

a. Parent/guardian input; ( )

b. Student input; and/or ( )

c. Portfolios. ( )

03. Student Achievement. Instructional staff summative evaluation ratings must in part be based on measurable student achievement, as defined in Section 33-1001, Idaho Code, as applicable to the subjects and grade ranges taught by the instructional staff. All other certificated staff evaluations must include measurable student achievement or student success indicators, as defined in Section 33-1001, Idaho Code, as applicable to the position. This portion of the evaluation may be calculated using current and/or the immediate past year's data and may use one

(1) year or both years' data. Growth in student achievement may be considered as an optional measure for all other school based and district based staff, as determined by the local board of trustees. ( )

04. Participants. Each district evaluation policy will include provisions for evaluating all certificated employees identified in Section 33-1001, Idaho Code. Evaluations shall be differentiated for certificated non-instructional employees and Pupil Service Staff Certificate holders in a way that aligns with the ~~Charlotte Danielson Framework for Teaching Second Edition~~ state evaluation framework to the extent possible and aligned to the pupil service staff's applicable national standards. Policies for evaluating certificated employees should identify the differences, if any, in the conduct of evaluations for nonrenewable contract personnel and renewable contract personnel. ( )

05. Evaluation Policy – Content. Local school district policies will include, at a minimum, the following information: ( )

a. Evaluation criteria -- statements of the criteria upon which certificated personnel will be evaluated and rated. ( )

b. Evaluator -- identification of the individuals responsible for observing or evaluating certificated instructional staff and pupil service staff performance. The individuals assigned this responsibility shall have received training in conducting evaluations based on the statewide framework for evaluations within the immediate previous five (5) years of conducting any evaluations. ( )

c. Communication of results -- the method by which certificated personnel are informed of the results of evaluation. ( )

d. Personnel actions -- the action available to the school district as a result of the evaluation and the procedures for implementing these actions; e.g., job status change. Note: in the event the action taken as a result of evaluation is to not renew an individual's contract or to renew an individual's contract at a reduced rate, school districts should take proper steps to follow the procedures outlined in Sections 33-513 through 33-515, Idaho Code in order to assure the due process rights of all personnel. ( )

e. Appeal -- the procedure available to the individual for appeal or rebuttal when disagreement exists regarding the results of certificated personnel evaluations. ( )

f. Individualizing teacher evaluation rating system -- a plan for how evaluations will be used to identify proficiency and record growth over time and be used to develop individualized professional learning plans. Districts shall have an individualized teacher evaluation rating system with a minimum of three (3) ratings used to differentiate performance of teachers and Pupil Service Staff Certificate holders including: ( )

i. Unsatisfactory being equal to "1"; ( )

ii. Basic being equal to "2"; and ( )

iii. Proficient being equal to "3". ( )

iv. A fourth evaluation rating of Distinguished, being equal to "4," may be used in addition to the three (3) minimum ratings at the discretion of the school district or charter school. ( )

g. A plan for including all stakeholders including, but not limited to, teachers, board members, administrators, and parents in the development and ongoing review of their teacher evaluation plan. ( )

06. Evaluation Policy – Frequency of Evaluation. The evaluation policy shall include a provision for evaluating all certificated personnel on a fair and consistent basis. ( )

07. Evaluation Policy - Personnel Records. Permanent records of each certificated personnel

evaluation will be maintained in the employee's personnel file. All evaluation records will be kept confidential within the parameters identified in federal and state regulations regarding the right to privacy (Section 33-518, Idaho Code). Local school districts shall report the ratings of individual certificated personnel evaluations to the State Department of Education annually for State and Federal reporting purposes. The State Department of Education shall ensure that the privacy of all certificated personnel is protected by not releasing statistical data of evaluation ratings in local school districts with fewer than five (5) teachers and by only reporting that information in the aggregate by local school district. ( )

08. Evaluation System Approval. Each school district board of trustees will develop and adopt policies for teacher and Pupil Service Staff certificated performance evaluation in which criteria and procedures for the evaluation are research based and aligned with the ~~Charlotte Danielson Framework for Teaching Second Edition~~state evaluation framework and national standards for pupil service staff as applicable. By July 1, 2014, an evaluation plan which incorporates all of the above elements shall be submitted to the State Department of Education for approval. Once approved, subsequent changes made in the evaluation system shall be resubmitted for approval. ( )

121. Local District Evaluation Policy – School Administrator.
All school and school district administrators must receive an annual evaluation. Individuals serving in the role of superintendent or its equivalent shall be evaluated by the local board of trustees. Individuals serving in the capacity of a school district superintendent shall be evaluated based on the school district evaluation policy for superintendents. For principal and other school level administrator evaluations, each school district board of trustees will develop and adopt policies for performance evaluation using multiple measures in which criteria and procedures for the evaluation of administratively certificated personnel serving as school principal or other school level administrators are research based and aligned to the standards and requirements outlined in Subsections 121.01 through 121.07 of this rule. For Special Education Directors, standards aligned with the profession's national standards may replace those outlined in Subsection 121.01. The process of developing criteria and procedures for administrator evaluations will allow opportunities for input from those affected by the evaluation; i.e., trustees, administrators, teachers and parents. The evaluation policy will be a matter of public record and communicated to the principal for whom it is written. ( )

01. Standards. Each district principal and school level administrator evaluation model shall be aligned to state minimum standards based on the Interstate School Leaders Licensure Consortium (ISLLC) standards and include proof of proficiency in conducting teacher evaluations using the state's framework for evaluations, the ~~Charlotte Danielson Framework for Teaching Second Edition~~state evaluation framework. Proof of training in evaluating teacher performance shall be required of all individuals assigned the responsibility for observing or evaluating certificated personnel performance. Principal evaluation standards shall additionally address the following domains and components:

( )

a. Domain 1: School Climate - An educational leader promotes the success of all students by advocating, nurturing and sustaining a school culture and instructional program conducive to student learning and staff professional development. An educational leader articulates and promotes high expectations for teaching and learning while responding to diverse community interest and needs. ( )

i. School Culture - Principal establishes a safe, collaborative, and supportive culture ensuring all students are successfully prepared to meet the requirements for tomorrow's careers and life endeavors. ( )

ii. Communication - Principal is proactive in communicating the vision and goals of the school or district, the plans for the future, and the successes and challenges to all stakeholders. ( )

iii. Advocacy - Principal advocates for education, the district and school, teachers, parents, and students that engenders school support and involvement. ( )

b. Domain 2: Collaborative Leadership - An educational leader promotes the success of all students by ensuring management of the organization, operations and resources for a safe, efficient and effective learning environment. In collaboration with others, uses appropriate data to establish rigorous, concrete goals in the context of student achievement and instructional programs. The educational leader uses research and/or best practices in

improving the education program. ( )

i. Shared Leadership - Principal fosters shared leadership that takes advantage of individual expertise, strengths, and talents, and cultivates professional growth. ( )

ii. Priority Management - Principal organizes time and delegates responsibilities to balance administrative/managerial, educational, and community leadership priorities. ( )

iii. Transparency - Principal seeks input from stakeholders and takes all perspectives into consideration when making decisions. ( )

iv. Leadership Renewal - Principal strives to continuously improve leadership skills through, professional development, self-reflection, and utilization of input from others. ( )

v. Accountability - Principal establishes high standards for professional, legal, ethical, and fiscal accountability for self and others. ( )

c. Domain 3: Instructional Leadership - An educational leader promotes the success of all students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community. The educational leader provides leadership for major initiatives and change efforts and uses research and/or best practices in improving the education program. ( )

i. Innovation - Principal seeks and implements innovative and effective solutions that comply with general and special education law. ( )

ii. Instructional Vision - Principal insures that instruction is guided by a shared, research-based instructional vision that articulates what students do to effectively learn. ( )

iii. High Expectations - Principal sets high expectation for all students academically, behaviorally, and in all aspects of student well-being. ( )

iv. Continuous Improvement of Instruction - Principal has proof of proficiency in assessing teacher performance based upon the ~~Charlotte Danielson Framework for Teaching Second Edition~~state evaluation framework. Aligns resources, policies, and procedures toward continuous improvement of instructional practice guided by the instructional vision. ( )

v. Evaluation - Principal uses teacher/principal evaluation and other formative feedback mechanisms to continuously improve teacher/principal effectiveness. ( )

vi. Recruitment and Retention -Principal recruits and maintains a high quality staff. ( )

02. Professional Practice. All principals must receive an evaluation in which a majority of the summative evaluation results are based on Professional Practice. All measures included within the Professional Practice portion of the evaluation must be aligned to the Domains and Components listed in Subsection 121.01.a. through 121.01.c. of this rule. As a measure to inform the Professional Practice portion of each evaluation, district evaluation models shall also include at least one (1) of the following: ( )

a. Parent/guardian input; ( )

b. Teacher input; ( )

c. Student input; and/or ( )

d. Portfolios. ( )

03. Student Achievement. All administrators must receive an evaluation in which part of the summative evaluation results are based in part on objective measures of growth in measurable student achievement, as defined in Section 33-1001, Idaho Code. This portion of the evaluation may be calculated using current and/or the immediate past year's data and may use one (1) or both years data. Growth in student achievement may be considered as an optional measure for all other school based and district based administrators, as determined by the local board of trustees. ( )

04. Evaluation Policy - Content. For evaluations conducted on or after July 1, 2014, local school district policies will include, at a minimum, the following information: ( )

a. Evaluation criteria -- statements of the criteria upon which administrators will be evaluated. ( )

b. Evaluator -- identification of the individuals responsible for observing or evaluating school level administrator performance. The individuals assigned this responsibility shall have received training in administrator evaluations based on the statewide framework for evaluations. ( )

c. Communication of results -- the method by which principals are informed of the results of evaluation. ( )

d. Personnel actions -- the action, available to the school district as a result of the evaluation, and the procedures for implementing these actions; e.g., job status change. ( )

e. Appeal -- the procedure available to the individual for appeal or rebuttal when disagreement exists regarding the results of an evaluations. ( )

f. Individualizing principal evaluation rating system -- a plan for how evaluations will be used to identify proficiency and record growth over time. Districts shall have an individualized principal evaluation rating system with a minimum of three ratings used to differentiate performance of principals including: ( )

i. Unsatisfactory being equal to "1"; ( )

ii. Basic being equal to "2"; and ( )

iii. Proficient being equal to "3". ( )

iv. A fourth evaluation rating of Distinguished, being equal to "4," may be used in addition to the three (3) minimum ratings at the discretion of the school district or charter school. ( )

g. A plan for including stakeholders including, but not limited to, teachers, board members, administrators, and parents in the development and ongoing review of their principal evaluation plan. ( )

05. Evaluation Policy - Frequency of Evaluation. The evaluation policy should include a provision for evaluating all administrators on a fair and consistent basis. All administrators shall be evaluated at least once annually no later than June 1 of each year. ( )

06. Evaluation Policy - Personnel Records. Permanent records of each principal evaluation will be maintained in the employee's personnel file. All evaluation records will be kept confidential within the parameters identified in federal and state regulations regarding the right to privacy (Section 33-518, Idaho Code). Local school districts shall report the ratings of individual certificated personnel evaluations to the State Department of Education annually for State and Federal reporting purposes. The State Department of Education shall ensure that the privacy of all certificated personnel is protected by not releasing statistical data of evaluation ratings in local school districts in accordance with the approved policies of the Idaho State Board of Education Data Management Council. ( )

07. Evaluation System Approval. Each school district board of trustees will develop and adopt policies

for principal performance evaluation in which criteria and procedures for the evaluation are research based and aligned with state standards. By July 1, 2014, an evaluation plan which incorporates all of the above elements shall be submitted to the State Department of Education for approval. Once approved, subsequent changes made in the evaluation system shall be resubmitted for approval. ( )

122. -- 129. (RESERVED)

130. School Facilities.

Each school facility consists of the site, buildings, equipment, services, and is a critical factor in carrying out educational programs. The focus of concern in each school facility is the provision of a variety of instructional activities and programs, with the health and safety of all persons essential. ( )

01. Buildings. All school buildings, including portable or temporary buildings, will be designed and built in conformance with the current edition of the codes specified in the Idaho Building Code Act, Section 39-4109, Idaho Code, including, the National Electrical Code, Uniform Plumbing Code, and Idaho General Safety and Health Standards. All school buildings, including portable or temporary buildings, will meet other more stringent requirements established in applicable local building codes. ( )

02. Inspection of Buildings. All school buildings, including portable or temporary buildings, will be inspected as provided in Section 39-4130, Idaho Code, for compliance with applicable codes. Following this inspection, the school district will, within twenty (20) days, (1) correct any deficiencies specified in the inspection report or (2), if the corrective action involves structural modification, file a written plan with the inspecting agency for correction by the beginning of the following school year. ( )

131. -- 139. (RESERVED)

140. Accreditation.

01. Requirement. ~~All public secondary schools, serving any grade(s) 9-12, will be accredited pursuant to Section 33-119, Idaho Code.~~ Accreditation is voluntary for elementary schools, grades K-8, and alternative schools not identified in Subsection 140.02.a. through 140.012.e. of this rule. ( )

02. Alternative Schools. An alternative school serving any grade(s) 9-12 that meets any three (3) of the criteria in Subsections 140.02.a. through 140.02.e. of this rule, shall be required to be accredited. An alternative school that does not meet three (3) of the following criteria in Subsections 140.02.a. through 140.02.e. is considered as an alternative program by the district board of trustees and shall be included in the accreditation process and reporting of another secondary school within the district for the purposes of meeting the intent of this rule. ( )

a. School has an Average Daily Attendance greater than or equal to 36 students based on previous year's enrollment; ( )

b. School enrolls any students full-time for the school year once eligibility determination is made as opposed to schools that enroll students for "make-up" or short periods of time; ( )

c. School offers an instructional model that is different than that provided by the traditional high school within the district for a majority of the coursework, including but not limited to online/virtual curriculum; ( )

d. School administers diplomas that come from that alternative school as opposed to students receiving a diploma from the traditional high school within the school district; or ( )

e. School receives its own accountability rating for federal reporting purposes. ( )

03. Standards. Schools will meet the accreditation standards of ~~the Northwest Accreditation Commission, a division of AdvanceED.~~an accrediting body recognized by the state board of education. ( )

04. Residential Schools. In addition to the academic standards, residential schools must meet the applicable health and safety standards established pursuant to Section 39-1210, Idaho Code, to be considered fully accredited by the State Board of Education. ( )

05. Reporting. An annual accreditation report will be submitted to the State Board of Education identifying each accredited school and school district in the state and the status of their accreditation. ( )

141. -- 149. (RESERVED)

150. Transportation.
Minimum School Bus Construction Standards. All new school bus chassis and bodies must meet or exceed Standards for Idaho School Buses and Operations as incorporated in Section 004 of these rules and as authorized in Section 33-1511, Idaho Code. ( )

151. -- 159. (RESERVED)

160. Maintenance Standards And Inspections.

01. Safety. School buses will be maintained in a safe operating condition at all times. Certain equipment or parts of a school bus that are critical to its safe operation must be maintained at prescribed standards. When routine maintenance checks reveal any unsafe condition identified in the Standards for Idaho School Buses and Operations as incorporated in Section 004 of these rules the school district will eliminate the deficiency before returning the vehicle to service. ( )

02. Annual Inspection. After completion of the annual school bus inspection, and if the school bus is approved for operation, an annual inspection sticker, indicating the year and month of inspection, will be placed in the lower, right-hand corner of the right side front windshield. The date indicated on the inspection sticker shall correlate to State Department of Education's annual school bus inspection certification report signed by pupil transportation maintenance personnel and countersigned by the district superintendent. (Section 33-1506, Idaho Code) ( )

03. Sixty-Day Inspections. At intervals of not more than sixty (60) calendar days, excluding documented out-of-use periods in excess of thirty (30) days, the board of trustees shall cause inspection to be made of each school bus operating under the authority of the board. Except that, no bus with a documented out-of-use period in excess of sixty (60) days shall be returned to service without first completing a documented sixty (60) day inspection. Annual inspections are considered dual purpose and also meet the sixty (60) day inspection requirement. (Section 33-1506, Idaho Code) ( )

04. Documentation of Inspection. All inspections will be documented in writing. Annual inspections must be documented in writing on the form provided by the State Department of Education. ( )

05. Unsafe Vehicle. When a bus has been removed from service during a State Department of Education inspection due to an unsafe condition, the district will notify the State Department of Education on the appropriate form before the bus can be returned to service. When a bus has been found to have deficiencies that are not life-threatening, it will be repaired within thirty (30) days and the State Department of Education notified on the appropriate form. If the deficiencies cannot be repaired within thirty (30) days, the bus must be removed from service until the deficiencies have been corrected or an extension granted. ( )

06. Withdraw from Service Authority. Subsequent to any federal, national, or state advisory with good cause given therefor, the district shall, under the direction of the State Department of Education, withdraw from service any bus determined to be deficient in any prescribed school bus construction standard intended to safeguard life or minimize injury. No bus withdrawn from service under the provisions of this section shall be returned to service or used to transport students unless the district submits to the State Department of Education a certification of compliance specific to the school bus construction standard in question. (Section 33-1506, Idaho

Code) ( )

161. -- 169. (RESERVED)

170. School Bus Drivers And Vehicle Operation.
All school districts and school bus drivers must meet or exceed the training, performance and operation requirements delineated in the Standards for Idaho School Buses and Operations as incorporated in Section 004 of these rules. ( )

171. -- 179. (RESERVED)

180. Written Policy.
The board of trustees will establish and adopt a set of written policies governing the pupil transportation system. Each school district that provides activity bus transportation for pupils shall have comprehensive policies and guidelines regarding activity transportation. ( )

181. -- 189. (RESERVED)

190. Program Operations.
School district fiscal reporting requirements as well as reimbursable and non-reimbursable costs within the Pupil Transportation Support Program, including but not limited to administration, field and activity trips, safety busing, contracting for transportation services, leasing of district-owned buses, insurance, ineligible and non-public school students, ineligible vehicles, capital investments including the purchasing of school buses and equipment, program support and district waiver procedures shall be delineated in Standards for Idaho School Buses and Operations incorporated in Section 004 of these rules. Approved school activities shall include structured college/university visits when such visits are part of the school district college and career advising and mentoring plan. ( )

191. -- 219. (RESERVED)

220. Release Time Program For Elementary And Secondary Schools.
In the view of the State Board of Education, public elementary and secondary school programs that permit the practice of releasing students from school for the purpose of attending classes in religious education or for other purposes should observe certain practices that are in keeping with the present state of the law. These practices are designed to ensure that the public school operation is not adversely affected and that public funds and property are not used for sectarian religious instruction in a way which violates the United States Constitution, the Idaho State Constitution, or state law. These practices should include the following: ( )

01. Scheduling. The local school board will have reasonable discretion over the scheduling and timing of the release program. Release time programs may not interfere with the scheduling of classes, activities and programs of the public schools. ( )

02. Voluntary Decision. The decision of a school district to permit release time programs for kindergarten through grade eight (K-8), as well as the decision of individual students to participate, must be purely voluntary. ( )

03. Time Limit. Release time will be scheduled upon the application of a parent or guardian of a student in grades nine through twelve (9-12), not to exceed five (5) periods per week or one hundred sixty-five (165) hours during any one (1) academic school year. ( )

04. Location. Release time programs will be conducted away from public school buildings and public school property. ( )

05. Request by Parent. No student will be permitted to leave the school grounds during the school day to attend release time programs except upon written request from a parent or guardian filed with the school principal. Such written request by the parent will become a part of the student's permanent record. ( )

06. Record Maintenance. The public school will not be responsible for maintaining attendance records for a student who, upon written request of a parent or guardian, is given permission to leave the school grounds to attend a release time program. The school district will maintain a record of each student's daily schedule that indicates when a student is released for classes in religious education or for other purposes. ( )

07. Liability. The school district is responsible for ensuring that no public school property, public funds or other public resources are used in any way to operate these programs. The school district is not liable for any injury, act or event occurring while the student participates in such programs. ( )

08. Course Credit. No credit will be awarded by the school or district for satisfactory completion by a student of a course or courses in release time for religious instruction. Credit may be granted for other purposes, at the discretion of the local school board. ( )

09. Separation From Public Schools. Public schools will not include schedules of classes for release time programs in school catalogs, registration forms or any other regularly printed public school material. Registration for release time programs must occur off school premises, and must be done on forms and supplies furnished by the group or institution offering the program. Teachers of release time programs are not to be considered members of any public school faculty and should not be asked to participate as faculty members in any school functions or to assume responsibilities for operation of any part of the public school program. ( )

10. Transportation Liability. Public schools and school districts will not be liable or responsible for the health, safety and welfare of students while they are being transported to and from or participating in release time programs. ( )

221. -- 229. (RESERVED)

230. Driver Education.

Public Schools. Pursuant to Section 004 of these rules, all public driver education courses offered in Idaho public schools must be conducted in compliance with all the requirements in the Operating Procedures for Idaho Public Driver Education Programs, as incorporated. ( )

231. -- 239. (RESERVED)

240. Juvenile Detention Centers.

01. Instructional Program. Every public school district in the state within which is located a public or private detention facility housing juvenile offenders pursuant to court order will provide an instructional program. The instructional program will: ( )

a. Provide course work that meets the minimum requirements of Idaho State Board of Education Rules. ( )

b. Provide instruction in core subject areas. ( )

c. Include the following components, where appropriate: self-concept improvement, social adjustment, physical fitness/personal health, vocational/occupational, adult living skills, and counseling. ( )

d. Provide instruction and guidance that may lead to a high school diploma. School districts will accept such instruction for purposes of issuing credit when the detention center certifies to the school that the appropriate work is completed. ( )

e. Be directed by an instructor who holds an appropriate, valid certificate. ( )

f. Be provided to each student not later than two (2) school days after admission and continue until the student is released from the detention center. ( )

g. Be provided to students who have attained "school age" as defined in Idaho Code 33-201. ( )

h. Be provided for a minimum of four (4) hours during each school day. ( )

i. Be based on the needs and abilities of each student. The resident school district will provide pertinent status information as requested by the Juvenile Detention Center. ( )

j. Be coordinated with the instructional program at the school the student attends, where appropriate. ( )

k. Be provided in a facility that is adequate for instruction and study. ( )

02. State Funding of Instructional Programs at Juvenile Detention Centers. ( )

a. Every student housed in a juvenile detention center pursuant to court order and participating in an instructional program provided by a public school district will be counted as an exceptional child by the district for purposes of state reimbursement. ( )

b. Public school districts that educate pupils placed by Idaho court order in juvenile detention centers will be eligible for an allowance equivalent to the previous year's certified local annual tuition rate per pupil. The district allowance will be in addition to support unit funding and included in the district apportionment payment. ( )

c. To qualify for state funding of instructional programs at Juvenile Detention Centers, school districts must apply for such funding on forms provided by the State Department of Education. Applications are subject to the review and approval of the State Superintendent of Public Instruction. School districts will submit attendance and enrollment reports as required by the State Superintendent of Public Instruction. Juvenile Detention Centers will submit reports to the local school district as required. ( )

241. -- 999. (Reserved)

ATTACHMENT 1

08.02.03 – Rules Governing Thoroughness

000. Legal Authority.
All rules in this Thoroughness chapter (IDAPA 08.02.03) are promulgated pursuant to the authority of the State Board of Education under Article IX, Section 2 of the Idaho Constitution and under sections 33-116, 33-118, and 33-1612, Idaho Code. Specific statutory references for particular rules are also noted as additional authority where appropriate. (7-1-21)T

001. Scope.
These rules shall govern the thorough education of all public school students in Idaho. (7-1-21)T

002. -- 003. (RESERVED)

004. Incorporation By Reference.
The following documents are incorporated into this rule: (7-1-21)T

01. The Idaho Content Standards. The Idaho Content Standards as adopted by the State Board of Education. Individual subject content standards are adopted in various years in relation to the curricular materials adoption schedule. Copies of the document can be found on the State Board of Education website at https://boardofed.idaho.gov. (7-1-21)T

a. Arts and Humanities Categories: (7-1-21)T

i. Dance, as revised and adopted on August 11, 2016; (7-1-21)T

ii. Interdisciplinary Humanities, as revised and adopted on August 11, 2016; (7-1-21)T

iii. Media Arts, as adopted on August 11, 2016. (7-1-21)T

iv. Music, as revised and adopted on August 11, 2016; (7-1-21)T

v. Theater, as revised and adopted on August 11, 2016; (7-1-21)T

vi. Visual Arts, as revised and adopted on August 11, 2016; (7-1-21)T

vii. World languages, as revised and adopted on August 11, 2016. (7-1-21)T

b. Computer Science, adopted on November 28, 2016. (7-1-21)T

c. Driver Education, as revised and adopted on August 10, 2017. (7-1-21)T

d. English Language Arts/Literacy, as revised and adopted on November 28, 2016. (7-1-21)T

e. Health, as revised and adopted on August 11, 2016. (7-1-21)T

f. Information and Communication Technology, as revised and adopted on August 10, 2017. (7-1-21)T

g. Limited English Proficiency, as revised and adopted on August 21, 2008. (7-1-21)T

h. Mathematics, as revised and adopted on August 11, 2016. (7-1-21)T

i. Physical Education, as revised and adopted on August 11, 2016. (7-1-21)T

j. Science, as revised and adopted on August 10, 2017. (7-1-21)T

k. Social Studies, as revised and adopted on November 28, 2016. (7-1-21)T

l. College and Career Readiness Competencies adopted on June 15, 2017. (7-1-21)T

02. The English Language Development (ELD) Standards. The WIDA 2020 English Language Development (ELD) Standards statements as adopted by the State Board of Education on August 26, 2021. Copies of the document can be found at https://wida.wisc.edu. ( )

03. The Idaho English Language Proficiency Assessment (ELPA) Achievement Standards. The Idaho English Language Proficiency Assessment (ELPA) Achievement Standards as adopted by the State Board of Education on October 18, 2017. Copies of the document can be found on the State Board of Education website at https://boardofed.idaho.gov. (7-1-21)T

04. The Idaho Standards Achievement Tests (ISAT) Achievement Level Descriptors. Achievement Level Descriptors as adopted by the State Board of Education on April 14, 2016. Copies of the document can be found on the State Board of Education website at https://boardofed.idaho.gov. (7-1-21)T

05. The Idaho Content Standards Core Content Connectors. The Idaho Content Standards Core Content Connectors as adopted by the State Board of Education. Copies of the document can be found at the State Board of Education website at https://boardofed.idaho.gov. (7-1-21)T

a. English Language Arts, as adopted by the State Board of Education on August 10, 2017. (7-1-21)T

b. Mathematics, as adopted by the State Board of Education on August 10, 2017. (7-1-21)T

c. Science, as adopted by the State Board of Education on June 19, 2019. (7-1-21)T

06. The Idaho Alternate Assessment Achievement Standards. Alternate Assessment Achievement Standards as adopted by the State Board of Education on October 18, 2017. Copies of the document can be found on the State Board of Education website at https://boardofed.idaho.gov. (7-1-21)T

07. The Idaho Standards for Infants, Toddlers, Children, and Youth Who Are Deaf or Hard of Hearing. As adopted by the State Board of Education on October 11, 2007. Copies of the document can be found on the State Board of Education website at https://boardofed.idaho.gov. (7-1-21)T

08. The Idaho Standards for Infants, Toddlers, Children, and Youth Who Are Blind or Visually Impaired. As adopted by the State Board of Education on October 11, 2007. Copies of the document can be found on the State Board of Education website at https://boardofed.idaho.gov. (7-1-21)T

09. The Idaho Special Education Manual. The Idaho Special Education Manual as adopted by the State Board of Education on October 17, 2018. Copies of the document can be found on the State Board of Education website at https://boardofed.idaho.gov. (7-1-21)T

005. -- 006. (RESERVED)

007. Definitions A - G.

01. Achievement Standards. Define "below basic," "basic," "proficient," and "advanced" achievement levels on the Idaho Standards Achievement Tests (ISAT) and level one (1) through level six (6) on Idaho's English language assessment by setting scale score cut points. These cut scores are paired with descriptions of how well students are mastering the material in the content standards. These descriptions are called performance level descriptors or PLDs, and are provided by performance level, by content area, and by grade.

(7-1-21)T

02. Advanced Opportunities. Placement courses, Dual Credit courses, Technical Competency Credit, or International Baccalaureate programs. (7-1-21)T

03. Advanced Placement® (AP) - College Board. The Advanced Placement Program is administered by the College Board at http://www.collegeboard.com. AP students may take one (1) or more college level courses in a variety of subjects. AP courses are not tied to a specific college curriculum, but rather follow national College Board curricula. While taking the AP exam is optional, students can earn college credit by scoring well on the national exams. It is up to the discretion of the receiving college to accept the scores from the AP exams to award college credit or advanced standing. (7-1-21)T

04. All Students. All public school students, grades K-12. (7-1-21)T

05. Assessment. The process of quantifying, describing, or gathering information about skills, knowledge or performance. (7-1-21)T

06. Assessment Standards. Statements setting forth guidelines for evaluating student work, as in the "Standards for the Assessment of Reading and Writing." (7-1-21)T

07. Career Technical Education. Formal preparation for semi-skilled, skilled, technical, or paraprofessional occupations, usually below the baccalaureate level. (7-1-21)T

08. College and Career Readiness. College and career readiness is the attainment and demonstration of state board adopted competencies that broadly prepare high school graduates for a successful transition into some form of postsecondary education and/or the workplace. (7-1-21)T

09. Content Standards. Describe the knowledge, concepts, and skills that students are expected to acquire at each grade level in each content area. (7-1-21)T

10. Criteria. Guidelines, rules or principles by which student responses, products, or performances, are judged. What is valued and expected in the student performance, when written down and used in assessment, become rubrics or scoring guides. (7-1-21)T

11. Diploma. A document awarded to a student by a secondary school to show the student has successfully completed the state and local education agency graduation requirements. Diplomas may be awarded to individuals who attended a secondary school prior to the year in which the student is requesting issuance of a diploma based on the graduation requirements in existence at the time the student attended. Determination of meeting past graduation requirements may be determined based on proficiency as determined by the local education agency. Each local education agency may determine the format of the diploma, including the recognition of emphasis areas based on a student's completion of courses or courses or studies in an emphasis area or educational pathways, including but not limited to science, technology, engineering and math (STEM), career technical education, or arts and music. (7-1-21)T

12. Dual Credit. Dual credit allows high school students to simultaneously earn credit toward a high school diploma and a postsecondary degree or certificate. Postsecondary institutions work closely with high schools to deliver college courses that are identical to those offered on the college campus. Credits earned in a dual credit class become part of the student's permanent college record. Students may enroll in dual credit programs taught at the high school or on the college campus. (7-1-21)T

008. Definitions H - S.

01. Idaho Standards Achievement Tests. Statewide assessments aligned to the state content standards and used to measure a student's knowledge of the applicable content standards. (7-1-21)T

02. International Baccalaureate (IB) - Administered by the International Baccalaureate Organization, the IB program provides a comprehensive liberal arts course of study for students in their junior and senior years of high school. IB students take end-of-course exams that may qualify for college credit. Successful completion of the full course of study leads to an IB diploma. (7-1-21)T

03. Laboratory. A laboratory course is defined as one in which at least one (1) class period each week is devoted to providing students with the opportunity to manipulate equipment, materials, specimens or develop skills in observation and analysis and discover, demonstrate, illustrate or test scientific principles or concepts. (7-1-21)T

04. Learning Plan. The plan that outlines a student's program of study, which should include a rigorous academic core and a related sequence of electives in academic, career technical education (CTE), or humanities aligned with the student's post-graduation goals. (7-1-21)T

05. Portfolio. A collection of materials that documents and demonstrates a student's academic and work-based learning. Although there is no standard format for a portfolio, it typically includes many forms of information that exhibit the student's knowledge, skills, and interests. By building a portfolio, students can recognize their own growth and learn to take increased responsibility for their education. Teachers, mentors, and employers can use portfolios for assessment purposes and to record educational outcomes. (7-1-21)T

06. Project Based Learning. A hands-on approach to learning that encourages students to create/interpret/communicate an original work or project and assesses quality and success of learning through performance/presentation/production of that work or project. (7-1-21)T

07. Proficiency. Having or demonstrating a high degree of knowledge or skill in a particular area. (7-1-21)T

08. Standards. Statements about what is valued in a given field, such as English language arts, and/or descriptions of what is considered quality work. See content standards, assessment standards, and achievement standards. (7-1-21)T

009. Definitions T - Z.

01. Technical Competency Credit. Technical competency credit is a sequenced program of study that allows secondary students to document proficiency in the skills and abilities they develop in approved high school career technical programs to be evaluated for postsecondary transcription at a later date. Technical Competency Credits are awarded for skills and competencies identified as eligible through an agreement with at least one Idaho postsecondary institution. Eligible skills and competencies are included as part of a high school career technical program and approved by the postsecondary institution through the agreement in advance to student participation. Credits are granted by the postsecondary institution for which the agreement is with and are transcripted at the time the student enrolls at the postsecondary institution. (7-1-21)T

02. Technology Education. A curriculum for elementary, middle, and senior high schools that integrates learning about technology (e.g., transportation, materials, communication, manufacturing, power and energy, and biotechnology) with problem-solving projects that require students to work in teams. Many technology education classrooms and laboratories are well equipped with computers, basic hand tools, simple robots, electronic devises, and other resources found in most communities today. (7-1-21)T

04. Unique Student Identifier. A number issued and assigned by the State Department of Education to each student currently enrolled or who will be enrolled in an Idaho local education agency to obtain data. (7-1-21)T

010. – 101. (RESERVED)

102. Instructional Requirements.

01. Instruction and Programs. All schools will deliver a core of instruction and advisement programs (see Section 108, Guidance Programs) for each student in elementary schools, middle schools/junior high and high schools. (7-1-21)T

02. Standards. All students will meet standards established locally (at a minimum, the standards of the state) through rigorous accountability, which includes challenging examinations, demonstrations of achievement, and other appropriate tests and measures. (7-1-21)T

103. Instruction Grades 1-12.

01. Instruction. Instruction is inclusive of subject matter, content and course offerings. Patterns of instructional organization are a local school district option. Schools will assure students meet locally developed standards with the state standards as a minimum.* (*This includes special instruction that allows limited English proficient students to participate successfully in all aspects of the school's curriculum and keep up with other students in the regular education program. It also includes special learning opportunities for accelerated, learning disabled students and students with other disabilities.) (7-1-21)T

02. Instructional Courses. At appropriate grade levels, instruction will include but not be limited to the following: (7-1-21)T

a. Language Arts and Communication will include instruction in reading, writing, English, literature, technological applications, spelling, speech and listening, and, in elementary schools, cursive writing. (7-1-21)T

b. Mathematics will include instruction in addition, subtraction, multiplication, division, percentages, mathematical reasoning and probability. (7-1-21)T

c. Science will include instruction in applied sciences, earth and space sciences, physical sciences, and life sciences. (7-1-21)T

d. Social Studies will include instruction in history, government, geography, economics, current world affairs, citizenship, and sociology. (7-1-21)T

104. Other Required Instruction.
Other required instruction for all students and other required offerings of the school are: (7-1-21)T

01. Elementary Schools. (7-1-21)T

a. The following section outlines other information required for all elementary students, as well as other required offerings of the school:

Fine Arts (art and music)
Health (wellness)
Physical Education (fitness) (7-1-21)T

b. Additional instructional options as determined by the local school district. For example:

Languages other than English
Career Awareness (7-1-21)T

02. Middle Schools/Junior High Schools. (7-1-21)T

a. No later than the end of Grade eight (8) each student shall develop parent-approved student learning plans for their high school and post-high school options. The learning plan shall be developed by students with the

assistance of parents or guardians, and with advice and recommendation from school personnel. It shall be reviewed annually and may be revised at any time. The purpose of a parent-approved student learning plan is to outline a course of study and learning activities for students to become contributing members of society. A student learning plan describes, at a minimum, the list of courses and learning activities in which the student will engage while working toward meeting the state and school district's or LEA's graduation standards in preparation for postsecondary goals. The school district or LEA will have met its obligation for parental involvement if it makes a good faith effort to notify the parent or guardian of the responsibility for the development and approval of the learning plan. A learning plan will not be required if the parent or guardian requests, in writing, that no learning plan be developed. (7-1-21)T

b. A student must have met the grade eight (8) mathematics standards before the student will be permitted to enter grade nine (9). (7-1-21)T

c. Other required instruction for all middle school students:

Career exploration
Health (wellness)
Physical Education (fitness) ( )

d. Other required offerings of the school:

Family and Consumer Science
Fine and Performing Arts
Career Technical Education
Advisory Period (middle school only, encouraged in junior high school) (7-1-21)T

03. High Schools. (7-1-21)T

a. High schools must offer a wide variety of courses to satisfy state and local graduation requirements. High schools are required to provide instructional offerings in Physical Education (fitness) and Career Technical Education and the instruction necessary to assure students are college and career ready at the time of graduation. (7-1-21)T

b. High schools will annually review and update with the student the parent-approved student learning plans outlined in Subsection 104.02.a. (7-1-21)T

105. High School Graduation Requirements.
A student must meet all of the requirements identified in this section before the student will be eligible to graduate from an Idaho high school. The local school district or LEA may establish graduation requirements beyond the state minimum. (7-1-21)T

01. Credit Requirements. The State minimum graduation requirement for all Idaho public high schools is forty-six (46) credits and must include twenty-nine (29) credits in core subjects as identified in Paragraphs 105.01.c. through 105.01.i. (7-1-21)T

a. Credits. (Effective for all students who enter the ninth grade in the fall of 2010 or later.) One (1) credit shall equal sixty (60) hours of total instruction. School districts or LEA's may request a waiver from this provision by submitting a letter to the State Department of Education for approval, signed by the superintendent and chair of the board of trustees of the district or LEA. The waiver request shall provide information and documentation that substantiates the school district or LEA's reason for not requiring sixty (60) hours of total instruction per credit. (7-1-21)T

b. Mastery. Notwithstanding the credit definition of Subsection 105.01.a., a student may also achieve credits by demonstrating mastery of a subject's content standards as defined and approved by the local school district or LEA. (7-1-21)T

c. Secondary Language Arts and Communication. Nine (9) credits are required. Eight (8) credits of instruction in Language Arts. Each year of Language Arts shall consist of language study, composition, and literature and be aligned to the Idaho Content Standards for the appropriate grade level. One (1) credit of instruction in communications consisting of oral communication and technological applications that includes a course in speech, a course in debate, or a sequence of instructional activities that meet the Idaho Speech Content Standards requirements. (7-1-21)T

d. Mathematics. Six (6) credits are required. Secondary mathematics includes Integrated Mathematics, Applied Mathematics, Business Mathematics, Algebra, Geometry, Trigonometry, Fundamentals of Calculus, Probability and Statistics, Discrete Mathematics, and courses in mathematical problem solving and quantitative reasoning. Dual credit engineering and computer science courses aligned to the state standards for grades nine (9) through (12), including AP Computer Science and dual credit computer Science courses may also be counted as a mathematics credit. Students who choose to take computer science and dual credit engineering courses may not concurrently count such courses as both a mathematics and science credit for the same course. ( )

i. Students must complete secondary mathematics in the following areas: (7-1-21)T

(1) Two (2) credits of Algebra I, Algebra I level equivalent Integrated Mathematics or courses that meet the High School Algebra Content Standards; (7-1-21)T

(2) Two (2) credits of Geometry, Geometry level equivalent Integrated Mathematics, or courses that meet the Idaho High School Geometry Content Standards; and (7-1-21)T

(3) Two (2) credits of mathematics of the student's choice. (7-1-21)T

ii. Two (2) credits of the required six (6) credits of mathematics must be taken in the last year of high school in which the student intends to graduate. For the purposes of this subsection, the last year of high school shall include the summer preceding the fall start of classes. Students who return to school during the summer or the following fall of the next year for less than a full schedule of courses due to failing to pass a course other than mathematics are not required to retake a mathematics course as long as they have earned six (6) credits of high school level mathematics. (7-1-21)T

iii. Students who have completed six (6) or more high school credits of mathematics prior to the fall of their last year of high school, including at least two (2) semesters of an Advanced Placement or dual credit calculus or higher level course, are exempt from taking mathematics during their last year of high school. High School mathematics credits completed in middle school shall count for the purposes of this section. (7-1-21)T

iv. Students who earn eight (8) or more high school credits of mathematics that include Algebra II or higher level of mathematics class before the student's senior year are not required to take mathematics during their last year of high school. High school mathematics credits earned in middle school shall count for the purposes of this section. (7-1-21)T

e. Science. Six (6) credits are required two (2)of which will be laboratory based. Secondary sciences include instruction in applied sciences, earth and space sciences, physical sciences, life sciences and computer science. ( )

ii. Secondary sciences include instruction in the following areas: biology, computer science, physical science or chemistry, and earth, space, environment, or approved applied science. ( )

f. Social Studies. Five (5) credits are required, including government (two (2) credits), United States history (two (2) credits), and economics (one (1) credit). Courses such as geography, sociology, psychology, and world

history may be offered as electives, but are not to be counted as a social studies requirement. (7-1-21)T

g. Humanities. Two (2) credits are required. Humanities courses include instruction in visual arts, music, theatre, dance, or world language aligned to the Idaho content standards for those subjects. Other courses such as literature, history, philosophy, architecture, or comparative world religions may satisfy the humanities standards if the course is aligned to the Interdisciplinary Humanities Content Standards. (7-1-21)T

h. Health/Wellness. One (1) credit is required. Course must be aligned to the Idaho Health Content Standards. Effective for all public school students who enter grade nine (9) in Fall 2015 or later, each student shall receive a minimum of one (1) class period on psychomotor cardiopulmonary resuscitation (CPR) training as outlined in the American Heart Association (AHA) Guidelines for CPR to include the proper utilization of an automatic external defibrillator (AED) as part of the Health/Wellness course. (7-1-21)T

i. Students participating in one (1) season in any sport recognized by the Idaho High School Activities Association or club sport recognized by the local school district, or eighteen (18) weeks of a sport recognized by the local school district may choose to substitute participation up to one (1) credit of physical education. Students must show mastery of the Physical Education Content Standards in a format provided by the school district. (7-1-21)T

02. Content Standards. Each student shall meet locally established subject area standards (using state content standards as minimum requirements) demonstrated through various measures of accountability including examinations or other measures. (7-1-21)T

04. Senior Project. The senior project is a culminating project to show a student's ability to analyze, synthesize, and evaluate information and communicate that knowledge and understanding. A student must complete a senior project by the end of grade twelve (12). Senior projects may be multi-year projects, group or individual projects, or approved pre-internship or school to work internship programs, at the discretion of the school district or charter school. The project must include elements of research, development of a thesis using experiential learning or integrated project based learning experiences and presentation of the project outcome. Additional requirements for a senior project are at the discretion of the local school district or LEA. Completion of a postsecondary certificate or degree at the time of high school graduation or an approved pre-internship or internship program may be used to meet this requirement. (7-1-21)T

05. Civics and Government Proficiency. Pursuant to Section 33-1602, Idaho Code, each LEA may establish an alternate path for determining if a student has met the state civics and government content standards. Alternate paths are open to all students in grades seven (7) through twelve (12.) Any student who has been determined proficient in the state civics and government content standards either through the completion of the civics test or an alternate path shall have it noted on the student's high school transcript. (7-1-21)T

06. Middle School. A student will have met the high school content and credit area requirement for any high school course if the requirements outlined in Subsections 105.06.a. through 105.06.c. of this rule are met. (7-1-21)T

a. The student completes such course with a grade of C or higher before entering grade nine (9); (7-1-21)T

b. The course meets the same content standards that are required in high school for the same course; and (7-1-21)T

c. The course is taught by a teacher properly certified to teach high school content and who meets the federal definition of highly qualified for the course being taught. (7-1-21)T

d. The student shall be given a grade for the successful completion of that course and such grade and

the number of credit hours assigned to the course shall be transferred to the student's high school transcript. Notwithstanding this requirement, the student's parent or guardian shall be notified in advance when credits are going to be transcribed and may elect to not have the credits and grade transferred to the student's high school transcript. Courses taken in middle school appearing in the student's high school transcript, pursuant to this subsection, shall count for the purpose of high school graduation. However, the student must complete the required number of credits in all high school core subjects as identified in Subsections 105.01.c. through 105.01.h. except as provided in 105.01.d.iii. The transcribing high school is required to verify the course meets the requirements specified in Subsections 105.06.a. through 105.06.b. of this rule. (7-1-21)T

07. Special Education Students. A student who is eligible for special education services under the Individuals With Disabilities Education Improvement Act must, with the assistance of the student's Individualized Education Program (IEP) team, refer to the current Idaho Special Education Manual for guidance in addressing graduation requirements. (7-1-21)T

08. Foreign Exchange Students. A foreign exchange student may be eligible for graduation by completing a comparable program as approved by the school district or LEA. (7-1-21)T

106. Advanced Opportunities.

01. Advanced Opportunities Requirement. All high schools in Idaho shall be required to provide Advanced Opportunities, as defined in Section 007, or provide opportunities for students to take courses at the postsecondary campus. (7-1-21)T

02. Advanced Opportunities Early Graduation Scholarship Funding (Effective July 1, 2016). (7-1-21)T

a. Scholarship Calculation. (7-1-21)T

i. The statewide average daily attendance-driven funding per enrolled pupil shall be calculated by adding the previous fiscal year's statewide distributions for salary-based apportionment, benefit apportionment and discretionary funds, and dividing the total by the previous year's statewide public school enrollment for all grades. (7-1-21)T

ii. The statewide average daily attendance-driven funding per enrolled pupil shall be recalculated each fiscal year. (7-1-21)T

iii. All benefits paid for scholarships and to public schools shall be based on the statewide average daily attendance-driven funding per enrolled pupil figure for the fiscal year in which the benefit is paid. (7-1-21)T

b. Payments to Idaho Colleges and Universities. (7-1-21)T

i. Annual scholarship payments will be made in one (1) installment during the first semester in which the student is enrolled, regardless of the number of years early the student graduated. Proof of enrollment in an Idaho public college or university must be obtained before any scholarship payment is made. (7-1-21)T

ii. The State Department of Education will be responsible for making payments to the Idaho public colleges and universities attended by eligible students. The payments must be made no later than August 30 for the fall semester and January 30 for the spring semester. (7-1-21)T

c. Payments to Public Schools. (7-1-21)T

i. Public schools shall report to the State Department of Education, no later than June 15 of each school year, students who have graduated early. (7-1-21)T

ii. The State Department of Education will make a single annual payment to public schools no later

than October 1 of each year for all early graduates who are not attending the public school that school year as a result of early graduation. (7-1-21)T

107. Middle Level Credit System.

A school district or LEA must implement a credit system no later than grade seven (7) that includes components that address the credit requirements, credit recovery, alternate mechanisms and attendance. The local school district or LEA may establish credit requirements beyond the state minimum. (7-1-21)T

01. Credit Requirements. Each district or LEA credit system shall require a student to attain, at a minimum, a portion of the total credits attempted in each area in which credits are attempted except for areas in which instruction is less than a school year before the student will be eligible for promotion to the next grade level. ( )

02. Credit Recovery. A student who does not meet the minimum requirements of the credit system shall be given an opportunity to recover credits or complete an alternate mechanism in order to become eligible for promotion to next grade level. (7-1-21)T

03. Alternate Mechanism. A school district or LEA may establish an alternate mechanism to determine eligibility for grade level promotion. The alternate mechanism shall require a student to demonstrate proficiency of the appropriate content standards. All locally established mechanisms used to demonstrate proficiency will be forwarded to the State Department of Education. Alternate mechanisms must be re-submitted to the Department when changes are made to the mechanism. (7-1-21)T

04. Attendance. Attendance shall be an element included in the credit system, alternate mechanism or both. (7-1-21)T

05. Special Education Students. The Individualized Education Program (IEP) team for a student who is eligible for special education services under the Individuals with Disabilities Education Improvement Act may, establish alternate requirements or accommodations to credit requirements as are deemed necessary for the student to become eligible for promotion to the next grade level. (7-1-21)T

06. Limited English Proficient (LEP) Students. The Educational Learning Plan (ELP) team for a Limited English Proficient (LEP) students, as defined in Subsection 112.05.g.iv., may establish alternate requirements or accommodations to credit requirements as deemed necessary for the student to become eligible for promotion to the next grade level. (7-1-21)T

108. Guidance Programs (Section 33-1212, Idaho Code).

In each Idaho school, a comprehensive guidance program will be provided as an integral part of the educational program. A comprehensive guidance and counseling program includes these elements: (7-1-21)T

01. Guidance. A guidance curriculum that identifies knowledge and skills to be attained by all students at various stages of their development and provides appropriate activities for their achievement. (7-1-21)T

02. Individual Planning. Individualized planning with students and their parents in each of these domains: personal/social development, educational development, and career development. (7-1-21)T

03. Response Services of Counseling, Consultation, and Referral. (7-1-21)T

04. System Support Functions That Promote Effective Delivery of Guidance Services. (7-1-21)T

109. Special Education.

01. Definitions. The following definitions apply only to Section 109 of these rules. (7-1-21)T

a. Adult Student. A student who is eligible for special education, is eighteen (18) years of age or older and to whom special education rights have transferred. (7-1-21)T

b. Due Process Hearing. An administrative hearing that is conducted to resolve disputes. (7-1-21)T

i. Regular due process hearing regarding issues on any matter related to identification, evaluation, placement, or the provision of a free appropriate public education. (7-1-21)T

ii. For disputes concerning discipline for which shortened time lines are in effect, an expedited due process hearing may be requested in accordance with the Individuals with Disabilities Education Act. (7-1-21)T

c. Education Agency. Each school district and other public agency that is responsible for providing special education and related services to students with disabilities, including the Department of Juvenile Corrections and the Idaho School for the Deaf and Blind. (7-1-21)T

d. Idaho Special Education Manual. Policies and procedures, as approved by the State Board of Education, that the State Department of Education is required to adopt to meet the eligibility requirements of 20 U.S.C, Section 1412 and are consistent with state and federal laws, rules, regulations, and legal requirements. (7-1-21)T

e. Special Education. Specially designed instruction as defined by the Individuals with Disabilities Education Act or speech-language pathology services to meet the unique needs of a special education student. (7-1-21)T

02. Legal Compliance. The State Department of Education and education agencies shall comply with all governing special education requirements. (7-1-21)T

a. The Board of Trustees or other comparable governing body of each education agency shall adopt policies and procedures for providing special education services and obtain approval from the State Department of Education for the same. Department approval shall be based on current governing special education requirements. Each education agency shall revise its policies and procedures as necessary to conform with changes in governing special education requirements. (7-1-21)T

b. The State Department of Education shall provide education agencies with a sample set of policies and procedures that is consistent with governing special education requirements. The Department shall monitor all education agencies and private agencies who provide special education services to students with disabilities for compliance with governing special education requirements and adopted policies and procedures. (7-1-21)T

c. Each education agency shall ensure that charter schools and alternative schools located in its jurisdiction have nondiscriminatory enrollment practices. Each education agency shall ensure the provision of special education and related services to eligible students enrolled in charter and alternative schools in accordance with governing special education requirements. (7-1-21)T

d. Each education agency contracting with a private school or facility shall ensure that the private school or facility is approved by the State Department of Education to provide special education services. The Department may approve a private school or facility to provide special education services upon application to the Department if it: (7-1-21)T

i. Is an accredited school or a licensed rehabilitation center; and (7-1-21)T

ii. Meets minimum health, fire and safety standards; and (7-1-21)T

iii. Is nonsectarian; and (7-1-21)T

iv. Provides special education services consistent with governing special education requirements. (7-1-21)T

v. Any private school or facility aggrieved by the Department's final decision may appeal that decision to the State Board of Education. (7-1-21)T

e. Education agencies shall employ special education and related services professional personnel using certification standards approved by the State Board of Education or licensing standards adopted by the appropriate Idaho state licensing board. Education agencies shall employ individuals who meet the highest entry-level standard that applies to a specific discipline unless there is a shortage of fully qualified candidates for a specific position. If there is a shortage of fully qualified candidates, the education agency shall hire the most qualified individual available who is making satisfactory progress toward meeting the highest entry-level standard within three (3) years.(7-1-21)T

f. Education agencies may employ paraprofessional personnel to assist in the provision of special education and related services to students with disabilities if they meet standards established by the State Department of Education. (7-1-21)T

g. Education agencies shall collect and report data as necessary to meet state and federal requirements concerning special education services, staff or students. Education agencies shall develop, implement and revise district improvement plans as necessary to improve results as measured by data on goals and indicators for the performance of special education students that are established by the State Department of Education in accordance with the Individuals with Disabilities Education Act. (7-1-21)T

h. Education agencies shall establish a team process to problem solve and plan general education interventions to ensure that referrals to special education are appropriate. (7-1-21)T

03. Eligibility for Special Education. The State Department of Education shall provide state eligibility criteria for special education services for categorical eligibility consistent with the Individuals with Disabilities Education Act. Education agencies shall consider eligibility under all disability categories set forth in the Idaho Special Education Manual with the exception of developmental delay, which is an optional category. If an education agency elects to use the developmental delay category, it shall consider developmental delay for students ages three (3) through nine (9) using the eligibility criteria adopted by the Department and set forth in the Idaho Special Education Manual. The total timeline from the date of receipt of written parental consent for an initial evaluation to the date of determination of eligibility for special education and related services must not exceed sixty (60) calendar days, excluding periods when regular school is not in session for five (5) or more consecutive school days, unless all parties agree to an extension. (7-1-21)T

04. Individualized Education Programs. Each education agency shall develop an individualized education program (IEP) for each student who is eligible for special education. The IEP shall be implemented as soon as possible after it is developed. The total timeline from the determination that the student needs special education and related services to the date of implementation of the initial IEP shall not exceed thirty (30) calendar days. A new IEP shall be developed at least annually, on or before the date the previous IEP was developed. (7-1-21)T

a. IEP team meetings shall be convened upon reasonable request of any IEP team member at times other than the annual review. If the education agency refuses to convene an IEP team meeting requested by a parent or adult student, the agency shall provide written notice of the refusal. (7-1-21)T

b. Education agencies shall document the attendance of all participants at each IEP team meeting. Any participant who does not agree with an IEP team decision regarding a student's educational program may place a minority report in that student's file. A minority report shall not prevent implementation of an IEP team decision. (7-1-21)T

c. The IEP team shall determine the student's placement in the least restrictive environment. (7-1-21)T

d. At the discretion of the education agency, an individualized family service plan (IFSP) may be used in place of an IEP if: (7-1-21)T

i. The child is ages three (3) through five (5), and (7-1-21)T

ii. The child's parents are provided with a detailed explanation of the differences between an IFSP and an IEP, and (7-1-21)T

iii. The child's parents provide written consent to use the IFSP, and (7-1-21)T

iv. The IFSP is developed in accordance with IDEA Part B policies and procedures. (7-1-21)T

v. Nothing in this part requires education agencies to develop IFSPs rather than IEPs for three (3) through five (5) year old nor to implement more than the educational components of the IFSP. (7-1-21)T

e. When a student who has been determined eligible for special education, as indicated by a current IEP, transfers from one (1) Idaho education agency to another, the student is entitled to continue to receive special education services. The receiving education agency may accept and implement the existing IEP or may convene an IEP team meeting to develop a new IEP. If a new IEP cannot be developed within five (5) school days, or if the education agency wishes to re-evaluate the child, an interim (short-term) IEP shall be implemented pending development of the standard IEP. (7-1-21)T

f. If a student who is eligible for special education in another state transfers to an Idaho education agency, the Idaho education agency shall request a copy of the student's most recent eligibility documentation and IEP within two (2) school days. Within five (5) school days of receipt of the eligibility documentation and IEP, the Idaho education agency shall determine if it will adopt the existing eligibility documentation and IEP. If the education agency disagrees with the existing eligibility documentation, or if the documentation is not available within a reasonable time period, consent for an initial assessment shall be sought. While the assessment and evaluation is in process, the education agency may implement an interim IEP if the parent or adult student agrees. If the parent or adult student does not agree to an interim IEP, the student shall be placed in general education. (7-1-21)T

05. Procedural Safeguards. Education agencies will use appropriate procedural safeguards consistent with the Individuals with Disabilities Education Act. (7-1-21)T

a. If a parent or adult student disagrees with an individualized education program (IEP) team's proposed IEP for the student, the parent or adult student may file a written objection to all or parts of the proposed IEP. If the written objection is emailed, postmarked or hand delivered within ten (10) calendar days of the date the parent or adult student receives written notice of the proposed IEP, the proposed change cannot be implemented for fifteen (15) calendar days, or as extended through mutual agreement by the district and the parent or adult student while the parties work to resolve the dispute. Parties may choose to hold additional IEP team meetings which may be facilitated by the State Department of Education (SDE) or request voluntary mediation through the SDE. If these methods fail or are refused, the proposed IEP shall be implemented after fifteen (15) calendar days unless a due process hearing is filed by the parents or adult student, during which time the student shall remain in the current educational placement during the pendency of any administrative or judicial proceeding, unless the district/adult student agree otherwise. The written objection cannot be used to prevent the education agency from placing a student in an interim alternative educational setting in accordance with IDEA discipline procedures, or to challenge an eligibility/identification determination. (7-1-21)T

b. Mediation may be requested by an education agency, parent, or adult student, or offered by the State Department of Education at any time. The Department shall screen all such requests to determine appropriateness. Any time a hearing is requested, the Department shall offer mediation using policies and requirements set forth in the Individuals with Disabilities Education Act regulations. If the Department appoints a mediator, the Department shall be responsible for compensating the mediator. All mediation participants will receive a copy of the Notification of Mediation Confidentiality form. Attorney fees may not be awarded for a mediation that is conducted prior to a request for a due process hearing. (7-1-21)T

c. The State Department of Education shall administer a single-tiered due process hearing system to resolve disputes between education agencies and parents or adult students. When a due process hearing is requested,

the superintendent, special education director, or other agency administrator shall inform the agency's board of trustees or other governing body of the request. The education agency shall immediately notify the Department's Director of Special Education of any request for a due process hearing. Within ten (10) calendar days of a written request for a regular hearing, or within five (5) business days of a written request for an expedited hearing, an impartial hearing officer shall be assigned by the Department. The Department shall maintain a list of trained hearing officers and their qualifications. (7-1-21)T

d. The education agency that is a party to the hearing shall be responsible for compensating the hearing officer and paying for the cost of a verbatim transcript of the hearing. (7-1-21)T

e. Due process hearings shall be conducted pursuant to IDAPA 04.11.01, "Idaho Rules of Administrative Procedure of the Attorney General," Individuals with Disabilities Education Act requirements, and the Idaho Special Education Manual, incorporated by reference in Section 004 of this rule. In case of any conflict between the IDAPA 04.11.01, "Idaho Rules of Administrative Procedure of the Attorney General" and the IDEA, the IDEA shall supersede the IDAPA 04.11.01, and IDAPA 04.11.01 shall supersede the Idaho Special Education Manual. (7-1-21)T

f. The hearing officer shall issue a written decision that includes findings of fact and conclusions of law within forty-five (45) calendar days of the date a regular hearing is requested, unless a specific extension of this time line is requested by one (1) of the parties and granted by the hearing officer. The hearing officer shall issue a written decision that includes findings of fact and conclusions of law within twenty (20) calendar days of a written request for an expedited hearing, unless a specific extension of this time line has been granted. An extension of the time line for an expedited hearing shall not exceed an additional twenty-five (25) calendar days, and may be granted only if requested by one (1) of the parties and agreed to by both parties. The decision shall be sent to the parent or adult student, the education agency administrator, their respective representatives, and the State Department of Education. (7-1-21)T

g. The hearing officer's decision shall be binding unless either party appeals the decision by initiating a civil action. The hearing officer's decision shall be implemented not later than fourteen (14) calendar days from the date of issuance unless an appeal is filed by a parent or adult student or the decision specifies a different implementation date. An appeal to civil court must be filed within forty-two (42) calendar days from the date of issuance of the hearing officer's decision. (7-1-21)T

h. During the hearing the education agency shall provide reasonable accommodations as required by federal and state regulations. Disputes concerning reasonable accommodations shall be referred to the U.S. Department of Education's Americans with Disabilities Act (ADA) Committee for resolution. (7-1-21)T

i. During the pendency of any due process hearing or civil appeal the child's educational placement shall be determined by the Individuals with Disabilities Education Act "stay put" requirements. (7-1-21)T

j. A parent or adult student has the right to an independent educational evaluation (IEE) at public expense if the parent or adult student disagrees with an evaluation obtained by the education agency. Whenever an IEE is at public expense, the criteria under which the evaluation is obtained, including the location of the evaluation and the qualifications of the examiner, shall be the same as the criteria the education agency uses when it initiates an evaluation, to the extent those criteria are consistent with the parent or adult student's right to an IEE. If an education agency has cost as one (1) of the criteria the education agency uses when it initiates an evaluation, the education agency may apply that criteria to independent educational evaluations. However, the parent or adult student has the right to demonstrate that unique circumstances justify an IEE that falls outside the education agency's cost criteria, and if so demonstrated, that IEE shall be publicly funded. A due process hearing may be initiated by the education agency to determine if the evaluation conducted by the education agency is appropriate. If the final decision of a hearing officer, or civil court, if the hearing officer's decision is appealed, is that the evaluation conducted by the education agency is appropriate, the parent or adult student still has the right to an independent educational evaluation, but not at the education agency's expense. (7-1-21)T

k. Student records shall be managed in accordance with IDEA and Family and Educational Rights and

Privacy Act regulations governing security, confidentiality, access, maintenance, destruction, inspection and amendment. (7-1-21)T

06. Assistive Technology Devices. Education agencies may hold a parent liable for the replacement or repair of an assistive technology device that is purchased or otherwise procured by the education agency if it is lost, stolen, or damaged due to negligence or misuse at home or in another setting outside of school time. (7-1-21)T

07. Diplomas and Graduation. School districts shall use a regular diploma for students who are eligible for special education at the completion of their secondary program. The transcript serves as a record of individual accomplishments, achievements, and courses completed. A modified or differentiated diploma or certificate may not be used for students who are eligible for special education unless the same diploma or certificate is granted to students without disabilities. If a student is not granted a regular high school diploma or if a regular high school diploma is granted for completing requirements that are not comparable to regular graduation requirements, a student who is eligible for special education is entitled to receive a free appropriate public education through the semester in which the student turns twenty-one (21) years of age or until the student completes requirements that are comparable to regular graduation requirements, whichever comes first. (7-1-21)T

08. Special Education Advisory Panel. The State Superintendent of Public Instruction shall appoint members to serve on the Special Education Advisory Panel. Panel members shall elect annually an individual to serve a one (1) year term as vice-chair followed by a one (1) year term as chair. (7-1-21)T

110. Alternative Secondary Programs.

Alternative secondary programs are those that provide special instructional courses and offer special services to eligible at-risk youth to enable them to earn a high school diploma. Designated differences must be established between the alternative school programs and the regular secondary school programs. Alternative secondary school programs will include course offerings, teacher/pupil ratios and evidence of teaching strategies that are clearly designed to serve at-risk youth, pursuant to Section 33-1001, Idaho Code. (7-1-21)T

01. Instruction. Special instruction courses for at-risk youth enrolled in an alternative secondary program will include: (7-1-21)T

a. Core academic content that meets or exceeds minimum state standards; (7-1-21)T

b. A physical fitness and personal health component; (7-1-21)T

c. Career and technical education component approved by the state division of career technical education; (7-1-21)T

d. A personal finance, parenting, and child care component; and (7-1-21)T

e. A personal and career counseling component. (7-1-21)T

02. Graduation Credit. Graduation credit may be earned in the following areas: academic subjects, electives, and approved work-based learning experiences. Nonacademic courses, i.e., classroom and office aides do not qualify for credit unless they are approved work-based learning experiences. (7-1-21)T

03. Special Services. Special services for at-risk youth enrolled in alternative secondary programs include the following where appropriate: (7-1-21)T

a. A day care center when enrollees are also parents. This center should be staffed by a qualified child care provider. (7-1-21)T

b. Direct social services that may include officers of the court, social workers, counselors/psychologists. (7-1-21)T

c. All services in accordance with the student's Individualized Education Program. (7-1-21)T

111. Assessment In The Public Schools.

01. Philosophy. Acquiring the basic skills is essential to realization of full educational, vocational and personal/social development. Since Idaho schools are responsible for instruction in the basic scholastic skills, the State Board of Education has a vested interest in regularly surveying student skill acquisition as an index of the effectiveness of the educational program. This information can best be secured through objective assessment of student growth. The State Board of Education will provide oversight for all components of the comprehensive assessment program. (7-1-21)T

02. Purposes. The purpose of assessment in the public schools is to: (7-1-21)T

a. Measure and improve student achievement; (7-1-21)T

b. Assist classroom teachers in designing lessons; (7-1-21)T

c. Identify areas needing intervention and remediation, and acceleration; (7-1-21)T

d. Assist school districts in evaluating local curriculum and instructional practices in order to make needed curriculum adjustments; (7-1-21)T

e. Inform parents and guardians of their child's progress; (7-1-21)T

f. Provide comparative local, state and national data regarding the achievement of students in essential skill areas; (7-1-21)T

g. Identify performance trends in student achievement across grade levels tested and student growth over time; and (7-1-21)T

h. Help determine technical assistance/consultation priorities for the State Department of Education. (7-1-21)T

03. Content. The comprehensive assessment program will consist of multiple assessments, including, the Idaho Reading Indicator (IRI), the National Assessment of Educational Progress (NAEP), the Idaho English Language Assessment, the Idaho Standards Achievement Tests (ISAT), the Idaho Alternate Assessment, and a college entrance exam. (7-1-21)T

04. Testing Population. All students in Idaho public schools, grades kindergarten through twelve (K-12), are required to participate in the comprehensive assessment program approved by the State Board of Education and funded. (7-1-21)T

a. All students who are eligible for special education shall participate in the statewide assessment program. (7-1-21)T

b. Each student's individualized education program team shall determine whether the student shall participate in the regular assessment without accommodations, the regular assessment with accommodations or adaptations, or whether the student qualifies for and shall participate in the alternate assessment. (7-1-21)T

c. Limited English Proficient (LEP) students, as defined in Subsection 112.05.g.iv., may receive designated supports or accommodations, or both, for the ISAT assessment if need has been indicated by the LEP student's Educational Learning Plan (ELP) team. The team shall outline the designated supports or accommodations, or both, in an ELP prior to the assessment administration. Designated supports or accommodations, or both, shall be familiar to the student during previous instruction and for other assessments. LEP students who are enrolled in their first year of school in the United States may take Idaho's English language assessment in lieu of the English language

ISAT, but will still be required to take the ISAT (Mathematics and Science). Such LEP students will be counted as participants for the ninety-five percent (95%) participation target, as described in Subsection 112.05.e. However, such LEP students are not required to be counted for accountability purposes as described in Subsection 112.05.i. (7-1-21)T

05. Scoring and Report Formats. Scores will be provided for each subject area assessed and reported in standard scores, benchmark scores, or holistic scores. Test results will be presented in a class list report of student scores, building/district summaries, content area criterion reports by skill, disaggregated group reports, and pressure sensitive labels as appropriate. Information about the number of students who are eligible for special education who participate in regular and alternate assessments, and their performance results, shall be included in reports to the public if it is statistically sound to do so and would not disclose performance results identifiable to individual students.(7-1-21)T

a. All students taking the Idaho Standards Achievement Test (ISAT) must have a unique student identifier. (7-1-21)T

b. Districts must send all assessment results and related communication to parents within three (3) weeks of receipt from the state. (7-1-21)T

06. Comprehensive Assessment Program. The State approved comprehensive assessment program is outlined in Subsections 111.06.a. through 111.06.n. Each assessment will be comprehensive of and aligned to the Idaho State Content Standards it is intended to assess. In addition, districts are responsible for writing and implementing assessments in those standards not assessed by the state assessment program. (7-1-21)T

a. Kindergarten - Idaho Reading Indicator, Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

b. Grade 1 - Idaho Reading Indicator, Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

c. Grade 2 - Idaho Reading Indicator, Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

d. Grade 3 - Idaho Reading Indicator, Grade 3 Idaho Standards Achievement Tests in English language usage and mathematics, Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

e. Grade 4 - National Assessment of Educational Progress, Grade 4 Idaho Standards Achievement Tests in English language usage and mathematics, Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

f. Grade 5 - Grade 5 Idaho Standards Achievement Tests in English language usage, mathematics, and science; Idaho Alternate Assessment; Idaho English Language Assessment. (7-1-21)T

g. Grade 6 - Grade 6 Idaho Standards Achievement Tests in English language usage and mathematics, Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

h. Grade 7 - Grade 7 Idaho Standards Achievement Tests in English language usage and mathematics, Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

i. Grade 8 - National Assessment of Educational Progress; Grade 8 Idaho Standards Achievement Tests in English language usage, mathematics, and science; Idaho Alternate Assessment; Idaho English Language Assessment. (7-1-21)T

j. Grade 9 - High School Idaho Standards Achievement Tests (optional at the discretion of the school district or charter school), Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

k. Grade 10 - Idaho Alternate Assessment, Idaho English Language Assessment. (7-1-21)T

l. Grade 11 - High School Idaho Standards Achievement Test in English language usage and mathematics, science, Idaho Alternate Assessment, Idaho English Language Assessment. ( )

m. Grade 12 - National Assessment of Educational Progress, Idaho English Language Assessment. (7-1-21)T

07. Comprehensive Assessment Program Schedule. (7-1-21)T

c. The Idaho Standards Achievement Tests will be administered in the Spring in a time period specified by the State Board of Education. (7-1-21)T

d. The Idaho Alternate Assessment will be administered in a time period specified by the State Board of Education. (7-1-21)T

e. Idaho's English Language Assessment will be administered in a time period specified by the State Board of Education. (7-1-21)T

08. Costs Paid by the State. Costs for the following testing activities will be paid by the state: (7-1-21)T

a. All consumable and non-consumable materials needed to conduct the prescribed statewide comprehensive assessment program; (7-1-21)T

b. Statewide distribution of all assessment materials; and (7-1-21)T

c. Processing and scoring student response forms, distribution of prescribed reports for the statewide comprehensive assessment program. (7-1-21)T

09. Costs of Additional Services. Costs for any additional administrations or scoring services not included in the prescribed statewide comprehensive assessment program will be paid by the participating school districts. (7-1-21)T

11. Test Security, Validity and Reliability. (7-1-21)T

a. Test security is of the utmost importance. To ensure integrity of secure test items and protect validity and reliability of test outcomes, test security must be maintained. School districts will employ security measures in protecting statewide assessment materials from compromise. Each individual who has any opportunity to see test items must sign a state-provided confidentiality agreement, which the district must keep on file in the district for at least two (2) years. Documentation of security safeguards must be available for review by authorized state and federal personnel. (7-1-21)T

b. Any assessment used for federal reporting shall be independently reviewed for reliability, validity, and alignment with the Idaho Content Standards. (7-1-21)T

12. Demographic Information. Accurate demographic information must be submitted as required for each test to assist in interpreting test results. It may include but is not limited to race, sex, ethnicity, and special programs, (Title I, English proficiency, migrant status, special education status, gifted and talented status, and socio-economic status). (7-1-21)T

13. Dual Enrollment. For the purpose of non-public school student participation in non-academic public school activities as outlined in Section 33-203, Idaho Code, the Idaho State Board of Education recognizes the following: (7-1-21)T

a. The Idaho Standards Achievement Tests (grades 3-8 and High School). (7-1-21)T

b. A portfolio demonstrating grade level proficiency in at least five (5) of the subject areas listed in Subsections 111.13.b.i. through 111.13.b.vi. Portfolios are to be judged and confirmed by a committee comprised of at least one (1) teacher from each subject area presented in the portfolio and the building principal at the school where dual enrollment is desired. (7-1-21)T

i. Language Arts/Communications. (7-1-21)T

ii. Math. (7-1-21)T

iii. Science. (7-1-21)T

iv. Social Studies. (7-1-21)T

v. Health. (7-1-21)T

vi. Humanities. (7-1-21)T

112. Accountability

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School district, charter district and public charter school accountability will be based on multiple measures aimed at providing meaningful data showing progress toward interim and long-term goals set by the State Board of Education for student achievement and school improvement. The state accountability framework will be used to meet both state and federal school accountability requirements and will be broken up by school category and include measures of student academic achievement and school quality as determined by the State Board of Education. (7-1-21)T

01. School Category. (7-1-21)T

a. Kindergarten through grade eight (K-8): Schools in this category include elementary and middle schools as defined in Subsection 112.05.f. (7-1-21)T

b. High Schools, not designated as alternative high schools, as defined in Subsection 112.05.f. (7-1-21)T

c. Alternative High Schools. (7-1-21)T

02. Academic Measures by School Category. (7-1-21)T

a. K-8: (7-1-21)T

i. Idaho Standards Achievement Tests (ISAT) Proficiency. (7-1-21)T

ii. ISAT growth toward proficiency based on a trajectory model approved by the State Board of Education. (7-1-21)T

iii. ISAT proficiency gap closure. (7-1-21)T

iv. Idaho statewide reading assessment proficiency. (7-1-21)T

v. English Learners achieving English language proficiency. (7-1-21)T

vi. English Learners achieving English language growth toward proficiency. (7-1-21)T

b. High School: (7-1-21)T

i. ISAT proficiency. (7-1-21)T

ii. ISAT proficiency gap closure. (7-1-21)T

iii. English Learners achieving English language proficiency. (7-1-21)T

iv. English Learners achieving English language growth toward proficiency. (7-1-21)T

v. Four (4) year cohort graduation rate, including students who complete graduation requirements prior to the start of the school district or charter schools next fall term. (7-1-21)T

vi. Five (5) year cohort graduation rate, including students who complete graduation requirements prior to the start of the school district or charter schools next fall term. (7-1-21)T

c. Alternative High School: (7-1-21)T

i. ISAT proficiency. (7-1-21)T

ii. English learners achieving English language proficiency. (7-1-21)T

iii. English learners achieving English language growth towards proficiency. (7-1-21)T

iv. Four (4) year cohort graduation rate, including students who complete graduation requirements prior to the start of the school district or charter schools next fall term. (7-1-21)T

v. Five (5) year cohort graduation rate, including students who complete graduation requirements prior to the start of the school district or charter schools next fall term. (7-1-21)T

03. School Quality Measures by School Category. (7-1-21)T

a. K-8: (7-1-21)T

i. Students in grade 8 enrolled in pre-algebra or higher. (7-1-21)T

ii. Chronic Absenteeism ( )

iii. Communication with parents on student achievement (effective starting in the 2018-2019 school year). (7-1-21)T

b. High School: (7-1-21)T

i. College and career readiness determined through a combination of students participating in advanced opportunities, earning industry recognized certification, and/or participation in recognized high school apprenticeship programs. (7-1-21)T

ii. Chronic Absenteeism ( )

iii. Students in grade 9 enrolled in algebra I or higher. (7-1-21)T

iv. Communication with parents on student achievement (effective starting in the 2018-2019 school year). (7-1-21)T

c. Alternative High School: (7-1-21)T

i. Credit recovery and accumulation. (7-1-21)T

ii. College and career readiness determined through a combination of students participating in advanced opportunities, earning industry recognized certification, and/or participation in recognized high school apprenticeship programs. (7-1-21)T

iii. State satisfaction and engagement survey administered to parents, students, and teachers (effective starting in the 2018-2019 school year). (7-1-21)T

iv. Communication with parents on student achievement (effective starting in the 2018-2019 school year). (7-1-21)T

04. Reporting. Methodologies for reporting measures and determining performance will be set by the State Board of Education. (7-1-21)T

05. Annual Measurable Progress Definitions. For purposes of calculating and reporting progress, the following definitions shall be applied. (7-1-21)T

c. Annual Measurable Progress. (7-1-21)T

ii. The State Department of Education will make determinations for schools and districts each year. Results will be given to the districts at least one (1) month prior to the first day of school. (7-1-21)T

iii. The State Board of Education will set long-term goals and measurements of interim progress targets toward those goals. The baseline for determining measurable student progress will be set by the State Board of Education and shall identify the amount of growth (percentage of students reaching proficiency) required for each intermediate period. (7-1-21)T

d. Full Academic Year (continuous enrollment). (7-1-21)T

i. A student who is enrolled continuously in the same public school from the end of the first eight (8) weeks or fifty-six (56) calendar days of the school year through the state approved spring testing administration period, not including the make-up portion of the test window, will be included in the calculation to determine if the school achieved progress in any statewide assessment used for determining proficiency. A student is continuously enrolled if the student has not transferred or dropped-out of the public school. Students who are serving suspensions are still considered to be enrolled students. (7-1-21)T

ii. A student who is enrolled continuously in the school district from the first eight (8) weeks or fifty-six (56) calendar days of the school year through the state approved spring testing administration period, not including the make-up portion of the test window, will be included when determining if the school district has achieved AYP. (7-1-21)T

iii. A student who is enrolled continuously in a public school within Idaho from the end of the first eight (8) weeks or fifty-six (56) calendar days of the school year through the state approved spring testing administration period, not including the make-up portion of the test window, will be included when determining if the state has achieved progress in any statewide assessment used for determining proficiency. (7-1-21)T

e. Participation Rate. (7-1-21)T

i. Failure to include ninety-five percent (95%) of all students and ninety-five percent (95%) of students in designated subgroups automatically identifies the school as not having achieved measurable progress in ISAT proficiency. The ninety-five percent (95%) determination is made by dividing the number of students assessed on the Spring ISAT by the number of students reported on the class roster file for the Spring ISAT. (7-1-21)T

(1) If a school district does not meet the ninety-five percent (95%) participation target for the current year, the participation rate can be calculated by the most current three (3) year average of participation. (7-1-21)T

(2) Students who are absent for the entire state-approved testing window because of medical reasons or are homebound are exempt from taking the ISAT if such circumstances prohibit them from participating. Students who drop out, withdraw, or are expelled prior to the beginning of the final makeup portion of the test window are considered exited from the school. (7-1-21)T

ii. For groups of ten (10) or more students, absences for the state assessment may not exceed five percent (5%) of the current enrollment or two (2) students, whichever is greater. Groups of less than ten (10) students will not have a participation determination. (7-1-21)T

f. Schools. As used in this section, schools refers to any school within a school district or charter district and public charter schools. (7-1-21)T

i. An elementary school includes a grade configuration of grades Kindergarten (K) through six (6) inclusive, or any combination thereof. (7-1-21)T

ii. A middle school is a school that does not meet the definition of an elementary school and contains grade eight (8) but does not contain grade twelve (12). (7-1-21)T

iii. A high school is any school that contains grade twelve (12). (7-1-21)T

iv. An alternative high school is any school that contains grade twelve (12) and meets the requirements of Section 110 of these rules. (7-1-21)T

v. The accountability of public schools without grades assessed by this system (i.e., K-2 schools) will be based on the third grade test scores of the students who previously attended that feeder school. (7-1-21)T

vi. A "new school" for purposes of accountability is a wholly new entity receiving annual measurable progress determinations for the first time, or a school with a significant student population change as a result of schools being combined or geographic boundaries changing, or a result of successful school restructuring sanctioned by the Office of the State Board of Education. (7-1-21)T

g. Subgroups. Scores on the ISAT must be disaggregated and reported by the following subgroups: (7-1-21)T

i. Race/Ethnicity - Black/African American, Asian, Native Hawaiian/Pacific Islander, White, Hispanic/Latino Ethnicity, American Indian/Alaska Native. (7-1-21)T

ii. Economically disadvantaged - identified through the free and reduced lunch program. (7-1-21)T

iii. Students with disabilities - individuals who are eligible to receive special education services through the Individuals with Disabilities Education Act (IDEA). (7-1-21)T

iv. Limited English Proficient - individuals who do not score proficient on the state-approved language proficiency test and meet one (1) of the following criteria: (7-1-21)T

(1) Individuals whose native language is a language other than English; or (7-1-21)T

(2) Individuals who come from environments where a language other than English is dominant; or (7-1-21)T

(3) Individuals who are American Indian and Alaskan natives and who come from environments where

a language other than English has had a significant impact on their level of English language proficiency, and who, by reason thereof, have sufficient difficulty speaking, reading, writing, or understanding the English language to deny such individuals the opportunity to learn successfully in classrooms, where the language of instruction is English. (7-1-21)T

h. Graduation Rate. The graduation rate will be based on the rate of the cohort of students entering grade nine (9) during the same academic year and attending or exiting the school within a four (4) year or five (5) year period as applicable to the measure being determined. In determining the graduation cohort the school year shall include the students who complete graduation requirements prior to the start of the school district or charter schools next fall term. School districts may only report students as having graduated if the student has met, at a minimum, the state graduation requirements, pursuant to Section 105, and will not be returning to the school in following years to complete required academic course work. The State Board of Education will establish a target for graduation. All high schools must meet the target or make sufficient progress toward the target each year, as determined by the State Board of Education. The graduation rate will be disaggregated by the subgroups listed in Subsection 112.05.g. (7-1-21)T

i. Additional Academic Indicator. The State Board of Education will establish a target for all additional academic and school quality measures. All schools must maintain or make progress toward the additional academic and school quality measure target each year. The additional academic and school quality measure targets will be disaggregated by the subpopulations listed in Subsection 112.05.g. (7-1-21)T

113. (RESERVED)

114. Failure To Meet Annual Measurable Progress.

01. Accountability Measures and Timelines. Accountability measures and timelines will be determined by the state board of education for school districts and schools who fail to meet annual measurable progress. (7-1-21)T

02. Compliance with Federal Law. All schools and local educational agencies in this state shall comply with applicable federal laws governing specific federal grants. (7-1-21)T

a. With respect to schools and local educational agencies in this state that receive federal grants under title I of the Elementary and Secondary Education Act of 1965, as amended by the Every Student Succeeds Act of 2015 (Title I schools), the State Department of Education shall develop procedures for approval by the State Board of Education, consistent with federal law, that describe actions to be taken by local educational agencies and schools in this state in regard to schools that fail to meet interim and long-term progress goals. (7-1-21)T

b. With respect to schools and local educational agencies in this state that do not receive federal grants under Title I of the Elementary and Secondary Education Act of 1965, as amended by the Every Student Succeeds Act of 2015, such non-Title I schools and local educational agencies shall be required to comply with federal law and state requirements with the procedures relating to failure to meet interim and long-term progress goals as provided in Subsection 114.02.a. of this rule, as if they were Title I schools, except that any provisions relating to the use of federal grants to pay for such expenses shall not be applicable to such non-Title I schools and local educational agencies. In such event, non-title I schools shall be required to fund such compliance costs from general operating funds. (7-1-21)T

03. State Department of Education. With respect to the implementation of duties and responsibilities described under Title I of the Elementary and Secondary Education Act of 1965, as amended by the Every Student Succeeds Act of 2015, that are applicable to a state educational agency, the State Department of Education shall perform such duties and responsibilities delegated by the State Board of Education, including, but not limited to, making technical assistance available to local educational agencies that fail to meet interim and long-term goals, and for providing technical assistance, developing improvement plans, and providing for mandatory corrective actions to local educational agencies as required under federal law and state law. (7-1-21)T

117. (RESERVED)

118. Home School.
Any student not attending a public or private school within the state of Idaho may, as an alternative, receive educational instruction in a home school setting at the direction of the student's parent or guardian. A home schooled student is required to receive such instruction in subjects commonly and usually taught in the public schools of the state of Idaho. (7-1-21)T

119. -- 128. (RESERVED)

131. -- 139. (RESERVED)

140. Workforce Skills.

01. Academic Skill Development. All students will be provided the opportunity to develop their academic skills (i.e., reading, language arts and communication, mathematics, science, social studies) and to develop the skills necessary for entering the workforce, including self-management skills (i.e., ability to plan, self-discipline, respect for authority, ongoing skill improvement), individual and teamwork skills (i.e., personal initiative, working with others), thinking/information skills (i.e., reasoning, problem solving, acquiring and using information) and vocational-technical skills based on the standards of the industry as approved by the State Board of Vocational Education. (7-1-21)T

02. Other Skill Development. Recognizing that students may or may not be active in the workforce, the State Board believes all students should be provided the opportunity to become contributing community and family members. This instruction includes homemaking skills (i.e., nutrition, child development, resource management); balancing work and family responsibilities; and entrepreneurial skills. (7-1-21)T

03. Work-Based Learning Experiences. Work-based learning experiences may be provided as part of the instruction in the school. For students to receive credit, these experiences will include: training plans, training agreements, approved work sites, and supervision by appropriately certificated personnel. If work-based learning experiences are selected, they will be included in the Parent Approved Student Learning Plans. Instruction will be organized to facilitate a successful transition into the workforce and further education. (7-1-21)T

141. -- 149. (RESERVED)

151. -- 159. (RESERVED)

160. Safe Environment And Discipline.
Each school district will have a comprehensive districtwide policy and procedure encompassing the following:

School Climate
Discipline
Student Health
Violence Prevention
Possessing Weapons on Campus
Substance Abuse - Tobacco, Alcohol, and Other Drugs
Suicide Prevention
Student Harassment

Drug-free School Zones
Building Safety including Evacuation Drills
Relationship Abuse and Sexual Assault Prevention and Response

Districts will conduct an annual review of these policies and procedures. (See Section 33-1612) (7-1-21)T

161. -- 169. (RESERVED)

171. Gifted And Talented Programs.

01. Definitions. The following definitions apply only to Section 171 of these rules. (7-1-21)T

a. Gifted/talented children. Those students who are identified as possessing demonstrated or potential abilities that give evidence of high performing capabilities in intellectual, creative, specific academic or leadership areas, or ability in the performing or visual arts and who require services or activities not ordinarily provided by the school in order to fully develop such capabilities Section 33-2001, Idaho Code. (7-1-21)T

03. District Plan. Each school district shall develop and write a plan for its gifted and talented program. The plan shall be submitted to the Department no later than October 15, 2001. The plan shall be updated and submitted every three (3) years thereafter and shall include: (7-1-21)T

a. Philosophy statement. (7-1-21)T

b. Definition of giftedness. (7-1-21)T

c. Program goals. (7-1-21)T

d. Program options. (7-1-21)T

e. Identification procedures. (7-1-21)T

f. Program evaluation. (7-1-21)T

04. Screening. The district's process for identifying gifted and talented students shall include the following steps: (7-1-21)T

a. The district shall screen all potentially gifted and talented students to ensure they have an opportunity to be considered; and (7-1-21)T

b. The district shall assess those students meeting the screening criteria and gather additional information concerning their specific aptitudes and educational needs; and (7-1-21)T

c. The district shall match student needs with appropriate program options. (7-1-21)T

05. Assessment. Placement decisions shall not be determined by a single criterion (for instance, test scores, other measurement, teacher recommendation, or nomination). The district's identification process shall use multiple indicators of giftedness with information obtained through the following methods and sources: (7-1-21)T

a. Procedures for obtaining information about students shall include formal assessment methods, such as group and individual tests of achievement, general ability, specific aptitudes and creativity. (7-1-21)T

b. Procedures for obtaining information about students shall also include informal assessment methods, such as checklists, rating scales, pupil product evaluations, observations, nominations, biographical data, questionnaires, interviews and grades. (7-1-21)T

c. Information about students shall be obtained from multiple sources, such as teachers, counselors, peers, parents, community members, subject area experts, and the students themselves. (7-1-21)T

172. -- 199. (RESERVED)

200. K-12 Idaho Content Standards.
As stated in Subsection 105.02 of these Thoroughness rules, all students graduating from Idaho public high schools must meet locally established content standards. The standards set forth in Section 004 of this rule are state content standards that shall be the minimum standards used by every school district in the state in order to establish a level of academic content necessary to graduate from Idaho's public schools. Each school district may set standards more rigorous than these state content standards but no district shall use any standards less rigorous than those set forth in these Thoroughness rules. (7-1-21)T

201. -- 999. (RESERVED)

08.02.04 – Rules Governing Public Charter Schools

000. Legal Authority.
In accordance with Sections 33-105, 33-5203, and 33-5210(4)(e), Idaho Code, the Board is authorized to promulgate rules implementing the provisions of Title 33, Chapter 52, Idaho Code. ( )

001. Scope.
These rules establish a consistent application and review process for the approval and maintenance of public charter schools in Idaho. ( )

002. (RESERVED)

003. Administrative Appeals.
The provisions found in Sections 400 through 404, of these rules, govern administrative appeals of public charter schools. ( )

004. -- 009. (RESERVED)

010. Definitions.

01. Authorizer Fee. Fee paid by each public charter school to its authorized chartering entity. ( )

02. Board. Means the Idaho State Board of Education. ( )

03. Commission. Means the Idaho Public Charter School Commission, as provided by Section 33-5213, Idaho Code. ( )

04. Department. Means the Idaho Department of Education. ( )

05. Institution. For the purpose of this section, Institution means an Idaho public college, university of community college, or a private, nonprofit Idaho-based, nonsectarian college or university that is accredited by the same organization that accredits Idaho public colleges and universities. ( )

06. Petitioners. Means the group of persons who submit a petition to establish a new public charter school, or to convert an existing traditional public school to a public charter school, as provided by Section 33-5205, Idaho Code, and the procedures described in Sections 200 through 205 of these rules. ( )

07. School Year. Means the period beginning on July 1 and ending the next succeeding June 30 of each year. ( )

011. -- 099. (RESERVED)

100. Limitations On New Public Charter Schools.

01. Responsibilities of Petitioners on Approval of Charter. Upon the approval of a new public charter school by an authorized chartering entity, the petitioners shall provide the Board with written notice of such approval. The authorized chartering entity of the public charter school shall provide the Board with copies of the charter and any charter revisions upon request. ( )

02. Authorization to Begin Educational Instruction. The public charter schools authorized to begin educational instruction during a given school year shall be those public charter schools that have received approval from their authorized chartering entities to begin educational instruction during such school year. A public charter school that is approved by an authorized chartering entity, but which does not begin educational instruction must confirm with the Board, on or before March 1 preceding the next succeeding school year, that it is able to begin educational instruction during such school year. ( )

101. Authorized Chartering Entity.

01. Institution. An institution shall receive approval from their governing board prior to authorizing any charter schools. ( )

a. Petitions shall be submitted to the president of the institution or his designee. ( )

b. An institution may approve or deny a petition. ( )

c. Notwithstanding Sections 400 through 404, of these rules, denial of a new petition by an institution is final. A petitioner may submit a petition that has been denied by an institution to any authorized chartering entity. ( )

102. Authorizer Fee.

01. Notification. It is the responsibility of each authorizer to notify the Department if the authorizer fee has not been received by the date specified in Section 33-5208, Idaho Code. ( )

a. The authorizer must provide notification of the delinquent fee to the charter school prior to reporting to the Department. ( )

b. The authorizer must provide the amount delinquent and proof of notification to the charter school within thirty (30) days of the non-payment of the authorizer fee. ( )

c. The Department shall withhold the amount of the delinquent fee from the next scheduled release of funds to the charter school. The funds will be withheld until the Department has received notification from the authorizer that the authorizer fee has been paid in full. ( )

103. -- 199. (RESERVED)

200. Procedure For Formation Of A New Public Charter School.

01. Assistance with Petitions. The Department shall, in accordance with Section 33-5211, Idaho Code, provide technical assistance to public charter school petitioners. The Department shall undertake this statutory responsibility by conducting public charter school workshops, as discussed in Subsection 200.02 of this rule. ( )

02. Public Charter School Workshops. The purpose of the public charter school workshops shall be to provide public charter school petitioners with a brief overview of a variety of educational and operational issues relating to public charter schools, as well as to answer questions and to provide technical assistance, as may be necessary, to aid petitioners in the preparation of public charter school petitions. ( )

03. Petition Submittal. A public charter school petition may be submitted to only one (1) authorized chartering entity at a time. A petitioner may submit a petition that has been denied by an authorized chartering entity to any other authorized chartering entity after an appeal process, if any, is complete and a final decision has been reached. ( )

201. Policies And Procedures Adopted By An Authorized Chartering Entity.
An authorized chartering entity may adopt its own charter school policies and procedures describing the charter school petition process and the procedures that petitioners must comply with in order to form a new public charter school, including a public virtual school. Petitioners must comply with the charter school policies and procedures adopted by the authorized chartering entity with which a petition is submitted. Such charter school policies and procedures must comply with Title 33, Chapter 52, Idaho Code, and the rules promulgated by the Board. If there is any conflict between the charter school policies and procedures adopted by an authorized chartering entity and rules promulgated by the Board, then the Board rules shall govern. ( )

202. New Public Charter School Application Requirements.
Pursuant to Section 33-5205, Idaho Code, petitioners seeking to establish a new public charter school must complete an application consisting of all of the following elements: ( )

01. Introduction. Briefly introduce the proposed public charter school by providing the following: ( )

a. Cover page with the proposed school's name, intended opening year, general location, and the contact information for one (1) petitioner who will serve as liaison with the authorizer during the petition process; ( )

b. Table of contents; ( )

c. One-page (1) executive summary describing the proposed school's organizational structure, educational program, and student outcome expectations; and ( )

d. Mission statement. ( )

02. Educational Program. Describe the proposed school's educational program by explaining the following: ( )

a. Educational philosophy; ( )

b. Student academic achievement standards and any additional goals and methods for measuring achievement; ( )

c. Key educational design elements, including curricula, tools and instructional methods identified to carry out the educational philosophy and meet academic and mission-specific goals, which may include evidence demonstrating efficacy of these elements; and ( )

d. Strategies for meeting the needs of specific student populations, including, but not limited to, at-risk students, special education students, English language learners, and gifted students. ( )

03. Financial and Facilities Plan. Demonstrate a sound understanding of public charter school finances and facilities needs. ( )

a. State whether the school intends to provide transportation or food service, and provide plans for provision of these services if they will be offered; ( )

b. Describe how the school's finances will be managed and monitored; ( )

c. Provide a working draft of the school's prospective facilities plan, including likely facilities needs and estimated costs; ( )

d. Provide a description of any potential facilities that have been identified and a timeline and process for securing appropriate space; and ( )

e. Attach the following to Appendix A: Pre-opening budget and three-year operating budget, including detailed assumptions for all revenue and expenditures for each year; year one (1), break-even budget demonstrating the minimum enrollment needed to achieve a zero (0) or marginal net income balance at the end of the year; cash flow projection for the first operational year, demonstrating an understanding of charter school monetary flow; evidence of existing and anticipated funds; and evidence that projected facilities costs are reasonable within the start-up and three-year budgets. ( )

04. Board Capacity And Governance Structure. Provide information about the legal entity and the individuals involved in opening the proposed school. ( )

a. Attach copies of the nonprofit corporation's Articles of Incorporation and Corporate Bylaws to Appendix B, though note that they will not be incorporated as part of the school's charter; ( )

b. Provide a description of the governance structure; ( )

c. List any already identified members of the board of directors, attach their professional resumes to Appendix C, and provide any additional information about their qualifications; ( )

d. Describe the board's plan for a smooth transition from initial founding members to subsequent members; and ( )

e. Describe the plan for board member recruitment and training. ( )

05. Student Demand and Primary Attendance Area. Demonstrate the need and community demand for the proposed public charter school in the selected location. ( )

a. Describe the primary attendance area and list the public school districts that overlap this area; ( )

b. Clearly articulate the need and demand for a school in the selected location, including demographics for the intended neighborhood. Need is the reason(s) existing schools are insufficient or inadequate and includes state performance data. Demand is evidence of desire from prospective families to attend the school; ( )

c. Describe the population of students the proposed school intends to serve and how the selected location supports serving such students; ( )

d. Provide the target enrollment by grade level and projected growth over five (5) years; ( )

e. Describe any community partnerships or other local support for the proposed school; and ( )

f. Describe strategies for informing under-served students and their families about the prospective school and the enrollment process. ( )

06. School Leadership and Management. Describe the proposed school's administrative leadership structure, and provide information about any potential education service providers. ( )

a. Attach an organizational chart to Appendix D illustrating the proposed school's leadership structure and indicating the reporting structures of school leaders to the board. If school leaders have already been identified, include their names, contact information, resumes, and any additional information about their qualifications in the appendices. ( )

b. Describe the responsibilities of and relationships among school leadership, the governing board, instructional leaders, and staff, and include a plan for evaluating school leaders. ( )

c. If the proposed school intends to work with an educational service provider, provide the name of the company, a contact within the company, and specify in detail the extent of the entity's participation in the management and operation of the school. Attach the following to Appendix E: ( )

i. A term sheet indicating the fees to be paid by the proposed school to the management company, the length of the proposed contract, the terms for the contracts renewal, and provisions for termination; ( )

ii. Copies of the two (2) most recent contracts that the entity has executed with operating charter schools; and ( )

iii. A detailed description of the education service provider's relationship to the school's board of directors; ( )

iv. A detailed description of how and why the management organization or educational service provider was selected, and evidence that the organization provides high-quality service to similarly situated schools, if applicable. ( )

07. Supporting Documents. ( )

a. Appendix A – Budgets, cash flow, additional funds. ( )

b. Appendix B – Articles of Incorporation and Bylaws. ( )

c. Appendix C – Board of Directors. ( )

d. Appendix D – School Administration. ( )

e. Appendix E – Education Service Provider. ( )

f. Appendix F – Optional additional supporting documents. ( )

203. Admission Procedures.

01. Model Admission Procedures. All public charter schools must have an admission procedure

approved by their authorized chartering entity, which complies with Section 33-5206(11), Idaho Code, and Section 203 of this rule. In order to ensure that public charter schools utilize a fair and equitable selection process for initial admission to and enrollment in a public charter school, as well as admission to and enrollment in a public charter school during subsequent school years, the Board has approved model admission procedures that may be utilized and adopted by petitioners. The approved model admission procedures are described in Subsections 203.03 through 203.12 of these rules. Petitioners are not required to adopt the Board's model admission procedures, but must demonstrate a reason for varying from the Board's approved procedures. ( )

02. Enrollment Opportunities. Charter holders shall ensure that citizens in the primary attendance area shall be made aware of the enrollment opportunities of the public charter school. Such process shall include the dissemination of enrollment information, taking into consideration the language demographics of the attendance area, at least three (3) months in advance of the enrollment deadline established by the public charter school each year, to be posted in highly visible and prominent locations within the area of attendance of the public charter school. In addition, petitioners shall ensure that such process includes the dissemination of press release or public service announcements, to media outlets that broadcast within, or disseminate printed publications within, the area of attendance of the public charter school; petitioners must ensure that such announcements are broadcast or published by such media outlets on not less than three (3) occasions, beginning not later than fourteen (14) days prior to the enrollment deadline each year. Finally, such enrollment information shall advise that all prospective students will be given the opportunity to enroll in the public charter school, regardless of race, color, national or ethnic origin, religion, gender, social or economic status, or special needs. ( )

03. Enrollment Deadline. Each year a public charter school shall establish an enrollment admissions deadline, which shall be the date by which all written requests for admission to attend the public charter school for the next school year must be received. The enrollment deadline cannot be changed once the enrollment information is disseminated as required by Subsection 203.02. ( )

04. Requests for Admission. A parent, guardian, or other person with legal authority to make decisions regarding school attendance on behalf of a child in this state, may make a request in writing for such child to attend a public charter school. In the case of a family with more than one (1) child seeking to attend a public charter school, a single written request for admission must be submitted on behalf of all siblings. The written request for admission must be submitted to, and received by, the public charter school at which admission is sought on or before the enrollment deadline established by the public charter school. The written request for admission shall contain the name, grade level, address, and telephone number of each prospective student in a family. If the initial capacity of the public charter school is insufficient to enroll all prospective students, then an equitable selection process, such as a lottery or other random method, shall be utilized to determine which prospective students will be admitted to the public charter school, as described in Subsection 203.09 of this rule. Only those written requests for admission submitted on behalf of prospective students that are received prior to the enrollment deadline established by the public charter school shall be permitted in the equitable selection process. Only written requests for admission shall be considered by the public charter school. Written requests for admission received after the established enrollment deadline will be added to the bottom of the waiting list for the appropriate grade. If there is an opening in one grade, a sibling, if any, from a late submitted application must go to the bottom of the sibling list.

( )

05. Admission Preferences. A public charter school shall establish an admission preference for students residing in the attendance area of the public charter school, as provided in Section 33-5206, Idaho Code. In addition, a public charter school may establish additional admission preferences, as authorized by Section 33-5206(11), Idaho Code. ( )

06. Proposed Attendance List for Lottery. Each year the public charter school shall create an attendance list containing the names of all prospective students on whose behalf a written request for admission was timely received by the public charter school, separated by grade level. In addition, the proposed attendance list shall contain columns next to the name of each student, in which the public charter school will designate admission preferences applicable to each prospective student. The columns shall be designated "A" for returning student preference; "B" for founders preference; "C" for sibling preference, with a corresponding cross-reference to each of the siblings of the prospective student; and "D" for attendance area preference. ( )

07. Equitable Selection Process. If the initial capacity of a public charter school is insufficient to enroll all prospective students, or if capacity is insufficient to enroll all prospective students in subsequent school years, then the public charter school shall determine the students who will be offered admission to the public charter school by conducting a fair and equitable selection process. The selection procedure shall be conducted as follows: ( )

a. The name of each prospective student on the proposed attendance list shall be individually affixed to or written on a three by five (3 x 5) inch index card. The index cards shall be separated by grade. The selection procedure shall be conducted one (1) grade level at a time, with the order for each grade level selected randomly. The index cards containing the names of the prospective students for the grade level being selected shall be placed into a single container. ( )

b. A neutral, third party shall draw the grade level to be completed first and then draw each index card from the container for that grade level, and such person shall write the selection number on each index card as drawn, beginning with the numeral "1" and continuing sequentially thereafter. In addition, after selecting each index card, the name of the person selected will be compared to the proposed attendance list to determine whether any preferences are applicable to such person. ( )

c. If the name of the person selected is a returning student, then the letter "A" shall be written on such index card. If the name of the person selected is the child of a founder, the letter "B" shall be written on such index card. If the name of the person selected is the sibling of another student that has already been selected for admission to the public charter school, then the letter "C" shall be written on such index card. If the name of the person selected resides in the attendance area of the public charter school, then the letter "D" shall be written on such index card. ( )

d. With regard to the sibling preference, if the name of the person selected has a sibling who has already been selected, but the person previously selected did not have the letter "C" written on his or her index card (because a sibling had not been selected for admission prior to the selection of the index card of that person), then the letter "C" shall now be written on that person's index card at this time. ( )

e. With regard to the founder's preference, a running tally shall be kept during the course of the selection procedure of the number of index cards, in the aggregate, that have been marked with the letter "B." When the number of index cards marked with the letter "B" equals ten percent (10%) of the proposed capacity of the public charter school for the school year at issue, then no additional index cards shall be marked with the letter "B," even if such person selected would otherwise be eligible for the founders preference. ( )

f. After all index cards have been selected for each grade, then the index cards shall be sorted for each grade level in accordance with the following procedure. All index cards with the letter "A" shall be sorted first, based on the chronological order of the selection number written on each index card; followed by all index cards with the letter "B," based on the chronological order of the selection number written on each index card; followed by all index cards with the letter "C," based on the chronological order of the selection number written on each index card; followed by all index cards with the letter "D," based on the chronological order of the selection number written on each index card; followed, finally, by all index cards containing no letters, based on the chronological order of the selection number written on each index card. ( )

g. After the index cards have been drawn and sorted for all grade levels, the names shall be transferred by grade level, and in such order as preferences apply, to the final selection list. ( )

08. Final Selection List. The names of the persons in highest order on the final selection list shall have the highest priority for admission to the public charter school in that grade, and shall be offered admission to the public charter school in such grade until all seats for that grade are filled. ( )

09. Notification and Acceptance Process. ( )

a. With respect to students selected for admission to the public charter school, within seven (7) days after conducting the selection process, the public charter school shall send an offer letter to the parent, guardian, or other person who submitted a written request for admission on behalf of a student, advising such person that the student has been selected for admission to the public charter school. The offer letter must be signed by such student's parent, or guardian, and returned to the public charter school by the date designated in such offer letter by the public charter school. ( )

b. With respect to a prospective student not eligible for admission to the public charter school, within seven (7) days after conducting the selection process, the public charter school shall send a letter to the parent, guardian, or other person who submitted a request for admission on behalf of such student, advising such person that the prospective student is not eligible for admission, but will be placed on a waiting list and may be eligible for admission at a later date if a seat becomes available. ( )

c. If a parent, guardian, or other person receives an offer letter on behalf of a student and declines admission, or fails to timely sign and return such offer by the date designated in such offer letter by the public charter school, then the name of such student will be stricken from the final selection list, and the seat that opens in that grade will be made available to the next eligible student on the final selection list. ( )

d. If a student withdraws from the public charter school during the school year for any reason, then the seat that opens in that grade will be made available to the next eligible student on the final selection list. ( )

10. Subsequent School Years. The final selection list for a given school year shall not roll over to the next subsequent school year. If the capacity of the public charter school is insufficient to enroll all prospective students during the next subsequent school year, then a new equitable selection process shall be conducted by the public charter school for such school year. ( )

204. (RESERVED)

205. Review Of Petitions.

01. If Denied, Petitioners May Appeal. ( )

a. If a petition is denied, then the authorized chartering entity must promptly prepare for petitioners a written notice of its decision to deny the charter. The written decision shall include all of the reasons for the denial, and shall also include a reasoned statement that states or explains the criteria and standards considered relevant by the authorized chartering entity, the relevant contested facts relied upon, and the rationale for the decision based on the applicable statutory provisions and factual information presented to the authorized chartering entity. ( )

b. Petitions submitted to a local board of trustees of a school district or the public charter school commission may be appealed. The petitioners may appeal the decision of the authorized chartering entity, in accordance with the procedures described in Sections 401 through 402 of these rules. ( )

206. -- 299. (RESERVED)

300. Public Charter School Responsibilities.

01. General. The governing board of a public charter school shall be responsible for ensuring that the public charter school is adequately staffed, and that such staff provides sufficient oversight over all public charter school operational and educational activities. In addition, the governing board of a public charter school shall be responsible for ensuring that the school complies with all applicable federal and state education standards, as well as all applicable state and federal laws, rules and regulations, and policies. ( )

02. Compliance with Terms of Performance Certificate. The governing board of a public charter school shall be responsible for ensuring that the school is in compliance with the terms and conditions of the

performance certificate approved executed in accordance with Section 33-5205B(1), Idaho Code. ( )

03. Annual Reports. The governing board of a public charter school must submit an annual audit of the fiscal operations as required in Section 33-5206(7), Idaho Code. An authorized chartering entity may reasonably request that a public charter school provide additional information to ensure that the public charter school is meeting the terms of its performance certificate. ( )

04. Operational Issues. The governing board of the public charter school shall be responsible for promptly notifying its authorized chartering entity if it becomes aware that the public charter school is not operating in compliance with the terms and conditions of its performance certificate. Thereafter, the governing board of the public charter school shall also be responsible for advising its authorized chartering entity with follow-up information as to when, and how, such operational issues are finally resolved and corrected. ( )

05. Articles of Incorporation and Bylaws. The governing board of the public charter school shall be responsible for promptly notifying its authorized chartering entity of any revisions or amendments to the articles of incorporation or bylaws. ( )

301. Authorized Chartering Entity Responsibilities.

01. Monitoring. Notwithstanding Section 300 of these rules, the authorized chartering entity of a public charter school shall be responsible for monitoring the public charter school's operations in accordance with all of the terms and conditions of the performance certificate. ( )

02. Performance Certificate Review. Pursuant to Section 33-5209B, Idaho Code, an authorized chartering entity may renew or nonrenew a charter for a term of five (5) years following the initial three-year term. Should a chartering entity take no action to renew or nonrenew the charter, and the charter school has met all of the existing performance certificate targets, the charter school shall be provisionally renewed until such time as the chartering entity takes action. The five-year term of the renewed charter shall be based on the provisional renewal date. ( )

302. Charter Revisions.

The governing board of a public charter school may reasonably request revisions to an approved charter or performance certificate, as authorized by Section 33-5206(8), Idaho Code. ( )

01. Request for Revision of Charter or Performance Certificate. The governing board of a public charter school that desires to revise its charter or performances certificate must submit a written request and the proposed revisions to the public charter school's authorized chartering entity. ( )

02. Procedure for Reviewing Request for Charter or Performance Certificate Revision. The authorized chartering entity shall have seventy-five (75) days from the date of receipt of the written request and proposed revisions in which to issue its decision on the request for charter or performance certificate revision. The authorized chartering entity shall consider the request for charter or performance certificate revision at its next regular meeting following the date of receipt of the written request and proposed revisions, provided that the request and proposed revisions are submitted no fewer than thirty (30) days in advance of that meeting. If permitted by applicable policies and procedures adopted by the authorized chartering entity, the review of a request for a charter or performance certificate revision may be delegated to appropriate staff employed by the authorized chartering entity. An authorized chartering entity may, but is not required to, conduct a public hearing to consider the request for charter or performance certificate revision. ( )

03. Approval of Proposed Charter or Performance Certificate Revision. If the authorized chartering entity approves the proposed charter or performance certificate revision, a copy of such revision shall be executed by each of the parties to the charter or performance certificate and shall be treated as either a supplement to, or amendment of, the final approved charter or performance certificate, whatever the case may be. ( )

04. Denial of Proposed Charter or Performance Certificate Revision. If the proposed revision is

denied, then the authorized chartering entity must prepare a written notice of its decision denying the request for charter or performance certificate revision. The decision to deny a request for a charter or performance certificate revision shall contain all of the reasons for the decision. The public charter school may appeal the decision denying the request for charter or performance certificate revision to the Board. The provisions of Section 403 of these rules shall govern the appeal. ( )

303. Revocation.
An authorized chartering entity may revoke a charter in accordance with the procedure described in this Section 303 of this rule if a public charter school has failed to meet any of the specific, written conditions for necessary improvements established pursuant to the provisions of Section 33-5209B(1), Idaho Code, by the dates specified. ( )

01. Written Notice of Intention to Revoke Charter. The authorized chartering entity must provide the public charter school with reasonable notice of the authorized chartering entity's intent to revoke the charter, which shall be in writing and must include all of the reasons for such proposed action. In addition, such notice shall provide the public charter school with a reasonable opportunity to reply, which shall not be less than thirty (30) days after the date of such notice. ( )

02. Public Hearing. The authorized chartering entity shall conduct a public hearing with respect to its intent to revoke a charter. Such hearing shall be held no later than thirty (30) days after receipt of such written reply. If the public charter school does not reply by the date set in the notice, then such hearing shall be held no later than sixty (60) days after the date the notice was sent by the authorized chartering entity. ( )

a. Written notification of the hearing shall be sent to the public charter school at least ten (10) days in advance of the hearing. ( )

b. The public hearing shall be conducted by the authorized chartering entity, or such other person or persons appointed by the authorized chartering entity to conduct public hearings and receive evidence as a contested case in accordance with Section 67-5242, Idaho Code. ( )

03. Charter Revocation. If the authorized chartering entity determines that the public charter school has failed to meet any of the specific written conditions for necessary improvements established pursuant to the provisions of Section 33-520B(1), Idaho Code, by the dates specified, then the authorized chartering entity may revoke the charter. Such decision may be appealed to the Board. The provisions of Section 403 of these rules shall govern the appeal. ( )

304. -- 399. (RESERVED)

400. Appeals.
The following actions relating to public charter schools may be appealed to the Department or to the Board, as applicable, in accordance with the procedures described in Sections 401 through 403 of these rules: ( )

01. Denial of New Petition. The denial by an authorized chartering entity of a petition to form a new public charter school, as authorized by Section 33-5207, Idaho Code. ( )

02. Approval of Conversion Petition. The approval of a petition by an authorized chartering entity to convert a traditional public school to a public charter school over the objection of thirty (30) or more persons or employees of the local school district, as authorized by Section 33-5207, Idaho Code. ( )

03. Denial of Charter or Performance Certificate Revision. The denial by the authorized chartering entity of a public charter school of a request to revise a charter or performance certificate, as authorized by Section 33-5206(8), Idaho Code. ( )

04. Revocation. A decision of an authorized chartering entity to revoke a charter, as authorized by Section 33-5209C(7), Idaho Code. ( )

401. Appeal To The Department Of A Decision Relating To The Formation Of A New Or Conversion Public Charter School.

The denial of a petition to form a new public charter school, or the granting of a petition to form a conversion public charter school over the objection of thirty (30) or more persons or employees of the local school district, may be appealed to the Department, as provided by Section 33-5207(1), Idaho Code. The following procedures shall govern such appeals. ( )

01. Submission of Appeal. To institute an appeal, the petitioners/appellants shall submit a notice of appeal and request for public hearing in writing to the Department that describes, in detail, all of the grounds for the appeal, and the remedy requested, within thirty (30) days from the date of the decision of the authorized chartering entity that reviewed the petition. A copy of the notice of appeal shall be submitted to the authorized chartering entity, and with the Board. In addition, contemporaneous with the submission of the notice of appeal, the petitioners/appellants shall also submit to the Department two (2) copies of the complete record of all actions taken with respect to the consideration of the public charter school petition. The record must be in chronological order and must be appropriately tabbed and indexed. The record must contain, at a minimum, all of the following documents: ( )

a. The name, address, and telephone number of the person or persons submitting the appeal on behalf of petitioners/appellants, as well as the authorized chartering entity that issued the decision being appealed. ( )

b. The complete petition that was submitted to the authorized chartering entity, including any amendments thereto or supplements thereof. ( )

c. Copies of audio or video recordings, if any, and the minutes from all meeting(s) where the petition was considered or discussed. ( )

d. All correspondence between the petitioners/appellants and the authorized chartering entity relating to the petition from the date the original petition was submitted until the date the authorized chartering entity issued the decision being appealed. ( )

e. The written decision provided by the authorized chartering entity to the petitioner. A copy of such notice of appeal shall be submitted to the authorized chartering entity whose decision is being appealed, and to the Board. ( )

02. Hearing Officer. The Department shall hire a hearing officer to review the action of the authorized chartering entity and to conduct a public hearing, pursuant to Section 67-5242, Idaho Code. The Department shall forward to the hearing officer one (1) copy of the record provided by petitioners/appellants and attached to the notice of appeal within ten (10) business days of receipt. ( )

03. Public Hearing. A public hearing to review the decision of the authorized chartering entity shall be conducted within thirty (30) days after the hearing officer receives the notice of appeal and request for a public hearing submitted to the Department. ( )

04. Notice of Hearing. All parties in an appeal shall be notified of a public hearing at least ten (10) days in advance, or within such time period as may be mandated by law. The notice shall identify the time, place, and nature of the hearing; a statement of the legal authority under which the hearing is to be held; the particular sections of the statutes and any rules involved; the issues involved; and the right to be represented. The notice shall identify how and when documents for the hearing will be provided to all parties. ( )

05. Prehearing Conference. The hearing officer may, upon written or other sufficient notice to all interested parties, hold a prehearing conference to formulate or simplify the issues; obtain admissions or stipulations of fact and documents; identify whether there is any additional information that had not been presented to the authorized chartering entity; arrange for exchange of any proposed exhibits or prepared expert testimony; limit the number of witnesses; determine the procedure at the hearing; and to determine any other matters which may expedite

the orderly conduct and disposition of the proceeding. ( )

06. Hearing Record. The hearing shall be recorded unless a party requests a stenographic recording by a certified court reporter, in writing, at least seven (7) days prior to the date of the hearing. Any party requesting a stenographic recording by a certified court reporter shall be responsible for the costs of same. Any party may request that a transcript of the recorded hearing be prepared, at the expense of the party requesting such transcript, and prepayment or guarantee of payment may be required. Once a transcript is requested, any party may obtain a copy at the party's own expense. ( )

07. Hearing Officer's Recommendation. The hearing officer shall issue a recommendation within ten (10) days after the date of the hearing. The recommendation shall include specific findings on all major facts at issue; a reasoned statement in support of the recommendation; all other findings and recommendations of the hearing officer; and a recommendation affirming or reversing the decision of the authorized chartering entity. The hearing officer shall mail or deliver a copy of the recommendation to the Department, the petitioners/appellants, and the authorized chartering entity. ( )

08. Review of Recommendation by Authorized Chartering Entity. ( )

a. The authorized chartering entity shall hold a public hearing to review the recommendation of the hearing officer within thirty (30) days of receipt of the recommendation. ( )

b. Written notification of the scheduled public hearing shall be sent by the authorized chartering entity to the petitioners/appellants at least ten (10) days prior to the scheduled hearing date. ( )

c. The authorized chartering entity shall make a final decision to affirm or reverse its initial decision within ten (10) days after the date the public hearing is conducted. ( )

09. Reversal of Initial Decision. ( )

a. If the authorized chartering entity reverses its initial decision and denies the conversion of a traditional public school to a public charter school, then that decision is final and there shall be no further appeal. ( )

b. If the authorized chartering entity reverses its initial decision and approves the new public charter school, then the charter shall be granted and there shall be no further appeal. ( )

10. Affirmation of Initial Decision. ( )

a. If the authorized chartering entity affirms its initial decision to authorize the conversion of a traditional public school to a public charter school, then the charter shall be granted and there shall be no further appeal. ( )

b. If the authorized chartering entity affirms its initial decision and denies the grant of a new public charter school, then the petitioners/appellants may appeal such final decision further to the Board in accordance with the procedure described in Section 402 of these rules. ( )

402. Appeal To The Board Relating To The Denial Of A Request To Form A New Public Charter School. The following procedures shall govern an appeal to the Board of the final decision of an authorized chartering entity relating to the denial of a petition to form a new public charter school. ( )

01. Submission of Appeal. The petitioners/appellants shall submit a notice of appeal in writing with the Board that describes, in detail, all of the grounds for the appeal, and the remedy requested, within twenty-one (21) days from the date the authorized chartering entity issues its final decision to deny a petition to form a new public charter school. A copy of the notice of appeal shall be submitted to the authorized chartering entity. In addition,

contemporaneous with the submission of the notice of appeal, the petitioners/appellants shall also submit to the Board, two (2) copies of a complete record of all actions taken with respect to the consideration of the public charter school petition. The record must be in chronological order, must be tabbed and indexed, and must contain, at a minimum, the following documents: ( )

a. The complete record submitted to the Department, as provided in Subsection 401.01.a. through 401.01.e. of these rules. ( )

b. A transcript, prepared by a neutral person whose interests are not affiliated with a party to the appeal, of the recorded public hearing conducted by the hearing officer, as described in Subsection 401.06 of these rules. ( )

c. A copy of the hearing officer's recommendation. ( )

d. Copies of audio or video recordings, if any, and the minutes of the public hearing conducted by the authorized chartering entity to consider the recommendation of the hearing officer, as described in Subsection 401.08.a. through 401.08.c. of these rules. ( )

e. Copies of any additional correspondence between the petitioners/appellants and the authorized chartering entity relating to the petition subsequent to the public hearing conducted by the Department. ( )

f. The final written decision provided by the authorized chartering entity to the petitioners/appellants. ( )

02. Public Hearing. A public hearing to review the final decision of the authorized chartering entity shall be conducted within a reasonable time from the date that the Board receives the notice of appeal, but not later than sixty (60) calendar days from such date. The public hearing shall be for the purpose of considering all of the materials in the record that were presented at prior proceedings. However, new evidence, testimony, documents, or materials that were not previously considered at prior hearings on the matter may be accepted or considered, in the sole reasonable discretion of the Board, or of the charter appeal committee or public hearing officer, as described in Subsection 402.04 of this rule. ( )

03. Notice of Hearing. All parties in an appeal shall be notified of a public hearing at least ten (10) days in advance, or within such time period as may be mandated by law. The notice shall identify the time and place of the hearing; a statement of the legal authority under which the hearing is to be held; the particular sections of the statutes and any rules involved; the issues involved; and the right to be represented. The notice shall identify how and when documents for the hearing will be provided to all parties. ( )

04. Appointment of Charter Appeal Committee or Public Hearing Officer. The Board may, in its reasonable discretion, determine to appoint a charter appeal committee, composed solely of Board members, or a combination of Board members and Board staff, or alternatively, to appoint a public hearing officer, for the purpose of conducting the public hearing. If the Board determines not to make such an appointment, then the Board shall conduct the public hearing. ( )

05. Recommended Findings. If the public hearing is conducted by a charter appeal committee or appointed public hearing officer, then such committee or appointed public hearing officer shall forward to the Board all materials relating to the hearing as soon as reasonably practicable after the date of the public hearing. If so requested by the Board, the entity conducting the public hearing may prepare recommended findings for the Board to consider. The recommended findings shall include specific findings on all major facts at issue; a reasoned statement in support of the recommendation; all other findings and recommendations of the charter appeal committee or public hearing officer; and a recommended decision affirming or reversing the decision of the authorized chartering entity, or such other action recommended by the charter appeal committee or public hearing officer, such as remanding the matter back to the authorized chartering entity, or redirecting the petition to another authorized chartering entity. A copy of the recommended findings shall be mailed or delivered to all the parties.

( )

06. Final Decision and Order by the Board. The Board shall consider the materials forwarded by the entity conducting the public hearing, including any recommended findings of the charter appeal committee or appointed public hearing officer, as may be applicable, in a meeting open to the public at the next regularly scheduled meeting of the Board that occurs after the public hearing. If the public hearing was not conducted by the Board, then the Board may allow representatives for both the petitioner/appellant and the authorized chartering entity an opportunity to deliver oral arguments to the Board advocating their respective positions, limited to thirty (30) minutes for each party. Whether the public hearing is conducted by the Board or by a charter appeal committee, the Board shall issue a final written decision on such appeal within sixty (60) days from the date of the public hearing. The final decision and order of the Board shall be sent to both the petitioners/appellants and the authorized chartering entity, and will not be subject to reconsideration. With respect to such written decision, the Board may take any of the following actions: ( )

a. Approve the charter, if the Board determines that the authorized chartering entity failed to appropriately consider the charter petition, or if it acted in an arbitrary manner in denying the request. In the event the Board approves the charter, the charter shall operate under the jurisdiction of the Commission, as provided by Section 33-5207(6), Idaho Code. ( )

b. Remand the petition back to the authorized chartering entity for further consideration with directions or instructions relating to such further review. If the authorized chartering entity further considers the matter and again denies the petition, then that decision is final and there shall be no further appeal. ( )

c. Redirect the petition for consideration by the Commission, if the appeal is regarding a denial decision made by the board of trustees of a local school district. ( )

d. Deny the appeal submitted by the petitioners/appellants. ( )

403. Appeal Relating To The Denial Of A Request To Revise A Charter Or Performance Certificate Or A Charter Non-Renewal Or Revocation Decision.
The following procedures shall govern an appeal relating to the denial of a request to revise a charter or a charter non-renewal or revocation decision. ( )

01. Submission of Appeal. The public charter school shall submit a notice of appeal in writing to the Board that describes, in detail, all of the grounds for the appeal, and the remedy requested, within thirty (30) days from the date of the written decision of the authorized chartering entity to non-renew or revoke a charter or to deny a charter or performance certificate revision. A copy of the notice of appeal shall be submitted to the authorized chartering entity. In addition, contemporaneous with the submission of the notice of appeal, the appellant charter school shall also submit to the Board one (1) hard copy and one (1) electronic copy of the complete record of all actions taken with respect to the matter being appealed. The record must be in chronological order and must be appropriately tabbed and indexed. The record must contain, at a minimum, all of the following documents: ( )

a. The name, address, and telephone number of the appellant public charter school and the authorized chartering entity that issued the decision being appealed. ( )

b. Copies of all correspondence or other documents between the appellant public charter school and the authorized chartering entity relating to the matter being appealed. ( )

c. Copies of audio or video recordings, if any, and the minutes from all meeting(s) where the matter on appeal was considered or discussed. ( )

d. The written decision provided by the authorized chartering entity to the appellant public charter school. ( )

02. Public Hearing. A public hearing to review the decision of the authorized chartering entity shall be conducted within thirty (30) days after the date of the filing of the notice of appeal. ( )

03. **Notice of Hearing**. All parties in an appeal shall be notified of a public hearing at least ten (10) days in advance, or within such time period as may be mandated by law. The notice shall identify the time and place of the hearing; a statement of the legal authority under which the hearing is to be held; the particular sections of the statutes and any rules involved; the issues involved; and the right to be represented. The notice shall identify how and when documents for the hearing will be provided to all parties. ( )

04. **Appointment of Charter Appeal Committee or Public Hearing Officer**. The Board may, in its reasonable discretion, determine to appoint a charter appeal committee, composed solely of Board members, or a combination of Board members and Board staff, or alternatively, to appoint a public hearing officer, for the purpose of conducting the public hearing. If the Board determines not to make such an appointment, then the Board shall conduct the public hearing. ( )

05. **Prehearing Conference**. The entity conducting the public hearing may, upon written or other sufficient notice to all interested parties, hold a prehearing conference to formulate or simplify the issues; obtain admissions or stipulations of fact and documents; identify whether there is any additional information that had not been presented to the authorized chartering entity; arrange for exchange of any proposed exhibits or prepared expert testimony; limit the number of witnesses; determine the procedure at the hearing; and to determine any other matters which may expedite the orderly conduct and disposition of the proceeding. ( )

06. **Hearing Record**. The hearing shall be recorded unless a party requests a stenographic recording by a certified court reporter, in writing, at least seven (7) days prior to the date of the hearing. Any party requesting a stenographic recording by a certified court reporter shall be responsible for the costs of same. The record shall be transcribed at the expense of the party requesting a transcript, and prepayment or guarantee of payment may be required. Once a transcript is requested, any party may obtain a copy at the party's own expense. ( )

07. **Recommended Findings**. If the public hearing is conducted by a charter appeal committee or appointed public hearing officer, then such committee or public hearing officer shall forward to the Board all materials relating to the hearing as soon as reasonably practicable after the date of the public hearing. If so requested by the Board, the entity conducting the public hearing may prepare recommended findings for the Board to consider. The recommended findings shall include specific findings on all major facts at issue; a reasoned statement in support of the recommendation; all other findings and recommendations of the charter appeal committee or public hearing officer; and a recommended decision affirming, or reversing the action or decision of the authorized chartering entity. A copy of the recommended findings shall be mailed or delivered to all the parties. ( )

08. **Final Decision and Order by the Board**. The Board shall consider the materials forwarded by the entity conducting the public hearing, including any recommended findings of the charter appeal committee or appointed public hearing officer, as may be applicable, in a meeting open to the public at the next regularly scheduled meeting of the Board that occurs after the public hearing. If the public hearing was not conducted by the Board, then the Board may allow representatives for both the appellant public charter school and the authorized chartering entity an opportunity to deliver oral arguments to the Board advocating their respective positions, limited to thirty (30) minutes for each party. Whether the public hearing is conducted by the Board, or by a charter appeal committee or appointed public hearing officer, the Board shall issue a final written decision on such appeal within sixty (60) days from the date of the public hearing. The decision shall be sent to both the appellant public charter school and the authorized chartering entity. With respect to such written decision, the Board may take any of the following actions:( )

a. Grant the appeal and reverse the decision of the authorized chartering entity if the Board determines that the authorized chartering entity failed to appropriately consider the non-renewal or revocation of the charter, or the request to revise the charter or performance certificate, or that the authorized chartering authority acted in an arbitrary manner in determining to non-renew or revoke the charter, or in denying the request to revise the charter or performance certificate. ( )

b. Deny the appeal filed by the appellants. ( )

404. Ex Parte Communications.
Unless required for the disposition of a matter specifically authorized by statute to be done ex parte, no party to the appeal nor any representative of any such party to the appeal, nor any person or entity interested in such appeal, may communicate, directly or indirectly, regarding any substantive issue in the appeal with the Board or the charter appeal committee or any hearing officer appointed to hear or preside over the appeal hearing, except upon notice and opportunity for all parties to participate in the communication. ( )

405. -- 499. (RESERVED)

500. Miscellaneous.

01. LEA Designations. Section 33-5203(7), Idaho Code, provides that the board of trustees of a school district may designate a public charter school it authorizes as an LEA, with the concurrence of the public charter school board of directors. In order to designate a public charter school as an LEA, the board of trustees of the school district must submit to the Department the following no later than February 1 in order for any such designation to be effective for the following school year: ( )

a. Verification that the board of trustees is the authorized chartering entity of the public charter school it wishes to designate as an LEA. ( )

b. Written documentation that the board of trustees of the school district and the board of trustees of the public charter school have agreed to the designation of the public charter school as an LEA. Such documentation shall be signed by representatives of both parties. ( )

501. -- 999. (RESERVED)

ATTACHMENT 1

08.02.05 – Rules Governing Pay for Success Contracting

000. Legal Authority.
In accordance with Sections 33-125B(8), Idaho Code, the State Board of Education may promulgate rules implementing the provisions of Section 33-125B, Idaho Code. ( )

001. Scope.
These rules constitute the requirements for Pay for Success Contracting. ( )

002. -- 009. (RESERVED)

010. Definitions.

01. Board. The State Board of Education. ( )

02. Department. The State Department of Education. ( )

03. Oversight Committee. Committee formed pursuant to Section 33-125B(6), Idaho Code, to evaluate pay for success contracting proposals. ( )

04. Pay for Success Contracting. Contracting for services with private entities whereby services are reimbursed based on the achievement of outcomes pursuant to Section 33-125B, Idaho Code. ( )

011. -- 100. (RESERVED)

101. Initiating Contracting.

01. Two Routes for Initiating Contracting. Contracting may be initiated through two (2) separate routes. ( )

a. Initiated by Department. The Department may issues a request for information upon identification of a need for a service; or ( )

b. Initiated by interested party. An interested party or service provider may identify a need for service and submit a proposal to the State Department of Education. Proposals must include a letter of intent to participate in a pay for success contract and must include the following information: ( )

i. Special service(s) that the service provider will provide; ( )

ii. How the services will enhance student academic achievement; ( )

iii. Source of education funding from which savings will be realized; ( )

iv. Identity of one (1) or more qualified external evaluators; ( )

v. Provide external evaluator's qualifications and expertise as required pursuant to Section 33-125B, Idaho Code; and ( )

vi. Identify local education agencies (LEA) that have expressed interest in participating in the service and documentation that LEA meets the requirements pursuant to Section 33-125B, Idaho Code. ( )

02. Additional Information. As part of the review process, the oversight committee may request additional information. ( )

03. Format. Proposals may be submitted in electronic or hard copy format. ( )

102. Proposal Evaluation.

01. Timeline. ( )

a. Within five (5) business days of receipt of the complete proposal, the proposal will be forwarded electronically to the oversight committee. ( )

b. After receiving the proposal, the oversight committee will determine if additional information is needed to evaluate the proposal. The oversight committee will request additional information from the interested party within thirty (30) days of receiving the initial proposal. ( )

c. The interested party shall respond to a request for additional information within fifteen (15) days of receiving the request. ( )

i. Requests for additional response time may be granted at the discretion of the oversight committee. ( )

ii. If the interested party fails to respond or additional information is not received within the specified time, the oversight committee may reject the proposal without further consideration. ( )

d. The oversight committee shall hold an initial meeting either in-person, telephonically, or by other means, to consider the merits of the proposal within forty-five (45) days of receipt of the proposal. ( )

e. The oversight committee chair shall inform the Department designated staff person, and the interested party, of its decision on a proposal within ninety (90) days of receipt of the complete proposal. ( )

02. Oversight Committee Action. Following consideration of a proposal, the oversight committee shall take one (1) of the following actions: ( )

a. Require the Department to start negotiations with the interested party; ( )

b. Require the Department to start negotiations with the interested party, subject to conditions imposed by the oversight committee; ( )

c. Reject the proposal with suggestions for improving the proposal prior to considering resubmittal, or; ( )

d. Reject the proposal. ( )

03. Proposal Resubmittal. Proposals that have been rejected may be resubmitted for consideration if amendments have been made to the proposal or additional information has been added for the oversight committee's consideration. ( )

103. Contract Negotiations.

01. Negotiation Teams. Contract negotiations for accepted proposals shall involve the following individuals: ( )

a. The Department chief budget officer or designee; ( )

b. One (1) or more individuals with a background in complex financial instruments; ( )

c. One (1) or more individuals with a background in complex financial instruments, at least one (1) of which will be from the state treasurer's office or the state endowment fund board; ( )

d. One (1) or more financial officers from a local education agency. In the event a local education agency has already been identified to participate in the proposal, the chief financial officer for the local education agency shall participate. ( )

e. One (1) or more individuals representing the interested party. ( )

02. Negotiation Timeline. Negotiations shall be completed within ninety (90) days unless extended by the oversight committee. To be extended by the oversight committee, the committee must determine that all parties have made a best effort to negotiate the contract. ( )

03. Negotiation Updates. The Department shall provide regular contract negotiation updates to the oversight committee, not less than every thirty (30) days during contract negotiations. Failure to negotiate mutually agreeable terms within ninety (90) days shall be reported to the oversight committee. The committee may extend the timeline for negotiations, appoint a new negotiations team or terminate the negotiations. ( )

04. Time Tracking. State employees' time spent on the evaluation or negotiation shall be tracked and recorded on a per proposal basis and be provided to the oversight committee, or to other interested parties upon request. ( )

104. Contract Monitoring.
Contract monitoring reports will be submitted to the oversight committee by the Department in a timeline and format established by the oversight committee. ( )

105. -- 999. (RESERVED)

ATTACHMENT 1

08.03.01 – Rules of the Public Charter School Commission

000. Legal Authority.
The Public Charter School Commission, in accordance with Section 33-5213, Idaho Code, adopts these rules.
( )

001. Scope.

These rules provide the requirements for the governance and administration of the Public Charter School Commission.
( )

002. (RESERVED)

003. Administrative Appeals.
The provisions of Title 33, Chapter 52, Idaho Code, and IDAPA 08.02.04, "Rules Governing Public Charter Schools," govern appeals from decisions of the Commission. ( )

004. -- 099. (RESERVED)

100. Definitions.

01. Board. The Idaho State Board of Education or its designee. ( )

02. Commission. The Public Charter School Commission or its designee.
( )

101. -- 199. (RESERVED)

200. Proceedings Before The Commission.
Proceedings or other matters before the Commission or its duly appointed hearing officer are governed by the provisions of Title 33, Chapter 52, Idaho Code, IDAPA 08.02.04, and these rules. ( )

201. Communications With Commission.
All written communications and documents intended to be part of an official record of decision in any proceeding before the Commission of any hearing officer appointed by the Commission must be filed with the individual designated by the agency. Unless otherwise provided by statute, rule, order, or notice, documents are considered filed when received by the officer designated to receive them, not when mailed or otherwise transmitted. ( )

202. Computations Of Time.
Whenever statute, these or other rules, order, or notice requires an act be done within a certain number of days of a given day, the given day is not included in the count, but the last day of the period so computed is included in the count. If the day the act must be done is Saturday, Sunday, or a legal holiday, the act may be done on the first day following that is not a Saturday, Sunday, or legal holiday. ( )

203. Meetings -- Majority -- Chairman.

01. Majority. A simple majority of members voting shall be sufficient to decide any matter pending before the Commission. ( )

02. Chairman Vote. The chairman shall vote only when necessary to break a tie. ( )

204. -- 299. (RESERVED)

300. Compliance Monitoring.
The Commission shall be responsible for monitoring the public charter school's operations in accordance with all of

the terms and conditions of the performance certificate, including compliance with all applicable federal and state education standards and all applicable state and federal laws, rules and regulations, and policies. See IDAPA 08.02.04, "Rules Governing Public Charter Schools," Subsection 301.01. Commission staff will make a site visit and verify the existence of the following documents after the charter is granted: ( )

01. Certificate of Occupancy. Certificate of Occupancy for the public charter school site; ( )

02. Building Inspection Reports. A copy of the inspection report from the Idaho Division of Building Safety; ( )

03. Fire Marshal Report. A fire marshal report for the public charter school site; ( )

04. Insurance Binders. Copies of insurance binders from a company authorized to do business in Idaho for a liability policy, a property loss policy, worker's compensation insurance, unemployment insurance, and health insurance; ( )

05. Health District Inspection Certificate. A copy of the health certificate issued by the health district for each site at which students will be taught; ( )

06. Instructional Staff Certification. Proof of certification for all instructional staff employed by the public charter school; and ( )

301. Required Documents Public Charter Schools Authorized By The Commission Must Submit To The Commission.

01. Lease Agreement. If school structures are leased, a copy of the lease agreement for the building(s) at which students will be taught; ( )

02. Financial Statements. Audited financial statements from an independent auditor must be submitted as required by Section 33-701, Idaho Code; ( )

03. Accreditation Reports. A copy of any notice from the public charter school's accrediting body that the public charter school has failed to meet or maintain full accreditation requirements must be submitted within five (5) business days of receipt; ( )

04. Complaints. Copies of any complaints filed against the public charter school including, but not limited to, lawsuits and complaints filed with the Idaho Professional Standards Commission relating to school employees, within five (5) business days of receipt; ( )

05. Board Members. A current list of all public charter school board members, including full name, address, telephone number, and resume must be on file with the Commission within five (5) business days of any changes; ( )

06. Proof of Compliance. Additional proof of compliance as reasonably requested by the Commission. ( )

302. -- 399. (RESERVED)

400. Petition -- Public Hearing.
A public hearing, as required by Section 33-5205(2), Idaho Code, for consideration of a petition on its merits shall be conducted by the Commission. Citizens intending to testify must notify the Commission the day of the meeting. Public comment will be limited to ten (10) minutes, unless otherwise determined by the Commission chairman.
( )

401. -- 999. (RESERVED)

ATTACHMENT 1

08.04.01 – Rules of the Idaho Digital Learning Academy

000. Legal Authority.
In accordance with Sections 33-5504, 33-5505, and 33-5507, Idaho Code, the Board is authorized to promulgate rules implementing the provisions of Title 33, Chapter 55, Idaho Code. ( )

001. Scope.

These rules provide the requirements for the governance and administration of the Idaho Digital Learning Academy's Board of Directors. ( )

002. -- 009. (RESERVED)

010. Definitions.

01. Acceptable Use Policy (AUP). An Acceptable Use Policy is a policy that governs behavior in a computer or online environment. An Acceptable Use Policy outlines appropriate and inappropriate behavior, including specific examples of inappropriate behavior as well as the consequences of violating the policy. Acceptable use guidelines include, but are not limited to, guidelines pertaining to the use of profanity or threatening language, copyright violations, revealing personal information (either their own or someone else's), disrupting the use of a school network, or importation of sexually explicit, drug-related, and other offensive materials into the course environment. ( )

011. -- 100. (RESERVED)

101. Accreditation.
IDLA must maintain accreditation by an organization recognized by the State Board of Education.
( )

102. Accountability.

01. Exams. Each IDLA course will require the student to take a comprehensive final exam at an approved site under proctored conditions. ( )

02. Student Work and Ethical Conduct.
( )

a. IDLA will inform students in writing of the consequences of plagiarism. The consequences for plagiarism are set out in the IDLA student handbook which is made available online at all times and is communicated to each student and parent prior to the beginning of each class. IDLA will investigate suspected cases of plagiarism and inform parents, students, and the local school district when a suspected case arises. ( )

b. Acceptable use and behavior in a distance-learning environment is determined by local school district's policies IDLA students and parents will be informed by the IDLA AUP specifically governing behavior in an online school. IDLA will provide a copy of the IDLA AUP to the Idaho State Board of Education in the IDLA Annual Report. ( )

c. In a case of violation of the acceptable use policy or other disciplinary issues, IDLA will notify the local school district. The local school district is responsible for the appropriate disciplinary action. IDLA should be notified by the local school district of any disciplinary action resulting from a student's participation in an IDLA course. ( )

d. The IDLA Director or designee reserves the right to deny disruptive students access to IDLA courses in the future or remove them from participating in an existing course. Appeals to the denial or removal from a course may be made in writing to the IDLA Board of Directors discussing the circumstances for removal or denial. The IDLA

Board of Directors will review the appeal and hold a special board meeting to allow the student an opportunity to speak to the issue. The IDLA Board of Directors will issue a final decision within ten (10) days of the board meeting. ( )

03. Teacher Interaction. IDLA faculty are required to contact students within the first twenty-four (24) hours of class. Contact includes phone, e-mail, web conferencing, or other technological means. IDLA is required to submit periodic progress reports and final course percentages for individual students' grades which are then reported to the local school district for transcription to the student's academic record. ( )

103. Fees.

The IDLA fee schedule will be provided to the Idaho State Board of Education in the IDLA Annual Report to the State Board of Education. ( )

104. -- 999. (RESERVED)

SUBJECT

Proposed Omnibus Rule, Docket 55-0000-2100

REFERENCE

May 2019	Board approved temporary and proposed rules extending all rules codified June 30, 2019.
February 2020	Board approved temporary omnibus fee rule.
August 26, 2020	Board approved Proposed omnibus fee rule, Docket 08-0000-2000F.
November 2, 2020	Board approved pending omnibus fee rule.
June 2021	Board approved temporary omnibus rules, Dockets 08-0000-2100 and 55-0000-2100.

BACKGROUND/DISCUSSION

Each year Idaho's Administrative Code is scheduled to expire on June 30th. As part of the legislature's annual duties during the legislative session, historically it has passed legislation to extend the codified rules, including those not rejected during the legislative session, until June 30th of the following year. However, this action has not occurred for the past three years. All codified rules expired on June 30, 2021. To mitigate the potential confusion this could cause and ensuing potential liability to the state for not implementing many provisions required by statute or the state constitution, the Governor authorized the approval of temporary rules through an omnibus process that would reinstate the rules on a temporary basis effective July 1, 2021.

Each section of Administrative Code is divided by an IDAPA number, then title and chapter. As an example, IDAPA 08.02.01 is IDAPA 08, Title 02, Chapter 01. Administrative rules promulgated by the Board of Education encompass two sections of IDAPA including 14 chapters. Two chapters are found in IDAPA 55 pertaining to Career Technical Education. Twelve chapters are found in IDAPA 08.

The rules the Board will be approving through this docket include the follow IDAPA Chapters:

- 55.01.03, Rules of Career Technical Schools
- 55.02.04, Rules Governing Idaho Quality Program Standards Incentive Grants and Agricultural Education Program Start-Up Grants

The Proposed Omnibus Rule, docket 55-0000-2100 starts the process to recodify IDAPA 55.

IMPACT

Approval of the proposed omnibus rules will allow those rules codified at the end of the 2021 Legislative Session and those sections with negotiated amendments approved by the Board at the August Board meeting to be published and go out for 21 day public comment.

ATTACHMENTS

Attachment 1 – Proposed Rule Docket 55-0000-2100

STAFF COMMENTS AND RECOMMENDATIONS

Temporary rules go into place upon approval by the Board or on a date set by the Board through Board action at the time of approval and expire at the end of the next legislative session, unless a request is made to the Legislature to extend the temporary rules. The temporary omnibus rules approved by the Board earlier this year were effective July 1, 2021 and will expire at the end of the 2022 Legislative Session. Proposed rules approved by the Board are published in the Administrative Bulletin followed by a 21-day public comment period. At the close of the 21-day comment period, rules are returned to the Board for consideration as a pending rule. Pending rules approved by the Board are submitted to the Legislature for consideration during the upcoming legislative session. The Legislature may accept or reject all or a portion of the rules presented for consideration. Those rules that are not rejected become effective at the end of the legislative session in which they are submitted.

Staff recommends approval.

BOARD ACTION

I move to approve omnibus proposed rule Docket 55-0000-2100 as provided in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

IDAPA 55 – STATE BOARD OF CAREER TECHNICAL EDUCATION

DOCKET NO. 55-0000-2100

NOTICE OF OMNIBUS RULEMAKING - PROPOSED RULEMAKING

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking procedures. The action is authorized pursuant to Article IX, Section 2 of the Idaho Constitution and under Sections 33-101, 33-105, 33-107, 33-1002G, 33-1629, 33-2202, 33-2207, and 33-2211, Idaho Code.

PUBLIC HEARING SCHEDULE: Oral comment concerning this rulemaking will be scheduled in accordance with Section 67-5222, Idaho Code.

DESCRIPTIVE SUMMARY: The following is a nontechnical explanation of the substance and purpose of the proposed rulemaking:

This proposed rulemaking publishes the following rule chapter(s) previously submitted to and reviewed by the Idaho Legislature under IDAPA 08, rules of the State Board of Career Technical Education:

IDAPA 55:

- 55.01.03, Rules of Career Technical Schools
- 55.01.04, Rules governing Idaho Quality Program Standards Incentive Grants and Agricultural Education Program Start-up Grants

FEE SUMMARY: The following is a specific description of the fee or charge imposed or increased: NA

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: This rulemaking is not anticipated to have any fiscal impact on the state general fund because the FY2022 budget has already been set by the Legislature, and approved by the Governor, anticipating the existence of the rule(s) being reauthorized by this rulemaking.

NEGOTIATED RULEMAKING: Pursuant to Section 67-5220(2), Idaho Code, negotiated rulemaking was not feasible because engaging in negotiated rulemaking for all previously existing rules will inhibit the agency from carrying out its ability to serve the citizens of Idaho and to protect their health, safety, and welfare.

INCORPORATION BY REFERENCE: Pursuant to Section 67-5229(2)(a), Idaho Code, incorporated material may be obtained or electronically accessed as provided in the text of the proposed rule(s) attached hereto.

ASSISTANCE ON TECHNICAL QUESTIONS, SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning the proposed rule(s), contact Tracie Bent, Chief Planning and Policy Officer, at (208) 332-1582 or tracie.bent@osbe.idaho.gov.

Anyone may submit written comments regarding the proposed rulemaking. All written comments must be directed to the undersigned and must be delivered within twenty-one (21) days after publication of this Notice in the Idaho Administrative Bulletin. Oral presentation of comments may be requested pursuant to Section 67-5222(2), Idaho Code, and must be delivered to the undersigned within fourteen (14) days of the date of publication of this Notice in the Idaho Administrative Bulletin.

DATED this October 20, 2021.

Tracie Bent
Chief Planning and Policy Officer

ATTACHMENT 1

Office of the State Board of Education
650 W. State Street
PO Box 83720
Boise, Idaho 83720-0037
Ph: 208-332-1582
Fax: 208-334-2632

55.01.03 – RULES OF CAREER TECHNICAL SCHOOLS

000. LEGAL AUTHORITY.
The State Board of Education is designated as the State Board for Career Technical Education and is responsible to execute the laws of the state of Idaho relative to career technical education, administer state and federal funds, and through the administrator of the State Division of Career Technical Education, coordinate all efforts in career technical education (Section 33-2202 through 33-2212, Idaho Code). ( )

001. SCOPE.
These rules serve the administration of Career Technical schools in Idaho and define the duties of the State Division of Career Technical Education. ( )

002. -- 004. (RESERVED)

005. DEFINITIONS.

01. Administrator. A designated school administrator, holding a career technical administrator certificate pursuant to IDAPA 08.02.02, "Rules Governing Uniformity," Section 015, and who oversees and monitors the career technical school programs and is responsible for ensuring the school meets all applicable federal, state, and local school district regulations, rules, and policies. ( )

02. Capstone Course. A culminating course that requires students to demonstrate the knowledge and skills learned throughout their program of study. ( )

03. Career Technical Schools. Schools meeting the requirements of Section 33-1002G, Idaho Code, designed to provide high-end, state-of-the-art technical programs that foster quality technical education through intermediate and capstone courses. Programs and services are directly related to the preparation of high school students for employment in current or emerging occupations that require other than a baccalaureate or advanced degree. These schools are closely linked to postsecondary education, thereby avoiding redundancy and maintaining rigor. They are also closely linked to current business and industry standards to ensure relevance and quality. ( )

04. Concentrator Student. A junior or senior enrolled in the capstone course. ( )

05. Credit Hours. The total number of enrolled credit hours reported to the State Department of Education for qualifying intermediate, capstone, and work-based learning courses. ( )

06. EDUID. Education Unique Identifier. ( )

07. Enrollment Units. The total number of individual EDUIDs that are reported as enrolled during the previous academic year in a qualifying capstone course, as determined by the division. ( )

08. Intermediate Course. A course beyond the introductory level that adds to the technical competencies of pathway students, is intended to serve as a prerequisite for a capstone course, and is offered in grades 9 through 12. ( )

09. Participation Total. The total number of technical skill assessments taken by enrolled concentrator students as part of each required capstone course during the previous academic year. ( )

10. Technical Skill Assessment. An assessment given at the culmination of a pathway program during the capstone course and measures a student's understanding of the technical requirements of the occupational pathway. ( )

11. Work-based Learning Course. A paid or unpaid, internship, clinical, or apprenticeship that is delivered as part of a Career Technical School program of study. This course must be delivered in conjunction with or after completion of a capstone course. Work-based learning courses must be tied to the program of study, and must be formalized through a written agreement between the school, industry partner, parent, and student. ( )

006. -- 101. (RESERVED)

102. CAREER TECHNICAL COMPONENT CRITERIA.

01. Program Criteria. Career technical schools are intended to deliver high-end technical education programs that go beyond the scope of traditional career technical education. Labs are appropriately designed for the type of program and the number of students enrolled. The program has state-of-the-art equipment, current technology and strong links to business and industry. ( )

02. Career Technical School Program. Each program of a career technical school shall: ( )

a. Deliver a sequence of career technical education courses that culminate in a capstone course. ( )

b. Meet all of the required technical competency credit standards established by the state board of education. ( )

c. Develop and maintain business and industry partnerships in addition to the technical advisory committee. ( )

d. Integrate industry-specific, state-of-the-art equipment and technologies into classroom instruction and applied learning opportunities for students. ( )

e. Employ instructors who hold career technical certification to teach the occupation and who also hold a related industry-based credential, or equivalent credential, as approved by the Division of Career Technical Education. ( )

f. Be delivered over a term of not less than five (5) semesters, or the equivalent instructional hours. Semester and trimester equivalencies will be approved by the Division of Career Technical Education. ( )

g. Enroll students from at least two (2) high schools. No single high school will comprise more than eighty-five percent (85%) of the total enrolled career technical school students. In the event a student enrolled in the career technical school is not enrolled in a high school, that student will be reported separately, based on the high school attendance zone where the student resides. ( )

h. Promote the development of leadership. ( )

103. APPLICATION PROCESS.
New and renewal applications for career technical school funding must be received by the Division of Career Technical Education on or before the fifteenth of April for the following fiscal year. ( )

104. CAREER TECHNICAL SCHOOL ADDED COST UNIT FUNDING AND ELIGIBILITY.
Section 33-1002G, Idaho Code, provides school districts an opportunity to establish career technical schools that qualify for funding appropriated for the specific purpose of supporting the added cost of career technical schools. The funds are appropriated to the State Board for Career Technical Education to be expended by the Division of Career

Technical Education. Funding is distributed based on the number of students enrolled in a capstone course during the previous academic year, the aggregate total of the students who completed the technical skill assessment for the program the student was enrolled in, and the total credit hours reported by each school for intermediate, capstone, and work-based learning courses. If any approved program within a career technical school does not enroll students from more than one (1) high school during the previous academic year, the program will not be included in the current year funding calculation. If the overall enrollment school exceeds more than eighty-five percent (85%) of students from any single high school during the previous school year, the Division of Career Technical Education may withhold all or part of the career technical school's funding. ( )

105. CAREER TECHNICAL SCHOOL FUNDING CALCULATION.

The distribution of individual career technical school funding will be calculated as a portion of the annual appropriation based on the following criteria: 50 percent (50%) of the annual appropriation will be divided among the total enrollment units, 25 percent (25%) will be divided by the participation total, and 25 percent (25%) will be divided among the total cumulative credit hours. Qualifying pathway enrollment will be reported to the Department of Education. The Division of Career Technical Education will gather participation data from the independent technical skill assessment providers annually. ( )

106. (RESERVED)

107. CAREER TECHNICAL SCHOOL UNIT FUND DISTRIBUTION.

Once the career technical appropriation is made, the per unit value will be determined by dividing the total units into the appropriation. The value of each unit may vary from year to year, depending on the total appropriation and the total number of units in each of the enrollment categories. ( )

01. Payment Distribution. Added cost support unit funds shall be distributed by the Division of Career Technical Education in two (2) payments: ( )

a. Seventy percent (70%) of the total appropriated funds for which career technical schools are eligible shall be distributed no later than September 30th each year. Funding will not be distributed until the previous year enrollment units and the Division of Career Technical Education has verified aggregate participation data. ( )

b. The remaining funds shall be distributed no later than June 30th. ( )

108. ACCOUNTABILITY.

01. Assessment Process. The Division of Career Technical Education shall develop an assessment process that includes measures and standards for career technical school programs. ( )

02. Reporting. No later than October 15 of each year, career technical schools will submit a report to the Division of Career Technical Education, detailing their enrollment at the program level by high school. ( )

03. Administrator Responsibility. The administrator of each career technical school shall be responsible to provide onsite administration of the career technical school. The administrator will submit all required career technical school reports requested by the Division of Career Technical Education. ( )

04. Accreditation. Each career technical school shall be accredited following Board of Education requirements. This accreditation shall be appropriate for the individual type of career technical school that is developed. ( )

05. School Improvement Plan. The administration, faculty and staff at each career technical school is responsible to develop and implement a local school improvement plan based on the assessment process developed by the Division of Career Technical Education. ( )

109. -- 999. (RESERVED)

55.01.04 – RULES GOVERNING IDAHO QUALITY PROGRAM STANDARDS INCENTIVE GRANTS AND AGRICULTURAL EDUCATION PROGRAM START-UP GRANTS

000. LEGAL AUTHORITY

.

This chapter is adopted under authority of Section 33-1629, Idaho Code. ( )

001. SCOPE

.

These rules govern the standards and procedures for application to the Idaho Quality Program Standards Incentive Grants and the Agricultural Education Program Start-up Grants as administered by the Idaho Division of Career Technical Education. ( )

002. -- 009. (RESERVED)

010. DEFINITIONS AND ABBREVIATIONS.

01. **Administrator**. The administrator for the Division of Career Technical Education. ( )

02. **Agricultural and Natural Resources Program**. A program approved by the Division of Career Technical Education that is a standards-based curriculum in agriculture, food and natural resources systems delivered through an integrated model that incorporates classroom and laboratory instruction, experiential learning and student leadership and personal development. ( )

03. **Board**. The State Board for Career Technical Education. ( )

04. **Division**. The Division of Career Technical Education. ( )

05. **FTE**. Full Time Equivalent employee. ( )

06. **School District or District**. A public school district or a charter school authorized by the Public Charter School Commission or school district. ( )

011. -- 099. (RESERVED)

100. INCENTIVE GRANT.

01. **Eligibility Requirements**. Eligible applicants must meet quality program and instructor requirements as approved by the board. Applicants may re-apply each year regardless of whether they have received a previous grant award. ( )

a. An agricultural and natural resources program in any grade, nine (9) through twelve (12), must first meet the minimum program-specific quality program standards as approved by the board. ( )

b. Programs will be rated on a scale consisting of "non-existent," "below basic," "basic," "qualified," "distinguished," and "exemplary." Eligibility requires that the program must meet each of the program quality indicators at the level of "basic" or higher. Programs must also have an overall average rating of no less than "distinguished" for all program-specific quality standards. This average will be calculated using the quality indicators within each standard. Programs that do not meet the minimum quality standards requirements in one (1) year may be found eligible in subsequent year. Programs will be assessed by the division. ( )

c. Instructors must teach in an agricultural and natural resources program that meets the quality program standards and must also meet the instructor-specific quality program standard as approved by the board.

( )

d. Instructors will be rated on a scale consisting of "non-existent," "below basic," "basic," "qualified," "distinguished," and "exemplary." Eligibility requires that the instructor must meet each of the program quality indicators at the level of "basic" or higher. Instructors must also have an average rating of no less than "distinguished" for all instructor-specific quality indicators. Instructors that do not meet the minimum quality standards requirements in one (1) year may be found eligible in a subsequent year. All instructors of agricultural and natural resources programs in grades nine (9) through twelve (12) are eligible to apply for the grant. ( )

e. Payments to districts will be adjusted according to the percent of time an instructor teaches within an approved agricultural and natural resources program. ( )

f. Should the division request additional information from a school district regarding a grant application, districts must respond to the request within the time period indicated. Failure to respond will result in the cancellation of the application and/or the forfeiture of the grant. ( )

02. Application Process. The application process consists of a formal application and assessment. ( )

a. To be considered for the grant, a school district must first complete and submit a formal application and supporting documentation on behalf of an instructor for an approved program according to the timeline established by the administrator. Applications may be submitted electronically to the division. In the event of a mailed application, applications must be postmarked no later than the timeline specified by the division. Instructors may not apply on their own behalf. ( )

b. Following the receipt of an application, the division will conduct an assessment of the program and instructor to ensure they both meet the minimum eligibility requirements, as outlined in the quality program standards. At the administrator's discretion, the division may partner with additional subject-matter experts to assist in the evaluation. Assessments will be conducted each school year the instructor and program participate in the grant program. Districts will only be eligible to apply for the grant during the academic year the program received an assessment. Prior assessments cannot be used for subsequent grant applications. ( )

03. Selection of Grant Recipients. Grants will be awarded annually based on the availability of grant funds and the number of qualified applicants. Grants will be awarded to applicants based on ranking in accordance with the following criteria: ( )

a. Applicants will be ranked according to their overall score. Scores will be calculated using the sum of: ( )

i. The average score of the program quality indicators; and ( )

ii. The average score of the instructor-specific program quality indicators. ( )

04. Incentive Grant Award. ( )

a. Announcement of the grant award will be made following administrator approval through the distribution of a funding authorization letter. Prior to the distribution of the letter, the division will verify that the grant recipient continues to teach at the same school, in the same agricultural and natural resources program, and at the same FTE level as indicated on the formal application. ( )

b. The total number of recipients will vary by year in accordance with the availability of funds and the qualifications of the applicant pool. Awards will be in the amount of ten thousand dollars ($10,000) until available funds are exhausted or all qualified recipients have been awarded the grant. In the event that funds are exhausted and a qualified teacher does not receive the grant in the year he or she applies, that teacher will receive priority consideration for the grant the following year. If the teacher(s) reapplies and continues to meet the minimum

qualifications the following year, he or she will be eligible to receive the grant regardless of where he or she ranks. Once the prioritized teacher(s) has been awarded funds, the remaining teachers will be ranked and funds will be awarded until the remaining funds have been exhausted. This cycle of prioritization may continue for multiple years; once a qualified teacher receives funds, he or she automatically moves back into the pool of teachers whose applications will be ranked in the following application cycle. Grants may be less than ten thousand dollars ($10,000) when certain conditions exist: ( )

i. In the event of a tie, and in those instances where the number of qualified applicants exceeds the available funds, grants will be awarded equally among those recipients with a tied score. ( )

ii. Grants will be awarded using FTE to calculate the percent of time an instructor spends teaching within an approved agricultural and natural resources program. In the event an instructor teaches in an approved program in less than a full-time capacity, grants will be pro-rated according to the percent of time the instructor spends teaching in the approved program. ( )

c. Grants are awarded on an annual basis and are not transferable. ( )

d. The use of grant funds must be in accordance with division guidelines and must be clearly linked to the agricultural and natural resources program identified on the formal application. ( )

e. Grant funds may be used to improve the agricultural and natural resources program, including but not limited to: ( )

i. Offset travel and registration fees associated with educational workshops and/or professional training on behalf of the instructor; ( )

ii. Purchase or repair equipment; or ( )

iii. Purchase educational supplies/curricula. ( )

f. Grant funds may not be used to: ( )

i. Cover the costs of either salaries or benefits, including extended contracts; ( )

ii. Offset expenses associated with the FFA organization or other student organizations; or ( )

iii. Supplant other district funding sources, e.g. routine facility maintenance or improvements. ( )

101. -- 199. (RESERVED)

200. START-UP GRANT.

01. Eligibility Requirements. A school district may apply for a start-up grant for a newly-approved agricultural and natural resources program or to re-establish an agricultural and natural resources program in any grade, nine (9) through twelve (12), when specific eligibility requirements are met. Districts are eligible to apply for the grant within the first three (3) fiscal years their program is approved or re-established. If a district applies for the grant but does not receive it, the district may reapply the following year(s). However, the district may only receive the grant once and may not apply beyond the three-year window. ( )

a. To start a new program, districts are required to first complete a request for new secondary program of study form for a new agricultural and natural resources program in one (1) of the specified grades. The new agricultural and natural resources program must then be approved by the division prior to application for the grant. Expansions of existing programs, including the addition of new career pathways or additional staff, do not qualify as a new program. ( )

b. To re-start a program, districts are required to first complete a Request for New Secondary Program of Study form to re-establish an agricultural and natural resources program in any grade nine (9) through twelve (12). The re-established agricultural and natural resources program must then be approved by the division prior to application for the grant. The re-established program must have been inactive for at least two (2) academic years to qualify for the grant. ( )

02. Application Process. A school district may submit an application for a new or re-established program. Completed applications, which must be authorized by the district superintendent, must be submitted to the division according to the timeline established by the administrator. In the event of a mailed application, the application must be postmarked no later than the timeline specified in the request. ( )

a. Applications must include all required information outlined in the grant application, including specific documents detailing the district's proposed budget and long-term strategy for sustaining the program. ( )

b. Should the division request additional information from a district regarding a grant application, districts must respond to the request within the time period indicated. Failure to respond will result in the cancellation of the application and/or the forfeiture of the grant. ( )

03. Selection of Grant Recipients. Grants will be awarded annually by the division based on the availability of grant funds and the number of qualified programs. Grants will be awarded to districts based on ranking and priority that considers factors including but not limited to: the strength of the budget proposal, sustainability potential of the proposed program, and the history of prior grant awards. ( )

04. Start-up Grant Award. Announcement of the grant award will be made following administrator approval through the distribution of a funding authorization letter. The total number of recipients will not exceed four awards annually, and may vary by year in accordance with the availability of funds and the qualifications of the applicant pool. Awards will be in the amount of twenty-five thousand dollars ($25,000) until available funds are exhausted or all qualified recipients have been awarded the grant. ( )

a. Grants are awarded on a one-time basis and are not renewable or transferable. If a district is awarded the grant for a new program, the program is ineligible for future awards should the program terminate and then be re-established. ( )

b. Use of grant funds must be in accordance with division guidelines and must be clearly linked to the agricultural and natural resources program identified on the formal application. If a district fails to spend the entire award amount, those funds may not be carried forward to the next fiscal year. ( )

c. Grant funds may be used to improve the agricultural and natural resources program, including but not limited to: ( )

i. Offset travel and registration fees associated with educational workshops and/or professional training on behalf of the instructor; ( )

ii. Purchase or repair equipment; ( )

iii. Purchase educational supplies/curricula; or ( )

iv. Start-up costs, up to one thousand dollars ($1,000,) associated with establishing a new chapter of FFA or other relevant student organization. ( )

d. Grant funds may not be used to: ( )

i. Cover the costs of salaries and/or benefits, including extended contracts; ( )

ii. Offset ongoing expenses associated with the FFA organization or other student organizations; or ( )

iii. Supplant other district funding sources, e.g. routine facility maintenance or improvements. ( )

201. -- 299. (RESERVED)

300. PAYMENTS.
Payment of grant funds will be made to the district once the final award determinations are made. For grants awarded under Section 100, funds will be made to the district on behalf of the instructor. No later than June 30 of the fiscal year the grant was received, the district must submit a detailed expenditure report to the Division. Each report is subject to review and verification by the Division and must detail that all expenditures were allowable under the grant and that all funds were spent within the fiscal year. Any unspent grant funds must be returned to the Division. ( )

301. APPEALS.
Any grant applicant or recipient adversely affected by a decision made under provisions of these rules may appeal such adverse decision as follows. The grant applicant or recipient must appeal in writing no later than thirty (30) days following the announcement of the award, and the written statement must include the basis for the appeal. The appeal must be submitted to the administrator. The division shall acknowledge receipt of the appeal within seven (7) days. The administrator may or may not agree to review the action, or may appoint a subcommittee of three (3) persons to hear the appeal, including at least one (1) agricultural and natural resources professional. ( )

01. Review. If the appeal is transmitted to the subcommittee, the subcommittee will review the appeal and submit a written recommendation to the administrator within fifteen (15) days from the time the subcommittee receives the appeal document. The grant applicant or recipient initiating the appeal will be notified by the chairperson of the subcommittee of the time and place when the subcommittee will consider the appeal and will be allowed to appear before the subcommittee to discuss the appeal. ( )

02. Presentation. Following the subcommittee's decision, the administrator will present the subcommittee's recommendation to the board at the next regularly scheduled meeting of the board. The grant applicant or recipient initiating the appeal may, at the discretion of the board, be permitted to make a presentation to the board. ( )

03. Final Decision. The decision of the board is final, binding, and ends all administrative remedies, unless otherwise specifically provided by the board. The board will inform the incentive grant applicant or recipient in writing of the decision of the board. ( )

302. -- 999. (RESERVED)

SUBJECT

Proposed Omnibus Fee Rule Docket 08-0000-2100F

REFERENCE

May 2019	Board approved temporary and proposed rules extending all rules codified June 30, 2019.
February 2020	Board approved temporary omnibus fee rule
August 26, 2020	Board approved Proposed omnibus fee rule, Docket 08-0000-2000F.
November 2, 2020	Board approved Pending omnibus fee rule, Docket 08-0000-2000F.

BACKGROUND/DISCUSSION

Each year Idaho's administrative code is scheduled to expire on June 30th. As part of the legislature's annual duties during the legislative session, historically it has passed legislation to extend the codified rules until June 30th of the following year. However, during the 2021 Legislative Session this action was not taken, so all previously codified rules expired on June 30, 2021. To mitigate the potential confusion this could cause and ensuing potential liability to the state for not implementing many provision required by statute or the state constitution, the Governor authorized the approval of temporary rules through an omnibus process that would reinstate the rules on a temporary basis effective July 1, 2021 and start the rule promulgation process with a temporary rule for each section of the Idaho Administrative Procedures Act (IDAPA). Pending fee rules require approval by both legislative bodies to take effect, non-fee rules only take one body.

Each section of Administrative Code is divided by an IDAPA number, then title and chapter. As an example, IDAPA 08.02.01 is IDAPA 08, Title 02, Chapter 01. Administrative rules promulgated by the Board of Education encompass three sections of IDAPA including 15 chapters. Two chapters are found in IDAPA 55 pertaining to Career Technical Education. Twelve chapters are found in IDAPA 08 and pertain to all other public education.

The Division of Financial Management has requested each agency or board responsible for administrative rules submit one proposed rule that covers all fees. This is the same consolidation of rule sections that was used for the temporary rule approved by the Board in 2019 and 2020.

The proposed fee rule will cover the following sections and fees:

- 08.01.11, Registration of Postsecondary Educational Institutions and Proprietary Schools (Collected by the Office of the State Board of Education):
  - Subsection 200.07 Registration Fee, Postsecondary Educational Institutions
  - Subsection 300.06 Registration Fee, Proprietary Schools

- Annual registration fee for initial registration or renewal of registration is equal to one-half of one percent (.5%) of the gross Idaho tuition revenue of the institution and proprietary schools during the previous tax reporting year (Jan 1 - Dec 31), but not less than one hundred dollars ($100) and not to exceed five thousand dollars ($5,000).

- 08.02.02, Rules Governing Uniformity
  - Subsection 066 Fees, Educator Certification(Collected by the State Department of Education)
    - Initial Certificate $75.00
    - Renewal Certificate $75.00
    - Alternate Route Authorization $100
    - Additions or Changes to an Existing Certificate $25
    - Replace an Existing Certificate $10
    - Subsection 075.03, Fingerprinting and Background Investigation Checks(Collected by the State Department of Education)
  - Fingerprinting Processing Fee, All Applicants (excluding volunteers) $28.25
    - Fingerprinting Processing Fee, Volunteers $26.25

- 08.02.03, Rules Governing Thoroughness
  - Subsection 128, Curricular Materials Selection and Online Course Approval(Collected by the State Department of Education)
    - Curricular Materials Review submission fee $60 or an amount equal to the retail price of each curricular material

IMPACT

Approval of the proposed omnibus rules will start the process necessary for the promulgation of pending rule for the Legislature's consideration in 2022.

ATTACHMENTS

Attachment 1 – Proposed Fee Rule Docket 08-0000-2000F

STAFF COMMENTS AND RECOMMENDATIONS

Temporary rules go into place upon approval by the Board or on a date set by the Board through Board action at the time of approval. The date for approval of these temporary rules is when the legislature adjourns *sine die*. The Office of Administrative Rules in the Division of Financial Management updates the effective date of pending rules upon adjournment of the legislature. Temporary rules expire at the end of the next legislative session and only go to the legislature if there is a request to extend them beyond the current year. For the temporary rule approved by the Board earlier this year to go forward to the 2022 Legislature as a final rule, the Board must now consider the proposed fee rule. Like the previous omnibus rules, the proposed omnibus fee rule will be published by the Department of Administration in a special bulletin. The pending (or final rule) will come back to the Board for consideration in the fall after the close of the 21 day comment period.

Staff recommends approval.

BOARD ACTION

I move to approve the proposed omnibus fee docket notice, IDAPA 08-0000-2100F, as provided in attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

IDAPA 08 – IDAHO STATE BOARD OF EDUCATION
DOCKET NO. 08-0000-2100F (FEE RULE)

NOTICE OF OMNIBUS RULEMAKING - PROPOSED RULEMAKING

AUTHORITY: In compliance with Sections 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking procedures. The action is authorized pursuant to Sections 33-118, 33-130, 33-1205, 33-2402 and 33-2403, Idaho Code.

PUBLIC HEARING SCHEDULE: Oral comment concerning this rulemaking will be scheduled in accordance with Section 67-5222, Idaho Code.

DESCRIPTIVE SUMMARY: The following is a nontechnical explanation of the substance and purpose of the proposed rulemaking:

This proposed rulemaking publishes the following rule chapters previously submitted to and reviewed by the Idaho Legislature under IDAPA 08, rules of the Idaho State Board of Education:

IDAPA 08
- 08.01.11, Registration of Postsecondary Educational Institutions and Proprietary Schools;
  - Subsection 200.01, Registration Fee, Postsecondary Educational Institutions;
  - Subsection 300.06, Registration Fee, Proprietary Schools;
- 08.02.02, *Rules Governing Uniformity;*
  - Section 066, Fees, Educator Certification;
  - Subsection 075.03, Fingerprinting and Background Investigation Checks;
- 08.02.03, Rules Governing Thoroughness;
  - Section 128, only, Curricular Materials Selection and Online Course Approval.

FEE SUMMARY: This rulemaking does not impose a fee or charge, or increase a fee or charge, beyond what was previously submitted to and reviewed by the Idaho Legislature in the prior rules.

08.01.11, Registration of Postsecondary Educational Institutions and Proprietary Schools;
- Subsection 200.01 and Subsection 300.06, Registration Fee, Postsecondary Educational Institutions and Registration Fee, Proprietary Schools;
  - Annual registration fee for initial registration or renewal = one-half of one percent of the gross Idaho tuition revenue of the institution during the previous tax reporting year, but not less than one hundred dollars and not more than five thousand dollars.

08.02.02, *Rules Governing Uniformity;*
- Section 066, Fees, Educator Certification – Certification Fees
  - Initial Certificate - $75
  - Renewal Certificate - $75
  - Alternate Route Authorization/Interim Certificate - $100
  - Additions or Changes to an Existing Certificate - $25
  - Replace an Existing Certificate - $10
- Subsection 075.03, Fingerprinting and Background Investigation Checks;
  - Fingerprinting Processing Fee, All Applicants, excluding volunteers - $28.25
  - Fingerprinting Processing Fee, Volunteers - $26.25

08.02.03, Rules Governing Thoroughness;
- Section 128, only, Curricular Materials Selection and Online Course Approval.
  - Curricular Materials Review Submission Fee $60 or an amount equal to the retail price of each curricular material.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: This rulemaking is not anticipated to

have any fiscal impact on the state general fund because the FY2022 budget has already been set by the Legislature, and approved by the Governor, anticipating the existence of the rules and fees being reauthorized by this rulemaking.

NEGOTIATED RULEMAKING: Pursuant to Section 67-5220(2), Idaho Code, negotiated rulemaking was not feasible because engaging in negotiated rulemaking for all previously existing rules will inhibit the agency from carrying out its ability to serve the citizens of Idaho and to protect their health, safety, and welfare.

INCORPORATION BY REFERENCE: Pursuant to Section 67-5229(2)(a), Idaho Code, incorporated material may be obtained or electronically accessed as provided in the text of the proposed rule(s) attached hereto.

ASSISTANCE ON TECHNICAL QUESTIONS, SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning the proposed rule(s), contact Tracie Bent, Chief Planning and Policy Officer, at (208) 332-1582 or tracie.bent@osbe.idaho.gov.

Anyone may submit written comments regarding the proposed rulemaking. All written comments must be directed to the undersigned and must be delivered within twenty-one (21) days after publication of this Notice in the Idaho Administrative Bulletin. Oral presentation of comments may be requested pursuant to Section 67-5222(2), Idaho Code, and must be delivered to the undersigned within fourteen (14) days of the date of publication of this Notice in the Idaho Administrative Bulletin.

DATED this October 20, 2021.

Tracie Bent
Chief Planning and Policy Officer
Office of the State Board of Education
650 W. State Street
PO Box 83720
Boise, Idaho 83720-0037
Ph: 208-332-1582
Fax: 208-334-2632

08.01.11 – REGISTRATION OF POSTSECONDARY EDUCATIONAL INSTITUTIONS AND PROPRIETARY SCHOOLS

(BREAK IN CONTINUITY OF SECTIONS)

200. REGISTRATION OF POSTSECONDARY EDUCATIONAL INSTITUTIONS.

01. Delegation. Section 33-2403, Idaho Code, provides that a postsecondary educational institution must hold a valid certificate of registration issued by the Board. The Board delegates authority to its Executive Director and the Office of the State Board of Education to administer the registration of postsecondary educational institution, in accordance with Title 33, Chapter 24, Idaho Code, and this rule. ( )

02. Registration Requirement. ( )

a. Unless exempted by statute or this rule, as provided herein, a postsecondary educational institution which maintains a presence within the state of Idaho, or that operates or purports to operate from a location within the state of Idaho, shall register and hold a valid certificate of registration issued by the Board. An institution shall not conduct, provide, offer, or sell a course or courses of study, or degree unless registered. ( )

b. Registration shall be for the period beginning on the date a certificate of registration is issued and continue through June 30 of the next succeeding year. A registered postsecondary educational institution must renew its certificate of registration annually, and renewal of registration is not automatic. ( )

c. Renewal of registration shall be for the period beginning on July 1 of any year, and continue through June 30 of the next succeeding year. ( )

d. A new or start-up entity that desires to operate as a postsecondary educational institution in Idaho but which is not yet accredited by an accreditation organization recognized by the Board must register and operate as a proprietary school until accreditation is obtained. A new or start-up entity that is accredited and authorized to operate in another state, and which desires to operate as a postsecondary educational institution in Idaho offering degrees for which specialized program accreditation is required, may be granted approval to operate subject to the successful attainment of such program accreditation within the regular program accreditation cycle required by the accreditor. ( )

e. There is no inherent or private right to grant degrees in Idaho. That authority belongs only to institutions properly authorized to operate in Idaho under these rules. ( )

03. Idaho Presence. ( )

a. An institution shall be deemed to have a presence in Idaho, or to be operating or purporting to be operating from a location within the state of Idaho, if it owns, rents, leases, or uses any office or other type of physical location in Idaho, including a mailing or shipping center, or if it represents in any way, such as on an electronic or Internet website, to have an Idaho street or mailing address, including a post office box in Idaho, for purposes of conducting, providing, offering or selling a course or courses of study or degrees. ( )

b. Idaho presence shall include medical/osteopathic education clinical instruction occurring in the state of Idaho as part of a course of study leading to a degree pursuant to a formal multi-year arrangement or agreement between such clinic and an institution providing medical/osteopathic education instruction where eleven (11) or more students of the institution are physically present simultaneously at a single field site. ( )

c. Idaho presence shall not include: ( )

i. Distance or online education delivered by an institution located outside of the state of Idaho to students in this state when the institution does not otherwise have physical presence in Idaho, as provided in Subsection 200.03.a. of this rule; ( )

ii. Medical education instruction occurring in the state of Idaho by an institution pursuant to a medical education program funded by the state of Idaho; ( )

iii. Internship or cooperative training programs occurring in the state of Idaho where students are employed by or provide services to a business or company in this state and receive course credit from an institution related to such activities; or ( )

iv. Activities limited to the recruiting or interviewing of applicants or potential students in the state of Idaho, whether conducted by a compensated employee, agent, or representative of an institution, or by volunteer alumnus of an institution, even if such individual is physically located in this state. ( )

04. Institutions Exempt from Registration. ( )

a. Idaho public postsecondary educational institutions. Section 33-2402(1), Idaho Code, provides that a public institution supported primarily by taxation from either the state of Idaho or a local source in Idaho shall not be required to register. ( )

b. Certain Idaho private, nonprofit, postsecondary educational institutions. A private, nonprofit, postsecondary educational institution that is already established and operational as of the date when this rule first went into effect (Brigham Young University - Idaho, College of Idaho, Northwest Nazarene University, New Saint Andrews College, Boise Bible College), and located within the state of Idaho, and that is accredited by an accreditation organization recognized by the Board, as set forth in Section 100 of this rule, shall not be required to register. A private, nonprofit, institution is located within the state of Idaho only if it has been lawfully organized in the state of Idaho and its principal place of business is located within the state of Idaho. An institution exempt under this subsection may voluntarily register by following the procedure for registration provided herein. ( )

c. Idaho religious institutions. A religious institution located within the state of Idaho that is owned, controlled, operated, and maintained by a religious organization lawfully operating as a nonprofit religious corporation and that grants only religious degrees shall not be required to register. ( )

05. Institutions That Must Register. Unless exempt under Subsection 200.04 of this rule, any entity that desires to operate as a postsecondary educational institution in Idaho must register as provided herein. ( )

06. Application. A postsecondary educational institution that is required to register under this rule must submit to the Board office an application for registration (either an application for initial registration or renewal of registration, as applicable), on the form provided by the Board office. The application must include a list of each course, course of study, and degree the applicant institution intends to conduct, provide, offer, or sell in Idaho during the registration year. ( )

07. Registration Fees. The Board shall assess an annual registration fee for initial registration or renewal of registration of a postsecondary educational institution. The registration fee must accompany the application for registration, and shall be in the amount of one-half of one percent (.5%) of the gross Idaho tuition revenue of the institution during the previous tax reporting year (Jan 1 - Dec 31), but not less than one hundred dollars ($100) and not to exceed five thousand dollars ($5,000). The institution must provide financial documentation to substantiate the amount of revenue reported. Registration fees are nonrefundable. ( )

08. Deadline for Registration. An initial application for registration may be submitted to the Board at anytime. An institution should expect the Board's review process for an initial registration to take approximately three (3) to five (5) months. An application for renewal of registration must be submitted to the Board on or before the first business day of May that precedes the registration year. The renewal will be processed within thirty (30) days. Institutions that do not adhere to this schedule and whose renewals are not processed by July 1st must cease all active operations until approval of registration is received. ( )

09. Information Required. ( )

a. An application must include all the information requested on the application form, as well as the following information: ( )

i. Copy of most recent accreditation letter showing the period of approval; ( )

ii. Current list of chief officers - e.g. president, board chair, chief academic officer, chief fiscal officer; ( )

iii. Enrollment data for current and past two (2) years; ( )

iv. Copy of annual audited financial statement, or other financial instrument as established by the executive director; ( )

v. Any additional information that the Board may request. ( )

vi. All advertising, pamphlets, and other literature used to solicit students and all contract forms must accurately represent the purpose of the school, its courses or courses of study, and other relevant information to assist students in making an informed decision to enroll. Institutions offering courses or courses of study which require clinical, practicum or internship components must provide students in writing information regarding the number of clinical, practicum or internship positions available and the location of said positions. Institutions with courses or courses of study that have not been fully accredited must disclose to prospective students in these courses or courses of study the accreditation status of the program and anticipated date for full accreditation. ( )

b. The Board may, in connection with a renewal of registration, request that an institution only submit information that documents changes from the previous year, provided that the institution certifies that all information and/or documentation submitted in a previous registration year remains current. The annual registration fee, described

in Subsection 200.07 of this rule, shall remain applicable. ( )

(BREAK IN CONTINUITY OF SECTIONS)

300. REGISTRATION OF PROPRIETARY SCHOOLS.

01. Delegation. Section 33-2403, Idaho Code, provides that a proprietary school must hold a valid certificate of registration issued by the Board. The Board delegates authority to its Executive Director and the Office of the State Board of Education to administer the registration of proprietary schools, in accordance with Title 33, Chapter 24, Idaho Code, and this rule. ( )

02. Registration Requirement. ( )

a. Unless exempted by statute or this rule, as provided herein, a proprietary school which maintains a presence within the state of Idaho, or which operates or purports to operate from a location within the state of Idaho, shall register annually and hold a valid certificate of registration issued by the Board. A school shall not conduct, provide, offer, or sell a course or courses of study unless registered. A school shall not solicit students for or on behalf of such school, or advertise in this state, unless registered. ( )

b. Registration shall be for the period beginning July 1 of any year and continue through June 30 of the next succeeding year. For a school that has not previously registered with the Board, registration shall be for the period beginning on the date of issuance of a certificate of registration and continue through June 30 of the next succeeding year. A registered proprietary school must renew its certificate of registration annually and renewal of registration is not automatic. ( )

c. Renewal of registration shall be for the period beginning on July 1 of any year, and continue through June 30 of the next succeeding year. ( )

03. Idaho Presence. ( )

a. A school shall be deemed to have a presence in Idaho, or to be operating or purporting to be operating from a location within the state of Idaho, or if it owns, rents, leases, or uses any office or other type of physical location in Idaho, including a mailing or shipping center, or if it represents in any way, such as on an electronic or Internet website, to have an Idaho street or mailing address, including a post office box in Idaho, for the purposes of conducting, providing, offering or selling a course or courses of study or degrees. ( )

b. Idaho presence shall not include: ( )

i. Distance or online education delivered by an institution located outside of the state of Idaho to students in this state when the institution does not otherwise have physical presence in Idaho, as provided in Subsection 300.03.a. of this rule; ( )

ii. Internship or cooperative training programs occurring in the state of Idaho where students are employed by or provide services to a business or company in this state and receive course credit from an institution related to such activities; or ( )

iii. Activities limited to the recruiting or interviewing of applicants or potential students in the state of Idaho, whether conducted by a compensated employee, agent, or representative of an institution, or by volunteer alumnus of an institution, even if such individual is physically located in this state. ( )

04. Exemptions from Registration. The following individuals or entities are specifically exempt from the registration requirements of this rule: ( )

a. An individual or entity that offers instruction or training solely avocational or recreational in nature, as determined by the Board. ( )

b. An individual or entity that offers courses recognized by the Board which comply in whole or in part with the compulsory education law. ( )

c. An individual or entity that offers a course or courses of study sponsored by an employer for the training and preparation of its own employees, and for which no tuition fee is charged to the student. ( )

d. An individual or entity which is otherwise regulated, licensed, or registered with another state agency pursuant to Title 54, Idaho Code. ( )

e. An individual or entity that offers intensive review courses designed to prepare students for certified public accountancy tests, public accountancy tests, law school aptitude tests, bar examinations or medical college admissions tests, or similar instruction for test preparation. ( )

f. An individual or entity offering only workshops or seminars lasting no longer than three (3) calendar days and offered no more than four (4) times per year. ( )

g. A parochial or denominational institution providing instruction or training relating solely to religion and for which degrees are not granted. ( )

h. An individual or entity that offers postsecondary credit through a consortium of public and private colleges and universities under the auspices of the Western Governors University. ( )

i. An individual or entity that offers flight instruction and that accepts payment for services for such training on a per-flight basis after the training occurs, or that accepts advance payment or a deposit for such training in a de minimus amount equal to or less than fifteen (15) percent of the total course or program cost. ( )

05. Application. A proprietary school that is required to register under this rule must submit to the Board office an application for registration (either an application for initial registration, or renewal of registration, as applicable), on a form provided by the Board office. The application must include a list of each course or courses of study the applicant school intends to conduct, provide, offer or sell in Idaho during the registration year. ( )

06. Registration Fees. The Board shall assess an annual registration fee for initial registration or renewal of registration. The registration fee must accompany they application for registration, and shall be one-half of one percent (.5%) of the gross Idaho tuition revenue of the school during the previous tax reporting year (Jan 1 - Dec 31), but not less than one hundred dollars ($100) and not to exceed five thousand dollars ($5,000). The school shall provide documentation to substantiate the amount of revenue reported. Registration fees are nonrefundable. ( )

07. Deadline for Registration. An initial application for registration may be submitted to the Board at anytime. A school should expect the Board review process for an initial registration to take approximately three (3) to five (5) months. An application for renewal of registration must be submitted to the Board on or before the first business day of May that precedes the registration year. The renewal will be processed within thirty (30) days. Institutions that do not adhere to this schedule and whose renewals are not processed by July 1st must cease all active operations until approval of registration is received. ( )

08. Information Required. Such application must include all the information requested on the application form. In addition, a school must attest by signature of the primary official on the application form that it is in compliance with Standards I through V set forth in Section 301 of this rule and must provide verification of compliance with Standards I through V set forth in Section 301 of this rule upon request. The Board may, in connection with a renewal of registration, request that a school only submit information that documents changes from the previous year, provided that the school certifies that all information and/or documentation submitted in a previous registration year remains current. The annual registration fee, described in Subsection 300.06 of this rule, shall remain applicable. ( )

08.02.02 – RULES GOVERNING UNIFORMITY

(BREAK IN CONTINUITY OF SECTIONS)

066. FEES.

The state Department of Education shall maintain a record of all certificates issued, showing names, dates of issue and renewal, and if revoked, the date thereof and the reason therefor. A nonrefundable fee shall accompany each application for a prekindergarten through grade twelve (12) certificate, alternate certificate, change in certificate or replacement as follows: ( )

01. Initial Certificate. All types, issued for five (5) years -- seventy-five dollars ($75). ( )

02. Renewal Certificate. All types, issued for five (5) years -- seventy-five dollars ($75). ( )

03. Alternate Route Authorization. All types, issued for one (1) year -- one hundred dollars ($100). ( )

04. Additions or Changes During the Life of an Existing Certificate. Twenty-five dollars ($25). ( )

05. To Replace an Existing Certificate. Ten dollars ($10). ( )

(BREAK IN CONTINUITY OF SECTIONS)

075. FINGERPRINTING AND BACKGROUND INVESTIGATION CHECKS

All individuals who are required by the provisions of Section 33-130, Idaho Code, must undergo a background investigation check. ( )

01. Definitions. ( )

a. Applicant. An individual completing a background investigation check as identified in Subsection 075.02 of these rules. ( )

b. Background Investigation Check. The submission of a completed applicant fingerprint card or scan by an authorized entity submitted under an enacted state statute/local ordinance or federal law, approved by the Attorney General of the United States allowing a search of the state and federal criminal history indices for noncriminal justice purposes including employment suitability, licensing determinations, immigration and naturalization matters, and national security clearances. ( )

c. Background Investigation Check Result. The response to a state and federal background investigation check initiated by a fingerprint submission from an authorized entity for non-criminal justice purposes. Results are returned to the submitting authorized entity by the state criminal history repository (Idaho State Police Bureau of Criminal Investigation). ( )

d. Break-in-Service. A voluntary or involuntary termination in employment, including retirement. ( )

e. Candidate. An individual attending a postsecondary program. ( )

f. Contractor. An agency, company/business, or individual that has signed a contract or agreement to provide services to an LEA and private or parochial school. ( )

g. Employee. A person who is hired for a wage, salary, fee, or payment to perform work for an employer. ( )

h. Fingerprint Card or Scan. The process for obtaining impressions of an individual's fingerprint images, both ten (10) individual finger impressions rolled from nail to nail and slap or flat impressions taken simultaneously without rolling. Fingerprints may be recorded utilizing either an inked standard fingerprint card or using a live scan device. Standard fingerprint cards may also be scanned for submission to the state repository for background investigation check purposes. ( )

i. Rejected Fingerprint Cards or Scans. A fingerprint card or scan that has been returned by the Idaho State Police Bureau of Criminal Identification or Federal Bureau of Investigation for poor quality prints. ( )

j. Unsupervised Contact. Direct contact or interaction with students not under the direct supervision of an LEA employee in a K-12 setting. This includes contact or interaction with students in scheduled school activities that occur outside of the school or outside of normal school hours. ( )

02. Individuals Required to Complete a Background Investigation Check. ( )

a. All applicants for certificates; ( )

b. Certificated and noncertificated employees; ( )

c. Substitute teachers; ( )

d. Contractors who have unsupervised contact with students in a public K-12 setting, including contractors who are providing student services; ( )

e. Student teachers or any postsecondary candidates who have unsupervised contact with students in a public K-12 setting; ( )

f. Volunteers who have unsupervised contact with students in a public K-12 setting; ( )

g. Any individuals who have unsupervised contact with students in a public K-12 setting. ( )

03. Fee. The SDE shall charge a fee for undergoing a background investigation check pursuant to Section 33-130, Idaho Code. ( )

04. Rejected Fingerprint Cards or Scans. ( )

a. When a fingerprint card has been rejected a new completed fingerprint card is required. ( )

b. The rejected fingerprint card will be sent back to the originating LEA, private or parochial school, contractor, postsecondary program, or individual. ( )

c. A new fingerprint card must be completed by a law enforcement agency to ensure legible fingerprints. Both the rejected fingerprint card and the new fingerprint card must be returned to the SDE within thirty (30) calendar days. ( )

d. If the new fingerprint card and rejected fingerprint card are returned after thirty (30) calendar days, a fee, pursuant to Subsection 075.03 of these rules, is required to be paid. ( )

05. Secured Background Investigation Check Website. The SDE will maintain a background investigation check website listing the background investigation check results for review by the LEA, private or parochial school, contractor or postsecondary program. Each LEA, private or parochial school, contractor and postsecondary program will have access to the background investigation check secure site listing their employees,
statewide substitute teacher list, and student teacher list. ( )

06. Background Investigation Checks for Certification. ( )

a. The SDE will make the final determination if an applicant is eligible for Idaho certification. ( )

b. If the SDE makes a determination that the applicant is not eligible for Idaho certification, the SDE may deny the applicant Idaho certification. Upon receiving the written denial, the applicant may request a hearing pursuant

to Section 33-1209, Idaho Code. ( )

07. Substitute Teachers. Substitute teachers as defined in Section 33-512(15), Idaho Code, must undergo a background investigation check. The SDE shall maintain a statewide substitute teacher list. To remain on the list a substitute teacher shall undergo a background investigation check every five (5) years in accordance with Section 33-512, Idaho Code. ( )

08. Break In Service. ( )

a. When an employee returns to any LEA, private or parochial school, or contractor after a break in service, a new background investigation check must be completed pursuant to Section 33-130, Idaho Code. ( )

b. When an employee changes employment between LEAs a new background investigation check must be completed pursuant to Section 33-130, Idaho Code. ( )

09. Postsecondary. ( )

a. The postsecondary program will submit a completed fingerprint card or scan for all candidates who are applying for unsupervised contact with students in a public K-12 setting including student teaching, internships, or other types of candidate training. ( )

b. The SDE will make a preliminary determination based on the CHC result if the candidate is eligible for certification in Idaho. This decision will be forwarded to the postsecondary program concerning the eligibility of their candidate. ( )

08.02.03 – RULES GOVERNING THOROUGHNESS

(BREAK IN CONTINUITY OF SECTIONS)

128. CURRICULAR MATERIALS SELECTION AND ONLINE COURSE APPROVAL
The State Board of Education will appoint a committee to select curriculum materials. Committee appointments will be for a period of five (5) years. Committee appointments shall consist of not less than ten (10) total members from the following stakeholder groups: certified Idaho classroom teachers, Idaho public school administrators, Idaho higher education officials, parents, trustees, local board of education members, members of the Division of Career Technical Education, and State Department of Education personnel. The Executive Secretary will be an employee of the State Department of Education and will be a voting member of the committee. The State Department of Education shall charge publishers submission fees of sixty dollars ($60) or equal to the retail price of each, whichever is greater, to defray the costs incurred in the curricular material review and adoption process. ( )

01. Subject Areas. Curricular materials are adopted by the State Board of Education for a period of six (6) years in the following subject areas: reading, English, spelling, speech, journalism, languages other than English, art, drama, social studies, music, mathematics, business education, career education and counseling, career technical education, science, health, physical education, handwriting, literature, driver education, limited English proficiency. ( )

02. Multiple Adoptions. Multiple adoptions are Made in Each Subject Area. ( )

03. Bids. Each publisher must deliver, according to the committee schedule, a sealed bid on all curricular materials presented for adoption. ( )

04. Depository. The State Board will appoint a depository for the state-adopted curricular materials. Resource materials are a local option. ( )

05. Local Policies. School districts will follow their own policies for adoption in subject areas offered by a

school district for which materials are not covered by the state curriculum materials committee. ( )

06. Online Course Review and Approval Process. The State Department of Education shall administer the review and approval of online course providers and courses. Reviewers shall be certified Idaho classroom teachers. Online course providers are approved for a period of four (4) years. The State Department of Education shall charge online course providers submission fees based on the number of courses offered, not to exceed the actual costs incurred in the online course and course provider review and approval process. ( )

SUBJECT

Board Policy I.E. Executive Officers – Second Reading

REFERENCE

August 2016	Board approved first reading of Board Policy I.E. Executive Officers – vehicle allowance
October 2016	Board approved second reading of Board Policy I.E.
April 2018	Board approved the first reading of proposed amendments to Board policies: I.E., V.I. and V.U. removing provisions regarding housing, automobile allowances and reimbursement of entertainment expenses.
June 2018	Board approved second reading of Board policies I.E., V.I., and V.U.
August 2021	Board approved the first reading of amendments to Board policy I.E. delegating to the Board's chief executive officers the ability to take actions on campus to prevent the spread of contagious or infectious disease.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Sections I.E.
Sections 33-107 and 33-3730, Idaho Code

BACKGROUND/DISCUSSION

Section 33-3730, Idaho Code, requires that state institutions of higher education adopt "a policy for measures and procedures to prevent the spread of contagious or infectious disease, including temporary closure of the institution or any of its buildings or campuses. Such policy must be adopted in consultation with the state board of education and the district health department of any public health district in which the institution offers in-person classes."

Section 33-3730, Idaho Code, further provides that once such policies are adopted, the Board, in accordance with the adopted policies, has the authority to:

- close an institution or any of its buildings or campuses,
- to limit its programs or activities, or
- to require other measures at the institution for the purpose of preventing the spread of contagious or infectious disease. Measures to prevent the spread of contagious or infectious disease could include, social distancing requirements, hand washing requirements, testing requirements, or use of facial coverings requirements.

The amendments to Board Policy I.E. splits the three level of actions identified in section 33-3730, Idaho Code between the Executive Director and the institution presidents, followed by Board consideration at their next Board meeting.

IMPACT

Approval of the proposed amendments would start the process for delegating the authority to the Board's Executive Director and institution presidents to act quickly should the institutions need to implement measures in response to the pandemic.

ATTACHMENTS

Attachment 1 – Board Policy I.E. Executive Officers – First Reading

BOARD STAFF COMMENTS AND RECOMMENDATIONS

No comments were received between the first and second reading. No changes were made to the proposed policy amendments. Staff recommends approval.

BOARD ACTION

I move to approve the second reading of proposed amendments to Board Policy section I.E. Executive Officers, as submitted in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

Idaho State Board of Education
GOVERNING POLICIES AND PROCEDURES
SECTION: I. GENERAL GOVERNING POLICIES AND PROCEDURES
SUBSECTION: E. Executive Officers ~~June 2018~~October 2021

1. Executive Director

   a. The Executive Director is appointed by and serves in this position at the pleasure of the Board. The Executive Director serves as the chief executive officer of the State Board of Education. Pursuant to Idaho Code 33-102A the Executive Director shall be under the direction of the Board and shall have such duties and powers as are prescribed by the Board. The Executive Director is charged with ensuring the effective articulation and coordination of institution, and agency concerns and is advisor to the Board and the Presidents/Agency Heads on all appropriate matters.

2. Presidents/Agency Heads

   a. Responsibilities

      The President/Agency Head is the chief program and administrative officer of the institution or agency. The President/Agency Head has full power and responsibility within the framework of the Board's Governing Policies and Procedures for the organization, management, direction, and supervision of the institution or agency and is held accountable by the Board for the successful functioning of the institution or agency in all of its units, divisions, and services.

      For the higher education institutions, the Board expects the Presidents to obtain the necessary input from the faculty, classified and exempt employees, and students, but it holds the Presidents ultimately responsible for the well-being of the institutions, and final decisions at the institutional level rest with the Presidents. The Presidents shall keep the Board apprised, within 24 hours, through the Executive Director, of all developments concerning the institution, its employees, and its students, which are likely to be of interest to the public.

   b. The Chief Executive Officer is held accountable to the Board for performing the following duties within his or her designated areas of responsibility:

      i. Relations with the Board

         1) Conduct of the institution or agency in accordance with the Governing Policies and Procedures of the Board and applicable state and federal laws.

         2) Effective communication among the Board, the Board office, and the institution or agency.

         3) Preparation of such budgets as may be necessary for proper reporting and planning.

4) Transmittal to the Board of recommendations initiated within the institution or agency.

5) Participation and cooperation with the office of the Board in the development, coordination, and implementation of policies, programs, and all other matters of state-wide concern.

6) Notification to Board President or Executive Director of any absence exceeding one week during which time the chief executive officer will be unavailable or out-of-country.

ii. Leadership of the Institution or Agency

1) Recruitment and retention of employees

2) Development of programs, in accordance with an evolving plan for the institution or agency.

3) In cooperation with appropriate parties, the promotion of the effective and efficient functioning of the institution or agency.

4) Development of methods that will encourage responsible and effective contributions by various parties associated with the institution or agency in the achievement of the goals of the institution or agency.

iii. Relations with the Public

1) Development of rapport between the institution or agency and the public that each serves.

2) Official representation of the institution or agency and its Board-approved role and mission to the public.

c. Appointment Terms and Conditions

Each chief executive officer is employed and serves at the pleasure of the Board as an at-will employee. Appointments to the position of President of the higher education institutions and Executive Director of the Board are made by the Board. The Executive Director shall have authority to identify candidates and make recommendations for the appointment of Agency Heads, which must be approved and appointed by the Board. The Board and each chief executive officer may enter into an employment agreement for a term not to exceed five (5) years that documents the period of appointment, compensation, and any additional terms. The Board's Policies regarding Non-classified Employees, Section II, Subsection F, do not apply to the Board's chief executive officers.

d. Evaluations

The Agency Heads are evaluated by the Executive Director annually, who makes recommendations to the Board with respect to compensation and employment actions. The Presidents and Executive Director are evaluated by the Board annually. The performance evaluation is based upon the terms of any employment agreement, the duties outlined in the policy and mutually agreed upon goals. Final decisions with respect to compensation and employment actions with regard to chief executive officers are made by the Board.

e. Compensation and Benefits

i. Each chief executive officer's annual compensation shall be set and approved by the Board. A chief executive officer shall not receive supplemental salary compensation related to his or her service as chief executive officer from an affiliated institutional foundation, or from any other source. A chief executive officer must disclose to the Board, through its Executive Director or in executive session as appropriate (with updates as necessary), any activities and financial interests, including compensation from an outside source unrelated to his or her service as chief executive officer, that affects or could potentially affect the chief executive officer's judgment or commitment to the Board or the institution.

ii. In addition to the compensation referred to above, each chief executive officer shall receive the usual and ordinary medical, retirement, leave, educational, and other benefits available to all institutional, and agency employees.

iii. Each chief executive officer shall receive reasonable and adequate liability insurance coverage under the state's risk management program.

iv. Relocation and moving expenses incurred by each chief executive officer will be paid in accordance with the policies and rates established by the State Board of Examiners.

v. Each chief executive officer earns annual leave at a rate of two (2) days per month or major fraction thereof of credited state service.

f. Termination
In the event a chief executive officer's appointment is terminated by Board action (for or without cause), than such individual shall only be entitled to continued compensation or benefits, if any, for which he or she may be eligible under the terms of his or her employment agreement.

3. Institutional Presidents: Official Duties Related Spousal Expenses

The Board acknowledges that the spouse of an institutional president provides valuable service activities on behalf of the institution, the Board, and to the Idaho higher education system. The Board further recognizes that the spouse may be expected to attend certain functions related to the ongoing mission and purposes of

the institution. Accordingly, a spouse shall be eligible for reimbursement of authorized official travel and business related expenses, in accordance with the State of Idaho's travel and expense policies, as long as such expenses have a bona fide business purpose. To be a bona fide business purpose the presence and activities of the spouse at the function must be significant and essential (not just beneficial) to the institution. A president's spouse attending official functions as part of protocol or tradition and where the spouse makes an important contribution to the function can be considered serving a business purpose. For example, ceremonial functions, fundraising events, alumni gatherings, community, and recruiting events are examples of activities at which the presence of a spouse may contribute to the mission of the University. If a spouse has no significant role, or performs only incidental duties of a purely social or clerical nature, then such does not constitute a bona fide business purpose. Spousal expenses may not be charged to state funds; various non-state funds controlled by the institution may be used to fund spousal expenses.

4. President Emeritus/Emerita Designation

The Board may choose to grant President Emeritus/Emerita status to a retiring President. President Emeritus/Emerita status should be reserved to honor, in retirement, a president who has made distinguished professional contributions to the institution and who has also served a significant portion of his/her career at the institution. The intent of conferring President Emeritus/Emerita status is to bestow an honorary title in recognition of successful tenure in the Presidential role.

a. Appointment Procedure

An institution may forward a recommendation to the Board that this honorary title be conferred upon a President that is retiring or has retired from the institution. Each institution shall provide for input into the recommendation from the campus community.

b. Rights, Privileges and Responsibilities

Rights and privileges of such a distinction shall be, insofar as resources will allow, similar to those of active institutional staff, including such privileges as:

i. staff privileges for activities, events and campus facilities;

ii. receipt of institutional newspaper and other major institutional publications and receipt of employee/spouse fee privilege (see Section V. R.).

5. Procedures to Prevent the Spread of Infectious Disease.

Pursuant to section 33-3730, Idaho Code, the executive director is delegated authority to, upon request from an institution in situations requiring immediate action, close an institution or any of its buildings or campuses if needed to prevent the spread of contagious or infectious disease. Also pursuant to section 33-3730,

ATTACHMENT 1

Idaho Code, the president of each institution is delegated the authority to implement measures required to prevent the spread of contagious or infectious disease, including limiting programs or activities. Any such action taken shall be considered by the Board at its next meeting.

DIVISION OF CAREER TECHNICAL EDUCATION (DIVISION)

SUBJECT

Board Policy IV.E. Division of Career Technical Education – Second Reading

REFERENCE

August 28, 2019	Board approved the first reading of proposed amendments to Board Policy IV.E adding three new sections of policy: secondary career technical program approval, allowable uses for added-cost funds, and formalizing occupational specialist certificate endorsements.
October 16-17, 2019	Board approved the second reading of proposed changes to Board Policy IV.E and pending rule amending IDAPA 08.02.02 removing language for CTE degree-based endorsements.
April 22, 2020	Board approved first reading of proposed amendments to Board Policy IV.E. grandfathering in certain occupational endorsements.
April 27, 2020	Board approved second reading proposed amendments to Board Policy IV.E.
August 26, 2020	Board approved first reading of proposed amendments to Board Policy IV.E.4.a. clarifying state programs administered by the Division.
October 21, 2020	Board approved second reading of proposed amendments to Board Policy IV.E. Division of Career Technical Education.
August 26, 2021	Board approved first reading of proposed amendments to Board Policy IV.E. updating career technical educator endorsement provisions.

APPLICABLE STATUTE, RULE, OR POLICY

State Board of Education Governing Policies and Procedures IV.E.
Sections 33-105, and 33-2202, Idaho Code
IDAPA 08.02.02.015

BACKGROUND/DISCUSSION

The Board started the process to codify career technical educator endorsements in 2019 by adding them to the Board's Governing Policies and Procedures. Inclusion of endorsements in Board policy allows for the Board to react more quickly in updating and amending the requirements in consideration of industry and stakeholder input. The proposed amendments add the requirements for the seven degree based career technical educator endorsements to Board policy, consistent with the occupational specialist endorsements.

IMPACT

This policy amendment will ensure that secondary instructors coming from industry will have an endorsement that aligns with their content knowledge and will help to ensure consistency statewide regarding instructor qualifications.

ATTACHMENTS

Attachment 1 – Board Policy IV.E. Second Reading

BOARD STAFF COMMENTS AND RECOMMENDATIONS

There were no comments received and no changes made between the first and second readings.

Staff recommends approval.

BOARD ACTION

I move to approve the Second Reading of Board Policy IV.E. Division of Career Technical Education as provided in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ATTACHMENT 1

Idaho State Board of Education
GOVERNING POLICIES AND PROCEDURES
SECTION: IV. ORGANIZATION SPECIFIC POLICIES AND PROCEDURES
Subsection: E. Division of Career Technical Education **October ~~2020~~2021**

1. Purpose.

   The Division of Career Technical Education (Division) provides leadership and coordination for programs in career technical education in various parts of the state. The general purpose of the Division is to carry out the governing policies and procedures of the Board and the applicable provisions of state and federal career technical education regulations assigned to the Division.

2. Delegation of Authority

   The Administrator is the chief program and administrative officer of the Division, is appointed by, and serves in this position at the pleasure of the Board. The Administrator of the Division of Career Technical Education serves as the chief executive officer of the statewide career technical education system with the responsibility to supervise and manage career technical education programs in Idaho within the framework of the Board's Governing Policies and Procedures for the organization, management, direction, and supervision of the agency and is held accountable by the Board for the successful functioning of the institution or agency in all of its units, divisions, and services pursuant to Board Policy I.E. Executive Officers. The Administrator shall report to the Board through the Executive Director. The Administrator is responsible for the preparation and submission, through the Executive Director, of any matters related to career technical education for Board review and action.

3. Definitions
   a. Concentrator means a secondary student enrolled in a capstone course.

   b. Local Education Agencies means a public school district or charter school, including specially chartered districts.

   c. Technical College Leadership Council (TCLC) means the career technical education deans of the six regional public technical colleges in Idaho.

   d. Technical Skill Assessment means an assessment given at the culmination of a pathway program during the capstone course and measures a student's understanding of the technical requirements of the occupational pathway.

   e. Workplace Readiness Assessment means an assessment of a career technical education student's understanding of workplace expectations.

ATTACHMENT 1

4. Functions

   The Division provides statewide leadership, administration, supervision, planning, and coordination for career technical education activities in Idaho. The major functions include:

   a. Statewide Administration: maintaining a qualified professional staff to provide statewide leadership and coordination for career technical education and the programs offered in accordance with applicable state and federal regulation, Fire Service Training and STAR Motorcycle Safety Program.

   b. Supervisory and Consultative Services: providing technical assistance to local education agencies to assist in the implementation and maintenance of career technical education programs including support and leadership for student organizations and education equity.

   c. Planning: assisting local education agencies in the development of annual plans and data collection and analyzing services for the establishment of a five-year plan, annual plans, and accountability reports from the local education agencies.

   d. Evaluation: conducting and coordinating career technical education evaluations in accordance with state and federal guidelines to monitor program activities and to determine the status of program quality in relation to established standards and access.

   e. Budget Preparation: preparing annual budgets and maintaining a statewide finance and accountability system.

   f. Program and Professional Improvement: initiating and coordinating research, curriculum development, process improvement, and staff development statewide.

   g. Management Information: collecting, analyzing, evaluating and disseminating data and program information which provides a comprehensive source of accurate, current, and easily accessible information for statewide decision making.

   h. Coordination: providing liaison with related state agencies and organizations, business and industry, and community-based organizations.

5. Organization.

   The programs and services of the Division are organized into two (2) broad segments: (a) Regular Occupational Programs and (b) Special Programs and Support Services.

   a. Regular Occupational Programs are programs designed to prepare students at the secondary and postsecondary levels with the skills, knowledge, attitudes, and habits necessary for entry-level employment in recognized occupations in Idaho

regions, and may extend to the Northwest and nationally. These programs also provide the supplemental training to upgrade the skills of those citizens of Idaho who are currently employed. Regular programs include clusters and pathways in the following program areas:

i. Agriculture, Food and Natural Resources;
ii. Business and Marketing;
iii. Engineering and Technology Education;
iv. Family and Consumer Sciences and Human Services;
v. Health Professions and Public Safety; and
vi. Trades and Industry.

A program quality manager is employed in each program area to provide leadership and technical assistance to local education agencies.

b. Special Programs and Support Services are special programs designed to serve students who are considered special populations, students with special needs, and include other program activities not considered occupational in nature. These programs include Single Parent/Displaced Homemaker, Education Equity, and middle school career technical education.

c. Through state and federal regulations, or by contract for administration, the Division may supervise and manage other career technical training programs as appropriate.

6. Program Delivery

Career technical education programs are made available at three (3) levels in Idaho -- secondary, postsecondary, and workforce training.

7. Secondary Programs

a. Secondary Programs are provided through participating local education agencies and career technical schools. Secondary programs are established by the Division and may be categorized as either a cluster program or a pathway program.

b. Cluster Program: provides introductory and intermediate courses as an introduction to a career technical area and the opportunity to learn workplace readiness expectations. A cluster program must meet the following requirements:

i. Consist of a variety of foundation and intermediate courses within a single Career Cluster. The program does not culminate in a capstone course.
ii. Offer a program that is three or more semesters (or the equivalent) in length.
iii. Demonstrate a strong career/workplace readiness skills alignment.
iv. Participate in a related Career Technical Student Organization.
v. Maintain an active Technical Advisory Committee to guide program development and foster industry engagement.

vi. Require a nationally validated, industry-based Workplace Readiness Assessment created to evaluate skills and attitudes needed for success in the workplace administered by an approved developer as part of the program.

c. Pathway Program: provides specific career area occupational preparation, the opportunity to learn workplace readiness expectations, and the knowledge and skill development required to transition into a similar postsecondary program. A pathway program must meet the following requirements:

i. Consist of a sequence of courses that culminate in a capstone course and aligns with Board approved career technical education content standards.
ii. Offer a program that is three or more semesters (or the equivalent) in length.
iii. Demonstrate a strong career/workplace readiness skills alignment.
iv. Participate in a related Career Technical Student Organization.
v. Maintain an active Technical Advisory Committee to guide program development and foster industry engagement.
vi. Require the Workplace Readiness Assessment as part of the program.
vii. Demonstrate alignment to similar postsecondary program outcomes as well as to relevant industry recognized standards.
viii. Offer work-based learning experience opportunities for students (paid or unpaid).
ix. Require a pathway-identified Technical Skill Assessment for all students enrolled in the capstone course (concentrators).
x. Ensure the program meets the requirements for concentrators to obtain Technical Competency Credit for aligned postsecondary programs.
xi. Require a nationally validated, industry-based technical skill assessment administered by an approved developer.

d. All junior and senior concentrators are required to take the technical skill assessment associated with their program. In the event a senior concentrator is enrolled in a pathway program that does not yet have an approved technical skill assessment, that student will take only the workplace readiness assessment until the pathway program technical skill assessment has been approved.

e. All seniors enrolled in more than one career technical education course are required to take the workplace readiness assessment.

f. Secondary Program Approval

The Division accepts applications each year from local education agencies to establish new secondary career technical programs, change a program type or reactivate an inactive program. To be considered in a given fiscal year the application must be received no later than February 15. Only approved programs are eligible to receive added-cost funds, or additional career technical education

funding including, Idaho Program Quality Standards, Program Quality Initiative, Workforce Readiness Incentive Grant, and federal Perkins funding. In order to receive added-cost funds, a program must also be taught by an appropriately certified career technical education teacher. Career technical education teacher certification requirements are established in IDAPA 08.02.02. Applications must be submitted in a format established by the Administrator.

The Division will evaluate applications on standard criteria. Approval of new programs and reactivation of inactive programs will be based on available funding; priority will be given to pathway programs. A local education agency must demonstrate that, as part of its decision for creating, changing, or reactivating a career technical program, the local education agency has considered the recommendations from a local technical advisory committee. If such a committee does not already exist, the local education agency must create a committee for the express purpose of evaluating local and/or regional need for the proposed career technical program and for providing guidance on the application for such program. Applications must indicate if the program is a cluster or a pathway program and will be evaluated according to the specific program type. Denial of applications will be based on failure to meet the application requirements, including but not limited to missing deadlines, information, failure to meet minimum program requirements or failure to respond to any request for additional information within the timeframe specified in the application. Local education agencies will be notified of their application status on or before April 30 of the application year. Prior to receiving added-cost funds, the local education agency must submit the applicable statement of assurances, as outlined in the application approval letter.

i. Comprehensive high school new cluster programs will be evaluated on the following criteria:

   1) Meeting minutes that reflect recommendations from the local technical advisory committee
   2) Alignment with one of four approved cluster program areas
   3) Provides basic workplace readiness skills
   4) Connection to a Career Technical Student Organization (CTSO) supported by the Division
   5) Representation on the technical advisory committee in alignment with the program area industry
   6) Realistic, applied learning, provided through lab and industry-related activities
   7) Facilities to accommodate the program with equipment and space
   8) Agreement with the Statement of Assurances, as defined in the application

ii. Comprehensive high school new pathway programs will be evaluated on the following criteria:

1) Meeting minutes that reflect recommendations from the local technical advisory committee
2) Alignment with one of the approved pathway programs established by the Division
3) Provide basic workplace readiness skills
4) Consists of sequential, intermediate and capstone courses that meet the minimum requirements
5) Connection to a Career Technical Student Organization (CTSO) supported by the Division
6) Technical advisory committee that includes representatives from the identified occupational pathway
7) Realistic, applied learning, provided through lab and industry-related activities
8) Work-based learning opportunities
9) Regional need for the program, established through labor market data
10) Alignment with Board-approved program standards
11) Alignment to related postsecondary program
12) Facilities to accommodate a pathway program with the appropriate and relevant equipment and space for the pathway
13) Agreement with the Statement of Assurances, as defined in the application

iii. Career Technical School (CTS) pathway programs must meet the evaluation criteria for a new pathway program, as well as the criteria outlined in IDAPA 55.01.03.

g. Allowable Use of Added-Cost Funds

Added-cost funds are distributed to school districts to cover instructor and program expenses beyond those normally encountered by Idaho public schools at the secondary level. Allocations are calculated based on career technical education teacher full-time equivalency (FTE) and must be used to support all career technical education programs in the school districts. Added-cost funds may only be used for expenses directly related to an approved career technical education program in five (5) categories:

i. Instructional and Program Promotion Materials and Supplies

1) Single copy reference materials, including single-user electronic reference materials
2) Consumable student lab and classroom manuals
3) Consumable materials and supplies that support the instructional program
4) Workplace Readiness Assessment (WRA) and Technical Skill Assessment (TSA) exam costs (excluding retakes) for those exams administered outside the Division-funded testing window

5) Web-based licensed products to support program instruction and management
6) Materials and supplies used in CTE program promotion

ii. Equipment

1) Equipment costing $500 or more per unit cost and having an expected life greater than two years (software is not considered equipment)
2) Computers and peripherals necessary for program instruction above and beyond equipment provided to academic classrooms

iii. Salaries

1) Time beyond the normal academic year to be defined as the last school session calendar day of the current year and before the first session calendar day of the subsequent year, which should be a documented agreement between the district and the CTE instructor
2) Time during the normal academic year for CTSO advisors who travel and stay in hotels to attend state and national leadership conferences with their students, beyond the normal school week to include one (1) day for a state leadership conference and two (2) days for a national leadership conference
3) For health professions programs only, time beyond the normal school day, i.e., evenings and weekends, for licensed professional teachers delivering required instruction to students at clinical sites

iv. Contracts

1) Services contracted by the district for maintaining and repairing CTE equipment and for operating and maintaining CTE labs and shops (e.g., equipment service contracts and hazardous waste disposal)
2) Fees and expenses for supplemental specialized instruction (e.g., certified CPR trainer, OSHA certification instructor, short-term specialized instruction from subject matter expert, supplemental staff to supervise students in a clinical environment)

v. Travel and Professional Expenses

1) Instructor travel costs and fees for CTE-related professional development (e.g., conferences, seminars, workshops, state-sponsored meetings, summer conference, and back-to-industry experiences related to the CTE program)
2) Instructor travel costs and fees related to CTE student activities and CTSO activities (e.g., conference registration fees, mileage, per diem, lodging)
3) Instructor membership dues for professional associations and CTSO affiliations related to program area.

4) Up to ten percent (10%) of the CTE added-cost funding for student transportation within the state to a state-approved CTSO leadership conference or event

vi. Added-Cost Funds may not be used for:

1) Print textbooks, electronic textbooks, and/or other electronic media used as the primary source of content delivery
2) Technology related to general instructional delivery (e.g., projectors, cell phones)
3) Classroom equipment, supplies, and web-based licensed products that are provided to all district teachers and classrooms
4) Fundraising equipment and supplies
5) Equipment not related to program instruction
6) Salaries and benefits for certified employees (i.e., teachers who hold certification) and classified employees (i.e., employees other than certified or professional teachers)
7) Salaries and benefits to replace furlough days
8) Salaries and benefits for district pre-service and/or in-service days
9) Salaries and benefits for substitutes
10) Contracted salaries or benefits to provide the basic instructional program
11) Fees to obtain or renew teaching credentials and/or professional licenses
12) Tuition and transcripted credits, including professional development credits
13) Individual student travel fees and expenses

8. Occupational Specialist Certificate Endorsements, effective July 1, 2020. Pursuant to Section 33-1201, Idaho Code, every person employed in an elementary or secondary school in the capacity of a teacher must have a certificate issued under the authority of the State Board of Education. Certification requirements are established in IDAPA 08.02.02. ~~In addition to a certificate, e~~Each certificate must have one or more endorsements indicating the occupational area the teacher is qualified in to provide instruction. Endorsement eligibility is determined by the Division of Career Technical Education. Career technical education endorsements consist of the following:

a. Endorsements A-C
   i. Administrative Services (6-12). Industry experience that indicates applied competence in the majority of the following areas: proficiency in word processing, spreadsheet, database, presentation, and technology media applications; accounting functions; legal and ethical issues that impact business; customer relations; business communication; and business office operations.
   ii. Agribusiness (6-12). Industry experience that indicates applied competence in the majority of the following areas: plant and animal science; agricultural economic principles; business planning and entrepreneurship; agriculture business financial concepts and recordkeeping systems; risk management

in agriculture; laws related to agriculture and landowners; marketing and sales plans; and sales.

iii. Agriculture Food Science and Processing Technologies (6-12). Industry experience that indicates applied competence in the majority of the following areas: properties of food; principles of processing; post-processing operations; safety practices; and equipment and tools used in food processing.

iv. Agriculture Leadership and Communications (6-12). Industry experience that indicates applied competence in the majority of the following areas: applied communications and leadership through agricultural education; supervised agricultural experience; career opportunities in agricultural science, communications, and leadership; agriculture's impact on society; agricultural science principles; agricultural communication principles; and agricultural leadership principles.

v. Agriculture Mechanics and Power Systems (6-12). Industry experience that indicates applied competence in the majority of the following areas: safety practices; tools and hardware; metal technology; power systems; electricity; mathematical applications; insulation; and careers in agricultural mechanics and powers systems.

vi. Animal Science (6-12). Industry experience that indicates applied competence in the majority of the following areas: animal agricultural industries; nutritional requirements for livestock; livestock reproductive systems; principles of evaluation for animal selection; animal welfare, handling, and quality assurance; medication and care; disease transmission and care; harvesting and processing of animal products; and animal science risk management.

vii. Apparel/Textiles (6-12). Industry experience that indicates applied competence in the majority of the following areas: fashion trends; design sketches; color and fabric selection; production of clothing and accessories; and enhancement of function and safety.

viii. Applied Accounting (6-12). Industry experience that indicates applied competence in the majority of the following areas: accounting functions; accounting ethics; software application packages; financial statements; asset protection and internal controls; inventory records; long-term assets; and payroll procedures.

ix. Automated Manufacturing (6-12). Industry experience that indicates applied competence in the majority of the following areas: lab organization and safety practices, blueprint reading, measuring, computer-aided design (CAD); computer-aided manufacturing (CAM), computer numeric control (CNC), fundamental power system principles, manufacturing processes, electronic and instrumentation principles, machining, robotics and materials-handling systems, and additive (3D) printing.

x. Automotive Collision Repair (6-12). Industry experience that indicates applied competence in the majority of the following areas: auto body collision-repair practices; tools; trade skills in refinishing, welding, and painting.

xi. Automotive Maintenance and Light Repair (6-12). Industry experience that indicates applied competence in the majority of the following areas: service, maintenance, and repair practices for a wide variety of vehicles; and diagnosing, adjusting, repairing, and replacing individual vehicle components and systems.

xii. Business Digital Communications (6-12). Industry experience that indicates applied competence in the majority of the following areas: elements and principles of design and visual communications; professional communication skills; editing and proofreading; copyright and intellectual property law; portfolio development; content development strategy; branding and corporate identity; graphic communication production; video editing; web page development; web page design and layout; and web-related planning and organizational standards.

xiii. Business Management (6-12). Industry experience that indicates applied competence in the majority of the following areas: planning and organizing; directing, controlling and evaluating goals and accomplishments; financial decision-making; competitive analysis and marketing strategies; human resource management; customer relations; technology; project management; operations and inventory; and social responsibility.

xiv. Cabinetmaking and Bench Carpentry (6-12). Industry experience that indicates applied competence in the majority of the following areas: cabinetmaking and millwork production; cutting, refinishing, installing, and shaping of various materials; knowledge of industry standards and construction applications; hardware; and blueprint reading.

xv. Certified Welding (6-12). Industry experience that indicates applied competence in the majority of the following areas: fundamental print reading; measurement and layout/fit-up techniques; properties of metals; shielded metal arc welding (SMAW); gas metal arc welding (GMAW and GMAW-S); flux cored arc welding (FCAW-G); gas tungsten arc welding (GTAW); thermal cutting processes; welding codes; inspection and testing principles; and fabrication techniques.

xvi. Child Development and Services (6-12). Industry experience that indicates applied competence in the majority of the following areas: early childhood-education career paths and opportunities for employment; ethical conduct; advocacy for children; child/human development and learning; family and community relations; child observation, documentation, and assessment; positive relationships and supportive interaction; and approaches, strategies, and tools for early childhood education.

xvii. Commercial Photography (6-12). Industry experience that indicates applied competence in the majority of the following areas: ethics in photography, elements and principles of design composition, cameras and lenses, exposure settings, light sources, digital workflow, presentation techniques and portfolios, and production using industry standard software.

xviii. Computer Support (6-12). Industry experience that indicates applied competence in the majority of the following areas: basic network technologies, laptop support, PC support, printer support, operating systems, security, mobile device support, troubleshooting techniques, and trends in the industry.

xix. Construction Trades Technology (6-12). Industry experience that indicates applied competence in the majority of the following areas: comprehensive knowledge of structural systems and processes, classical and contemporary construction elements, knowledge of industry standards, knowledge of architecture, basic cabinetry and millwork, and blueprint reading.

xx. Cosmetology (6-12). Industry experience that indicates applied competence in the majority of the following areas: hair design; skincare; nail care; industry guidelines and procedures; entrepreneurship; and communications. Instructor must hold a current and valid Idaho license or certificate as a cosmetologist.

xxi. Culinary Arts (6-12). Industry experience that indicates applied competence in the majority of the following areas: experience as a chef in a full-service restaurant; business operations experience in the culinary/catering industry; communication and organization skills with customers and vendors; industry-recognized food safety and sanitation certification; knowledge of proper food handling, ingredients, food quality and control practices; culinary tools and equipment; cooking methods; meal preparation; menu planning principles and industry trends and career options.

b. Endorsements D-N

i. Dental Assisting (6-12). Industry experience that indicates applied competence in the majority of the following areas: dental professions pathways; ethics in dental practice; nutrition as related to oral health; infection control; occupational safety; dental-related anatomy and pathology; dental anesthesia; dental assisting skills; dental materials; and dental radiology. Instructor must hold a current and valid Idaho license or certificate as a dental assistant, dental hygienist, or dentist.

ii. Digital Media Production (6-12). Industry experience that indicates applied competence in the majority of the following areas: graphic design industry structure; elements and principles of design composition; visual communication; industry-standard software production; ethics and graphic design; digital portfolios; mathematical skills as related to design;

communication skills; editing and proofreading; video editing; digital media and production; dissemination techniques and methods; broadcasting equipment, camera, and lens operations; light sources; presentation techniques; public speaking; and writing skills.

iii. Drafting and Design (6-12). Industry experience that indicates applied competence in the majority of the following areas: technical drawings, scale drawings, architectural drafting, mechanical drafting, orthographic projection, two- and three-dimensional drawings, manual drafting, and computer aided design.

iv. Ecology and Natural Resource Management (6-12). Industry experience that indicates applied competence in the majority of the following areas: ecological concepts and scientific principles related to natural resource systems; forest types; forest management components and practices; fire ecology and management; importance and application of GPS/GIS in natural resource management; fish and wildlife ecology; and mineral and energy resources management.

v. Electrical Technology (6-12). Industry experience that indicates applied competence in the majority of the following areas: digital and solid-state circuits, DC principles, AC concepts, soldering techniques, circuits, and electrician-associated electronic components and tools. Instructor must hold a current and valid Idaho license or certificate as an electrician.

vi. Electronics Technology (6-12). Industry experience that indicates applied competence in the majority of the following areas: digital and solid-state circuits; DC principles; AC principles; soldering techniques; circuits; digital electronics; electronic circuits; electronic devices; and electronic digital circuitry simulations and associated electronic components and tools.

vii. Emergency Medical Technician (EMT) (6-12). Industry experience that indicates applied competence in the majority of the following areas: fundamental knowledge of the emergency management services (EMS) system; medical and legal/ethical issues in the provision of emergency care; EMS systems workforce safety and wellness; documentation; EMS system communication; therapeutic communication; anatomy and physiology; medical terminology; pathophysiology; and lifespan development (per the EMR and EMT sections of the Idaho EMS Education Standards located on the Idaho Department of Health and Welfare website). Instructor must have passed the National Registry exam. Instructor must hold a current and valid Idaho EMS license or certificate and be certified as an EMT instructor through Idaho EMS.

viii. Firefighting (6-12). Industry experience that indicates applied competence in the majority of the following areas: knowledge of local, state, and federal laws and regulations; firefighting procedures; firefighting tactics; firefighting equipment and vehicles; EMT basic training; first aid and CPR training; and

reporting requirements under Idaho criminal code. Instructor must hold a current and valid Idaho license or certificate as an EMT and firefighter.

ix. Graphic Design (6-12). Industry experience that indicates applied competence in the majority of the following areas: the graphic design industry; elements and principles of design and visual communication; production using industry standard software; branding and corporate identity; ethical and legal issues related to graphic design; portfolio development and evaluation; mathematics for visual communications; communication; editing and proofreading; graphic design in digital media; and applied art.

x. HVAC Technology (6-12). Industry experience that indicates applied competence in technical subjects and skills related to the HVAC trade as approved by the Idaho HVAC Board and the Idaho State Board for Career Technical Education: installing, altering, repairing, and maintaining HVAC systems and equipment including air conditioners, venting or gas supply systems, ductwork, and boilers. Instructor must hold a current and valid Idaho license or certificate as an HVAC Technician.

xi. Heavy Equipment/Diesel Technology (6-12). Industry experience that indicates applied competence in the majority of the following areas: knowledge of diesel engine service; preliminary inspection; identification and repair of vehicle components; preventative maintenance; and heavy equipment applications.

xii. Hospitality Management (6-12). Industry experience that indicates applied competence in the majority of the following areas: business structures; economics; human resources; sales and marketing; finance and budgeting; safety and security; legal and ethical considerations; event planning and management; teamwork; communication skills; lodging operations; and food and beverage operations.

xiii. Hospitality Services (6-12). Industry experience that indicates applied competence in the majority of the following areas: careers in the hospitality and tourism industry; customer service; event planning implementation; procedures applied to safety, security, and environmental issues; practices and skills involved in lodging occupations and travel-related services; and facilities management.

xiv. Industrial Mechanics (6-12). Industry experience that indicates applied competence in the majority of the following areas: industrial mechanics knowledge; shop skills; diagnostic and repair techniques; welding; hydraulic; electronic systems; and maintenance and preventative maintenance.

xv. Journalism (6-12). Industry experience that indicates applied competence in the majority of the following areas: legal and ethical issues related to journalism and photojournalism, principles and techniques of media design,

design formats, journalistic writing, social media and digital citizenship, and media leadership.

xvi. Law Enforcement (6-12). Industry experience that indicates applied competence in the majority of the following areas: knowledge of local, state, and federal laws and regulations; defensive strategies; investigative strategies; search principles and strategies; tactical procedures; vehicle operations; knowledge of weapons and use where appropriate; first aid and CPR training; social and psychological sciences; and identification systems.

xvii. Marketing (6-12). Industry experience that indicates applied competence in the majority of the following areas: economic systems; international marketing and trade; ethics; external factors to business; product/service management; pricing; distribution channels; advertising; sales promotion; public relations; retail management; market research and characteristics; digital marketing; and financing and financial analysis.

xviii. Medical Assisting (6-12). Industry experience that indicates applied competence in the majority of the following areas: human anatomy, physiology and pathology, medical terminology, pharmacology, clinical and diagnostic procedures, medication administration, patient relations, medical law and ethics, scheduling, records management, and health insurance. Instructor must hold a current and valid medical assistant certification as evidenced in the national registry.

xix. Networking Support (6-12). Industry experience that indicates applied competence in the majority of the following areas: PC hardware configuration, fundamental networking technologies, operating systems, basic networking, basic security, and basic network configurations.

xx. Nursing Assistant (6-12). Industry experience that indicates applied competence in the majority of the following areas: scope of practice; ethics and legal issues; communication and interpersonal relationships; documentation; care practices; infection prevention; human anatomy and physiology; medical terminology; personal care procedures; physiological measurements; nutritional requirements and techniques; procedures and processes related to elimination; quality patient environment; patient mobility; admission, transfer, and discharge procedures; care of residents with complex needs; and safety and emergency. Instructor must hold a current and valid Idaho registered nursing license and be approved as a certified CNA primary instructor through Idaho Department of Health and Welfare.

c. Endorsements O-W

i. Ornamental Horticulture (6-12). Industry experience that indicates applied competence in the majority of the following areas: safety practices; plant anatomy; plant physiology; plants identification skills; growing media; plant nutrition; integrated pest management; plant propagation; ornamental

horticulture crops; business concepts; plant technologies; ornamental design standards; and career opportunities in ornamental horticulture.

ii. Pharmacy Technician (6-12). Industry experience that indicates applied competence in the majority of the following areas: patient profile establishment and maintenance; insurance claim preparation; third-party insurance provider correspondence; prescription and over-the-counter medications stocking and inventorying; equipment and supplies maintenance and cleaning; and cash register operation. Instructor must be a pharmacist, registered nurse, or pharmacy technician holding a current and valid Idaho license or certification.

iii. Plant and Soil (6-12). Industry experience that indicates applied competence in the majority of the following areas: plant anatomy and identification; plant processes, growth, and development; soil and water; plant nutrition; integrated pest management; careers and technology; and safety.

iv. Plumbing Technology (6-12). Industry experience that indicates applied competence in technical subjects and skills related to the plumbing trade as approved by the Idaho Plumbing Board and the Idaho Board for Career Technical Education: repairing, installing, altering, and maintaining plumbing systems and fixtures including interconnecting system pipes and traps, water drainage, water supply systems, and liquid waste/sewer facilities. Instructor must hold a current and valid Idaho license or certificate as a plumber.

v. Pre-Engineering Technology (6-12). Industry experience that indicates applied competence in the majority of the following areas: lab safety; impacts of engineering; ethics of engineering; design process; documentation; technical drawing; 3D modeling; material science; power systems; basic energy principles; statistics; and kinematic principles.

vi. Precision Machining (6-12). Industry experience applied the majority of the following areas: precision machining practices; tools used to shape parts for machines; industrial mechanics; shop skills; safety in practice; blueprint reading; and diagnostic and repair techniques.

vii. Programming and Software Development (6-12). Industry experience that indicates applied competence in the majority of the following areas: basic programming principles; problem solving; programming logic; validation; repetition; programming classes;, exceptions, events, and functionality; arrays and structure; design principles; system analysis; and implementation and support.

viii. Rehabilitation Services (6-12). Industry experience that indicates applied competence in the majority of the following areas: ethical, legal, and professional responsibilities; medical terminology; anatomy and physiology; roles and responsibilities of the rehabilitation team; patient care skills; therapeutic interventions; and common pathologies. Instructor must be a

health professional holding a current and valid Idaho license or certificate in his/her field of study.

ix. Small Engine Repair/Power Sports (6-12). Industry experience that indicates applied competence in the majority of the following areas: small gasoline engine construction and performance; industry-related resources; equipment used to diagnose and troubleshoot issues; repair; entrepreneurship; and customer service.

x. Web Design and Development (6-12). Industry experience that indicates applied competence in the majority of the following areas: web page development, web page design and layout, integration of web pages, web planning and organizational standards, and web marketing.

xi. Work-Based Learning Coordinator (6-12). Educators assigned to coordinate approved work-based experiences must hold this endorsement. Applicants must hold an occupational endorsement on the Degree Based Career Technical Certificate or Occupational Specialist Certificate, and complete coursework in coordination of work-based learning programs.

d. The following career technical education endorsements awarded prior to July 1, 2020 shall be grandfathered and shall not be awarded after July 1, 2020:

i. Agricultural Business Management (6-12)
ii. Agricultural Power Machinery (6-12)
iii. Agricultural Production (6-12)
iv. Animal Health and Veterinary Science (6-12)
v. Aquaculture (6-12)
vi. Business Management/Finance (6-12)
vii. Child Development Care and Guidance (6-12)
viii. Culinary Arts (6-12)
ix. Dietitian (6-12)
x. Farm and Ranch Management (6-12)
xi. Fashion and Interiors (6-12)
xii. Food Service (6-12)
xiii. Forestry (6-12)
xiv. Horticulture (6-12)
xv. Information/Communication Technology (6-12)
xvi. Microcomputer Applications (6-12)
xvii. Natural Resource Management (6-12)
xviii. Networking and Computer Support (6-12)
xix. Orientation to Health Professions (6-12)
xx. Programming and Web Design (6-12)

e. Degree Based Career Technical Certificate Endorsements:

i. Agricultural Science and Technology (6-12). Thirty (30) semester credit hours to include coursework in methods of teaching agricultural science and technology, agriculture education, agriculture mechanics, agriculture business management, soil science, animal science, plant science, and horticulture.

ii. Business Technology Education (6-12). Twenty (20) semester credit hours to include coursework in methods of teaching business technology education, accounting, computer and technical applications in business, economics, business communication/writing, finance, marketing, business management, and office procedures. Additional coursework may include entrepreneurship or business law.

iii. Computer Science (6-12). Successful attainment of an Institutional Recommendation for the Computer Science (6-12) endorsement on a Standard Instructional Certificate, completion of coursework satisfying Section 04.b above, and related industry experience satisfying Section 4.c above.

iv. Engineering (6-12). Successful attainment of an Institutional Recommendation for the Engineering (6-12) endorsement on a Standard Instructional Certificate, completion of coursework satisfying Section 04.b above, and related industry experience satisfying Section 04.c above.

v. Family and Consumer Sciences (6-12). Thirty (30) semester credit hours to include coursework in methods of teaching family and consumer sciences; foundations of family and consumer sciences; consumer economics and family resources; child/human development; early childhood laboratory or practicum teaching experience; family and interpersonal relationships; food safety; the science of food preparation or culinary arts; lifespan nutrition and wellness; living environments and interior design; and apparel and textiles. Additional coursework may include hospitality and tourism, and entrepreneurship.

vi. Marketing Technology Education (6-12). Twenty (20) semester credit hours to include coursework in methods of teaching marketing technology education, marketing, business management, economics, merchandising/retailing, finance, and accounting. Additional coursework may include entrepreneurship.

vii. Technology Education (6-12). Twenty (20) semester credit hours to include coursework in methods of teaching technology education; communication technology; computer applications; construction technology; electronics technology; manufacturing technology; power, energy, and transportation; principles of engineering design; and other relevant emerging technologies.

9. Postsecondary Programs

a. Postsecondary Programs are provided through the state system of six (6) regional technical colleges. Postsecondary programs are defined in Board Policy III.E and are reviewed by the Administrator. In accordance with Board Policy III.G., the

Administrator shall meet with the Technical College Leadership Council (TCLC) on a regular basis. The regional technical colleges are:

i. College of Western Idaho (Nampa)
ii. College of Southern Idaho (Twin Falls)
iii. College of Eastern Idaho (Idaho Falls)
iv. Idaho State University College of Technology (Pocatello)
v. Lewis-Clark State College (Lewiston)
vi. North Idaho College (Coeur d'Alene)

b. Workforce Training Programs are primarily provided through the six (6) regional technical colleges to provide upgrading and retraining programs for persons in the work force and to support regional industry needs. These offerings range from brief seminar classes to intensive courses which normally are fewer than 500 hours of annual instruction.

10. The Idaho Agricultural Education Quality Program Standards shall be used to evaluate the quality of Agricultural, Food and Natural Resource education programs. The Idaho Agricultural Education Quality Program Standards as approved August 14, 2014, are adopted and incorporated by reference into this policy. The standards may be found on the Division of Career Technical Education website at http://cte.idaho.gov.

11. Internal Policies and Procedures

The chief executive officer may establish additional policies and procedures for the internal management of the Division of Career Technical Education that complement, but do not supplant, the Governing Policies and Procedures of the Board. Such internal policies and procedures are subject to Board review and action.

12. Industry Partner Fund

In an effort to increase the capacity of each of Idaho's six public technical colleges to work with regional industry partners to provide a "rapid response to gaps in skills and abilities," Idaho has established the Industry Partner Fund. The purpose of the fund is to provide funds that give the technical colleges the flexibility to work with Idaho employers to provide "timely access to relevant college credit and non-credit training and support projects."

a. Industry Partner Fund Definitions:

i. Technical College Leadership Council (TCLC) means the career technical education deans of Idaho's six public technical colleges
ii. Wage threshold means evidence that training will lead to jobs that provide living wages appropriate to the local labor market or local standard of living.
iii. Regional means the six defined career technical service regions pursuant to Board Policy III.Z.

iv. Support project means supplemental items, activities, or components that may enhance program outcomes (such as job analysis, placement services, data collection and follow up, workplace readiness skills training, etc.)
v. Regional industry partners means employers that operate in Idaho and/or serve as a talent pipeline for Idaho students and employees.
vi. Impact potential means the extent to which the training or project will increase regional capacity to meet talent pipeline needs. May include number of students or employees affected, associated wages, and long-term regional improvement or sustainability. May also include the timeframe for implementation.
vii. Demonstrated commitment means the promissory financial commitment made by the partner employer that includes cash or in-kind contribution to the project.

b. Roles and Responsibilities

The Administrator and TCLC are jointly responsible for reviewing and administering the application process for accessing Industry Partner Fund monies.

The TCLC, in accordance with the deadlines outlined in the following section, shall conduct the preliminary review of all proposals to ensure they meet the eligibility requirements and align with legislative intent. Each institution shall have one vote on the TCLC throughout the recommendation process. Deans shall not vote on proposals from their institution. The TCLC shall make recommendations to the division administrator to approve, deny, or modify submitted proposals.

The Administrator shall review all eligible proposals and make the final determination on the award of those proposals.

The Division shall be responsible for management and distribution of all moneys associated with the fund.

c. Submission and Review Process

Proposals will be accepted quarterly, on a schedule set by the Division. The TCLC shall provide the Administrator with recommendations on which proposals to award within 14 calendar days of the closing date of the application period. Pursuant to language outlined in Section 33-2213, Idaho Code, the TCLC and the Administrator will notify the technical college within 30 days of submission of their proposal as to whether their proposal was approved.

Submitted proposals must contain all required supporting documentation, as outlined by the Administrator, the TCLC, and as specified in the application.

Proposals must be signed by the College Dean, Financial Vice President/Chief Fiscal Officer, Provost/Vice President for Instruction, and institution President.

Proposals must outline how the institution and industry partner(s) are unable to meet industry need with existing resources.

d. Eligibility Criteria

Each proposal will be reviewed and evaluated according to the following criteria:

i. The extent to which the proposal meets regional demand
ii. Relevant labor market information, which must include, but is not limited to, Idaho Short Term Projections (Idaho Department of Labor)
iii. Wage thresholds – low wage program starts should be accompanied with appropriate justification including regional economic demand.
iv. Impact potential
v. Degree of employer commitment
vi. The extent to which the proposal aligns with and/or supports career technical education programs and relevant workforce training
vii. the anticipated administrative costs
viii. any special populations that may benefit from the proposed education or training
ix. sustainability of the program

Preference will be given to proposals that include:

i. Multiple employers
ii. Higher number of impacted workers
iii. Demonstrated commitment (highest consideration will be given to proposals with a matching component)

Each college may submit more than one proposal per quarter. In the event a qualified proposal isn't selected in the quarter in which it was submitted, the proposal may be resubmitted the following quarter. Resubmission of an eligible proposal is not a guarantee of future awards.

e. Distribution and Use of Funds

The Administrator, in awarding funds, shall ensure that funds are available each quarter. As such, the Administrator may adjust or reduce the award amount to an accepted proposal. These adjustments or reductions shall be made in consultation with the TCLC and the technical college impacted and will ensure the original intent of the proposal can still be met.

Funds will be distributed on a one-time basis; renewal proposals may be submitted, based on the nature of the project or training.

Industry Partner Fund moneys may be used for:

i. Facility improvement/expansion
ii. Facility leasing
iii. Curriculum development

iv. Salaries and benefits (if the training program needs are anticipated to go beyond the initial award, the college must provide additional details on long-term sustainability of the position filled through the fund)
v. Staff development
vi. Operating expenses
vii. Equipment and supplies
viii. Travel related to the project
ix. Approved administrative costs, as outlined in the application

Funds may not be used for:

i. Real property
ii. indirect costs
iii. the cost of transcribing credits
iv. tuition and fees
v. materials and equipment normally owned by a student or employee for use in the program or training

f. Performance Measures and Reporting Requirements

In accordance with the approved proposal, colleges shall provide a quarterly update and closeout report on elements such as:

i. Number of affected workers
ii. Number of enrolled or participating students
iii. Placement rate of training completers
iv. Average wages and any wage differential
v. Industry match
vi. If practicable, Idaho public college credits, certificates, certifications, qualifications or micro certifications of value toward postsecondary certificates or degrees.
vii. Funds obligated and expended. Any funds not obligated within 18 months of the initial award shall revert back to the fund.

TAB	DESCRIPTION	ACTION
1	**FY22 SOURCES AND USES REPORT**	Information Item
2	**STUDENT FEE REPORT**	Action Item
3	**BOISE STATE UNIVERSITY** Request to Increase Intercollegiate Athletics Limit	Action Item
4	**BOISE STATE UNIVERSITY** First Year Student Housing Project – Planning and Design	Action Item
5	**IDAHO STATE UNIVERSITY** Library Project – Planning and Design	Action Item
6	**UNIVERSITY OF IDAHO** South Campus Chiller Replacement and Improvements Project	Action Item
7	**LEWIS-CLARK STATE COLLEGE** Seven-Year Campus Master Plan Approval	Action Item

SUBJECT

FY 2022 College and Universities "Summary of Sources and Uses of Funds"

REFERENCE

October 2020 Board received annual Sources and Uses update

APPLICABLE STATUTES, RULE OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Sections V.B.4.b., V.B.5.c. and V.B.6.b.

BACKGROUND/DISCUSSION

The College and Universities receive funding from a variety of sources. A summary of the revenue sources is as follows:

Revenue types:

Approp: General Funds – State appropriation of state funds

Approp: Endowment Funds – Idaho State University (ISU), University of Idaho (UI) and Lewis-Clark State College (LCSC) are the beneficiaries of income from state endowment lands

Approp: Student Fees – Tuition and Fees approved by the Board; Legislature appropriates spending authority

Institutional Student Fees – Fees approved by the institution presidents

Federal Grants & Contracts – Extramural grants and contracts awarded by the Federal government

Federal Student Financial Aid – Funds passed through to students

State Grants and Contracts – Grants and contracts awarded by the State: may include state scholarships and work study funds

Private Gifts, Grants and Contracts – Other non-governmental gifts, grants and contracts

Sales and Services of Educational Activities – Includes: (i) revenues that are related incidentally to the conduct of instruction, research, and public service and (ii) revenues of activities that exist to provide instructional and laboratory experience for students and that incidentally create goods and services that may be sold to students, faculty, staff, and the general public. Examples would include sales of scientific and literary publications, testing services, etc.

Sales and Services of Auxiliary Enterprises – An institutional entity that exists predominantly to furnish goods or services to students, faculty, or staff, and that charges a fee directly related to the cost of the goods or services. Examples include residence halls, food services, student unions, bookstores, health centers, etc.

Indirect Costs/Other – Also known as Facilities and Administrative (F&A) cost recovery. On many grants an institution may charge a grantor for indirect costs. The expense to the grant is not a specifically identifiable cash outlay but a "recovery" of general overhead costs.

The institutions' expenditures fall into the following standard functional categories:

Expenditure Categories:

Instruction – expenses for all activities that are part of an institution's instruction program (credit and noncredit courses; academic and career technical instruction; remedial and tutorial instruction; etc.)

Research – all expenses for individual and/or project research as well as that of institutes and research centers

Public Service – expenses for activities established primarily to provide non-instructional services beneficial to individuals and groups external to the institution (e.g. conferences, institutes, radio and television, consulting, museums, etc.)

Library – expenses for retention, preservation, and display of educational materials and organized activities that directly support the operation of a catalogued or otherwise classified collection

Student Services – expenses incurred for offices of admissions, registrar and financial aid, student activities, cultural events, student newspapers, intramural athletics, student organizations, etc.

Physical Plant – all expenses for the administration, supervision, operation, maintenance, preservation, and protection of the institution's physical plant.

Institutional Support – expenses for central, executive-level activities concerned with management and long-range planning for the entire institution, such as planning and programming operations and legal services; fiscal operations; activities concerned with community and alumni relations, including development and fund raising; etc.

Academic Support – expenses incurred to provide support services for the institution's primary missions: instruction, research, and public service (includes academic administration, galleries, audio/visual services, etc.)

Athletics – expenses for intercollegiate sports programs are a separately budgeted auxiliary enterprise

Auxiliary Enterprises – an enterprise which exists to furnish goods or services to students, faculty, staff, other institutional departments, or incidentally to the general public, and charges a fee directly related to, although not necessarily equal to, the cost of the goods or services. The distinguishing characteristic of an auxiliary enterprise is that it is managed to operate as a self-supporting activity. Examples include residence halls, food services, student unions, bookstores, and health centers.

Scholarships/Fellowships – includes expenses for scholarships and fellowships (from restricted or unrestricted funds) in the form of grants to students.

Federal Student Financial Aid – funds passed through to students

Other – institution specific unique budgeted expenditures

IMPACT

The attached worksheets provide a high-level overview of the institutions' budgeted sources of funding and expenditures based on the standard categories listed above. The trend analysis shows how the allocation of budgeted revenues and expenditures has changed since fiscal year 2015 excluding any mid-year adjustments (e.g. Governor holdbacks).

ATTACHMENTS

Attachment 1 – Aggregate Trend Report
Attachment 2 – Aggregate Annual Report
Attachment 3 – Boise State University Trend Report
Attachment 4 – Boise State Annual Report
Attachment 5 – Idaho State University Trend Report
Attachment 6 – Idaho State University Annual Report
Attachment 7 – University of Idaho Trend Report
Attachment 8 – University of Idaho Annual Report
Attachment 9 – Lewis-Clark State College Trend Report
Attachment 10 – Lewis-Clark State College Annual Report

STAFF COMMENTS AND RECOMMENDATIONS

The revenue and expense categories contained in these reports are consistent with those established by the National Association of College and University Business Officers (NACUBO.) The reports provided indicate trends in spending and the annual budget as established by each institution.

One of the initiatives of the Business Affairs and Human Resources Committee in fiscal year 2021-2022 is to develop a report that will provide the Board with better information on actual expenditures as it compares to the budget. Institution staff have been working with Board staff to develop this report and anticipate a report to be available for Board review after January 1, 2022. These reports provide a consistent reporting approach which is submitted the Legislature as part of the Legislative Budget Book. This agenda item is prepared for the Board in preparation for that submission.

Institution staff will be available to answer questions from the Board.

BOARD ACTION

This item is for informational purposes only.

College and Universities
Sources and Uses of Funds

	a	b	c	d	e	f	g	h	i	
		2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	i vs b
		Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	% Change
	Revenues by Source:									
1	Approp: General Funds	$298,525,915	$309,424,472	$334,984,591	$344,306,056	$353,675,100	$366,774,400	$365,903,166	$374,492,400	25%
2	Approp: Endowment Funds	12,528,000	13,980,000	15,840,000	15,840,000	16,443,200	17,236,400	18,670,200	19,632,800	57%
3	Approp: Student Fees	241,252,060	247,102,865	251,030,760	256,485,890	268,793,143	274,286,612	257,999,800	273,154,638	13%
4	Institutional Student Fees	84,993,859	85,300,154	90,003,071	111,514,766	113,955,324	120,495,322	110,202,044	118,399,025	39%
5	Federal Grants & Contracts	112,713,666	126,045,621	110,262,677	110,076,614	113,150,409	107,259,271	150,016,005	167,176,061	48%
6	Federal Student Financial Aid	288,465,659	290,298,904	284,572,355	280,182,279	283,966,784	285,026,283	289,277,883	280,786,838	-3%
7	State Grants & Contracts (1)	22,847,714	21,567,928	22,915,957	23,926,250	25,155,177	26,216,393	27,194,217	29,639,464	30%
8	Private Gifts, Grants & Contr	63,564,826	65,936,856	63,578,497	62,774,068	58,818,849	62,220,874	69,940,739	64,191,385	1%
9	Sales & Serv of Educ Act	26,730,054	26,407,658	26,475,373	27,653,237	26,485,847	26,539,823	24,696,260	25,045,163	-6%
10	Sales & Serv of Aux Ent	108,802,298	106,589,926	102,304,302	100,893,081	95,832,858	104,483,559	94,558,299	100,775,425	-7%
11	Indirect Cost Recovery	17,810,995	18,149,490	17,923,636	27,158,944	27,333,128	13,630,382	11,826,898	12,597,050	-29%
12	Other	35,284,442	38,071,357	42,086,843	41,791,454	52,545,732	50,132,304	61,624,629	74,902,829	112%
13	**Total Revenues**	$1,313,519,488	$1,348,875,232	$1,361,978,061	$1,402,602,639	$1,436,155,551	$1,454,301,623	$1,481,910,140	$1,540,793,078	17%
14										
15	**Expenditures by Function**									
16	Instruction	$346,136,944	$372,035,687	$366,337,251	$380,073,534	$397,950,694	$411,738,926	$388,385,074	$391,919,147	13%
17	Research	133,858,279	133,054,905	139,165,294	139,315,744	139,654,317	132,593,461	159,394,930	174,902,415	31%
18	Public Service	52,407,594	53,214,750	57,577,749	52,029,256	55,515,888	53,135,257	55,075,820	63,444,975	21%
22	Academic Support	59,818,983	61,968,783	64,484,850	64,533,318	68,130,993	86,318,601	84,231,929	93,961,822	57%
19	Library	24,139,803	25,320,033	26,357,423	26,564,846	26,743,147	26,408,247	24,049,357	24,101,946	0%
20	Student Services	44,381,614	47,944,525	49,748,598	51,576,063	52,969,210	56,604,840	53,072,136	61,266,084	38%
21	Institutional Support	99,533,947	100,638,685	105,187,040	122,517,090	114,877,934	132,992,853	133,790,679	148,928,761	50%
22	Physical Plant	73,943,495	79,788,207	78,028,862	85,168,976	101,444,260	82,224,666	82,117,972	89,973,969	22%
23	Scholarships/Fellowships	32,630,710	35,123,507	34,422,546	35,433,991	38,111,560	46,284,855	54,494,437	58,015,872	78%
24	Federal Student Financial Aid	288,465,659	290,298,904	284,572,355	280,182,279	283,966,784	285,026,283	289,277,883	280,786,838	-3%
25	Auxiliary Enterprises (2)	88,373,548	83,664,258	87,290,168	87,859,972	81,853,544	89,738,763	84,123,760	86,046,772	-3%
26	Athletics	62,584,986	67,091,842	69,713,376	71,453,880	71,729,047	68,005,504	73,141,944	75,034,878	20%
27	Other-Incl One-Time	9,583,149	5,349,192	18,323,284	4,461,724	5,018,236	(8,768,514)	2,510,500	0	-100%
28										
29	**Total Bdgt by Function**	$1,315,858,712	$1,355,493,278	$1,381,208,795	$1,401,170,673	$1,437,965,614	$1,462,303,741	$1,483,666,421	$1,548,383,478	18%

The General Education program supports intercollegiate athletics, which is an auxiliary enterprise. Athletics support is reported in the General Education column, not the auxiliary enterprise column.

(1) Includes state grants, scholarships, and work study

(2) Auxiliary Enterprises includes University of Idaho's Student Recreation Center

College & Universities Summary
Summary of Sources and Uses of Ongoing Funds
Fiscal Year 2022

		A	B	C	D	E	F	G	H
		Operating Budgets							
		Board Approved Budgets			CEO Approved	Estimated Budgets		Total	%
		General Education	Career-Technical Education	Special Programs	Auxiliary Enterprise	Instit Accounts	Grants & Contracts	Operating Budgets	of Total
	SOURCES OF FUNDS:								
	State Appropriations								
1	General Account	$313,082,300	$17,575,700	$50,050,200	$0	$0	$0	$380,708,200	24.6%
2	General Acct - One time funds	0	0	0	0	0	0	0	0.0%
3	Endowment Funds	19,632,800	0	0	0	0	0	19,632,800	1.3%
4	Student Fees	272,904,238	0	250,400	0	0	0	273,154,638	17.7%
5	One-time Other Funds	0	0	0	0	0	0	0	0.0%
6	Millennium Funds	0	0	0	0	0	0	0	0.0%
7									
8	Total Appropriations	$605,619,338	$17,575,700	$50,300,600	$0	$0	$0	$673,495,638	43.5%
9									
10	Other Student Fees	$0	$0	$2,196,600	$22,603,977	$93,598,448	$0	$118,399,025	7.7%
11	Federal Approp/Grants/Contrac	$0	$0	$0	$201,500	$13,975,000	$152,999,561	167,176,061	10.8%
12	Federal Student Financial Aid	$0	$0	$0	$0	$0	$280,786,838	280,786,838	18.2%
13	State Grants & Contracts	$0	$0	$0	$4,200	$300	$29,634,964 (3)	29,639,464	1.9%
14	Private Gifts, Grts & Contr	$0	$0	$0	$10,514,657	$45,042,624	$8,634,104	64,191,385	4.1%
15	Sales & Serv of Educ Act	$0	$0	$0	$0	$25,045,163	$0	25,045,163	1.6%
16	Sales & Serv of Aux Ent	$0	$0	$0	$99,054,925	$1,720,500	$0	100,775,425	6.5%
17	Indirect Costs	$0	$0	$0	$0	$12,597,050	$0	12,597,050	0.8%
18	Other	$0	$0	$100,000	$735,722	$74,067,107	$0	74,902,829	4.8%
19									
20	Total Revenue	$605,619,338	$17,575,700	$52,597,200	$133,114,981	$266,046,192	$472,055,467	$1,547,008,878	100.0%
21	**USES OF FUNDS:**								
22	Instruction	$266,596,437	$16,359,546	$16,513,376	$0	$79,222,807	$13,226,981	$391,919,147	25.2%
23	Research	$22,156,771	$0	$20,787,057	$0	$8,118,677	$130,055,710	181,118,215	11.7%
24	Public Service	$2,027,973	$0	$15,030,121	$0	$9,841,674	$36,545,207	63,444,975	4.1%
25	Academic Support	$67,273,403	$1,070,842	$266,646	$0	$25,350,931	$0	93,961,822	6.0%
26	Libraries	$23,426,629	$0	$0	$0	$675,317	$0	24,101,946	1.6%
27	Student Services	$45,828,105	$117,441	$0	$0	$14,590,765	$729,773	61,266,084	3.9%
28	Institutional Support	$87,234,816	$27,871	$0	$0	$56,468,864	$5,197,210	148,928,761	9.6%
29	Physical Plant	$69,555,331	$0	$0	$0	$20,097,243	$321,395	89,973,969	5.8%
30	Scholarships & Fellowships	$7,275,055	$0	$0	$2,630,272	$43,072,220	$5,038,325	58,015,872	3.7%
31	Federal Student Financial Aid	$0	$0	$0	$0	$0	$280,786,838	280,786,838	18.1%
32	Auxiliary Enterprises (2)	$1,065,497	$0	$0	$81,696,434	$3,130,812	$154,029	86,046,772	5.5%
33	Athletics (1)	$13,179,321	$0	$0	$59,559,257	$2,296,300	$0	75,034,878	4.8%
34	Other (Incl One-Time Funds)	$0	$0	$0	$0	$0	$0	0	0.0%
35									
36	Total Uses	$605,619,338	$17,575,700	$52,597,200	$143,885,963	$262,865,610	$472,055,467	$1,554,599,278	100.0%
37									
38									
39	Incr/(Decr) to Balance	$0	$0	$0	($10,770,982)	$3,180,582	($0)	($7,590,400)	
40									
41									
42	Employee FTE	4,735.98	193.62	393.18	552.23	1,459.04	303.90	7,637.95	
43									

44 (1) General Education program supports intercollegiate athletics which is an auxiliary enterprise and reported in the General Education
45 column not the auxiliary enterprise column.
46 (2) Auxiliary Enterprises includes University of Idaho's Kibbie Dome operations
47 (3) Includes state grants, scholarships, and work study

Boise State University
Sources and Uses of Funds

	a	b	c	d	e	f	g	h	i	
		2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	i vs b
		Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	% Change
	Revenues by Source:									
1	Approp: General Funds	$83,460,500	$86,302,700	$93,744,600	$96,991,900	$100,841,300	$106,249,500	$108,523,566	$110,757,700	33%
2	Approp: Endowment Funds	0	0	0	0	0	0	0	0	0%
3	Approp: Student Fees	90,629,600	93,423,300	95,988,900	102,866,700	118,188,200	127,803,200	127,419,800	144,311,800	59%
4	Institutional Student Fees (2)	37,827,575	33,142,081	38,341,469	61,889,411	60,111,062	63,455,142	60,883,634	63,825,379	69%
5	Federal Grants & Contracts	26,946,770	43,000,000	28,000,000	31,000,000	32,000,000	33,920,000	59,541,000	75,000,000	178%
6	Federal Student Financial Aid	85,000,000	95,000,000	100,000,000	100,000,000	105,000,000	112,000,000	115,360,000	122,200,000	44%
7	State Grants & Contracts (1)	2,742,190	3,400,000	5,000,000	5,000,000	5,000,000	5,300,000	5,459,000	6,500,000	137%
8	Private Gifts, Grants & Contr	28,501,024	30,138,214	28,740,642	26,335,037	26,052,355	28,372,495	29,906,294	23,753,473	-17%
9	Sales & Serv of Educ Act	0	0	0	0	0	0	0	0	0%
10	Sales & Serv of Aux Ent	54,579,692	53,577,283	47,313,670	49,851,373	49,915,991	62,538,994	63,139,807	64,962,938	19%
11	Indirect Cost Recovery	4,349,889	4,317,000	4,000,000	13,600,000	13,600,000	0	0	0	-100%
12	Other	23,030,296	26,490,835	28,003,601	29,034,075	37,533,097	35,548,900	45,274,422	54,817,910	138%
13	**Total Revenues**	$437,067,536	$468,791,413	$469,132,882	$516,568,496	$548,242,005	$575,188,231	$615,507,523	$666,129,200	52%
14										
15	**Expenditures by Function**									
16	Instruction	$116,927,364	$138,977,056	$124,501,577	$134,743,367	$143,836,721	$149,404,479	$144,949,060	$149,153,195	28%
17	Research	24,547,890	23,830,164	28,050,519	30,788,167	34,619,061	36,597,014	66,172,785	81,553,928	232%
18	Public Service	15,300,187	15,843,894	18,842,465	15,059,345	16,187,483	16,322,757	17,778,894	22,688,586	48%
22	Academic Support	25,052,930	25,977,315	26,930,138	27,848,358	29,562,534	36,739,372	39,892,749	43,836,861	75%
19	Library	7,556,320	7,909,739	8,072,725	8,202,604	8,265,950	8,509,530	8,384,519	8,556,996	13%
20	Student Services	18,390,266	19,460,886	19,137,485	21,030,085	22,396,926	22,846,515	23,416,237	23,801,728	29%
21	Institutional Support (3)	37,054,222	37,101,030	39,212,664	54,433,048	47,732,041	68,003,251	67,570,803	76,050,895	105%
22	Physical Plant	19,701,035	22,388,588	21,771,220	27,406,606	41,782,030	24,352,749	28,134,945	32,752,399	66%
23	Scholarships/Fellowships	11,728,102	13,438,598	9,671,912	7,954,200	9,620,325	11,550,200	15,648,058	18,611,435	59%
24	Federal Student Financial Aid	85,000,000	95,000,000	100,000,000	100,000,000	105,000,000	112,000,000	115,360,000	122,200,000	44%
25	Auxiliary Enterprises	39,687,332	35,601,382	39,640,969	43,195,914	43,000,826	49,502,903	42,373,740	45,505,840	15%
26	Athletics	35,842,187	39,067,625	41,841,325	42,826,476	43,087,697	39,359,464	46,153,579	48,407,988	35%
27	Other-Incl One-Time	3,114,400	1,273,700	5,361,700	0	0	0	0	0	-100%
28										
29	**Total Bdgt by Function**	$439,902,235	$475,869,977	$483,034,699	$513,488,170	$545,091,594	$575,188,234	$615,835,369	$673,119,851	53%
30										
31	**Incr/(Decr) to Balance**	($2,834,699)	($7,078,564)	($13,901,817)	$3,080,326	$3,150,411	($3)	($327,846)	($6,990,651)	

The General Education program supports intercollegiate athletics, which is an auxiliary enterprise. Athletics support is reported in the General Education column, not the auxiliary enterprise colum

(1) Includes state grants, scholarships, and work study

(2) FY18 Includes $18.2M in Student Fee Rev in Facility Fee Reserve

(3) FY18 includes $10.3 M OE in Facility Fee Reserve

Boise State University
Summary of Sources and Uses of Funds
Fiscal Year 2022

		A	B	C	D	E	F		G	H
		Operating Budgets								
		Board Approved Budgets			CEO Approved	Estimated Budgets			Total	%
		General Education	Career-Technical Education	Special Programs	Auxiliary Enterprise	Instit Accounts	Grants & Contracts		Operating Budgets	of Total
	SOURCES OF FUNDS:									
	State Appropriations									
1	General Account	$109,688,200		$1,069,500					$110,757,700	16.6%
2	General Acct - One time funds								0	0.0%
3	Endowment Funds								0	0.0%
4	Student Fees	144,311,800							144,311,800	21.7%
5	One-time Other Funds								0	0.0%
6	Millennium Funds								0	0.0%
7										
8	Total Appropriations	$254,000,000	$0	$1,069,500	$0	$0	$0		$255,069,500	38.3%
9										
10	Other Student Fees				$10,180,042	53,645,337			$63,825,379	9.6%
11	Federal Approp/Grants/Contracts						75,000,000		75,000,000	11.3%
12	Federal Student Financial Aid						122,200,000		122,200,000	18.3%
13	State Grants & Contracts						6,500,000	(2)	6,500,000	1.0%
14	Private Gifts, Grts & Contr				8,020,132	15,733,341			23,753,473	3.6%
15	Sales & Serv of Educ Act								0	0.0%
16	Sales & Serv of Aux Ent				64,962,938				64,962,938	9.8%
17	Indirect Costs								0	0.0%
18	Other				77,173	54,740,737			54,817,910	8.2%
19										
20	Total Revenue	$254,000,000	$0	$1,069,500	$83,240,285	$124,119,415	$203,700,000		$666,129,200	100.0%
21	**USES OF FUNDS:**									
22	Instruction	$123,424,350				$25,728,845			$149,153,195	22.2%
23	Research	5,841,818				5,883,110	69,829,000		81,553,928	12.1%
24	Public Service	1,840,511		1,069,500		8,107,575	11,671,000		22,688,586	3.4%
25	Academic Support	35,742,020				8,094,841			43,836,861	6.5%
26	Libraries	8,311,096				245,900			8,556,996	1.3%
27	Student Services	14,696,780				9,104,948			23,801,728	3.5%
28	Institutional Support	34,976,353				41,074,542			76,050,895	11.3%
29	Physical Plant	23,380,180				9,372,219			32,752,399	4.9%
30	Scholarships & Fellowships	2,104,000				16,507,435			18,611,435	2.8%
31	Federal Student Financial Aid						122,200,000		122,200,000	18.2%
32	Auxiliary Enterprises				45,505,840				45,505,840	6.8%
33	Athletics (1)	3,682,892			44,725,096				48,407,988	7.2%
34	Other (Incl One-Time Funds)								0	0.0%
35										
36	Total Uses	$254,000,000	$0	$1,069,500	$90,230,936	$124,119,415	$203,700,000		$673,119,851	100.0%
37										
38										
39	Incr/(Decr) to Balance	$0	$0	$0	($6,990,651)	$0	$0		($6,990,651)	
40										
41										
42	Employee FTE	1,855.17		12.08	334.04	443.22	159.19		2,803.70	
43										

44 (1) General Education program supports intercollegiate athletics which is an auxiliary enterprise and reported in the General Education
45 column not the auxiliary enterprise column.
46 (2) Includes state grants, scholarships, and work study
47
48

Idaho State University
Sources and Uses of Funds

	a	b **2015**	c **2016**	d **2017**	e **2018**	f **2019**	g **2020**	h **2021**	i **2022**	i vs b
		Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	% Change
	Revenues by Source:									
1	Approp: General Funds	$80,576,998	$83,420,416	$89,882,035	$92,730,600	$95,963,100	$99,396,400	$98,184,200	$100,875,800	25%
2	Approp: Endowment Funds	2,599,200	3,004,200	3,609,600	3,609,600	3,739,400	4,007,400	4,264,800	4,391,500	69%
3	Approp: Student Fees	62,791,260	65,869,140	65,757,908	63,788,380	60,236,736	54,775,612	53,825,300	52,178,438	-17%
4	Institutional Student Fees	26,349,054	28,278,309	27,171,452	24,443,860	27,576,085	29,816,388	22,382,400	25,592,762	-3%
5	Federal Grants & Contracts	19,199,454	16,937,084	13,594,412	13,411,450	12,110,964	8,000,000	26,109,200	21,875,000	14%
6	Federal Student Financial Aid	99,790,102	95,468,347	92,887,734	92,794,149	92,775,267	92,057,336	93,530,000	80,514,453	-19%
7	State Grants & Contracts (1)	13,261,587	10,275,456	10,226,496	8,537,371	8,396,912	8,400,000	8,404,000	10,800,000	-19%
8	Private Gifts, Grants & Contr	12,872,988	12,100,469	10,349,541	9,289,083	7,124,898	8,200,000	10,797,100	11,694,525	-9%
9	Sales & Serv of Educ Act	6,110,464	6,142,639	6,701,628	6,616,070	6,712,487	6,000,000	6,036,500	6,508,252	7%
10	Sales & Serv of Aux Ent	23,656,934	22,634,104	24,002,566	22,207,962	23,852,709	18,900,000	15,100,300	15,208,800	-36%
11	Indirect Cost Recovery	3,378,106	3,659,490	3,530,636	3,188,944	3,318,128	2,600,000	0	0	-100%
12	Other	4,592,684	3,408,407	4,591,021	3,756,058	3,866,281	5,600,000	7,629,200	4,191,320	-9%
13	**Total Revenues**	$355,178,831	$351,198,061	$352,305,029	$344,373,527	$345,672,967	$337,753,136	$346,263,000	$333,830,850	-6%
14										
15	**Expenditures by Function**									
16	Instruction	$105,478,597	$107,558,260	$110,073,277	$112,154,230	$114,873,727	$113,707,194	$110,512,567	$110,769,825	5%
17	Research	31,660,093	27,832,775	26,007,479	22,675,344	18,135,846	16,921,763	13,972,116	16,320,146	-48%
18	Public Service	6,461,619	6,351,800	5,688,177	3,390,942	3,459,951	2,948,854	3,626,061	4,617,819	-29%
22	Academic Support	14,712,979	15,340,116	17,078,316	16,513,940	18,022,070	20,036,343	16,818,221	17,966,975	22%
19	Library	5,712,097	6,050,201	6,311,636	6,257,014	6,284,173	6,053,137	5,835,626	6,103,967	7%
20	Student Services	8,996,565	9,188,667	10,276,493	9,704,845	9,761,488	12,186,455	9,890,372	11,963,608	33%
21	Institutional Support	25,579,656	25,852,593	26,296,651	24,157,987	24,189,767	20,913,151	22,782,728	21,253,298	-17%
22	Physical Plant	20,818,034	22,219,131	21,204,858	21,707,069	22,950,791	20,913,151	20,842,624	21,775,879	5%
23	Scholarships/Fellowships	5,814,688	5,608,873	7,181,345	6,847,864	7,843,991	8,187,605	15,275,769	14,581,600	151%
24	Federal Student Financial Aid	99,790,102	95,468,347	92,887,734	92,794,149	92,775,267	92,057,336	93,530,000	80,514,453	-19%
25	Auxiliary Enterprises	18,860,333	18,578,048	17,950,685	18,130,504	17,750,124	17,579,988	21,056,829	17,551,540	-7%
26	Athletics	8,832,502	9,516,645	9,820,708	9,924,602	10,274,181	10,051,473	10,002,987	7,933,279	-10%
27	Other-Incl One-Time	2,766,239	1,974,092	6,914,284	2,900,224	2,406,636	2,371,686			-100%
28										
29	**Total Bdgt by Function**	$355,483,504	$351,539,548	$357,691,643	$347,158,714	$348,728,012	$343,928,136	$344,145,900	$331,352,389	-7%
30										
31	**Incr/(Decr) to Balance**	($304,673)	($341,487)	($5,386,614)	($2,785,187)	($3,055,045)	($6,175,000)	$2,117,100	$2,478,461	

The General Education program supports intercollegiate athletics, which is an auxiliary enterprise. Athletics support is reported in the General Education column, not the auxiliary enterprise columr

(1) Includes state grants, scholarships, and work study

Idaho State University
Summary of Sources and Uses of Funds
Fiscal Year 2022

		A	B	C	D	E	F		G	H
		Operating Budgets								
		Board Approved Budgets			CEO Approved	Estimated Budgets			Total	%
		General Education	Career-Technical Education	Special Programs	Auxiliary Enterprise	Instit Accounts	Grants & Contracts		Operating Budgets	of Total
	SOURCES OF FUNDS:									
	State Appropriations									
1	General Account	$83,592,000	$12,612,400	$4,671,400					$100,875,800	30.2%
2	General Acct - One time funds								0	0.0%
3	Endowment Funds	4,391,500							4,391,500	1.3%
4	Student Fees	51,928,038		250,400					52,178,438	15.6%
5	One-time Other Funds								0	0.0%
6	Millennium Funds								0	0.0%
7										
8	Total Appropriations	$139,911,538	$12,612,400	$4,921,800	$0	$0	$0		$157,445,738	47.2%
9										
10	Other Student Fees				$6,586,557	$19,006,205			$25,592,762	7.7%
11	Federal Approp/Grants/Contracts				201,500	13,975,000	7,698,500		21,875,000	6.6%
12	Federal Student Financial Aid						80,514,453		80,514,453	24.1%
13	State Grants & Contracts				4,200	300	10,795,500	(2)	10,800,000	3.2%
14	Private Gifts, Grts & Contr				694,525	5,419,300	5,580,700		11,694,525	3.5%
15	Sales & Serv of Educ Act					6,508,252			6,508,252	1.9%
16	Sales & Serv of Aux Ent				14,274,300	934,500			15,208,800	4.6%
17	Indirect Costs								0	0.0%
18	Other				2,000	4,189,320			4,191,320	1.3%
19										
20	Total Revenue (3)	$139,911,538	$12,612,400	$4,921,800	$21,763,082	$50,032,877	$104,589,153		$333,830,850	100.0%
21	**USES OF FUNDS:**									
22	Instruction	$63,842,612	$12,540,188	$4,017,954		$20,498,444	$9,870,627		$110,769,825	33.4%
23	Research	5,214,584				753,441	10,352,121		16,320,146	4.9%
24	Public Service			637,200		369,414	3,611,205		4,617,819	1.4%
25	Academic Support	13,277,780	72,212	266,646		4,350,337			17,966,975	5.4%
26	Libraries	6,071,767				32,200			6,103,967	1.8%
27	Student Services	9,542,773				2,420,835			11,963,608	3.6%
28	Institutional Support	14,030,689				7,222,609			21,253,298	6.4%
29	Physical Plant	19,319,904				2,215,228	240,747		21,775,879	6.6%
30	Scholarships & Fellowships	4,595,111			2,630,272	7,356,217			14,581,600	4.4%
31	Federal Student Financial Aid						80,514,453		80,514,453	24.3%
32	Auxiliary Enterprises	47,381			15,870,589	1,633,570			17,551,540	5.3%
33	Athletics (1)	3,968,937			3,964,342				7,933,279	2.4%
34	Other (Incl One-Time Funds)								0	0.0%
35										
36	Total Uses (3)	$139,911,538	$12,612,400	$4,921,800	$22,465,203	$46,852,295	$104,589,153		$331,352,389	100.0%
37										
38										
39	Incr/(Decr) to Balance	$0	$0	$0	($702,121)	$3,180,582	$0		$2,478,461	
40										
41										
42	Employee FTE	1,238.73	136.20	21.85	89.23	127.63	77.48		1,691.12	
43										

44 (1) General Education program supports intercollegiate athletics which is an auxiliary enterprise and reported in the General Education
45 column not the auxiliary enterprise column.

46 (2) Includes state grants, scholarships, and work study
47 (3) Adjustments to revenue and expense may be necessary due to enrollment fluctuations.

University of Idaho
Sources and Uses of Ongoing Funds

	a	b	c	d	e	f	g	h	i	
		2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	i vs b
		Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	% Change
	Revenues by Source:									
1	Approp: General Funds	$116,199,600	$119,755,200	$129,331,000	$132,401,400	$134,816,200	$138,449,300	$137,016,800	$139,435,200	20%
2	Approp: Endowment Funds	8,356,800	9,171,600	10,099,200	10,099,200	10,498,800	10,756,000	11,738,400	12,497,500	50%
3	Approp: Student Fees	73,465,100	72,543,525	73,783,952	73,799,310	74,123,507	75,139,600	60,665,300	61,376,600	-16%
4	Institutional Student Fees	16,661,630	20,077,664	21,491,150	22,217,495	23,064,677	23,855,252	23,533,510	25,682,484	54%
5	Federal Grants & Contracts	66,067,442	65,508,537	67,496,665	64,657,375	67,961,545	62,334,467	61,931,479	64,321,449	-3%
6	Federal Student Financial Aid	80,675,557	78,830,557	73,384,621	69,288,130	68,891,517	64,702,947	64,513,883	64,116,153	-21%
7	State Grants & Contracts (1)	5,443,937	6,492,472	6,489,461	8,711,156	9,668,565	9,923,275	10,889,332	10,688,212	96%
8	Private Gifts, Grants & Contr	20,490,814	21,698,173	22,508,314	24,985,460	23,449,196	23,251,631	26,064,368	26,861,587	31%
9	Sales & Serv of Educ Act	19,619,590	19,365,019	18,573,745	19,837,167	18,592,360	19,374,823	17,674,760	17,818,911	-9%
10	Sales & Serv of Aux Ent	27,843,422	27,419,639	27,640,766	25,508,296	18,520,918	19,438,765	12,782,003	16,947,162	-39%
11	Indirect Cost Recovery	10,023,000	10,023,000	10,100,000	10,100,000	10,200,000	10,700,000	11,500,000	12,040,000	20%
12	Other	7,361,462	7,931,115	9,114,521	8,786,271	10,878,304	8,322,626	8,078,614	15,775,549	114%
13	**Total Revenues**	$452,208,354	$458,816,502	$470,013,394	$470,391,260	$470,665,589	$466,248,686	$446,388,449	$467,560,807	3%
14										
15	**Expenditures by Function**									
16	Instruction	$102,807,496	$103,620,808	$108,981,380	$109,053,579	$114,520,766	$121,098,123	$107,714,126	$107,657,620	5%
17	Research	77,436,409	81,083,004	84,768,367	85,350,759	86,394,574	78,443,760	78,425,925	76,657,128	-1%
18	Public Service	29,603,447	30,345,034	31,725,567	32,770,828	34,961,541	33,133,199	33,045,189	35,764,526	21%
22	Academic Support	16,897,039	17,544,543	16,999,876	16,518,950	16,842,896	25,677,471	23,643,203	28,045,533	66%
19	Library	9,633,254	10,047,322	10,607,077	10,730,412	10,790,197	10,464,796	8,808,863	8,525,491	-11%
20	Student Services	12,749,338	14,814,225	15,465,311	15,066,400	14,585,529	14,524,265	13,885,503	19,488,254	53%
21	Institutional Support	32,037,276	32,169,802	34,101,703	38,302,854	37,261,804	37,672,689	35,254,819	40,189,912	25%
22	Physical Plant	30,185,307	31,388,261	31,411,092	32,321,846	32,963,880	33,076,346	28,828,074	31,233,891	3%
23	Scholarships/Fellowships	14,668,320	15,672,736	17,024,989	20,030,421	20,019,660	25,773,583	22,900,993	24,193,787	65%
24	Federal Student Financial Aid	80,675,557	78,830,557	73,384,621	69,288,130	68,891,517	64,702,947	64,513,883	64,116,153	-21%
25	Auxiliary Enterprises	26,421,283	25,908,228	26,293,544	23,407,740	17,694,806	19,056,640	17,370,291	19,744,265	-25%
26	Athletics	15,202,829	15,606,072	15,005,500	15,618,100	15,118,100	15,469,000	13,620,000	15,393,884	1%
27	Other-Incl One-Time	3,420,800	1,194,700	4,214,500	1,038,700	2,541,600	(11,250,100)	1,979,500		-100%
28										
29	**Total Bdgt by Function**	$451,738,356	$458,225,292	$469,983,527	$469,498,719	$472,586,870	$467,842,719	$449,990,369	$471,010,444	4%
30										
31	**Incr/(Decr) to Balance**	$469,998	$591,210	$29,867	$892,541	($1,921,281)	($1,594,033)	($3,601,920)	($3,449,637)	

The General Education program supports intercollegiate athletics, which is an auxiliary enterprise. Athletics support is reported in the General Education column, not the auxiliary enterprise colum

(1) Includes state grants, scholarships, and work study

University of Idaho
Summary of Sources and Uses of Funds
Fiscal Year 2022

		A	B	C	D	E	F		G	H
		Operating Budgets								
		Board Approved Budgets			CEO Approved	Estimated Budgets			Total	%
		General Education	Career-Technical Education	Special Programs	Auxiliary Enterprise	Instit Accounts	Grants & Contracts		Operating Budgets	of Total
	SOURCES OF FUNDS:									
	State Appropriations									
1	General Account	$95,125,900		$44,309,300					139,435,200	29.8%
2	General Acct - One time funds								0	0.0%
3	Endowment Funds	12,497,500							12,497,500	2.7%
4	Student Fees	61,376,600							61,376,600	13.1%
5	One-time Other Funds								0	0.0%
6	Millennium Funds								0	0.0%
7										
8	Total Appropriations	169,000,000		44,309,300	0	0	0		213,309,300	45.6%
9										
10	Other Student Fees			2,196,600	4,679,878	18,806,006			25,682,484	5.5%
11	Federal Approp/Grants/Contracts						64,321,449		64,321,449	13.8%
12	Federal Student Financial Aid						64,116,153		64,116,153	13.7%
13	State Grants & Contracts						10,688,212	(2)	10,688,212	2.3%
14	Private Gifts, Grts & Contr				1,800,000	22,009,983	3,051,604		26,861,587	5.7%
15	Sales & Serv of Educ Act					17,818,911			17,818,911	3.8%
16	Sales & Serv of Aux Ent				16,947,162				16,947,162	3.6%
17	Indirect Costs					12,040,000			12,040,000	2.6%
18	Other			100,000	656,549	15,019,000			15,775,549	3.4%
19										
20	Total Revenue	169,000,000		46,605,900	24,083,589	85,693,900	142,177,418		467,560,807	100.0%
21	**USES OF FUNDS:**									
22	Instruction	62,448,964		12,495,422		30,482,089	2,231,145		107,657,620	22.9%
23	Research	4,791,069		20,787,057		1,482,126	49,596,876		76,657,128	16.3%
24	Public Service	0		13,323,421		1,326,834	21,114,271		35,764,526	7.6%
25	Academic Support	15,416,635				12,628,898			28,045,533	6.0%
26	Libraries	8,130,358				395,133			8,525,491	1.8%
27	Student Services	16,836,907				2,651,347			19,488,254	4.1%
28	Institutional Support	32,595,295				7,594,617			40,189,912	8.5%
29	Physical Plant	23,143,447				8,009,796	80,648		31,233,891	6.6%
30	Scholarships & Fellowships	575,944				18,579,518	5,038,325		24,193,787	5.1%
31	Federal Student Financial Aid	0					64,116,153		64,116,153	13.6%
32	Auxiliary Enterprises	1,006,716			17,240,307	1,497,242			19,744,265	4.2%
33	Athletics (1)	4,054,665			10,292,919	1,046,300			15,393,884	3.3%
34	Other-Incl One-Time								0	0.0%
35										
36	Total Uses	169,000,000		46,605,900	27,533,226	85,693,900	142,177,418		471,010,444	100.0%
37										
38										
39	Incr/(Decr) to Balance	0		0	(3,449,637)	0	0		(3,449,637)	
40										
41										
42	Employee FTE	1,295.85	0.00	359.25	118.52	877.44	43.52		2,694.58	

43

44 (1) The General Education program supports intercollegiate athletics, which is an auxiliary enterprise. General Education support for athletics

45 is reported in the General Education column, not the auxiliary enterprise column.

46 (2) Includes state grants, scholarships, and work study

47

Lewis-Clark State College
Sources and Uses of Funds

	a	b	c	d	e	f	g	h	i	
		2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	i vs b
		Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	% Change
	Revenues by Source:									
1	Approp: General Funds	$18,288,817	$19,946,156	$22,026,956	$22,182,156	$22,054,500	$22,679,200	$22,178,600	$23,423,700	28%
2	Approp: Endowment Funds	1,572,000	1,804,200	2,131,200	2,131,200	2,205,000	2,473,000	2,667,000	2,743,800	75%
3	Approp: Student Fees	14,366,100	15,266,900	15,500,000	16,031,500	16,244,700	16,568,200	16,089,400	15,287,800	6%
4	Institutional Student Fees	4,155,600	3,802,100	2,999,000	2,964,000	3,203,500	3,368,540	3,402,500	3,298,400	-21%
5	Federal Grants & Contracts	500,000	600,000	1,171,600	1,007,789	1,077,900	3,004,804	2,434,326	5,979,612	1096%
6	Federal Student Financial Aid	23,000,000	21,000,000	18,300,000	18,100,000	17,300,000	16,266,000	15,874,000	13,956,232	-39%
7	State Grants & Contracts (1)	1,400,000	1,400,000	1,200,000	1,677,723	2,089,700	2,593,118	2,441,885	1,651,252	18%
8	Private Gifts, Grants & Contr	1,700,000	2,000,000	1,980,000	2,164,488	2,192,400	2,396,748	3,172,977	1,881,800	11%
9	Sales & Serv of Educ Act	1,000,000	900,000	1,200,000	1,200,000	1,181,000	1,165,000	985,000	718,000	-28%
10	Sales & Serv of Aux Ent	2,722,250	2,958,900	3,347,300	3,325,450	3,543,240	3,605,800	3,536,189	3,656,525	34%
11	Indirect Cost Recovery	60,000	150,000	293,000	270,000	215,000	330,382	326,898	557,050	828%
12	Other	300,000	241,000	377,700	215,050	268,050	660,778	642,393	118,050	-61%
13	**Total Revenues**	$69,064,767	$70,069,256	$70,526,756	$71,269,356	$71,574,990	$75,111,570	$73,751,168	$73,272,221	6%
14										
15	**Expenditures by Function**									
16	Instruction	$20,923,487	$21,879,563	$22,781,017	$24,122,358	$24,719,480	$27,529,130	$25,209,322	$24,338,507	16%
17	Research	213,887	308,962	338,929	501,474	504,836	630,924	824,104	371,213	74%
18	Public Service	1,042,341	674,022	1,321,540	808,141	906,913	730,447	625,675	374,044	-64%
22	Academic Support	3,156,035	3,106,809	3,476,520	3,652,070	3,703,493	3,865,415	3,877,756	4,112,453	30%
19	Library	1,238,132	1,312,771	1,365,985	1,374,816	1,402,827	1,380,784	1,020,349	915,492	-26%
20	Student Services	4,245,445	4,480,747	4,869,309	5,774,733	6,225,267	7,047,605	5,880,024	6,012,494	42%
21	Institutional Support	4,862,793	5,515,260	5,576,022	5,623,201	5,694,322	6,403,762	8,182,329	11,434,656	135%
22	Physical Plant	3,239,119	3,792,227	3,641,692	3,733,455	3,747,559	3,882,420	4,312,329	4,211,800	30%
23	Scholarships/Fellowships	419,600	403,300	544,300	601,506	627,584	773,467	669,617	629,050	50%
24	Federal Student Financial Aid	23,000,000	21,000,000	18,300,000	18,100,000	17,300,000	16,266,000	15,874,000	13,956,232	-39%
25	Auxiliary Enterprises	3,404,600	3,576,600	3,404,970	3,125,814	3,407,788	3,599,232	3,322,900	3,245,127	-5%
26	Athletics	2,707,468	2,901,500	3,045,843	3,084,702	3,249,069	3,125,567	3,365,378	3,299,727	22%
27	Other-Incl One-Time	281,710	906,700	1,832,800	522,800	70,000	109,900	531,000	0	-100%
28		0	0	0	0	0	0	0	0	
29	**Total Bdgt by Function**	$68,734,617	$69,858,461	$70,498,926	$71,025,070	$71,559,138	$75,344,652	$73,694,783	$72,900,794	6%
30										
31	**Incr/(Decr) to Balance**	$330,150	$210,795	$27,830	$244,286	$15,852	($233,082)	$56,385	$371,427	

(1) Includes state grants, scholarships, and work study

Lewis-Clark State College
Summary of Sources and Uses of Funds
Fiscal Year 2022

		A	B	C	D	E	F		G	H
		Operating Budgets								
		Board Approved Budgets			CEO Approved	Estimated Budgets			Total	%
		General Education	Career-Technical Education	Special Programs	Auxiliary Enterprise	Instit Accounts	Grants & Contracts		Operating Budgets	of Total
	SOURCES OF FUNDS:									
	State Appropriations									
1	General Account	$18,460,400	$4,963,300						$23,423,700	32.0%
2	General Acct - One time funds								0	0.0%
3	Endowment Funds	2,743,800							2,743,800	3.7%
4	Student Fees	15,287,800							15,287,800	20.9%
5	One-time Other Funds	0							0	0.0%
6	Millennium Funds								0	0.0%
7										
8	Total Appropriations	$36,492,000	$4,963,300	$0	$0	$0	$0		$41,455,300	56.6%
9										
10	Other Student Fees				$1,157,500	$2,140,900			3,298,400	4.5%
11	Federal Approp/Grants/Contracts						$5,979,612		5,979,612	8.2%
12	Federal Student Financial Aid						13,956,232	(3)	13,956,232	19.0%
13	State Grants & Contracts						1,651,252	(2)	1,651,252	2.3%
14	Private Gifts, Grts & Contr					1,880,000	1,800		1,881,800	2.6%
15	Sales & Serv of Educ Act					718,000			718,000	1.0%
16	Sales & Serv of Aux Ent				2,870,525	786,000			3,656,525	5.0%
17	Indirect Costs					557,050			557,050	0.8%
18	Other					118,050			118,050	0.2%
19										
20	Total Revenue	$36,492,000	$4,963,300	$0	$4,028,025	$6,200,000	$21,588,896		$73,272,221	100.0%
21	**USES OF FUNDS:**									
22	Instruction	$16,880,511	$3,819,358			$2,513,429	$1,125,209		$24,338,507	33.4%
23	Research	93,500					277,713		371,213	0.5%
24	Public Service	187,462				37,851	148,731		374,044	0.5%
25	Academic Support	2,836,968	998,630			276,855	0		4,112,453	5.6%
26	Libraries	913,408				2,084	0		915,492	1.3%
27	Student Services	4,751,645	117,441			413,635	729,773		6,012,494	8.2%
28	Institutional Support	5,632,479	27,871			577,096	5,197,210		11,434,656	15.7%
29	Physical Plant	3,711,800				500,000	0		4,211,800	5.8%
30	Scholarships & Fellowships					629,050	0		629,050	0.9%
31	Federal Student Financial Aid						13,956,232	(3)	13,956,232	19.1%
32	Auxiliary Enterprises	11,400			3,079,698		154,029		3,245,127	4.5%
33	Athletics (1)	1,472,827			576,900	1,250,000		(1)	3,299,727	4.5%
34	Other-Incl One-Time								0	0.0%
35										
36	Total Uses	$36,492,000	$4,963,300	$0	$3,656,598	$6,200,000	$21,588,896		$72,900,794	100.0%
37										
38										
39	Incr/(Decr) to Balance	$0	$0	$0	$371,427	$0	$0		$371,427	
40										
41										
42	Employee FTE	346.23	57.42		10.44	10.75	23.71		448.55	
43										

44 (1) General Education program supports intercollegiate athletics which is an auxiliary enterprise and reported in the General Education
45 column not the auxiliary enterprise column.
46 (2) Includes state grants, scholarships, and work study
47 (3) Includes Pell Grants and Direct Student Loan Funds

COLLEGE AND UNIVERSITIES

SUBJECT

Student Fee Report

REFERENCE

February 2021	Board approved first reading of Board Policy V.R., amending in-service teacher fees, clarifying online program fees, and adding Independent Study in Idaho fee
April 2021	Board approved second reading of Board Policy V.R.
June 2021	Board discussed optional and mandatory fees and tasked the institutions with coming back with recommendations concerning making fees optional.
August 2021	Board discussed work being undertaken by the institutions to consolidate and simplify fees.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Sections V.R.
Idaho Code § 33-3717A
H387 (2021)

BACKGROUND/DISCUSSION

Board Policy V.R. defines fees and the process to change fees and establishes the approval level required for the various student fees (Chief Executive Officer or the Board). Board Policy V.R provides that:

1. Administrative local fees are student fees that are approved by the State Board of Education and deposited into local institutional accounts; and

2. Such fees shall be approved by the Board at its annual meeting for setting tuition and fees and will be clearly communicated to students prior to their enrollment.

V.R.3.d.:

i. Consolidated Mandatory Fee
This fee is inclusive of all facilities, activity, and technology fees. The State Board of Education will approve the Consolidated Mandatory Fee which may then be allocated by institutions. This fee includes capital improvement and building projects and debt service required by these projects, the fee charged for such activities as intercollegiate athletics, student health center, student union operations, the associated student body, financial aid, intramural and recreation, and other activities which directly benefit and involve students and campus technology enhancements and operations directly related to services for student

use and benefit (e.g., internet, network, and web access, general computer facilities, electronic or online testing, and online media).

A full-time and part-time rate shall be established. Institutions shall provide an annual accounting to the Board of the way the Consolidated Mandatory fee is utilized by each institution.

The purpose for such language was to try to create greater simplification for students through the implementation of one mandatory fee as opposed to a long list of fees, many of which were not optional.

Three main fees had been assessed prior to this revision in policy:

- Facilities Fees (used to support the building and renovation of campus facilities, many of which were not eligible for support from the Permanent Building Fund, and to pay debt service on facilities financed in whole or in part with student revenue bonds);
- Activity Fees (related to student activities recommended and approved by the student body); and
- Technology Fees (supported the ever-growing technology needs on our campuses and expanding online/virtual access).

H387, the College and Universities' appropriation for FY 2022, included the following legislative intent language.

SECTION 7. STUDENT FEE REPORT. As soon as practicable, the State Board of Education shall: (1) make easily accessible a break-out of student activity fees on the institutions' websites; (2) develop a common naming convention for similar activity fees across the institutions; and (3) evaluate the current lists of activity fees assessed to students and determine how and which fees supporting student activities, clubs, and organizations focused on individual beliefs and values can be structured to address the need for access, affordability, and choice. The State Board of Education shall report results of this work to the Joint Finance-Appropriations Committee and the House and Senate Education Committees no later than January 14, 2022.

This agenda item is to update the Board on the work being done by staff and the institutions on this topic

BOARD STAFF COMMENTS AND RECOMMENDATIONS

At the April and June Board Meetings, the Board directed the institutions to consider which fees would be characterized as optional and which fees would be mandatory, categorize them as such, and work to develop a common naming convention to provide greater transparency to students.

A work group comprised of representatives from the four-year institutions has been working to address the three requirements of the intent language within the College and Universities' appropriation, and will report to the Board on the progress made.

Regarding the first requirement, the institutions have committed to creating a webpage at each institution that is convenient for students to find. A direct link to these pages will be placed on the State Board of Education website. These webpages will be developed and implemented once the final fee structure is completed.

Regarding the second requirement, this working group has finalized the following four overarching categories into which all student fees would be placed. They are:

Student Enrollment, Engagement, and Success
The student enrollment, engagement and success fees provide funding to support the multitude of activities and services available to students, both on and off campus. Included in these fees are scholarships, student employment opportunities, funding to support student success initiatives, and enrollment (recruitment and retention) activities.

Institutional Operations, Services, and Support
These fees support the departmental and infrastructure needs of the college and universities, including construction and maintenance of facilities; instructional and computing resources; student involvement services and participation with athletic, arts, and cultural events.

Student Health and Wellness
The student health and wellness fee support students physical and mental health and well-being. Students' fees also allow for access to the health and counseling centers throughout the year as well as utilize well-being and fitness programs and facilities for overall improvement of the student experience. Also included are the facilities, maintenance, and programs available through the recreation and intramural programs.

Student Government
This fee is to support the student government officers elected by students and support them, their initiatives, and their overall experience. Students are provided the means to engage in discussions, events, and opportunities that interest them, are new to them, and challenge them. A subset of this fee would be student activities, clubs, and organizations, and students would be allowed to opt-out of that fee.

Each four-year institution has completed the process of aligning their student fees with these categories. If the Board approves of this direction, the Board's Executive Director and Chief Financial Officer will work with the President of the Board to prepare and submit a report to the Joint Finance-Appropriations Committee

summarizing this work. The institutions will then configure their websites to meet the first two objectives set for in the intent language of the appropriation.

Presidents, financial staff and student affairs staff from the four institutions will be available to discuss the impact of the reconfiguration of fees and the activities, clubs and organizations opt-out structure. The institutions intend to create an opt-out option for the Student Activities, Clubs, and Organizations fees as a whole and students who select the option to opt out will be given a refund. The process for that refund is still being developed by the institutions, and they have expressed a desire to work together to coordinate their processes to assure consistency between them.

If adopted, the fee structure proposed herein will be used for developing the institutions' tuition and fee requests for consideration by the Board at the April 2022 fee setting Board meeting. Once adopted, Board policy V.R. will be further amended to include the new student fee structure.

Staff recommends adoption of the revised fee structure.

BOARD ACTION

I move to approve the opt-out student fee structure, collapsing student fees into the following four categories: Student Enrollment, Engagement, and Success; Institutional Operations, Services, and Support; Student Health and Wellness; and Student Government.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

BOISE STATE UNIVERSITY

SUBJECT

Request to Increase to Intercollegiate Athletics Limit

REFERENCE

June 2012	Board approved first reading of amendments tying general fund limit to General Fund appropriation and tying institutional fund limit to total appropriation as new Board Policy V.X.
August 2012	Board approved second reading of new Board Policy V.X.
June 2014	Board approved first reading of amendments to Board Policy V.X. setting athletic limits through formula rather than Board approval.
August 2014	Board approved second reading of amendments to Board Policy V.X.
April 2016	Board approved first reading of amendments to Board Policy V.X. revising the reporting requirements for gender equity and financial reporting.
June 2016	Board approved use of the 4-year institutions' Federal Title IX reports for tracking compliance with Gender Equity regulations; and use of annual NCAA reports (and the NCAA report format in the case of Lewis-Clark State College) for annual tracking of institutions' athletic revenues and expenditures.
April 2019	Board approved first reading of amendments to Board Policy V.X.
June 2019	Board approved second reading of amendments to Board Policy V.X. increasing the athletics limits for Idaho State University, Lewis-Clark State College and the University of Idaho, and setting annual adjustments to the limits based on the institutions' general fund appropriation.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section V.X

BACKGROUND/DISCUSSION

At the time of the policy changes in 2019, Boise State University did not propose changes to their intercollegiate athletics limits for State General Funds and Institutional Funds. Boise State now requests an increase in its athletics spending limit approximately commensurate with growth in the program budget in recent years.

IMPACT

The proposed change to Boise State University's intercollegiate athletics limit will allow Boise State to increase university athletics support by an additional $2.5 million.

STAFF COMMENTS AND RECOMMENDATIONS

When the other institutions requested an increase in spending limits at the June 2019 meeting, Boise State University elected not to request an increase to its athletic spending limits at that time. In retrospect, the University believes it would have been better served to have requested a similar increase in 2019; and therefore is seeking an increase in FY 2022 consistent with the increases approved by the Board in 2019.

Board Policy V.X.3.ii states, "The athletic limits shall be calculated annually based on the rate of change for the next fiscal year of ongoing State appropriated funds compared to the ongoing State appropriated funds in the current fiscal year, unless set through Board action." The request from Boise State University is for Board action to increase the athletic limits consistent with Policy V.X. In Fiscal Year 2020, the amount established by the Board was $5,265,600. In FY 2021, the amount would have increased based on the general fund appropriation to $5,270,100 and in FY 2022 has decreased to $5,182,000. The requested increase would establish the FY 2022 intercollegiate athletics limit to $7,682,000.

Staff recommends approval.

BOARD ACTION

I move to approve the request to increase the athletic limit for Boise State University to $7,682,000 effective for FY 2022.

Moved by_____Seconded by_____Carried Yes____No____

BOISE STATE UNIVERSITY

SUBJECT

Planning and Design – First-Year Student Housing

REFERENCE

August 2021 Idaho State Board of Education (Board) approved Boise State University FY2023 Six-Year Capital Improvement Plan

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section V.K.1

BACKGROUND/DISCUSSION

In February of 2020, Boise State University (BSU) began working with a consultancy group, Brailsford and Dunlavey (B&D), to plan for future student housing. The process was mapped over two phases that included an assessment of current demand for student housing and the creation of an action plan for subsequent capital projects. Ultimately, the market analysis identified an aggregate demand for 738 additional beds, with the most significant shortfalls in traditional (freshman) and apartment-style (graduate) housing. The first recommended project from the action plan is a new first-year student housing project, with traditional room layouts. The primary justifications for this project are as follows:

- Continued changes in our first-year cohorts' profile have significantly increased demand for on-campus, first-year housing options. Without on-campus capacity, these students locate in offsite housing, or choose to attend other universities.

- To satisfy increasing demand, some BSU housing that is intended for upper grade levels has been reallocated to first-year students. Additional first-year housing will allow these units to return to their original purpose.

- Research continually demonstrates that students who live in university-owned and programmed housing in their first year have higher levels of student-success including, but not limited to, first-term and higher GPA, higher retention rates, and increased 4-year and 6-year graduation rates.

- Even absent additional growth in BSU undergraduate housing demand, the market is, and is expected to continue, experiencing inadequate supply of low cost, high density housing in proximity to BSU.

- Even though the private sector has built an abundance of near-campus student-oriented housing, none of these projects are designed to

accommodate first-year students, or provide the experience that is crucial for their long-term success; and

- Undergraduate housing allows BSU to control price points that buffers the total cost of attendance from dramatic rise in rental rates in the Treasure Valley.

Based on the current cost of construction in the Treasure Valley, BSU is seeking planning authority for a 450-bed project.

A thorough site analysis considered numerous options for this project. Careful consideration of the Campus Master Plan, and mindful preservation of future academic sites, led to a location with an infill strategy. With immediate adjacency to Albertsons Library and the Taylor/Keiser housing complex, the site is able to strengthen ties to both existing housing and core academic facilities. Additionally, the site is along Cesar Chavez Lane and the Boise River, our campus' northern edge. A student housing facility here will advance the Campus Master Plan's goal to "Integrate the Boise River and Greenbelt into Campus." A site and vicinity map has been included as Attachment 3.

The cost of initial planning and design services for this project is estimated not to exceed $4.5 million; the source of funds is institutional reserves. The University will determine the best financial strategy for construction upon completion of the planning and design phase.

IMPACT

Expanded first-year housing will have a positive effect on recruitment, retention and graduation rates, and also increase affordability for students. Placement of this project will foster an opportunity to improve the surrounding site and further leverage unique campus amenities.

ATTACHMENTS

Attachment 1 – Project Budget
Attachment 2 – Capital Project Tracking Sheet
Attachment 3 – Site and Vicinity Map

STAFF COMMENTS AND RECOMMENDATIONS

Boise State has made this a priority in their six-year capital plan and has been seeking opportunities to develop student housing. Rent costs in the Treasure Valley have increased, making it harder for the University to assure affordable housing for students; and this project is designed to support student enrollment and retention efforts while making the total cost of attendance more affordable for students.

The request to allow BSU to move forward with the planning and design phases will enable the University to understand the cost and better utilize the campus's strategic location along the Boise River. Staff recommends approval.

BOARD ACTION

I move to approve the request by Boise State University to proceed with planning and design for first-year student housing for a total cost not to exceed $4,500,000.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

Attachment 1 - Project Budget

Project Number:	DPW TBD
Project Title:	First Year Student Housing - Planning Budget
Date:	Oct-21

Category		Budget
Architectural Fees	$	4,290,000
Construction Costs	$	-
Testing, Inspections and Misc.	$	41,000
Construction Contingency		
Subtotal	$	4,331,000

University Costs	$	139,000
Project Contingency	$	30,000

Total Project	$	4,500,000

Office of the Idaho State Board of Education
Capital Project Tracking Sheet
Oct-21

History Narrative

Institution/Agency: Boise State University **Project:** First-year Student Housing
Project Description: Planning and design for a new first-year student housing facility.

Project Use: Student housing
Project Size: 110,000 - 120,000 gsf

	Sources of Funds				Use of Funds			
	PBF	ISBA	Other *	Total Sources	Planning	Use of Funds Const	Other	Total Uses
Initial Planning Approval	$ -	$ -	$ 4,500,000	$ 4,500,000	$ 4,351,000		$ 149,000	$ 4,500,000
Total Project Costs	$ -	$ -	$ 4,500,000	$ 4,500,000	$ 4,351,000	$ -	$ 149,000	$ 4,500,000

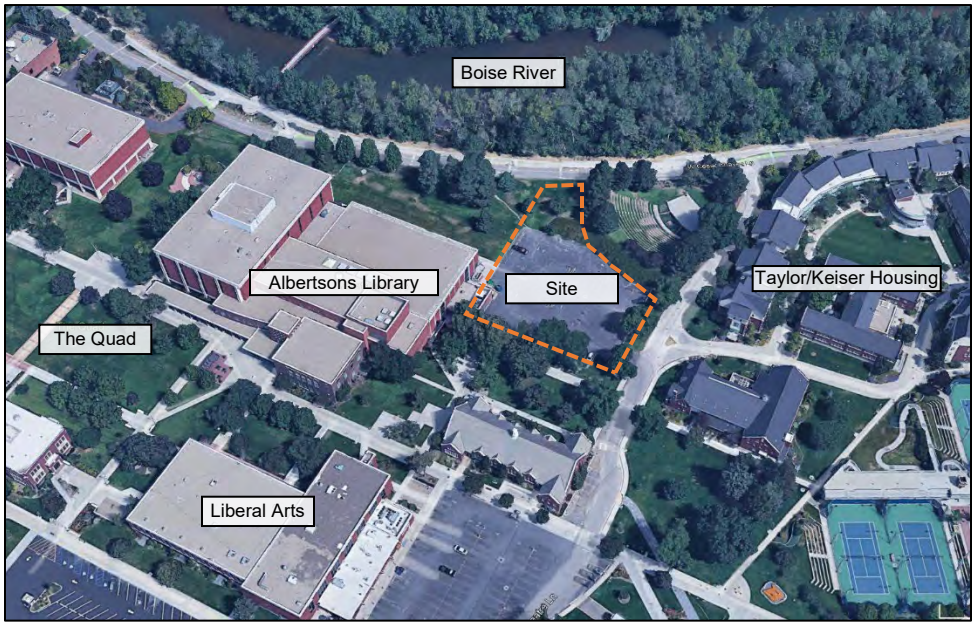
			* Other Sources of Funds				
History of Funding:	PBF	ISBA	Institutional Funds	Student Revenue	Other	Total Other	Total Funding
Oct-18	$ -	$ -	$ 4,500,000			$ 4,500,000	$ 4,500,000
						$ -	$ -
					-	-	-
Total	$ -	$ -	$ 4,500,000	$ -	$ -	$ 4,500,000	$ 4,500,000

Attachment 2 - Capital Project Tracking Sheet

Attachment 3 – Site and Vicinity Map



Boise State Campus



Project Site

IDAHO STATE UNIVERSITY

SUBJECT

Library Upgrades: Common Area and Starbucks - Planning and Design Approval

REFERENCE

August 2021 Board approved the ISU 6-Year Capital Project.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section V.K.2.

BACKGROUND/DISCUSSION

Idaho State University (ISU) seeks approval from the Board to proceed with planning and design for upgrades to ISU's library including upgrading the first floor common areas to create a more dynamic student space. In addition, the project will allow for the addition of a Starbucks through ISU's partnership with its foodservice provider Chartwells.

ISU's library has significant need to provide a modern meeting, collaborating, and learning space for students. The outcome of the project is to redefine the first floor space to include a new entryway, common area, and a Starbucks in the student lounge, make power resources available throughout, and provide student-focused furniture to support a variety of learning activities. Lighting upgrades will enhance the first floor space to make a more inviting atmosphere. The first floor student center of the library will be open to accommodate students working on projects or exam study.

This project represents a major shift from a traditional library to a resource center with specialty printing opportunities, collaboration areas where students can work without disrupting the quieter areas, and drawing students into a creative area where they can explore ideas and possibilities near the major resource areas of the library. Redefining how students can use the library's main level will give them access to comfortable, modern, and engaging spaces, sought after by today's students. The transformation of this space and its furnishings will provide our students with an environment that fosters collaboration, individual study, and social gathering areas, and allows the student to determine how the space can best meet their needs.

These changes will enable us to provide additional resources and opportunities to help students establish natural supports and be a part of an inclusive learning environment, enhancing their college experience and quality of life, further supporting their academic success and educational goals.

Currently students attend most of the distance learning classes in the library basement where there is no break out space and a small corridor system delivers

students to controlled DL environments. The student center we are developing on the first floor will be light, open, unobstructed space. The existing windows will bring light further into the space than before.

We are happy to be able to address this need and bring the library into a new student-centered environment that will become a hub at the geographic center of campus.

The project will leverage $1.7 million of a bequest specifically designated for library upgrades. The institution will contribute $760,000 from various reserve fund balances and ISU's foodservice provider will provide additional investment at $500,000.

Current Funding Plan	
Philanthropic Support	$1,700,000
University Dedicated Funds - Library reserves - Central university reserves - Facilities energy savings fund	$760,000
Chartwells Starbucks Contribution	$500,000
Total	$2,960,000

IMPACT

As ISU continues to focus aggressively on enrollment growth, supporting retention efforts, and better aligning ISU's campus with the expectation of current and prospective students, this project will leverage philanthropic support, food service partner investment, and university funds to make significant improvements to a highly utilized student academic support function.

ATTACHMENTS

Attachment 1 – Library Floorplan

STAFF COMMENTS AND RECOMMENDATIONS

Idaho State University has sought to strategically utilize their resources in support of their capital projects and six-year Capital Project plan. This project allows ISU to utilize a bequest in support of the library and provide additional reserves to modernize the library consistent with current student needs. The Board is encouraged to view this project in light of several other projects currently being renovated by Idaho State University, such as the Holt Arena project.

However, ISU has thoughtfully considered how to implement the projects without incurring debt and with little impact on institutional reserves. The motion before

the Board approves the planning and design phase which is not to exceed $355,000. Staff recommends approval.

BOARD ACTION

I move to approve the request by Idaho State University to proceed with planning and design for the Library Upgrades: Common Area and Starbucks project for total design costs not to exceed $355,000.

Moved by _____ Seconded by _____ Carried Yes _____ No _____



COLORS

1. ADD NEW STOREFRONT ENTRANCE - LOCATION OPTIONS
2. ORIGINAL ENTRANCE - IMPROVE FLOW AND ACCESS INTO LIBRARY
3. RELOCATE AND REBUILD EXISTING SERVICE DESK ON MAIN LEVEL
4. REDEFINE AS MEDIA SPACE
5. REDESIGN AND REPURPOSE USE OF SPACE (RELOCATE STAFF)
6. REDEFINE SPACE
7. REDEFINE SPACE
8. EXTERIOR SPACE - REPAIRS AND IMPROVEMENTS FOR STUDENT USE
9. RELOCATE STAFF AND ADD DOORS TO MAKE ROOM FOR NEW STAFF
10. NEW LOCATION FOR STARBUCKS

FACILITIES SERVICES
"World Class Facilities Professionals Serving ISU Together
(208) 282-4086 OFFICE
(208) 282-4618 FAX

50 ELI OBOLER LIBRARY
IDAHO STATE UNIVERSITY
1000 MLK Jr. Way

Idaho State UNIVERSITY

BUILDING NUMBER
50
LEVEL
Main
DISCIPLINE
Architecture
DRAWING SCALE
1/32" = 1'-0"
UPDATED DATE
9/17/2021

UNIVERSITY OF IDAHO

SUBJECT

University of Idaho (UI) Long-Term Lease and Concession Agreement for the University of Idaho Utility System – Capital Improvement Approval – South Campus Chiller Replacement and Improvements

REFERENCE

April 2020	The Board of Regents (Board) reviewed the University of Idaho's potential Public-Private Partnership as an informational item.
November 2, 2020	The Board of Regents approved the Long Term Lease and Concession Agreement for the University of Idaho Utility System between the University of Idaho and Sacyr Plenary Utility Partners Idaho LLC

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section V.K. Construction Projects

BACKGROUND/DISCUSSION

After the approval of the Board of Regents, the UI executed a Long Term Lease and Concession Agreement (Concession Agreement) under which the UI received an up-front payment in the amount of $225,000,000 in exchange for the UI leasing its Utility System assets and operation to Sacyr Plenary Utility Partners Idaho LLC (SPUPI). As discussed with the Board at the time the Concession Agreement was under consideration for approval, SPUPI is required to develop and propose an annual Five-Year Plan for UI review and approval. Among other things, the Five-Year Plan must include proposed Capital Improvements for the UI's Utility System. Proposed Capital Improvements must address the ongoing needs of the system for major repairs and system upgrades and possible expansions, for the fifty-year term of the Concession Agreement. UI staff has reviewed the proposed Initial Five-Year Plan and the included Capital Improvements and has already approved several proposed Capital Improvements falling within UI staff's approval authority. However, one Capital Improvement included in the Initial Five-Year Plan which has been deemed necessary by UI staff requires approval by the Board of Regents due to the cost of the Capital Improvement.

SPUPI has proposed a Capital Improvement to replace one failed chiller at the south campus chiller plant, along with associated metering systems and appurtenances for $2,425,380, per Attachment 1. One of the existing 500-ton SmardT chillers will be replaced with a new electric chiller with greater capacity. This Capital Improvement includes the demolition, waste management of the old chiller, and the transportation, installation, and commissioning of the new chiller.

This will be the first of several campus cooling related improvements anticipated to be implemented under the Concession Agreement in the coming years.

IMPACT

The goal of this project is to ensure that the provision of chilled water meets the campus needs at all times. Chilled water is used to cool campus buildings, including buildings with critical research which must be maintained at appropriate temperatures. High ambient temperatures and the limited capacity of the current chiller have necessitated the implementation of load-shedding procedures to limit chilled water consumption during summer months, decreasing cooling capabilities across UI Moscow campus. See Attachment 2. Load shedding events constitute a disruption to normal campus operations, degrading productivity and impacting research activities. The increased cooling capacity will allow UI to continue to cool campus facilities during summer months in addition to reducing chiller electricity consumption by 5-10%.

SPUPI will provide the up-front funding to execute the project, with the UI repaying the up-front cost over time according to the formula contained in the Concession Agreement. Further, if approved by the Board, SPUPI would be responsible for all aspects of the project, from planning, to execution, to completion. The Capital Expenditure Fee for this Capital Improvement will amortize the Capital Improvement cost and return over a 20-year period at a 5.244% return on capital. The estimated amortization table is provided at Attachment 3. Funds to repay the cost of the Capital Improvement come from operating funds previously used to operate the utility system.

ATTACHMENTS

Attachment 1 – SCCP Chiller Replacement & Improvements Project
Attachment 2 – Load shedding protocols
Attachment 3 – Amortization Table

BOARD STAFF COMMENTS AND RECOMMENDATIONS

This is the first of the capital projects initiated under the UI's Concession Agreement. SPUPI will provide no-interest funding to the UI for a significant utility improvement.

While the monthly obligation of the University of Idaho is just over $10,000, the benefit of the agreement allows the University of Idaho to have SPUPI cover the initial capital costs of the project in order to gain better efficiency. Because the funds that support this obligation are derived from the costs previously allocated for utility operations, there is no substantial impact to UI.

There will likely be further projects of this magnitude and the Board should carefully review the cumulative financial effects of the projects as more are developed to assure that the Board is supportive of the level of debt incurred. However, the

structure of the arrangement provides additional value to the UI and this capital project is reasonable to UI to support.

Because of the unique nature of the Public Private Partnership (P3), this project is not a traditional capital project within a six-year plan. But consistent with Board policies V.I and V.K., the University of Idaho is requesting approval from the Board due to the cost of the project.

Staff recommends support.

BOARD ACTION

I move to approve SPUPI's proposed Capital Improvement entitled "SCCP Chiller Replacement and Improvements" included in the Initial Five-Year Plan presented to the University of Idaho under the Long-Term Lease and Concession Agreement for the University of Idaho Utility System in the amount of $2,425,380.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

2022/15 PROJECT SHEET

PROJECT NAME: SCCP Chiller Replacement and Improvements

DATE SUBMITTED: 06/29/2021

PROJECT JUSTIFICATION CATEGORIES: Resiliency

UTILITY SYSTEM AFFECTED: Chilled Water

Statement of Work: The goal of this project is to ensure that the provision of chilled water meets the campus needs at all times. One of the existing 500-ton SmardT chillers will be dismantled and substituted with a new electrically-driven chiller of equal or greater capacity at the SCCP. The new chiller will use an environmentally friendly refrigerant.

This Capital Improvement includes the demolition, waste management of the old chiller, and the transportation, installation, and commissioning of the new chiller. The installation of new electrical meters is included for each of the chillers. Other ancillary systems may be replaced for this work.

Why: Project has been prioritized according to the scoring criteria presented in the submission.

Safety	Resiliency	Operational Efficiency	Carbon Neutrality	**Four Focus Areas**	Risk	**Score**
5	8	6	—	**5.6**	8	**7.04**

Approach: As established in section 4.3(c), the Concessionaire requests that the University respond to this proposed Capital Improvement only pursuant to section 4.3(c)(ii), requiring that the Concessionaire perform additional work, to provide more information regarding the scope, design, and cost of the proposed Capital Improvement. The anticipated cost of such additional work is $32,383.

Additional Notes: To the extent required by applicable law, the University will provide (i) an asbestos survey covering any area to be disturbed by a demolition or renovation work; or (ii) proof that the original work was completed using asbestos-free materials. In accordance with the Concession Agreement, the University will be responsible for abatement of any Hazardous Materials, including asbestos, which originated prior to Closing.

Pursuant to the Long-term Lease and Concession Agreement, Section 4.3.(c) (2), the following information is presented for this Capital Improvement:

(A) Total Costs: $2,392,997.

(B) Forecasted annual operations and maintenance costs: $5,000 (Capped O&M Costs).

(C) Proposed modification to the Recovery Period: None.

(D) Explanation of all relevant assumptions, variables, and data sources: See previous narratives.

(E) Proposed schedule: EPC extends through November 2022 (included).

2022/15 PROJECT SHEET

	6/21	7/21	8/21	9/21	10/21	11/21	12/21	1/22	2/22	3/22	4/22	5/22
Additional Work												
EPC												

(F) Impact on Sustainability: Positive, due to the better electrical efficiency of the new equipment versus the replaced one. Additionally, the new refrigerant will be more environmentally friendly than the existing one.

(G) Anticipated tax credits or other benefits: No tax credits or other benefits have been identified.

(H) Fee or charge payable to the Operator: $2,376,000.

(I) Proposed changes to the limits on the professional liability insurance coverage: All engineering and consulting firms engaged for Capital Improvements proposed for Approval will have a limit of $1,000,000 limit or greater on the professional liability insurance coverage. The premium associated to such policy is usually prorated by the firm over their annual contracts.

(J) Potential change in Supply Costs or consumption of Supplies: A reduction of 5-10% in the consumption of electricity is expected.

University of Idaho

McKinstry
For The Life Of Your Building

Chilled Water Load Shedding

Standard Operating Procedures



V.3 – 2021

It is U of I policy to prohibit and eliminate discrimination on the basis of race, color, national origin, religion, sex, sexual orientation and gender identity/expression, age, disability, or status as a Vietnam-era veteran. This policy applies to all programs, services, and facilities, and includes, but is not limited to, applications, admissions, access to programs and services, and employment.

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Introduction

In 2020 the University of Idaho began load shedding chilled water consumption on campus when building cooling demands exceeded the ability for the District Energy Plant to produce chilled water. Chilled water is used for a range of needs from comfort cooling in offices to heat rejection in research applications and IT servers. Some of these cooling loads are less critical than others for continued business operations and thus each load on campus has been assigned a load shedding priority level. Without this practice severe damage may occur to equipment across campus while low priority loads would lose cooling regardless.

Successful load shedding requires significant coordination between McKinstry's Utilities and Engineering Services (UES) team, who operate the District Energy Network, and the university Building Trades HVAC department, who operate HVAC systems across all campus buildings. This document provides a detailed outline on chilled water capacity and existing building loads, when chilled water load shedding is required, what areas will be impacted, and the steps necessary for implementation. Furthermore, information needs to be conveyed to building occupants in a timely matter to minimize disruptions and monitor critical areas.

Background

Relationship Between the University of Idaho and McKinstry

In 2021 the university entered a 50-year lease to have its utility assets operated by an outside entity, known as a public-private partnership, or "P3". The agreement is between the university and Sacyr Infrastructure USA and Plenary Americas USA Ltd, who in turn hired McKinstry to manage the operations and maintenance of the university's utilities. The utilities managed include steam, chilled water, electricity, domestic water, reclaimed water, stormwater, sanitary sewer, and compressed air. McKinstry is also the developer and deliverer for all utility related capital projects.

The Utilities and Engineering Services (UES) group that was previously under the university's Facilities Services department is now part of McKinstry. They are responsible for chilled water production and distribution up to the isolation valve in campus buildings, while the university's HVAC department is responsible for equipment and controls inside the building envelope, including temperature setpoints.

Chilled Water Production

Chilled water is produced at two main locations on campus. The North Campus Chiller Plant (NCCP) has one operational absorber with one additional absorber scheduled for operation in 2021. The South Campus Chiller Plant (SCCP) has three electric centrifugal chillers and a two million gallon thermal energy storage tank (TES). Equipment specifications are outlined in Table 1. The total rated capacity of the system, excluding the TES tank, is 3,340 tons, but due to degrading performance of the chillers and cooling towers over time the typical capacity averages 2,230 tons.

Table 1. Central Chilled Water Equipment Specifications.

Chiller Manufacturer	Type	Rated Capacity (tons)	Average Performance (tons)
NCCP			
Carrier	Single effect absorption	620	500
Trane (not operational)	Single effect absorption	520	unknown
SCCP			
SmardT #1	Centrifugal	500	330
SmardT #2	Centrifugal	500	200
York	Centrifugal	1200	1200
Total Capacity		**3,340**	**2,230**

The TES tank can hold 20,000 ton-hours of cooling when fully charged and can discharge at a rate of 2,167 tons/hr. The system is operated such that chillers often run at night to charge the TES tank while the TES tank is discharged in the day to handle fluctuated cooling loads. By operating this way, the university avoids peak demand charges from the utility and chillers can operate at their steady optimum point instead of chasing loads throughout the day. The absorption chiller however is base loaded 24/7 during the cooling season. Chilled water is supplied at 44°F and typically returns from campus at 55°F.

When very hot days are forecasted it is paramount that the TES is fully charged the night before. If temperatures are too hot at night and building HVAC systems are still cooling campus, then the tank will not have enough cooling energy stored to meet campus demands. If the TES tank is depleted there will not be enough production capacity to meet campus loads, which triggers the need for load shedding.

Campus Cooling Loads

Thirty-seven buildings on campus are connected to the central chilled water network. Encompassing over 120 years of construction, each building has a very different building envelope and thermal characteristics. Many of the older buildings must be cooled at night beyond what a modern building would require, otherwise they may never reach setpoint temperature when occupied. That is most likely to occur during heat waves.

Cooling is mostly needed for thermal comfort to building occupants, with peak cooling season between July and September. However, there is still a yearlong need to satisfy process cooling loads on campus. These include research applications on campus where energy intensive equipment needs to be cooled as well as IT servers across campus. If such equipment does not receive enough chilled water extensive damage will occur. To prevent damage the equipment is shut down before certain temperatures are reached, interrupting both research and business operations.

Load Shedding Phases

Multiple phases have been established for load shedding, depending on how severe the need to reduce the load is. These phases were established based on the HVAC control system used and usage in the relevant area. Load shedding begins at Phase 1. If the campus cooling load is still greater than production capacity, then load shedding moves to Phase 2. This is repeated for Phase 3. The previous phase continues as load shedding increases (e.g. Phase 3 includes both Phase 1 and 2). The list of buildings impacted are outlined in the following sections. Specific points are identified in Appendix B for operators.

Phase 1

Phase 1 load shedding begins when UES determines that the TES tank will be depleted before 4 p.m. on a given day due to campus chilled water loads outpacing production. Selected areas have Siemens controls and HVAC systems with return air, which helps slow the impact to occupants. These are comfort cooling loads in non-critical areas such as campus housing, offices, and classrooms.

Phase 2

If demand continues to exceed capacity, Phase 2 load shedding begins. These buildings have ATS controls and may or may not have return air systems.

Note: The new Idaho Arena is on the Phase 2 load shedding list but should NOT be load shed during scheduled events such as games, concerts, graduations, etc. where the main basketball court is being used. HVAC will contact Auxiliaries to determine if an event is scheduled during the load shedding period and treat the Arena as a critical load if needed. Minor events such as practice sessions and small student meetings are not considered critical.

Phase 3

If chilled water production cannot meet demand despite Phase 1 and 2 load shedding, Phase 3 begins. While never implemented on campus as of 2021, this would likely occur if there was a significant reduction in capacity, such as from major equipment failures during extended hot temperatures. All comfort cooling on campus is stopped at this stage, including classrooms, research labs, offices, and housing.

Critical Cooling Loads

Identified critical loads will not be shed, even after Phase 3. These include ITS servers, supercomputers, refrigeration equipment for food storage, fisheries, and other process cooling loads. While typically monitored by HVAC and the respective users, extra attention should be given to these areas when load shedding begins.

Procedures

Step 1: Identify When Load Shedding is Needed

It's helpful for operators to be able to recognize conditions that may lead to load shedding. Weather conditions are the most likely cause, however certain equipment operating conditions should be monitored by UES. A single condition may not require load shedding, but when multiple conditions occur together, especially on hot days, the likelihood for load shedding increases. Examples of conditions that can trigger load shedding are listed below:

1) Forecasted weather conditions for the day show a dry bulb temperature above 90 °F and a relative humidity above 40%.
2) Temperatures over 90 °F the previous day, followed by unusually warm temperatures at night, leading to the TES tank thermocline level to drop below 30 ft by 9 a.m.
3) The TES tank is already discharging (depleting) at 9 a.m.
4) The TES tank is predicted to be fully depleted before 4 p.m. on a given day. This is measured from the TES discharge rate and current thermocline level.
5) If the condenser approach temperature on a given chiller is above 14 °F.

   a. The approach temperature is the difference between liquid refrigerant temperature as measured on the liquid line, and leaving condenser water temperature
   b. The liquid refrigerant temperature is not trended, but should be monitored daily at the SCCP to assess long term performance
6) Planned or unplanned outages on major chilled water equipment such as chillers, pumps, or cooling towers.

The District Energy Plant will typically be the first ones to recognize when load shedding is needed. The most effective way to avoid load shedding is to assure the TES is fully charged every night, especially when temperatures are high. If high temperatures are expected the next day, chillers should be brought online until the TES tank begins recharging overnight.

Step 2: Begin Load Shedding

If UES determines that load shedding is needed, they will first communicate with HVAC to establish what time to begin. If UES determines that there is enough capacity to reach 4 p.m. before the TES tank is depleted, then load shedding should begin as late as possible. This reduces the impact to campus occupants as many employees leave at 5 p.m. and most classes are over.

Once UES and HVAC agree to load shed and a set time is established, HVAC personnel will begin load shedding the points established in the corresponding phase, listed in Appendix B. Specific steps are outlined below:

1) Phase 1
   a. Located on the Campus Chilled Water Temps graphics page in Siemens there are three points that shed Stage 1 CHW valves through the program (Operator On will close the valves)
      i. 0.32.003.STG1.CHW.SHED
      ii. 028.001.JEB.CHW.SHED
      iii. 032.007.BACNET.STG1.CHW.SHED



Figure 1. Stage 1 CHW points in Siemens.

   b. Located on the main screen of the Siemens system, put the following points in Operator "ON" mode. This will configure all air handlers to 100% recycled building air via code:
      i. 009.032.UI80ED.CAMPUS RECIRC
      ii. BACnet CAMPUS EMER AIR RECIRC
2) Phase 2
   a. Access and close all CHW valves to control points through the ATS control system. The operator will need to navigate to each point separately

3) Phase 3
    a. Located on the Campus Chilled Water Temps graphics page in Siemens there are two points that shed Stage 3 CHW valves through the program (Operator On will close the valves)
        i. 0.32.003.STG3.CHW.SHED
        ii. 110.003.BACNET.STG3.CHW.SHED



Figure 2. Stage 3 CHW points in Siemens.



Figure 3. Campus Chilled Water Temps graphics page in Siemens.

Step 3: Reporting and Communications

Reporting follows the below communication chain. If someone is unavailable it is the responsibility of the first person to escalate communications to the next in line to ensure all parties are aware. The university is responsible for informing building occupants that load shedding will begin. Any phone calls or emails from campus occupants should be directed to the main Facilities Management Office, where the Customer Service Representative at the front desk can answer high level questions or direct them to the corresponding office as needed.

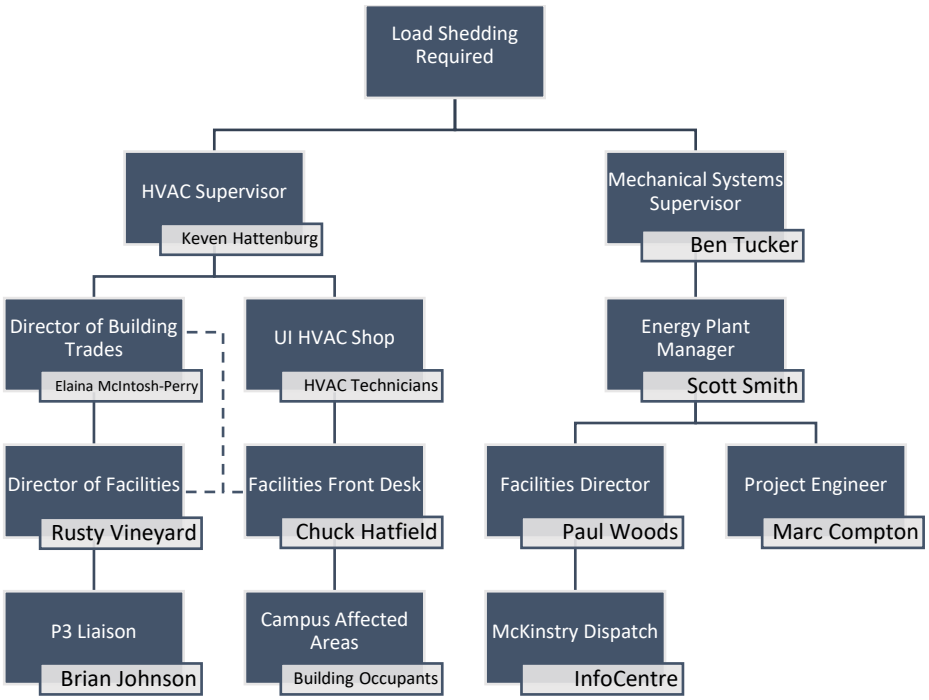


Figure 4. Communication hierarchy for the university and McKinstry.

Step 4: Monitor Chilled Water Production and Critical Loads

UES will monitor TES tank thermocline levels during each phase to assess if the tank is still depleting after thirty minutes. If so, then the next phase of load shedding will begin. Energy Plant personnel will begin inspections at this step to assure equipment is operating as designed. Figure 3 shows the Campus Chilled Water summary screen in the ATS control system. This can be used to monitor OAT, chiller tonnage, and TES tank thermocline levels in real time.



Figure 5. Campus chilled water summary in ATS.

HVAC will monitor shed points and critical areas on campus. Temperatures in shed areas should begin increasing without access to chilled water. If not, personnel should investigate the corresponding equipment/controls to assure chilled water has been shut off. Critical areas may begin to heat up as the building spaces around them loses cooling. Temperatures in these areas will be closely monitored and corrective actions taken as needed, with priority given to these loads over others on campus.

Step 5: Preventing Future Load Shedding

Data should be trended and stored before and after load shedding to help prevent future events. Key data points include:

1) Outside air temperature
2) Outside air relative humidity
3) Outside air wet bulb temperature
4) TES tank thermocline level
5) TES tank supply/return temperatures
6) Individual chiller tonnage
7) Individual chiller condenser inlet/outlet temperatures
8) Building chilled water ton-hour consumption

This can be used to better understand what events are likely to trigger load shedding and if/when additional capacity is needed. Depending on how the TES tank performs, modifications can be made such as adding additional load shedding phases or shifting loads between phases. This might be needed if the TES tank discharges at one phase, but recharges quickly at the next phase. Another example would be if a high temperature day is followed by a hot night that would likely deplete the tank in the morning, steps may be taken to load shed that night to “ride out” the upcoming day with the TES tank.

Regardless of daily operations, the single most effective method of preventing load shedding is to charge the TES tank to its full capacity every night. Steam Plant personnel should be monitoring the TES tank at regular intervals at night, especially during the cooling season.

Appendix A: Key McKinstry and HVAC Personnel

McKinstry – Utilities and Engineering Services

- Paul Woods
  - Facilities Director
  - Email: paulw@mckinstry.com
  - Phone: 206-310-3139
- Scott Smith
  - District Energy Plant Manager
  - Email: scottsmi@mckinstry.com
  - Phone: 208-370-2833
- Marc Compton
  - Project Engineer
  - Email: marcc@mckinstry.com
  - Phone: 208-892-9792
- Ben Tucker
  - Energy Plant Mechanical Systems Supervisor
  - Email: benjamin@mckinstry.com
  - Phone: 208-892-9690
- McKinstry InfoCentre Dispatch
  - Phone: 855-936-3685

U of I Facilities Services – HVAC and Refrigeration

- Brian D. Johnson
  - P3 Liaison
  - Email: johnsonb@uidaho.edu
  - Phone: 208-885-6246
- Rusty Vineyard
  - Director of Facilities
  - Email: vineyard@uidaho.edu
  - Phone: 208-885-6246
- Elaina McIntosh-Perry
  - Director of Building Trades
  - Email: elainam@uidaho.edu
  - Phone: 208-885-6683
- Keven Hattenburg
  - HVAC/Refrigeration Supervisor
  - Email: khattenburg@uidaho.edu
  - Phone: 208-885-6378
- HVAC and Refrigeration Office
  - Email: hvac@uidaho.edu
  - Phone: 208-885-6378

Appendix B

Stage 1 Load Shedding List

Siemens Control Point	Building Name	Building Number	Equipment	Impacted Areas
001.068.AD18C5.FC RM18 CHW VLV	Admin. Bldg.	001	Fan Coil RM18	Room 18
001.068.AD52A5.FC2 RM10W VLV	Admin. Bldg.	001	Fan Coil RM10	Room 10
001.001.AD104 CWV	Admin. Bldg.	001	Fan Coil RM104	Room 104
001.068.AD52B5.FC1 RM10E VLV	Admin. Bldg.	001	Fan Coil RM10E	Room 10E
001.023.A01.AD01B6.CHWV VOUT	Admin. Bldg.	001	AHU-1	South Wing
001.001.CHW.AD53A5.CHWV VOUT	Admin. Bldg.	001	Pres. Office	President's Office
001.001.AD104E CWV	Admin. Bldg.	001	FC104E	Room 104E
005.001.FS01D1.AH1 CW VLV NC	Food Research	005	AHU-1	Room 105
014.032.A01.ML01E2.AH1 CHW VLV	Menard Law	014	AHU-1	Entire Building
018.001.CHW.RI50A7.VLVMINPOS	Ridenbaugh Hall	018	FC110, FC223, FC327	Rooms 110, 223, 327
019.026.LS10B6.AH5 CHW VLV	Life Science South	019	AHU-5	Rooms 250A, 251, 252, 253, 254, 255
025.042.AS01D2.CHWV OUT	Ag. Science	025	AHU-1	1st Floor 70's wing
LH01H5	LHSOM	026	AHU-1	Haddock Auditorium
LH02H5	LHSOM	026	AHU-2	Haddock Auditorium
LH03H5	LHSOM	026	AHU-3	Rehearsal Room 216
LH04H5	LHSOM	026	AHU-4	Restrooms
028.01.AH1.CCV	Janssen	028	AHU-1	Rooms 320, 324, 326, 326A, 326B, 340, 340A, 337, 339, 341, 343
028.02.AH2.CCV	Janssen	028	AHU-2	Rooms 220, 224, 226, 230, 232, 236, 240A, 240B, 240C, 221, 229A, 229, 233, 235A, 237, 241, 237A
028.03.AH4.CCV	Janssen	028	AHU-4	Floor Level 1
028.08.AH6.CCV	Janssen	028	AHU-6	Room 6
028.10.HRV.CCV	Janssen	028	HRV-1	Restrooms
030.001.HE50C1.CCHW.RET VALVE	Niccolls	030	ALL	Entire Building
032.003.A01.LA01CW.CHWV VOUT	Library	032	AHU-1, 2, 3, 4, 5, 6, 7	Levels 1, 2, 3, 4
032.018.A02.LA02CV.CHWV VOUT	Library	032	AHU-1, 2, 3, 4, 5, 6, 7	Levels 1, 2, 3, 4
032.018.A03.LA03CV.CHWV VOUT	Library	032	AHU-1, 2, 3, 4, 5, 6, 7	Levels 1, 2, 3, 4
032.AH4.CCV.VOUT	Library	032	AHU-1, 2, 3, 4, 5, 6, 7	Levels 1, 2, 3, 4
032.AH5.CCV.VOUT	Library	032	AHU-1, 2, 3, 4, 5, 6, 7	Levels 1, 2, 3, 4

032.017.A06.LA06CV.CHWV VOUT	Library	032	AHU-1, 2, 3, 4, 5, 6, 7	Levels 1, 2, 3, 4
032.017.A07.LA07CV.CHWV VOUT	Library	032	AHU-1, 2, 3, 4, 5, 6, 7	Levels 1, 2, 3, 4
047.001.A01.RE07D3.CHWV VOUT	Renfrew	047	AHU-4	Level 1 North Side
047.AHU5.CCV	Renfrew	047	AHU-5	Room 111
047.AHU6.CCV	Renfrew	047	AHU-6	Room 112
054.AH1.CCV.VOUT	Buchanan	054	AHU-1, 2	Entire Building - except 329A
054.011.A02.BE03G2.AH2 CHW VLV	Buchanan	054	AHU-1, 2	Entire Building - except 329A
055.033.A01.FR01E3.CD CHWV OUT	Forestry	055	AHU-1, AHU-3	Entire Building
055.002.FR03C3.AH3 CHW VLV	Forestry	055	AHU-1, AHU-3	Entire Building
097.035.A01.CB01D3.CHWV VOUT	ISUB	097	AHU-1, 2, 3	Entire Building - except process cooling
097.034.A02.CB03E3.CHWV VOUT	ISUB	097	AHU-1, 2, 3	Entire Building - except process cooling
097.035.A03.CB05C3.CHWV VOUT	ISUB	097	AHU-1, 2, 3	Entire Building - except process cooling
111.016.AC1.EP05F3.CHWV VOUT	Engineering Physics	111	AC1	Rooms 112ABC, 115F, 115G, 117, 117A, 118, 119, 120, 122
143.019.A01.RC01B6.CHWV VOUT	Student Rec. Center	143	AHU-1	First Floor Locker Room Area
143.019.A02.RC03B6.CHWV VOUT	Student Rec. Center	143	AHU-2	2nd Floor Offices
143.021.A03.RC05B6.CHWV VOUT	Student Rec. Center	143	AHU-3	MAC Court
143.022.A04.RC07B6.CHWV VOUT	Student Rec. Center	143	AHU-4	Climbing Wall
550.054.A01.WC01E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.054.A02.WC03E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.055.A03.WC05E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.053.A04.WC07E4.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.053.A05.WC09E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings

550.055.A06.WC11E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.054.A07.WC13E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.056.A10.WC17E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.057.A12.WC21E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.055.A13.WC19E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
550.055.AC1.WC15E2.CHWV VOUT	Wallace	550	AHU-1, 2, 3, 4, 5, 6, 7, 10, 12, 13, AC-1	Entire Building – excluding wings
678.001.A01.TL01B6.CHWV VOUT	TLC	678	AHU-1, 2, 3	Entire Building – except FC8 in Rm 051
678.002.A02.TL03B6.CHWV VOUT	TLC	678	AHU-1, 2, 3	Entire Building – except FC8 in Rm 051
678.002.A03.TL05B6.CHWV VOUT	TLC	678	AHU-1, 2, 3	Entire Building – except FC8 in Rm 051
678.001.FC7.TL09B8.CHWV VOUT	TLC	678	FC-7	Room 050
678.002.FC1.TL07B8.CHWV VOUT	TLC	678	FC-1	Entry
770.004.AHU2A.CCV	IRIC	770	AHU-2A, 2B	South Side of Building
770.004.AHU2B.CCV	IRIC	770	AHU-2A, 2B	South Side of Building
770.001.RME11.FCU1-5.CCV	IRIC	770	FCU1.5	ME11
770.001.FCU1-6:VLV 1 COMD	IRIC	770	FCU1.6	West Stair
770.003.FCU3-2:VLV 1 COMD	IRIC	770	FCU3.2	West Stair
770.003.FCU3-3:VLV 1 COMD	IRIC	770	FCU3.3	East Stair
700.004.FCU4-1:AOV2	IRIC	770	FCU4.1	Penthouse
770.004.FCU4-2:AOV2	IRIC	770	FCU4.2	Penthouse
770.004.FCU4-3:AOV2	IRIC	770	FCU4.3	Penthouse
770.004.FCU4-4:AOV2	IRIC	770	FCU4.4	Penthouse

Stage 2 Load Shedding List

ATS Control Point	Building Name	Building Number	Equipment	Impacted Areas
AO-1	Phinney	004	AHU-1	Polya Lab
AO-1	Phinney	004	FC-1	Polya Computer Lab
AO-1	Pitman Center	020	AHU-1	Basement North
AO-1	Pitman Center	020	AHU-2	Basement North and 1st Floor North
AO-1	Pitman Center	020	AHU-15	Basement South
AO-1	Pitman Center	020	Old AHU-1	1st Floor South
AO-1	Pitman Center	020	AHU-14	Borah Theater
AO-1	Pitman Center	020	AHU-10	International Ballroom
AO-1	Pitman Center	020	AHU-11	International Ballroom
AO-1	Pitman Center	020	AHU-3	1st Floor South
AO-1	Pitman Center	020	AHU-4	Basement Video Production
AO-1	Pitman Center	020	AHU-9	2nd Floor Hallway
AO-1	College of Business & Econ.	424	AHU-1	Level 1, 2, 3
AO-1	College of Business & Econ.	424	AHU-2	Basement Level
Chilled Water Mains in Bldg 8	Living Learning Center	542	Fan Coils	Buildings 1, 2, 3, 4, 5, 6, 7, 8
AO-1	College of Education	835	AHU-1	Entire Building
TBD	ICCU Arena*	840	AHU-1	TBD
TBD	ICCU Arena*	840	AHU-2	TBD
TBD	ICCU Arena*	840	AHU-3	TBD
TBD	ICCU Arena*	840	AHU-4	TBD
TBD	ICCU Arena*	840	ERU	TBD

* ICCU Arena only load shed if there are no scheduled events on the main court.

Stage 3 Load Shedding List

Siemens Control Point	Building Name	Building Number	Equipment	Impacted Areas
009.052.A02.GB03B5.CHWV OUT	Gibb Hall	009	AHU-2	Level 1, 2
009.052.A03.GB05B5.CHWV OUT	Gibb Hall	009	AHU-3	Level 1, 2
019.001.A06.LS06B5.CHWV VOUT	Life Science South	019	AHU-6	Level 1 East End
019.001.A06.LS06B5.CHWV VOUT	Life Science South	019	AHU-6	Level 1 East End
019.001.A07.LS07B5.NC CHW 0-10	Life Science South	019	AHU-7	Level 2 East End
019.002.A08.LS08B5.CHWV VOUT	Life Science South	019	AHU-8	Level 3 East End
019.026.A11.LS21D3.CHWV VOUT	Life Science South	019	AHU-11	Level 1, 2 West End
019.003.A12.LS12B5.CHWV VOUT	Life Science South	019	AHU-12	Level 3 West End
019.003.FC1/2.LS52A6.CHWV VOUT	Life Science South	019	FC1, FC2	456A, 458A, 458C, 458D
025.001.A08.AS08B5.CHWV VOUT	Ag. Science	025	AHU-8	North End 1st Floor 50's wing
025.001.A09.AS09B9.CHWV VOUT	Ag. Science	025	AHU-9	South End 1st Floor 50's wing
047.002.A02.RE03D3.CHWV VOUT	Renfrew	047	AHU-2	1st Level SW End
047.002.A03.RE05D3.CHWV VOUT	Renfrew	047	AHU-3	1st Level NW End
047.008.A04.RE07D3.CHWV VOUT	Renfrew	047	AHU-4	1st Level East End
047.003.A07.RE13D3.CHWV VOUT	Renfrew	047	AHU-7	2nd Level SW End
047.003.A08.RE15D3.CHWV VOUT	Renfrew	047	AHU-8	2nd Level NW End
047.004.A09.RE17D3.CHWV VOUT	Renfrew	047	AHU-9	2nd Level NE End
047.004.A10.RE19D3.CHWV VOUT	Renfrew	047	AHU-10	2nd Level SE End
047.005.A11.RE21D3.CHWV VOUT	Renfrew	047	AHU-11	3rd Level SW End
047.005.A12.RE23D3.CHWV VOUT	Renfrew	047	AHU-12	3rd Level NW End
047.006.A13.RE25D3.CHWV VOUT	Renfrew	047	AHU-13	3rd Level NE End
047.006.A14.RE27D3.CHWV VOUT	Renfrew	047	AHU-14	3rd Level SE End
110.05.AH2.CCV	McClure	110	AHU-2	Level 1, 2, 3, 4
110.02.AH3.CCV	McClure	110	AHU-3	Level 1, 2, 3, 4
110.03.AH4.CCV	McClure	110	AHU-4	Level 1, 2, 3, 4
111.017.A02.EP03F3.CHWV VOUT	Engineering Physics	111	AHU-2	Level 1, 3 N Wing
111.017.EP01F3.AH1 CHWV V0UT	Engineering Physics	111	AHU-1	Level 2, 3 SE Wing
422.043.A01.AB01B6.CHWV VOUT	Ag. Biotech.	422	AHU-1	Level 1, 2, 3 W End
422.044.A02.AB03B6.CHWV VOUT	Ag. Biotech.	422	AHU-2	Level 1, 2, 3 E End
422.045.A03.AB05B6.CHWV VOUT	Ag. Biotech.	422	AHU-3	Level 3 Old BL3 Lab
423.039.A01.GJ01B6.CHWV VOUT	Gauss Johnson	423	AHU-1	Level 1, 2, 3 W End
423.040.A02.GJ03B6.CHWV VOUT	Gauss Johnson	423	AHU-2	Level B All, Level 1, 2 E End
770.004.AHU1.CCV	IRIC	770	AHU-1	Level 1,2, 3 N End Labs

Critical Loads

Siemens Control Point	Building Name	Building Number	Equipment	Impacted Areas
001.068.HX1.AD50B1.CHWV	Admin	001	HX	NOC Room 129, 130
001.023.FC1.AD07E2.CHWV VOUT	Admin	001	FC-1	Room 210
001.023.FC2.AD08E2.CHWV VOUT	Admin	001	FC-2	Room 210
009.053.A04.GB07D3.CHWV VOUT	Gibb Hall	009	AHU-4	North LARF
009.052.A01.GB01B5.CHWV OUT	Gibb Hall	009	AHU-1	South LARF
009.040.COND.GB53B1.BYP VLV	Morrill/Gibb	009	HX	4th Floor Heat Pumps
009.040.CHW.GB54A5.RET VLV	Morrill/Gibb	009	HX	4th Floor Heat Pumps
019.026.HX1.LS51A7.CHW	Life Science South	019	HX	Process Cooling
025.001.HX1.AS52A7.CHWV CMD	Ag. Science	025	HX	Process Cooling
025.041.A03.AS05B6.CHWV VOUT	Ag. Science	025	AHU-3	Room 354
025.041.A03.AS05B6.CHWV	Ag. Science	025	AHU-4	Room 355
028.08.AH5.HCV.VOUT	Janssen	028	AHU-5	Ground Level South
028.05.FC2.2.RM211A.CCV	Janssen	028	FC2.2	Room 211A
028.05.FC2.3.RM211C.CCV	Janssen	028	FC2.3	Room 211C
028.05.FC2.4.RM211B.CCV	Janssen	028	FC2.4	Room 211B
028.06.FC3.1.RM331.CCV	Janssen	028	FCU3-1	Room 331
028.07.FC3.RM323.CCV	Janssen	028	323 FC-3	Room 323
028.07.FC2.RM323A.CCV	Janssen	028	323A FC-2	Room 323A
028.07.FC1.RM321.CCV	Janssen	028	321 FC-1	Room 321
032.004.FC1.LA09E2.CHWV	Library	032	420 IT Room	Room 420
032.AC1.CHWV	Library	032	AC-1	Server Room Basement
001.047.RE51V1.PCHW	Renfrew	047	HX	Process Cooling
054.001.F1.BEC01A.ACR329	Buchanan	054	Fan Coil 329	Room 329, 330
055.022A.FR51A4.CHW VLV	Forestry	055	HX	Fisheries
055.022A.FR53A5.FCHW	Forestry	055	HX	Fisheries
097.036.HX1.CB50C6.CHW	ISUB	097	HX - Coolers	Process Cooling
110.01.AC1.CCV	McClure	110	Liebert Unit	Beowulf 124
110.01.AC2.CCV	McClure	110	Liebert Unit	Beowulf 124
110.01.AC3.CCV	McClure	110	Liebert Unit	Beowulf 124
110.01.AC4.CCV	McClure	110	Liebert Unit	Beowulf 124
110.01.RM124.CHWV	McClure	110	Liebert Unit	Beowulf 124
110.013.F2.ERC90A.RM223A	McClure	110	Fan Coil 223A	223A
110.05.AH1.CCV	McClure	110	AHU-1	Beowulf 124
111.016.BLD.EP50A7.CHW	Engineering Physics	111	HX	Laser Room 302, 303
111.016.BLD.EP50B6.CHW	Engineering Physics	111	HX	Laser Room 302, 303
422.044.HX1.AB51A5.CHWV	Ag. Biotech.	422	HX	Process - Cooler Boxes
423.025.HX1.GJ50A2.PCHW	Gauss Johnson	423	HX	Process Cooling
550.056.CHW.WC50F4	Wallace	550	HX - Coolers	Process Cooling
678.001.FC7.TL09B8	TLC	678	Server Room	TLC RM 50, 51
678.001.FC8.TL08B8	TLC	678	Server Room	TLC RM 50, 51
770.004.CHW.CCV	IRIC	770	HX	Process Cooling
TBD	ICCU Arena	840	TBD	Entire Building

Project: SCCP Chiller Replacement and Improvement

Return on capital rate	5.244%
Borrowing interest rate	0.000%
Recovery period 20 years	240
Monthly recovery amount	10,105.75

Approved October 20, 2021 — 2,364,745.50 — 1,303,940.41

Payment Number	Beginning of period	End of Period	Opening Balance	Costs	Return of Capital	Unrecovered Balance	Return on Capital
1	2021/01/01	2021/01/31		-			-
2	2021/02/01	2021/02/28		-			-
3	2021/03/01	2021/03/31		-			-
4	2021/04/01	2021/04/30		-			-
5	2021/05/01	2021/05/31				-	-
6	2021/06/01	2021/06/30	-			-	
7	2021/07/01	2021/07/31	-			-	
8	2021/08/01	2021/08/31	-			-	
9	2021/09/01	2021/09/30	-			-	
10	2021/10/01	2021/10/31	-			-	
11	2021/11/01	2021/11/30	-			-	
12	2021/12/01	2021/12/31	-			-	
13	2022/01/01	2022/01/31	$ -	$ 404,230	$ -	$ 404,230	$ 1,800
14	2022/02/01	2022/02/28	404,230	404,230	-	808,460	3,252
15	2022/03/01	2022/03/31	808,460	404,230	-	1,212,690	5,401
16	2022/04/01	2022/04/30	1,212,690	404,230	-	1,616,920	6,969
17	2022/05/01	2022/05/31	1,616,920	404,230	-	2,021,150	9,002
18	2022/06/01	2022/06/30	2,021,150	404,230	-	2,425,380	10,454
19	2022/07/01	2022/07/31	2,425,380		10,106	2,415,274	10,757
20	2022/08/01	2022/08/31	2,415,274		10,106	2,405,169	10,712
21	2022/09/01	2022/09/30	2,405,169		10,106	2,395,063	10,323
22	2022/10/01	2022/10/31	2,395,063		10,106	2,384,957	10,622
23	2022/11/01	2022/11/30	2,384,957		10,106	2,374,851	10,236
24	2022/12/01	2022/12/31	2,374,851		10,106	2,364,746	10,532
25	2023/01/01	2023/01/31	2,364,746		10,106	2,354,640	10,487
26	2023/02/01	2023/02/28	2,354,640		10,106	2,344,534	9,432
27	2023/03/01	2023/03/31	2,344,534		10,106	2,334,428	10,397
28	2023/04/01	2023/04/30	2,334,428		10,106	2,324,323	10,018
29	2023/05/01	2023/05/31	2,324,323		10,106	2,314,217	10,307
30	2023/06/01	2023/06/30	2,314,217		10,106	2,304,111	9,931
31	2023/07/01	2023/07/31	2,304,111		10,106	2,294,005	10,217
32	2023/08/01	2023/08/31	2,294,005		10,106	2,283,900	10,172
33	2023/09/01	2023/09/30	2,283,900		10,106	2,273,794	9,800
34	2023/10/01	2023/10/31	2,273,794		10,106	2,263,688	10,082
35	2023/11/01	2023/11/30	2,263,688		10,106	2,253,582	9,713
36	2023/12/01	2023/12/31	2,253,582		10,106	2,243,477	9,992
37	2024/01/01	2024/01/31	2,243,477		10,106	2,233,371	9,947
38	2024/02/01	2024/02/29	2,233,371		10,106	2,223,265	9,263
39	2024/03/01	2024/03/31	2,223,265		10,106	2,213,159	9,857
40	2024/04/01	2024/04/30	2,213,159		10,106	2,203,054	9,495
41	2024/05/01	2024/05/31	2,203,054		10,106	2,192,948	9,767
42	2024/06/01	2024/06/30	2,192,948		10,106	2,182,842	9,408
43	2024/07/01	2024/07/31	2,182,842		10,106	2,172,736	9,677
44	2024/08/01	2024/08/31	2,172,736		10,106	2,162,631	9,632
45	2024/09/01	2024/09/30	2,162,631		10,106	2,152,525	9,278
46	2024/10/01	2024/10/31	2,152,525		10,106	2,142,419	9,542
47	2024/11/01	2024/11/30	2,142,419		10,106	2,132,313	9,191
48	2024/12/01	2024/12/31	2,132,313		10,106	2,122,208	9,452
49	2025/01/01	2025/01/31	2,122,208		10,106	2,112,102	9,407
50	2025/02/01	2025/02/28	2,112,102		10,106	2,101,996	8,456
51	2025/03/01	2025/03/31	2,101,996		10,106	2,091,890	9,317
52	2025/04/01	2025/04/30	2,091,890		10,106	2,081,785	8,973
53	2025/05/01	2025/05/31	2,081,785		10,106	2,071,679	9,227
54	2025/06/01	2025/06/30	2,071,679		10,106	2,061,573	8,886
55	2025/07/01	2025/07/31	2,061,573		10,106	2,051,467	9,137
56	2025/08/01	2025/08/31	2,051,467		10,106	2,041,362	9,092
57	2025/09/01	2025/09/30	2,041,362		10,106	2,031,256	8,755
58	2025/10/01	2025/10/31	2,031,256		10,106	2,021,150	9,002
59	2025/11/01	2025/11/30	2,021,150		10,106	2,011,044	8,668
60	2025/12/01	2025/12/31	2,011,044		10,106	2,000,939	8,912
61	2026/01/01	2026/01/31	2,000,939		10,106	1,990,833	8,867

Payment Number	Beginning of period	End of Period	Opening Balance	Costs	Return of Capital	Unrecovered Balance	Return on Capital
62	2026/02/01	2026/02/28	1,990,833		10,106	1,980,727	7,968
63	2026/03/01	2026/03/31	1,980,727		10,106	1,970,621	8,777
64	2026/04/01	2026/04/30	1,970,621		10,106	1,960,516	8,450
65	2026/05/01	2026/05/31	1,960,516		10,106	1,950,410	8,687
66	2026/06/01	2026/06/30	1,950,410		10,106	1,940,304	8,363
67	2026/07/01	2026/07/31	1,940,304		10,106	1,930,198	8,597
68	2026/08/01	2026/08/31	1,930,198		10,106	1,920,093	8,552
69	2026/09/01	2026/09/30	1,920,093		10,106	1,909,987	8,232
70	2026/10/01	2026/10/31	1,909,987		10,106	1,899,881	8,462
71	2026/11/01	2026/11/30	1,899,881		10,106	1,889,775	8,145
72	2026/12/01	2026/12/31	1,889,775		10,106	1,879,670	8,372
73	2027/01/01	2027/01/31	1,879,670		10,106	1,869,564	8,327
74	2027/02/01	2027/02/28	1,869,564		10,106	1,859,458	7,480
75	2027/03/01	2027/03/31	1,859,458		10,106	1,849,352	8,237
76	2027/04/01	2027/04/30	1,849,352		10,106	1,839,247	7,927
77	2027/05/01	2027/05/31	1,839,247		10,106	1,829,141	8,147
78	2027/06/01	2027/06/30	1,829,141		10,106	1,819,035	7,840
79	2027/07/01	2027/07/31	1,819,035		10,106	1,808,929	8,057
80	2027/08/01	2027/08/31	1,808,929		10,106	1,798,824	8,012
81	2027/09/01	2027/09/30	1,798,824		10,106	1,788,718	7,710
82	2027/10/01	2027/10/31	1,788,718		10,106	1,778,612	7,922
83	2027/11/01	2027/11/30	1,778,612		10,106	1,768,506	7,623
84	2027/12/01	2027/12/31	1,768,506		10,106	1,758,401	7,832
85	2028/01/01	2028/01/31	1,758,401		10,106	1,748,295	7,787
86	2028/02/01	2028/02/29	1,748,295		10,106	1,738,189	7,242
87	2028/03/01	2028/03/31	1,738,189		10,106	1,728,083	7,697
88	2028/04/01	2028/04/30	1,728,083		10,106	1,717,978	7,405
89	2028/05/01	2028/05/31	1,717,978		10,106	1,707,872	7,607
90	2028/06/01	2028/06/30	1,707,872		10,106	1,697,766	7,318
91	2028/07/01	2028/07/31	1,697,766		10,106	1,687,660	7,517
92	2028/08/01	2028/08/31	1,687,660		10,106	1,677,555	7,472
93	2028/09/01	2028/09/30	1,677,555		10,106	1,667,449	7,187
94	2028/10/01	2028/10/31	1,667,449		10,106	1,657,343	7,381
95	2028/11/01	2028/11/30	1,657,343		10,106	1,647,237	7,100
96	2028/12/01	2028/12/31	1,647,237		10,106	1,637,132	7,291
97	2029/01/01	2029/01/31	1,637,132		10,106	1,627,026	7,246
98	2029/02/01	2029/02/28	1,627,026		10,106	1,616,920	6,505
99	2029/03/01	2029/03/31	1,616,920		10,106	1,606,814	7,156
100	2029/04/01	2029/04/30	1,606,814		10,106	1,596,709	6,882
101	2029/05/01	2029/05/31	1,596,709		10,106	1,586,603	7,066
102	2029/06/01	2029/06/30	1,586,603		10,106	1,576,497	6,795
103	2029/07/01	2029/07/31	1,576,497		10,106	1,566,391	6,976
104	2029/08/01	2029/08/31	1,566,391		10,106	1,556,286	6,931
105	2029/09/01	2029/09/30	1,556,286		10,106	1,546,180	6,664
106	2029/10/01	2029/10/31	1,546,180		10,106	1,536,074	6,841
107	2029/11/01	2029/11/30	1,536,074		10,106	1,525,968	6,577
108	2029/12/01	2029/12/31	1,525,968		10,106	1,515,863	6,751
109	2030/01/01	2030/01/31	1,515,863		10,106	1,505,757	6,706
110	2030/02/01	2030/02/28	1,505,757		10,106	1,495,651	6,017
111	2030/03/01	2030/03/31	1,495,651		10,106	1,485,545	6,616
112	2030/04/01	2030/04/30	1,485,545		10,106	1,475,440	6,359
113	2030/05/01	2030/05/31	1,475,440		10,106	1,465,334	6,526
114	2030/06/01	2030/06/30	1,465,334		10,106	1,455,228	6,272
115	2030/07/01	2030/07/31	1,455,228		10,106	1,445,122	6,436
116	2030/08/01	2030/08/31	1,445,122		10,106	1,435,017	6,391
117	2030/09/01	2030/09/30	1,435,017		10,106	1,424,911	6,142
118	2030/10/01	2030/10/31	1,424,911		10,106	1,414,805	6,301
119	2030/11/01	2030/11/30	1,414,805		10,106	1,404,699	6,054
120	2030/12/01	2030/12/31	1,404,699		10,106	1,394,594	6,211
121	2031/01/01	2031/01/31	1,394,594		10,106	1,384,488	6,166
122	2031/02/01	2031/02/28	1,384,488		10,106	1,374,382	5,529
123	2031/03/01	2031/03/31	1,374,382		10,106	1,364,276	6,076
124	2031/04/01	2031/04/30	1,364,276		10,106	1,354,171	5,837
125	2031/05/01	2031/05/31	1,354,171		10,106	1,344,065	5,986
126	2031/06/01	2031/06/30	1,344,065		10,106	1,333,959	5,750
127	2031/07/01	2031/07/31	1,333,959		10,106	1,323,853	5,896
128	2031/08/01	2031/08/31	1,323,853		10,106	1,313,748	5,851
129	2031/09/01	2031/09/30	1,313,748		10,106	1,303,642	5,619

Payment Number	Beginning of period	End of Period	Opening Balance	Costs	Return of Capital	Unrecovered Balance	Return on Capital
130	2031/10/01	2031/10/31	1,303,642		10,106	1,293,536	5,761
131	2031/11/01	2031/11/30	1,293,536		10,106	1,283,430	5,532
132	2031/12/01	2031/12/31	1,283,430		10,106	1,273,325	5,671
133	2032/01/01	2032/01/31	1,273,325		10,106	1,263,219	5,626
134	2032/02/01	2032/02/29	1,263,219		10,106	1,253,113	5,221
135	2032/03/01	2032/03/31	1,253,113		10,106	1,243,007	5,536
136	2032/04/01	2032/04/30	1,243,007		10,106	1,232,902	5,314
137	2032/05/01	2032/05/31	1,232,902		10,106	1,222,796	5,446
138	2032/06/01	2032/06/30	1,222,796		10,106	1,212,690	5,227
139	2032/07/01	2032/07/31	1,212,690		10,106	1,202,584	5,356
140	2032/08/01	2032/08/31	1,202,584		10,106	1,192,479	5,311
141	2032/09/01	2032/09/30	1,192,479		10,106	1,182,373	5,096
142	2032/10/01	2032/10/31	1,182,373		10,106	1,172,267	5,221
143	2032/11/01	2032/11/30	1,172,267		10,106	1,162,161	5,009
144	2032/12/01	2032/12/31	1,162,161		10,106	1,152,056	5,131
145	2033/01/01	2033/01/31	1,152,056		10,106	1,141,950	5,086
146	2033/02/01	2033/02/28	1,141,950		10,106	1,131,844	4,553
147	2033/03/01	2033/03/31	1,131,844		10,106	1,121,738	4,996
148	2033/04/01	2033/04/30	1,121,738		10,106	1,111,633	4,791
149	2033/05/01	2033/05/31	1,111,633		10,106	1,101,527	4,906
150	2033/06/01	2033/06/30	1,101,527		10,106	1,091,421	4,704
151	2033/07/01	2033/07/31	1,091,421		10,106	1,081,315	4,816
152	2033/08/01	2033/08/31	1,081,315		10,106	1,071,210	4,771
153	2033/09/01	2033/09/30	1,071,210		10,106	1,061,104	4,574
154	2033/10/01	2033/10/31	1,061,104		10,106	1,050,998	4,681
155	2033/11/01	2033/11/30	1,050,998		10,106	1,040,892	4,486
156	2033/12/01	2033/12/31	1,040,892		10,106	1,030,787	4,591
157	2034/01/01	2034/01/31	1,030,787		10,106	1,020,681	4,546
158	2034/02/01	2034/02/28	1,020,681		10,106	1,010,575	4,065
159	2034/03/01	2034/03/31	1,010,575		10,106	1,000,469	4,456
160	2034/04/01	2034/04/30	1,000,469		10,106	990,364	4,269
161	2034/05/01	2034/05/31	990,364		10,106	980,258	4,366
162	2034/06/01	2034/06/30	980,258		10,106	970,152	4,181
163	2034/07/01	2034/07/31	970,152		10,106	960,046	4,276
164	2034/08/01	2034/08/31	960,046		10,106	949,941	4,231
165	2034/09/01	2034/09/30	949,941		10,106	939,835	4,051
166	2034/10/01	2034/10/31	939,835		10,106	929,729	4,141
167	2034/11/01	2034/11/30	929,729		10,106	919,623	3,964
168	2034/12/01	2034/12/31	919,623		10,106	909,518	4,051
169	2035/01/01	2035/01/31	909,518		10,106	899,412	4,006
170	2035/02/01	2035/02/28	899,412		10,106	889,306	3,577
171	2035/03/01	2035/03/31	889,306		10,106	879,200	3,916
172	2035/04/01	2035/04/30	879,200		10,106	869,095	3,746
173	2035/05/01	2035/05/31	869,095		10,106	858,989	3,826
174	2035/06/01	2035/06/30	858,989		10,106	848,883	3,659
175	2035/07/01	2035/07/31	848,883		10,106	838,777	3,736
176	2035/08/01	2035/08/31	838,777		10,106	828,672	3,691
177	2035/09/01	2035/09/30	828,672		10,106	818,566	3,528
178	2035/10/01	2035/10/31	818,566		10,106	808,460	3,601
179	2035/11/01	2035/11/30	808,460		10,106	798,354	3,441
180	2035/12/01	2035/12/31	798,354		10,106	788,249	3,511
181	2036/01/01	2036/01/31	788,249		10,106	778,143	3,466
182	2036/02/01	2036/02/29	778,143		10,106	768,037	3,200
183	2036/03/01	2036/03/31	768,037		10,106	757,931	3,376
184	2036/04/01	2036/04/30	757,931		10,106	747,826	3,223
185	2036/05/01	2036/05/31	747,826		10,106	737,720	3,286
186	2036/06/01	2036/06/30	737,720		10,106	727,614	3,136
187	2036/07/01	2036/07/31	727,614		10,106	717,508	3,196
188	2036/08/01	2036/08/31	717,508		10,106	707,403	3,151
189	2036/09/01	2036/09/30	707,403		10,106	697,297	3,005
190	2036/10/01	2036/10/31	697,297		10,106	687,191	3,061
191	2036/11/01	2036/11/30	687,191		10,106	677,085	2,918
192	2036/12/01	2036/12/31	677,085		10,106	666,980	2,971
193	2037/01/01	2037/01/31	666,980		10,106	656,874	2,926
194	2037/02/01	2037/02/28	656,874		10,106	646,768	2,602
195	2037/03/01	2037/03/31	646,768		10,106	636,662	2,836
196	2037/04/01	2037/04/30	636,662		10,106	626,557	2,701
197	2037/05/01	2037/05/31	626,557		10,106	616,451	2,746

Payment Number	Beginning of period	End of Period	Opening Balance	Costs	Return of Capital	Unrecovered Balance	Return on Capital
198	2037/06/01	2037/06/30	616,451		10,106	606,345	2,613
199	2037/07/01	2037/07/31	606,345		10,106	596,239	2,656
200	2037/08/01	2037/08/31	596,239		10,106	586,134	2,611
201	2037/09/01	2037/09/30	586,134		10,106	576,028	2,483
202	2037/10/01	2037/10/31	576,028		10,106	565,922	2,521
203	2037/11/01	2037/11/30	565,922		10,106	555,816	2,396
204	2037/12/01	2037/12/31	555,816		10,106	545,711	2,430
205	2038/01/01	2038/01/31	545,711		10,106	535,605	2,385
206	2038/02/01	2038/02/28	535,605		10,106	525,499	2,114
207	2038/03/01	2038/03/31	525,499		10,106	515,393	2,295
208	2038/04/01	2038/04/30	515,393		10,106	505,288	2,178
209	2038/05/01	2038/05/31	505,288		10,106	495,182	2,205
210	2038/06/01	2038/06/30	495,182		10,106	485,076	2,091
211	2038/07/01	2038/07/31	485,076		10,106	474,970	2,115
212	2038/08/01	2038/08/31	474,970		10,106	464,865	2,070
213	2038/09/01	2038/09/30	464,865		10,106	454,759	1,960
214	2038/10/01	2038/10/31	454,759		10,106	444,653	1,980
215	2038/11/01	2038/11/30	444,653		10,106	434,547	1,873
216	2038/12/01	2038/12/31	434,547		10,106	424,442	1,890
217	2039/01/01	2039/01/31	424,442		10,106	414,336	1,845
218	2039/02/01	2039/02/28	414,336		10,106	404,230	1,626
219	2039/03/01	2039/03/31	404,230		10,106	394,124	1,755
220	2039/04/01	2039/04/30	394,124		10,106	384,019	1,655
221	2039/05/01	2039/05/31	384,019		10,106	373,913	1,665
222	2039/06/01	2039/06/30	373,913		10,106	363,807	1,568
223	2039/07/01	2039/07/31	363,807		10,106	353,701	1,575
224	2039/08/01	2039/08/31	353,701		10,106	343,596	1,530
225	2039/09/01	2039/09/30	343,596		10,106	333,490	1,437
226	2039/10/01	2039/10/31	333,490		10,106	323,384	1,440
227	2039/11/01	2039/11/30	323,384		10,106	313,278	1,350
228	2039/12/01	2039/12/31	313,278		10,106	303,173	1,350
229	2040/01/01	2040/01/31	303,173		10,106	293,067	1,305
230	2040/02/01	2040/02/29	293,067		10,106	282,961	1,179
231	2040/03/01	2040/03/31	282,961		10,106	272,855	1,215
232	2040/04/01	2040/04/30	272,855		10,106	262,750	1,132
233	2040/05/01	2040/05/31	262,750		10,106	252,644	1,125
234	2040/06/01	2040/06/30	252,644		10,106	242,538	1,045
235	2040/07/01	2040/07/31	242,538		10,106	232,432	1,035
236	2040/08/01	2040/08/31	232,432		10,106	222,327	990
237	2040/09/01	2040/09/30	222,327		10,106	212,221	915
238	2040/10/01	2040/10/31	212,221		10,106	202,115	900
239	2040/11/01	2040/11/30	202,115		10,106	192,009	828
240	2040/12/01	2040/12/31	192,009		10,106	181,904	810
241	2041/01/01	2041/01/31	181,904		10,106	171,798	765
242	2041/02/01	2041/02/28	171,798		10,106	161,692	650
243	2041/03/01	2041/03/31	161,692		10,106	151,586	675
244	2041/04/01	2041/04/30	151,586		10,106	141,481	610
245	2041/05/01	2041/05/31	141,481		10,106	131,375	585
246	2041/06/01	2041/06/30	131,375		10,106	121,269	523
247	2041/07/01	2041/07/31	121,269		10,106	111,163	495
248	2041/08/01	2041/08/31	111,163		10,106	101,058	450
249	2041/09/01	2041/09/30	101,058		10,106	90,952	392
250	2041/10/01	2041/10/31	90,952		10,106	80,846	360
251	2041/11/01	2041/11/30	80,846		10,106	70,740	305
252	2041/12/01	2041/12/31	70,740		10,106	60,635	270
253	2042/01/01	2042/01/31	60,635		10,106	50,529	225
254	2042/02/01	2042/02/28	50,529		10,106	40,423	163
255	2042/03/01	2042/03/31	40,423		10,106	30,317	135
256	2042/04/01	2042/04/30	30,317		10,106	20,212	87
257	2042/05/01	2042/05/31	20,212		10,106	10,106	45
258	2042/06/01	2042/06/30	10,106		10,106	-	-

LEWIS-CLARK STATE COLLEGE

SUBJECT

Lewis-Clark State College (LC State) Campus Master Plan

REFERENCE

May 1998	Board reviewed institutions' campus master plans.
August 2017	Board approved update to Boise State University Campus Master Plan
April 2018	Board approved updated to Boise State University Campus Master Plan
December 2018	Board approved Idaho State University Interim Campus Master Plan – Idaho Falls

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section V.K.8
Idaho Code 33-112 and 33-4005

BACKGROUND/DISCUSSION

LC State's current facilities master plan is for FY 2016 – 2022. Per Idaho State Board of Education policy, the plan is to be updated every seven (7) to fifteen (15) years. This agenda item is to update the plan for another seven (7) year period for FY 2023 – 2029.

IMPACT

The Campus Master Plan will continue to serve as the framework and guideline for the development of the LC State campus. The plan will guide future property acquisitions and development, standards for development and land use, and renovations of existing facilities, and will inform utility and infrastructure projects.

ATTACHMENTS

Attachment 1 – 2023 – 2029 Campus Master Plan

STAFF COMMENTS AND RECOMMENDATIONS

LC State's proposal complies with Board Policy V.K.8, which states: "*Each institution shall develop a seven (7) to fifteen (15) year Campus Master Plan (CMP). The CMP shall serve as a planning framework to guide the orderly and strategic growth and physical development of an institution's campus. The CMP shall be consistent with and support the institution's current mission, core themes, strategic plan, and six-year capital construction plan. The CMP and substantive updates thereto must be approved by the Board*." Note: the six-year capital construction plan is a rolling list of planned major construction projects, which is reviewed by the Board each August and submitted to the Division of Public Works and the Permanent Building Fund Advisory Council for consideration each year as

part of the Governor's fiscal year budget request. The six-year capital plan is distinct from the long-term CMP, which deals with the entire campus footprint (buildings, green areas, roads and walkways, parking areas, etc.) and its evolution over an extended planning horizon.

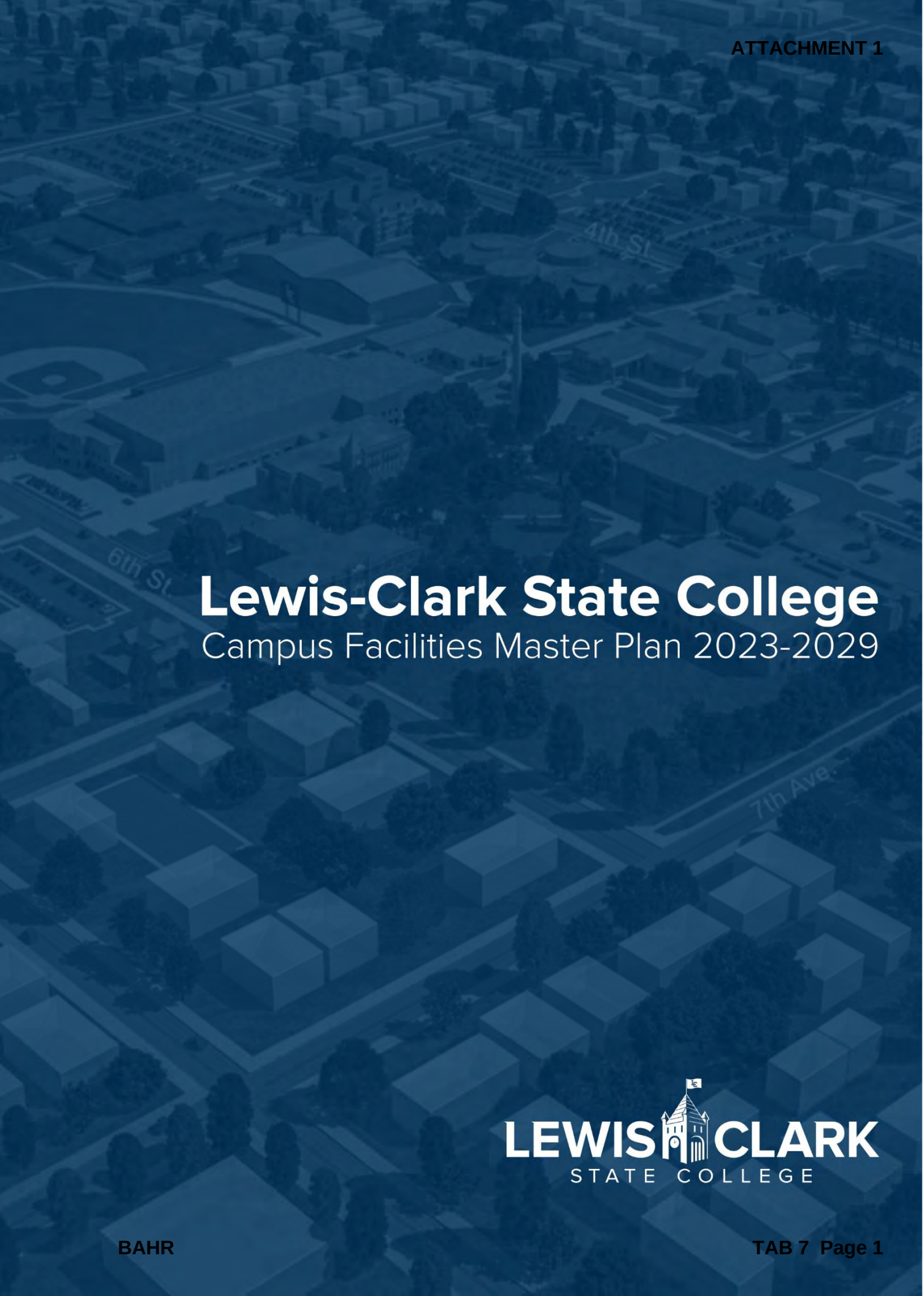
Board staff have reviewed past board minutes and have been unable to locate the last time that LC State had its Campus Master Plan approved by the Board, although there have been references to their Master Plan in their annual strategic plan. Expansion zones would be at already owned LC property and/or within the expansion zone map as indicated in the master plan. There are only two facilities listed for possible expansion on the 6 year plan and they would be accommodated at either the Schweitzer site or on campus. LC State is being diligent in following Board policy and is bringing this plan forward to assume compliance with Board Policy V.K.

LC State administration will be available to answer any questions on the master plan and its impact on the campus and community footprint. Staff recommends approval.

BOARD ACTION

I move to approve Lewis-Clark State College's Campus Master Plan as presented in Attachment 1.

Moved by _____ Seconded by _____ Carried Yes _____ No _____



Lewis-Clark State College

Campus Facilities Master Plan 2023-2029

LEWIS CLARK
STATE COLLEGE

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Narrative

1. Executive Summary

The most recent Campus Master Plan (CMP) was completed in fall 2015 and was developed to serve as the primary planning document for campus physical infrastructure over a seven-year period. The prior campus master plan detailed facility status and history, created guiding principles and the desire for standards, and outlined a six-year major capital construction plan, which has evolved. As the campus master plan teams worked through the development of the new plan, it became apparent that a predominant outcome was recognizing explorational needs such as to identify standards for development and land use, and to create an area of impact to aid in LC State's future facility and master planning efforts. The culmination of this effort and the focus of this proceeding seven-year plan is to identify what aspects and initiatives need exploration to better inform progression into future action, and to identify and prioritize the initiatives to occur over the next seven years. The sections within this plan share the history, needs, and priorities of the respective areas. A few key initiatives identified within these sections are as follows:

Instructional

- Update infrastructure in Wittman Complex, Mechanical Technical Building, Sam Glenn Complex, and Meriwether Lewis Hall
- Expand simulation labs
- Convert several smaller classrooms to larger classrooms
- Relocate off-campus programs to the main campus in an existing facility

Land Ownership

- Create a plan for the unused acreage on Cecil Andrus Way

Landscaping

- Continue to evaluate and remove diseased trees and replant
- Develop the landscaping at the Center for Student Leadership
- Beautify campus entrances

Non-Instructional/Mixed Use

- Install a production booth in the Williams Conference Center
- Consider the relocation of the campus bookstore
- Upgrade various building HVAC and fire systems

Parking and Roadways

- Install electric vehicle parking spaces
- Explore differential parking categories and spaces

Pedestrian, Bicycle, and Vehicular Circulation

- Explore and develop a main campus entrance
- Explore possible vacating of streets adjacent to the college

Recreation and Athletics

- Acquire facilities or land to meet Title IX objectives

Student Housing and Rentals

- Renovate residence halls
- Pursue additional non-traditional student housing

Sustainability and Resource Management

- Utilize mobile electric meters to document facility energy efficiency project outcomes
- Explore storm and grey water reuse for irrigation

Utility Infrastructure

- Upgrade campus network backbone to 10 Gbps between buildings
- Explore HVAC infrastructure and path forward such as centralized, decentralized, or mixed

2. Significant Changes from the Fall of 2015 Campus Master Plan

LC State's environment, enrollment, land ownership, and programmatic offerings have evolved since the last campus master plan in 2015. While LC's full-time equivalent enrollment has declined over the last seven years, the college believes renewed emphasis on enrollment and retention initiatives make the aspirational goal of serving 3,000 FTE and 4,000 student headcount achievable; despite challenges associated with a post-pandemic world, and declining local, regional and national high school graduating classes.

Other changes are in the areas of instruction and instructional support. LC State's instructional footprint has expanded as a result of the development of the Cecil Andrus Way property and the addition of the Schweitzer Career & Technical Education Center and partnerships with North Idaho College and the DeArmond Building. Spalding Hall underwent a major renovation in 2018, renewing faculty office space, student breakout and study spaces as well as small conference/seminar rooms. While LC State has maintained a dual focus on traditional and non-traditional students, it has simultaneously worked to strengthen adult learner programming. In FY2021, LC State received approval to offer graduate programs with the first course offerings to start in fall 2021.

Lastly, LC State expanded campus housing through the acquisition of residential housing, and significant technology changes occurred in classroom environments with a shift to virtual and hybrid course offerings. Further changes are detailed in the section areas within the plan.

3. Introduction and Team Members

Formal Campus Master Planning (CMP) efforts began in March 2021. Section teams were created to draft each section with the purpose of seeking broad feedback. The CMP team (a smaller subset of the section teams plus the inclusion of new members) then convened to review and focus ideas and initiatives for the final campus master plan. Throughout this process, team members sought feedback from the campus and the Lewis-Clark Valley community. Team members included representation from Administrative Services, Academic Affairs, Student Affairs, and the president's direct reports along with community involvement.

The plan presented prefaces the initiatives with information about LC State, makes explicit the connection between the campus master plan and the college's mission and strategic plan, and details the purpose, guiding principles, and assumptions considered as initiatives were explored. The plan proceeds with sections that describe initiatives to be undertaken over the next seven plus years, a facility inventory for reference, and an appendix including a summary of information for major buildings and a six-year major initiatives plan.



4. About LC State

Since its founding in 1893, Lewis-Clark State College has grown from isolated structures built in empty fields serving a few dozen students at the turn of the century, to a sprawling complex covering over 46 acres on Lewiston's Normal Hill, 35 acres at the Cecil Andrus Way property, other off campus properties, and new shared-use teaching facilities in Coeur d'Alene. LC State serves over 4,800 degree and non-degree seeking students each year as well as thousands of business and industry stakeholders pursuing specialized job training and educational programs. Renowned for its picturesque campus and warm and friendly atmosphere, the college seeks to preserve these learning-conducive qualities as it maintains, modernizes, and expands its facilities to meet the challenges and opportunities associated with the growing demand for its programs in the 21st Century.



5. Overview of Campus

Twenty-three major buildings are located on Lewiston's Normal Hill campus, on Cecil Andrus Way, and other locations in Lewiston, Idaho. Most of the academic programming and academic support functions of the college occur on the Normal Hill campus, and the Cecil Andrus Way campus houses select Career & Technical Education programs in the Schweitzer Career & Technical Education Center. Twenty-three structures are also maintained—these include storage, maintenance, special-use facilities, and residential units. Additional information regarding the buildings is listed in the Facility Inventory section of the campus master plan.

Major buildings include:

Activity Center
Administration Building
Center for Arts & History
Clark Hall
Clearwater Hall
Expedition Hall
Library
Mechanical Technical Building
Meriwether Lewis Hall
Music Building
North Lewiston Training Center
Parrish House
Physical Plant
Reid Centennial Hall
Sacajawea Hall
Sam Glenn Complex
Schweitzer Career & Technical Education Center
Spalding Hall
Student Union Building/Williams Conference Center
Talkington Hall
Tennis Center
Thomas Jefferson Hall
Wittman Complex

6. LC State Mission & Strategic Plan

Mission
Prepare students to become successful leaders, engaged citizens, and lifelong learners

Core Themes

Opportunity
(Expand Access)

Success
(Educational Excellence)

Partnerships
(w/ other entities)

Opportunity (Expand Access)	*Goal 1: Strengthen and Optimize Instructional and Co-curricular Programming. [Objective C: Optimize curricular & co-curricular programming through Connecting Learning to Life initiative].*
Success (Educational Excellence)	*Goal 2: Optimize Student Enrollment, Retention, and Completion. [All objectives].* *Goal 3: Foster Inclusion throughout Campus and Community Culture. [Objective 3A: Expand inclusive practices programming].*
Partnerships (w/ other entities)	*Goal 4: Increase and Leverage Institutional Resources to Achieve Enrollment, Employee Retention and Campus Planning Objectives. [Objective A: Diversify revenue streams to allow for investment in campus programs and infrastructure.]*

Master Plan Correlation with LC State's Strategic Plan (FY2021-2025). The following goals and objectives from LC State's current comprehensive strategic plan have a direct impact on the updated Campus Master Plan (CMP):

- *Goal 1: Strengthen and Optimize Instructional and Co-curricular Programming. [Objective C: Optimize curricular & co-curricular programming through Connecting Learning to Life initiative].*
  Impact: Continued upgrading of classroom and instructional technology and infrastructure for flexible pedagogy.

- *Goal 2: Optimize Student Enrollment, Retention, and Completion. [All objectives].*
  Impact: Upgrade current residence hall space, explore options for acquiring additional student residential space, and enhanced and additional large capacity instructional spaces. Upgrade and provide sufficient space for workforce training programming and CTE programs remaining on campus.

- *Goal 3: Foster Inclusion throughout Campus and Community Culture. [Objective 3A: Expand inclusive practices programming].*
  Impact: Provide sufficient and appropriate space for campus and community programming.

- *Goal 4: Increase and Leverage Institutional Resources to Achieve Enrollment, Employee Retention and Campus Planning Objectives. [Objective A: Diversify revenue streams to allow for investment in campus programs and infrastructure].*
  Impact: Upgrade and enhance campus spaces including event spaces (e.g., WCC) so they may serve as a meaningful revenue stream for the institution.

7. Campus Master Plan Purpose & Office of Responsibility

LC State's mission and strategic plan articulates initiatives related to opportunities, success, and partnerships. Consistent with its mission, the institution creates and maintains physical facilities that are accessible, safe, secure, and sufficient in quantity and quality to ensure healthful learning and working environments that support and sustain the institution's mission, academic programs, and services (NWCCU; 2020 Standards). As the college works towards these initiatives, it is important to assess the physical campus and the ways in which institutional priorities can best be supported through physical structures, outdoor spaces, and campus layout.

The State Board of Education Policy V.K.8 requires each institution to develop a seven (7) to fifteen (15) year Campus Master Plan (CMP). Per the policy "the CMP serves as a planning framework to guide the orderly and strategic growth and physical development of an institution's campus. The CMP shall be consistent with and support the institution's current mission, core themes, strategic plan, and six-year capital construction plan. …"

In general, campus master planning serves to provide a map of facilities' projects (site, landscape, and building) to inform structural and building needs for coming decades. College representatives consult with the campus community to create the Campus Master Plan.

The office of primary responsibility for the content, review, and updating of this plan is the Vice President for Finance and Administration (VPFA), Admin Bldg. Room 106, Lewis-Clark State College, 500 8th Ave., Lewiston, Idaho, 208-792-2240, vpfinanceadmin@lcsc.edu.

8. Guiding Principles for the Campus Master Plan

- Enhance instructional environments and student life by providing high quality facilities and opportunity areas for connection and engagement.
- Maintain and revitalize existing facilities (reduce operating costs, wisely manage state's assets, etc.).
- Forward looking comprehensive and systematic consideration of initiatives (effects on personnel, outside aesthetics, operational and maintenance costs, etc.).

9. Campus Master Plan Assumptions

- Enrollment
    - The college's "sweet spot" enrollment goal is 4,500 students (headcount) and the student demographics (students living on campus, international students, etc.) at Lewis-Clark State College will grow proportionally. This is a long-term goal anticipated to be achieved by year 2030. The near-term enrollment goal (as the college moves forward beyond the pandemic, is 3,000 FTE/4,000 HC).
    - The special needs of students will continue to increase (accessibility, mental health support, developmental education and academic support).
    - Continuing to grow student engagement and presence on campus during evening and weekend hours will be a priority (i.e., lighting and safety in evenings).
- Instructional
    - Enrollment growth to focus on traditional on-campus attendance by students; with face-to-face instruction persisting as an instructional cornerstone, with secondary focus on growth in online and evening/weekend programs.
    - Evening/weekend programs will rely on existing facilities.
    - Online instruction does not require additional facilities but relies on technological supports.
    - Remote learning spaces are appealing to students.
    - Instructional delivery modalities continue to evolve and provide new ways to reach students.

- Non-Instructional
  - Boise and CDA operations will continue to partner with sister institutions and utilize their facilities.
  - Increased experiential and co-curricular offerings will partner with offsite locations and/or utilize existing LC State facilities.
  - Will achieve the goal of 20% of students ages 18-24 living on campus or in campus owned housing (600 beds) by year 2030. Initially, student housing growth will focus on home/property acquisition in proximity to the college instead of an on-campus facility expansion, therefore also alleviating parking constraints.
- Facilities & Land
  - The short-term focus (0-5 years) is to renovate and enhance existing facilities with a longer-term lens considering housing needs as the student population increases.
  - LC State anticipates acquiring additional sport facilities/spaces to address athletic Title IX obligations. Facilities will likely require renovations.
  - Will continue to explore partnerships to deliver programs and expand the campus footprint in new ways (i.e., health corridor).
  - In general, the college will limit new property acquisitions to houses/businesses/lots which come up for sale on the immediate periphery of the school, (i.e., real estate which is contiguous to college-owned property on the current borders of campus and the area of impact as outlined in the land ownership section of this plan).
  - LC State is committed to retaining green spaces and multiuse indoor/outdoor spaces. If an open space is used for another purpose, replacing the space with equivalent open space should be considered. A driver of this need is to maintain open space for residence hall and student programming activities.
- Technology
  - Information technology growth will focus on “Software as a Service” (SaaS) with the vendor being responsible for storage, processing, and delivery of services. The campus LMS is delivered as a SaaS and the campus ERP is assumed to be moving from hosted to a SaaS.
  - A review of Idaho Higher Education’s Enterprise Resource Planning (ERP) systems is anticipated and may affect technology infrastructure needs.
  - LC State will continue its membership in the Idaho Regional Optical Network (IRON) as the provider of campus internet bandwidth.
  - Will continually upgrade instructional and other technologies to meet the needs of students and the campus community.
- Brand
  - Will maximize its brand on the campuses and outreach centers (building signage, color palette, etc.).
  - Continue to focus on digital marketing.
- Resources
  - Relies on ongoing efforts to maximize operational efficiencies (e.g., reallocation of funds, grants, private fundraising).
  - Space and facility modifications will consider expertise needed to support and maintain these modifications (standards for systems, hardware, etc.).
  - Will capitalize on student worker sponsored programs, such as Work Scholars, to enhance the beauty and care of campus and college owned facilities.



Facility Planning Guidelines

Architectural Guidelines (Normal Hill Campus)

As LC State's Normal Hill campus grows and as facilities and grounds are upgraded to meet the college's mission and strategic planning objectives, architectural planning should consider the need to preserve the aesthetic appeal and stylistic coherence of Normal Hill while adhering to relevant city ordinances.

I. Building Designs

Architectural designs should complement the scale and exterior motifs of the signature buildings on campus. Exteriors should fall within the stylistic boundaries defined by the heritage structures on campus (as exemplified by Reid Centennial Hall, the Administration Building, and Thomas Jefferson Hall) and the modern style exemplified by newer buildings (e.g., the Library, Activity Center, and Sacajawea Hall). Exterior facings shall emphasize a red brick pattern (possibly complemented by sandstone tones). Ideally, new structures should not be more than three stories in height. Pitched roof designs are preferred, where practical. Additions/extensions to current structures shall preserve the styling of the pre-existing architecture. An essential consideration for planning of new structures or the modification of existing structures is the relationship of buildings to the surrounding space. Every effort should be made to prevent crowding. Free space and green areas shall be an integral feature of building designs.

II. Accessibility

As existing structures are repaired or modified, high priority will be given to upgrade facilities to improve ADA access for building users and visitors when such upgrades can be incorporated within a project.

III. Code Compliance and Hazardous Material Removal

Facility upgrade planning will consider that some older structures do not currently meet code and safety requirements (e.g., fire sprinkler systems, electrical protection) and plan accordingly in the design. Older buildings may also contain structural elements incorporating hazardous materials such as asbestos or lead. Facility modification plans should address identification and removal or amelioration of these hazardous materials, and budget estimates should include the cost of dealing with these materials.

IV. Landscaping Guidelines

Open spaces should be designed to emphasize grass areas, with deciduous trees (elms, maples, dogwoods) planned for perimeters, and interspersed evergreens to support the ambience of the Normal Hill area and in recognition of LC State's designation as a Tree Campus Higher Education and as a registered arboretum with ArbNet. Any prominent sculptures should not dilute the impact of the Corps of Discovery ("Centennial Mall") fountain located adjacent to Reid Centennial Hall.

V. Walkways

As new areas are developed, care should be taken to extend the current system of walking paths in a coherent and contiguous manner to preserve pedestrian access to all campus facilities, including ADA accessibility.

VI. Campus "Gateways" and Perimeter

As the footprint of the Normal Hill campus expands, plans shall include projects to establish recognizable "gateways" at the main approaches to the college, establishing a sense of arrival for visitors to the campus. Signage, building placement, grounds, landscaping, and fencing/barriers (where required for safety or security) shall establish a clear sense of where the "edges" of the campus lie. While industrial areas may require fencing or enclosed spaces to protect personnel or physical resources, the use of restrictive fencing shall be minimized to the extent possible to preserve the atmosphere in which members of the college and neighbors have walk-on access to most sections of the campus and to the neighboring community.

VII. Lighting and Signage

New construction and expansion of the campus footprint shall include plans to ensure that lighting fixtures and signs are compatible in style and function with those from the existing portions of campus. A consistent coloring (white lights) shall be used for area illumination. Commercial or public announcement signage shall be limited in size and discrete, both internally and externally to facilities. Schemes that might "commercialize" the aesthetics of the college will be avoided.

VIII. Parking Design Guidelines

New parking spaces will be concentrated on the perimeter of the campus footprint. Access to centrally located facilities by emergency response vehicles may be preserved with dual-purpose walkways and driveways, but motor vehicle presence in the interior sections of campus should be limited to the extent possible.

Campus Master Plan Sections

Through the master planning process, focused sections were developed to identify initiatives, priorities, and plans to enhance the instructional, facilities, and outdoor environment at LC State. The first section details land ownership and plans for future development, then proceeding sections outline plans to enhance facilities, outdoor spaces, sustainability, housing, and parking amongst other initiatives to assist in future growth. There are 11 sections in total: land ownership, land and facility use, instructional building use, non-instructional/mixed building use, recreation and athletics, landscaping and outdoor spaces, student housing and rentals, pedestrian and vehicular circulation, parking and roadways, utility infrastructure, and sustainability and resource management.

I. Land Ownership/Acquisition

Background

LC State has 46 acres on the main campus plus other properties within the City of Lewiston. Acquisition areas include properties on 11th Avenue, east side of 6th Street, 7th Street, and additional outlying properties such as the York House, Parrish House, Clearwater Hall, North Lewiston Training Center (building owned, land leased), Cecil Andrus Way (Schweitzer Career & Technical Education Center), and Center for Arts & History. Leased facilities include Harbor Center and the DeArmond Building in Coeur d'Alene, and a donated lease in Grangeville. The purpose of land acquisition is to support the mission of the college by planning for future growth in enrollment (instructional, residence life, programs, non-instructional support, etc.) and to address program needs while mapping out prudent land strategies.

Projected Needs

The focus of this section is on reviewing undeveloped areas, Title IX obligations, and defining an area of impact. Defining an area of impact for LC State is necessary to provide a framework for acquisition and growth strategies. With this identification comes recognition of areas external to the impact area that need consideration and residential blocks and adjacent properties which will allow for key growth opportunities. Immediate needs for land acquisition are necessitated to plan for future growth in enrollment and residential housing, Title IX initiatives, and the creation of an entrance to campus. The following are ideas and objectives to pursue for a structured growth plan for LC State:

- Review the undeveloped property at Cecil Andrus Way for potential to assist with broader instructional and non-instructional objectives.
- Title IX obligations and associated land or facility needs.
- Define area of impact to inform decisions for growth and acquisition.
- Review properties not within area of impact.

Cecil Andrus Way (an estimated 25 acres of unused land (east and north of STC)

- To address future programmatic needs, review acreage and create a plan for future use and/or property divesting with focus on leveraging property for the greatest return.
- Land swap opportunities to accomplish instructional/non-instructional objectives.
- Focus on retaining east side of property for future expansion.

Title IX needs or requirements

- Facility for women's sport growth.
    - Opportunities such as Fenton Gym.
- Outdoor space for women's sport growth.
    - Opportunities to partner with City (city park area).

Area of Impact

- An area of impact has been defined through the Campus Master Plan process. This will inform acquisition and growth decisions.

Property Purchases

- Purchase residential housing for residence life and/or instructional and administrative use within the area of impact.
- Focus on land adjacent to currently owned properties for the greatest immediate impact for future growth (adjacent land provides opportunities for parking, buildings, and designation of a main campus entrance). Ex: land adjacent to the Music Building and Physical Plant.

Divesting of properties

- Review area of impact and properties exterior to this perimeter.

Funding Recommendations & Project Phases

Funding opportunities for these initiatives include divesting of properties, land swaps, rental income, Idaho Division of Public Works, institutional allocation, donations, and grants. Several of the initiatives do not require funding such as the review and planning for Cecil Andrus Way.

Ongoing

- Area of impact housing/land acquisition.

Phase I: Immediate Priorities (0-5 years)

- Land and facility use plan for Cecil Andrus Way.
- Title IX obligations (facility and/or outdoor space).
- Review potential for property divesting.

II. Land and Facility Use

Background

Lewis-Clark State College's facilities are currently utilized in the ways described below and this use has changed little since the last campus master plan in 2015. A few changes include the addition of the Schweitzer Career & Technical Education Center for instructional purposes and the remodel of Spalding Hall which transitioned the building to a mixed use for divisions/departments and instructional support. The Student Union Building was rebranded as the Student Union Building/Center for Student Leadership in order to reflect the true intent of student activities that reside in the facility – leadership development.

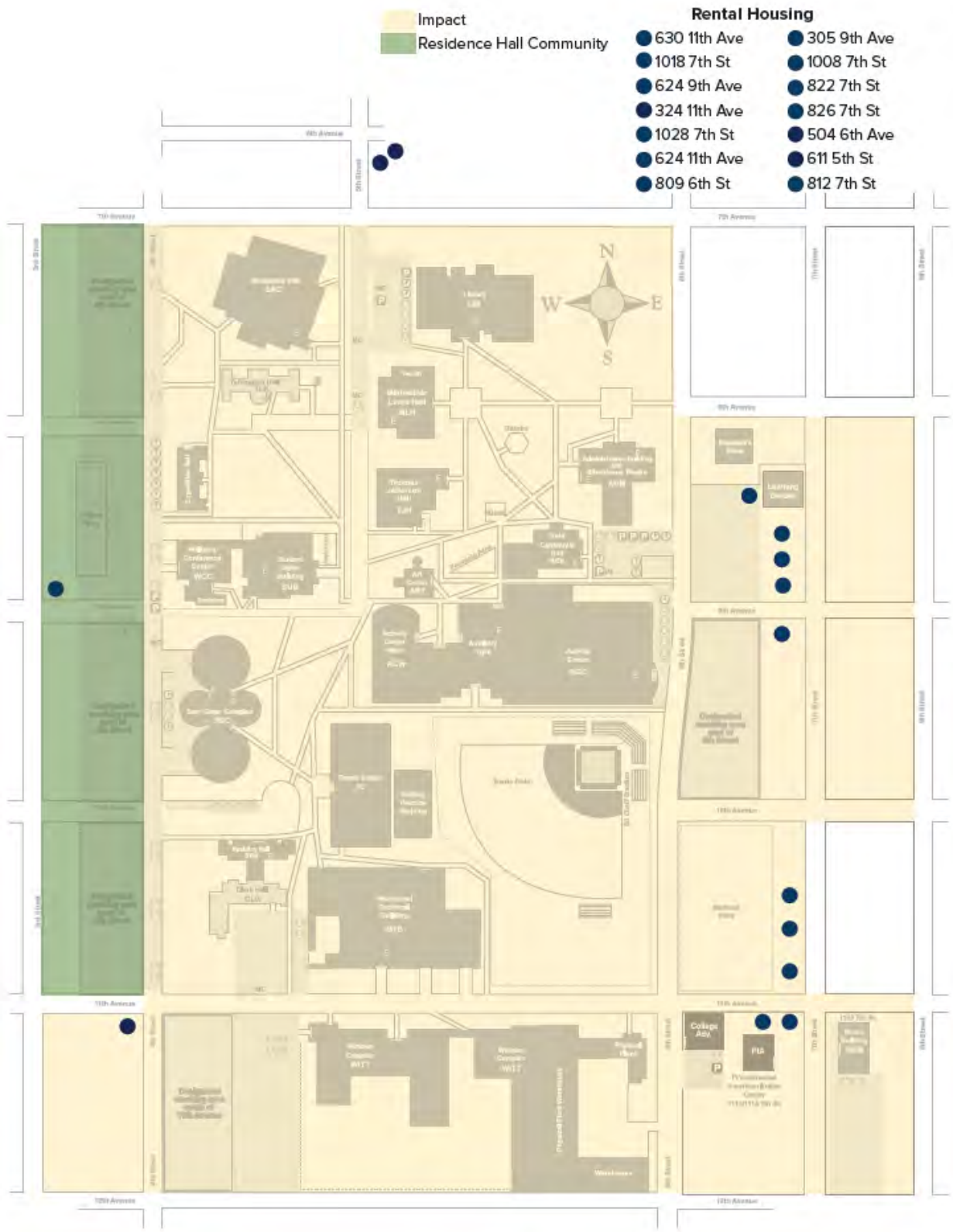
By Functional Use

The following map below portrays uses for each facility though some have mixed uses (e.g., the Administration Building has classrooms and administrative offices). Note outdoor spaces are utilized as instructional spaces such as multipurpose field, SUB amphitheater, etc.


Non-Instructional
Instructional
Res Hall/Rental
Athletics
Parking/Access Info
N
W
E
S
Main Street (Downtown)
7th Avenue
8th Avenue
9th Avenue
10th Avenue
11th Avenue
12th Avenue
4th Street
5th Street
6th Street
Library LIB
Thomas Jefferson Hall TJH
Activity Center ACC
Activity Center West ACW
Auxiliary Gym
Art Center ART
Tennis Center TC
Harris Field
Multiuse Field
Clark Hall CLK
Mechanical Technical Building MTS
Witham Complex WITT
Physical Plant
Physical Plant Warehouse
Warehouse
Student Union Building SUB
Williams Conference Center WCC
Administration Building and Silverthorne Theatre ADM
Marlowe Lewis Hall MLH
Talkington Hall TLK
Sacajawea Hall SAC
Reid Centennial Hall RCH
Kiosk
Fountain Area
Lewis Garden
President's Home
College Plaza
Sam Glenn Complex SGC
Multipurpose Building
Clearwater Hall CLW
Adult Learning Center and Small Business Development Center
Center for Arts & History CAH
Workforce Training WFTI/NLTC
Parrish House PAR
Schweitzer Career & Technical Education Center STC
College Ads.
PIA
Music Building MSB
Designated smoking area west of 4th Street
Designated smoking area east of 11th Avenue

Defined Area of Impact and Use of Growth Areas

This map details a planned area to prioritize for land acquisition and a focus for the land use such as a residence community on the west side of campus.



Projected Needs

Land and facility use considerations include synergies created by co-locating programs, athletic field expansion, and purposeful development of a residence life community.

To create physical synergies and energies through proximity as well as clear educational pathways and pipeline program ladders, consideration will be given to the consolidation of Career & Technical Education programs including Workforce Training into the Mechanical Technical Building, Wittman Complex, and the Sam Glenn Complex.

Athletic facility/field expansion is a priority to meet Title IX obligations. This may involve repurposing land or parking lots to accommodate necessary field sizing and then repurposing other areas for parking needs.

Another area of consideration is focusing on the west side of campus for a residence life community. Converging on the west side will create proximity collaborations with food service, the Center for Student Leadership, and the existing residence halls along with the already developed outdoor engagement spaces.

Funding Recommendations & Project Phases

Funding opportunities for these initiatives include auxiliary, Idaho Division of Public Works, institutional allocation, and donations.

Ongoing

- Development of a residence life community on the west side.

Phase I: Immediate Priorities (0-5 years)

- Co-location of programs for synergies.
- Athletic facility/field expansion.

III. Instructional Building Use

Background

LC State's buildings predominantly used for instruction include Sacajawea Hall (SAC), the Library (LIB), North Lewiston Training Center (WFT), Meriwether Lewis Hall (MLH), Thomas Jefferson Hall (TJH), the Art Building (ART), Activity Center West (ACW), Sam Glenn Complex (SGC), Mechanical Technical Building (MTB), Wittman Complex (WITT), and the Music Building (MSB). The college's newest building, the Schweitzer Career & Technical Education Center (STC), located south of the main campus in the Lewiston orchards, was completed in January 2021, and houses technical and industrial programs. In total, LC State has 147 classrooms/labs/outdoor spaces for instructional purposes. The average capacity per classroom is 26 seats.

Recent and planned upgrades include a new roof in 2019 for MLH, with the Library scheduled for a new roof in 2022. SGC and the LIB had HVAC upgrades in 2018, and the LIB had a fire alarm upgrade in 2019. ACW renovations in 2020 expanded the kinesiology program areas. MTB was funded in 2021 for a fire/sprinkler system upgrade, while WITT and MTB received funding for renovations for the diesel area and the MTB health occupations hub. SAC's lighting system replacement was funded in 2021.

Currently, most campus classrooms and some laboratories have been enhanced to accommodate modified face-to-face instruction (modified face-to-face is when some students are present in the on-campus classroom and others participate through virtual means, most often Zoom). Three super classrooms are in the process of being created (ACW 134, ACW 136, and SAC 144), and are expected to be completed over fall 2021. A space in MTB will be dedicated to teacher education and will have some super classroom features. Present challenges include a need for additional larger classrooms and lab spaces, configurable classroom furniture, and technology and interior updates. This will allow class schedules and sizes to be optimized to allow for best use of available space. As an example, most program and general use classrooms in the STC are available during the afternoons, most days.

Projected Needs

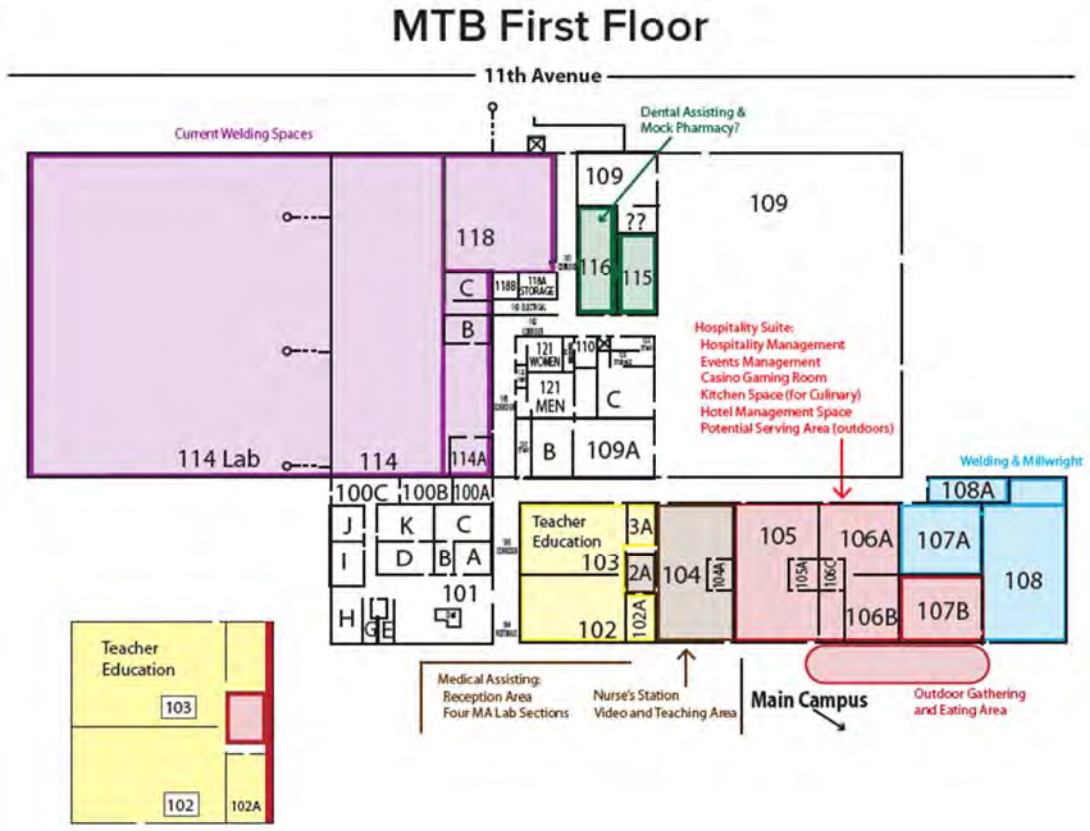
The primary areas of focus are updating instructional buildings, classrooms, and lab spaces along with enhancing modified face-to-face instruction capabilities and efficiencies, and strategically increasing the size and number of classroom and lab spaces. In the long term, new facilities to increase and enhance instructional capacity is also needed. Addressing these needs will optimize instructional capabilities, enhance the student learning experience, mitigate to some extent the reduced number of full-time faculty, and maximize the functionality and use of space on campus.

Update instructional facilities

- The Wittman Complex and Mechanical Technical buildings need updates to the HVAC and fire alarm systems in both buildings. Additionally, the Wittman Complex needs a fire sprinkler system update.
- The Sam Glenn Complex needs remodeling to address safety issues and to refresh a building that has not had major renovations since 1996. The needs include replacing a failing ceiling tile structure, installing new carpeting, and addressing other minor repairs and necessary related painting.
- Meriwether Lewis Hall needs safety updates to the HVAC, electrical, alarm, and sprinkler systems. Plumbing and flooring upgrades are also essential.
- The Music Building needs to be renovated with possible repurposing of space usage. Renovation needs include updates to the HVAC, fire, and alarm systems and replacement of flooring. A review of electrical and plumbing systems should also take place.
- The first floor of Clearwater Hall needs finished. The space design includes classroom/community space as well as makerspace. Restrooms and HVAC in addition to infrastructure completion is also necessary.

Repurpose the Mechanical Technical Building

- The Mechanical Technical Building has instructional space available due to the completion of the Schweitzer Career & Technical Education Center and the relocation of programs from this facility. The repurposing of this facility will capitalize on an opportunity to develop state of the art instructional labs and classrooms to enhance and grow instructional programs. The following will be developed in MTB:
    - Workforce Training dental assisting and mock pharmacy – This will help expand the availability of spaces for additional classes in these high demand areas.
    - Hospitality and tourism – This initiative will increase the capacity for the program including adding more concentrations, sections, and delivery methods.
    - Medical assisting – This will build a new lab space for the program, allowing additional delivery methods and increased capacity.
    - Teacher education – This will create a dedicated space for cohorts of teacher education to expand and build the capacity of their cohorts.
    - Millwright/welding – This will expand the capacity and capability of the welding and millwright programs.



Review all classrooms and update

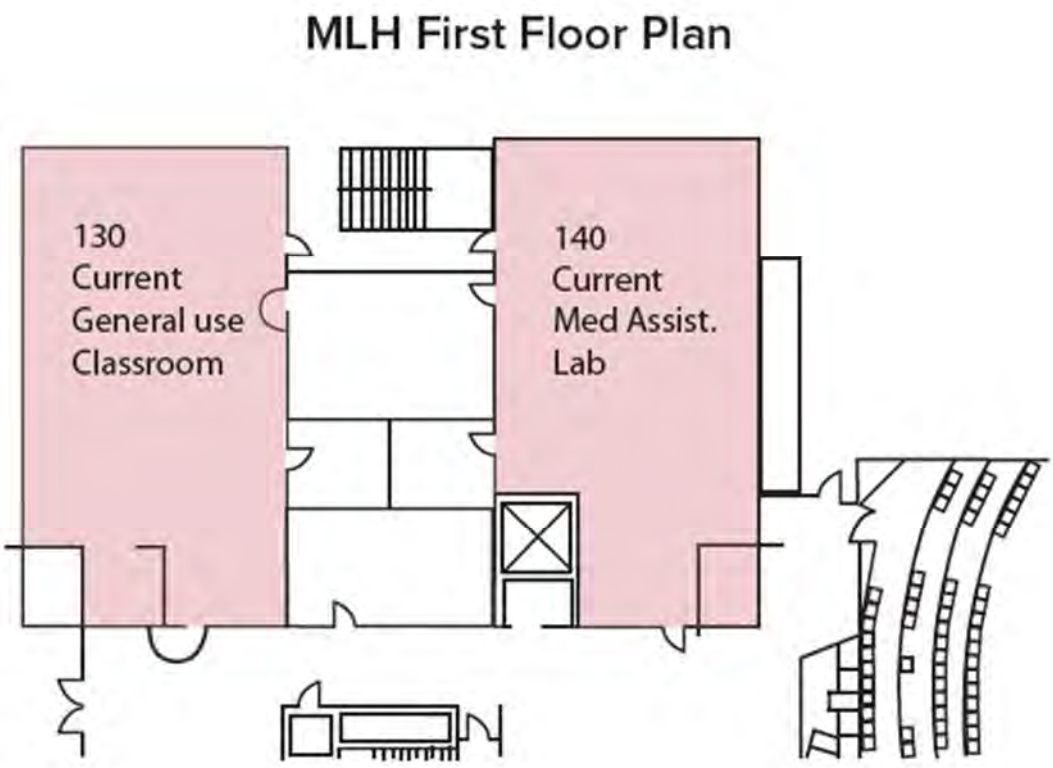
- Technology, paint, carpet, configurable furniture, additional whiteboards, and other potential updates are needed in all classrooms.

Continue to support and enhance modified face-to-face instruction

- Configurable furniture and updated technology will enable the most effective instruction and student participation. Students will expect to be able to join classes remotely.
- IT will need to continue to monitor the behind-the-scenes infrastructure to assure delivery via whatever modality is required.
- Outfit teaching spaces to accommodate split-campus programs (e.g., those transmitted routinely between Lewiston and the Coeur d'Alene Center). Consider building a super classroom in CDA, or maximizing use of DeArmond Building super classrooms.

Create larger classrooms and labs

- Many programs would benefit from larger classroom and lab spaces. To some extent, class caps are associated with the size of classrooms available rather than the true instructional capacity. For example, nursing, Psychology 101, and many of the science lectures would benefit from a larger space. Many classes that are now capped at 20-24 could be increased to 32-40 cap sizes, if sufficiently sized rooms were available.
- Evaluate available spaces on campus where rooms could be combined to create larger classrooms and labs. For example, MLH 130 and 140.
- Consider creating larger, multiuse classrooms to enable several programs to use the same space (i.e., equipment for one program is set up on one side of the room, with equipment for another on the other side). For example, MLH 130 and 140.

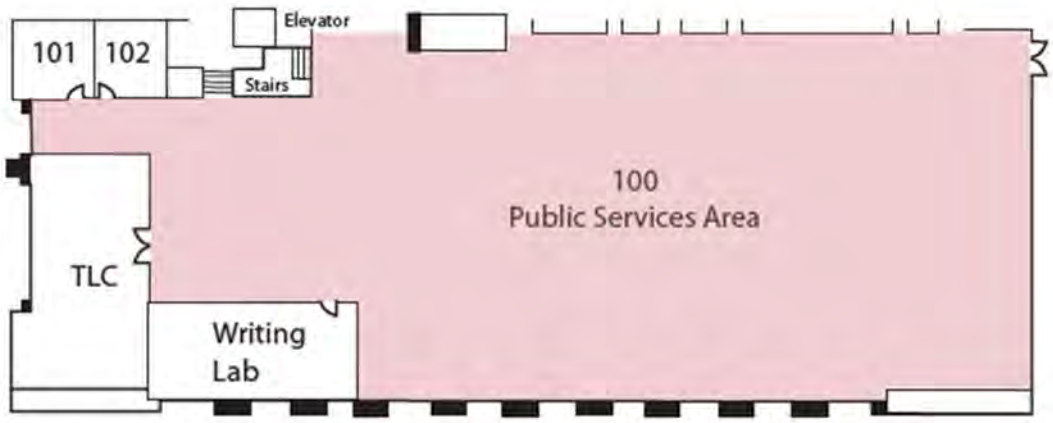


Utilize existing spaces in a more efficient manner

- Classrooms in the Schweitzer Career & Technical Education Center (STC) are largely available in the afternoons. These classrooms could potentially be used for dual credit classes (students will already be next door at the high school), freshman block scheduling, night classes for adult learners, or teacher education, which operates with a cohort model.
- Utilize MTB, STC, and other facilities for Workforce Training programming and relinquish the North Lewiston leased space.
- Identify ways to more fully utilize the Music Building main room as a classroom or for other purposes.

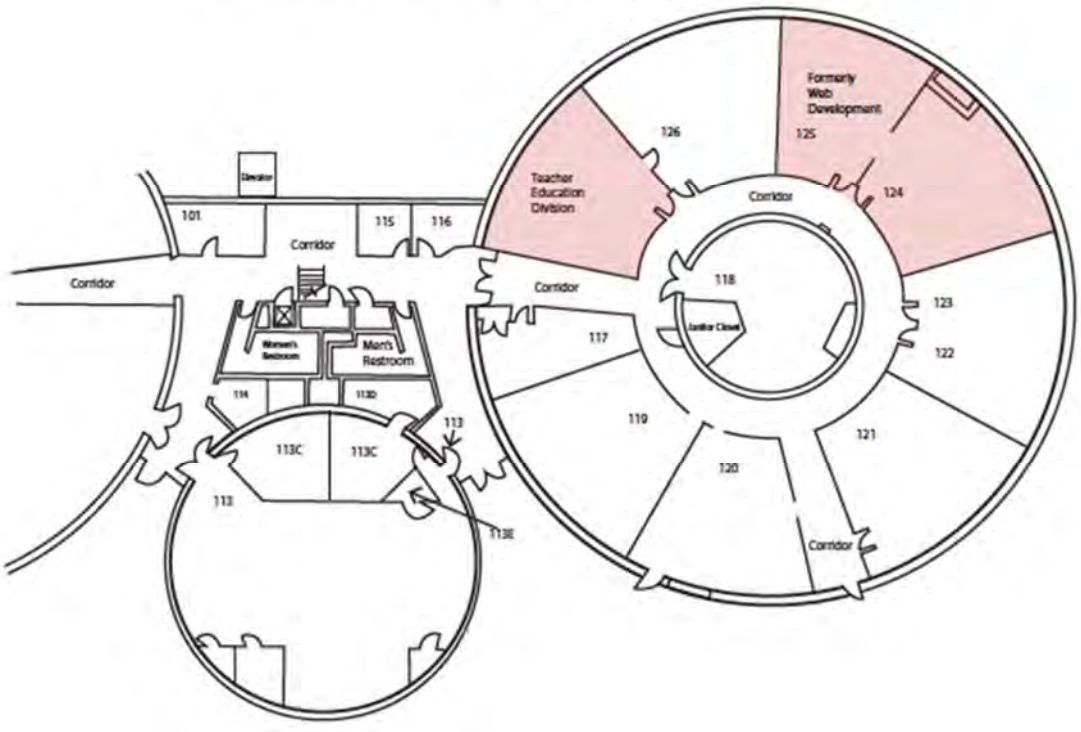
Identify ways to more fully utilize the main floor of the Library to better meet student needs for study and group workspaces.

Main Floor Library



Identifies ways to repurpose vacated Web Design & Development space in the Sam Glenn Complex.

Sam Glenn First Floor (basement)



New instructional facilities to increase and enhance instruction

- The Living/Learning Center and General-Purpose Facility would be a new facility with a combined use for instructional and residential purposes. A multiuse facility will allow LC State to increase its residential student population and provide additional multipurpose classroom space to support instructional programs.
- A CTE/Workforce Training Center facility would complete the full vision for Career & Technical Education programs. This Phase II facility, complementary to the Schweitzer Career & Technical Education Center, would include labs and classrooms to support increased capacities, facility and equipment upgrades for technical and industrial programs as well as non-credit, workforce training students.

Funding Recommendations & Project Phases

Funding opportunities are Idaho Division of Public Works, internal reallocation, grants, student fees, Career & Technical Education, and institutional allocation.

Ongoing

- Review and upgrade of all campus classrooms; replace existing furnishings with configurable items to enhance instructional options. Priority spaces within the next seven (7) years include ADM 201, ADM 203, ACW 133, ACW 135, MLH 130, EXP 20, MLH 220, MLH 240, SAC 244, and TJH 008.

Phase I: Immediate Priorities (0-5 years)

- Update HVAC and fire alarm systems in Wittman Complex and Mechanical Technical Building and fire sprinkler system in Wittman Complex.
- Address safety issues and refresh the Sam Glenn Complex.
- Update the HVAC, electrical, alarm, and sprinkler systems, and other infrastructure within Meriwether Lewis Hall.
- Finish the first floor of Clearwater Hall.
- Repurpose the Mechanical Technical Building.
- Expansion of Simulation Lab (SAC 148; scheduled for completion in fall 2021).
- Super classrooms – those currently in process and paid for with COVID-19 related funds.
- Identify one to two spaces within the next seven (7) years that can be converted to larger classrooms (MLH 140 once Medical Assistant program moves to MTB).
- Identify ways to repurpose vacated Web Design & Development space in Sam Glenn, as well as the hospitality space.

Phase II: Mid-Range Priorities (5+ years)

- Renovation of the Music Building.
- Reconsider use of Library 1st floor and how it can be repurposed to better serve students seeking study and group meeting spaces.
- Identify ways to more fully utilize the Music Building main room as a classroom or for other purposes.
- Development of a Living/Learning Center and General-Purpose Facility.
- Development of a CTE/Workforce Training Center facility.

IV. Non-Instructional/Mixed Building Use

Background

LC State's buildings with a mixed instructional/non-instructional and non-instructional use are the Administration Building (ADM), Clearwater Hall (ABE/ISBDC), Reid Centennial Hall (RCH), Center for Arts & History (CAH), Student Union Building/Center for Student Leadership (SUB/CSL), Williams Conference Center (WCC), Physical Plant, Pi'amkinwaas, Expedition Hall (EXP), Spalding Hall (SPH), College Advancement, President's Residence, Harbor Center (leased), and an office at CSI Twin Falls. Various facility and infrastructure changes occurred after the last campus master plan. In 2020, the CAH exterior brickwork was revitalized, and the windows replaced. The clock tower in RCH is scheduled for repairs in 2021 along with minor upgrades for carpet, paint, and ADA counters. The College

Advancement office was relocated from a residential home to a newly acquired commercial office space in June 2020. A conference/seminar room was developed within the Administration Building in 2020. The WCC received a face lift with new mobile walls and paint in 2017-2018. Additionally, the SUB flooring and carpeting was replaced in phases from 2015-2019. Spalding Hall's renovation was completed in the fall 2018 and included upgrades to office spaces, an update to energy efficient windows and doors, improved lighting and flooring, HVAC and electrical improvements, and development of small/seminar rooms for instructional use. A new Physical Plant storage area was completed in 2016. Lastly, a substantial renovation to Expedition Hall 2nd floor was completed in 2015.

Projected Needs

The primary areas of focus are updating facilities and infrastructure, planning for enrollment and event growth, and researching or planning for efficiency and effectiveness for HVAC systems. Addressing these needs will optimize instructional and non-instructional environments and assist in diversification of revenue (ex: enhancing event space and relocating operations for greater visibility) of which aligns with LC State's strategic plan. The focus areas are as follows:

Update mixed instructional and non-instructional spaces

- The Administration building is currently under review for a plan to upgrade the HVAC system along with a new project request for replacement of the HVAC system, windows, and a staircase restoration of which is on the 6-year ID Division of Public Works capital construction request. These enhancements will assist in restoring a facility that is one of the oldest buildings on campus and which has not had significant upgrades since 1970, with the exception of the Silverthorne Theatre. Additionally, the Administration Building is a primary facility for visitors from the community (presentations and meetings), including dignitaries. A low cost, high impact look at branding and visitor appeal is needed to refresh the spaces (ex: refreshed paint, signage, and furnishings in common areas, etc.).
- Reid Centennial Hall needs safety and system upgrades such as plumbing, electrical, and HVAC. The basement walls need to be re-plastered. Bathrooms throughout the building need updates and the main floor needs an ADA accessible bathroom.

Assist in revenue generation and diversification

- The Williams Conference Center needs upgrades to audio/video and production equipment to host large events. A centralized broadcasting production booth is a key component of this upgrade. The plan is to install a control room and permanent audio/video equipment into each individual conference area. In complement to this plan, the Bookstore will potentially be relocated to the SUB/CSL and the existing bookstore space will be converted into additional conference room space and house the broadcasting production booth in a small subsection. The relocation of the Bookstore to the SUB/CSL will allow for greater visibility and foot traffic for the Bookstore and indirectly, increase revenue.

Areas of interest for enrollment growth

- Recreation facility – campus amenities are a factor in deciding which college to attend. A space for non-athletes to work out and recreate is a desire of current and past student bodies. The student body requested and supported an increase to student facility fees in FY 2020 to support this initiative. A new or existing facility to house a fitness/workout center and recreational activities (basketball, etc.) is desired. Existing facilities central to other recreation sites such as the outdoor basketball courts and outdoor recreation storage area should be considered.
- SUB – LC State needs to plan for 100+ more dining spaces to accommodate enrollment and residence life housing growth targets.

Campus infrastructure needs

- Central Heat Plant - A long-term project is needed to research future HVAC system needs and necessary updates. The 2021 deferred maintenance study recommended major upgrades to the boiler system and/or a master planning effort. There are currently six buildings that utilize steam from the heat plant: Reid Centennial Hall, Administration Building, Expedition Hall, Student Union Building/Center for Student Leadership, Meriwether Lewis Hall, and Talkington Hall. A review and determination of what is in LC State's best interest from an efficiency and effectiveness

standpoint is needed. This initial review has started through multiple explorations such as an Administration Building public works project, a JCI infrastructure review, and the deferred maintenance project. Points of consideration are central maintenance versus decentralized maintenance costs and the differentially skilled labor needed to maintain a central or decentralized system.

- Electrical, HVAC, and fire system upgrades for College Advancement.

Funding Recommendations & Project Phases

Funding options include auxiliary funds, student fees, ID Division of Public Works, internal allocations, and grants.

Phase I: Immediate Priorities (0-5 years)

- WCC broadcasting production booth and bookstore relocation
- Administration Building – low-cost aesthetic refresh
- Administration Building renovation – HVAC system, windows, and staircase restoration
- Plumbing, electrical, HVAC, and additional remodeling for Reid Centennial Hall
- Exploration and master plan for campus HVAC system (central versus decentralized)

Phase III: Long Range Priorities (over 10 years)

- Recreation facility
- SUB dining expansion
- Electrical, HVAC and fire system upgrades for College Advancement

V. Recreation and Athletics

Background

Lewis-Clark State College's buildings with an athletic use are the Activity Center, Auxiliary Gym, Tennis Center, and the Batting Cages along with outdoor sports fields. Currently, the athletics department supports 12 intercollegiate sports programs on campus, including men's and women's basketball, golf, tennis, track and field, and cross county, women's volleyball, and baseball. The Activity Center, which was built in 2005, houses all the athletic offices, training facilities, locker rooms and the main gym. The main gym is used for volleyball and basketball competitions, as well as other student-athlete, instructional, and community uses. This facility, during normal operations, has a capacity of 3,500 people. The Activity Center is scheduled for a new roof in 2021 and the upper roof was replaced in 2020. An outdoor multiuse field was completed in 2018.

Activity Center West, also built in 2005, houses an auxiliary gym and fitness center, used by athletics, students, and staff. Intramural sports and faculty offices are housed in this facility, as are classrooms and a large kinesiology lab. The classrooms, lab and office areas were renovated in FY2020.

The Tennis Center is used for physical education classes, intramural sports, campus recreation, intercollegiate sports competitions and by the community. The center houses four full size courts and was expanded in 2015 with the addition of bathrooms, office space and a waiting area. This project was funded by private donations.

Harris Field is a competition sized field used by the baseball team to house intercollegiate competitions. In 2018, a project was completed to upgrade metal bleachers to seat-back chairs and to upgrade the facade around the field. The fence was upgraded in 2020 to a safer and longer lasting poly-fiber material.

Currently, the Multiuse field is not used by a sports program but is used by classes, intramurals and the LC State campus for various activities. Initially the plan was to use the field as a soccer field, but it is not an adequate size and experiences drainage issues.

The men and women's cross country teams currently use the course at the Lewiston Community Park, off Warner Ave. LC State does not have a facility or space on campus for these teams to utilize. Likewise, the track and field program currently uses Vollmer Bowl, owned and operated by the Lewiston

Independent School District. An MOU was signed between LC State and the school district in July 2021 outlining shared use expectations in response to a shared-cost track refinishing project.

Projected Needs

The recreation and athletics program plan's focus is on expansion and enhancements to facilities. This expansion is largely driven by Title IX obligations. The following are the proposed athletics projects:

Track and Field – Possible acquisition plans

- Vollmer Bowl – Shared use agreement/MOU for track upgrades (summer 2021), with potential for future facility acquisition from the Lewiston Independent School District. LC State track and field teams currently use this space, along with the school district and various community programs. LC State does not have a track and field facility on campus.
- Fenton Gym – Potential plan to acquire from the City of Lewiston to serve as locker rooms for track and field teams, and as an auxiliary space for physical education activity classes, intramurals, club sports and athletic needs.

Baseball Projects

- Baseball club house – While not a near-term priority, consider developing a clubhouse located behind right field to house coaches' offices and locker rooms. This would provide a convenient location for baseball athletes to use as a locker room, instead of accessing the locker room inside the Activity Center (therefore reducing maintenance and cleaning in the AC). The club house would also serve the needs of other athletics programs.

Training Room expansion

- Consider a plan to expand the training room footprint and/or to create training room space if Fenton Gym is acquired, to accommodate increased rosters, and to accommodate social distancing needs (if still required). Note: this expansion will most likely need to be addressed through an Idaho Division of Public Works project.

Funding Recommendations & Project Phases

The funding opportunities for these projects are donations, fundraising initiatives, Idaho Division of Public Works, and local accounts.

Ongoing

- Gym floor refinishing.
    - Every year, the floors must be refinished.
    - Every eight years, the floors must be fully sanded and repainted.

Phase I: Immediate Priorities (0-5 years)

- Acquire Fenton Gym.
- Training room expansion.

Phase II: Mid-Range Priorities (5+ years)

- Baseball club house.

Phase III: Long Range Priorities (over 10 years)

- Acquire Vollmer Bowl.

VI. Landscaping, Outdoor Spaces, & Outdoor Lighting

Background

The college's beautiful, park-like grounds are a highlight of the Lewiston campus. The purpose of these areas is to provide for engagement opportunities, informational displays, and to beautify the campus. Formal outdoor features were developed, such as the main Fountain, Centennial Mall, amphitheater, and the Historical Tree Grove. Some informal spaces have been added, such as a volleyball court, hammock camps, and a basketball court in the 11th Avenue parking lot. The Administration/Library lawn is used for student, employee, and community activities and is occasionally used as a practice field. Two of the

corners of the campus footprint feature brick signage, which are landscaped and often used for photo ops.

The Arboretum Committee partners with the Physical Plant to maintain and grow the urban forest on the campus, while promoting sustainability, security and accessibility. Creation of the LC State Arboretum Committee was approved by the President's Council in 2008, and then had its inaugural meeting in 2010. While responsibility for campus trees is assigned to the Physical Plant, the Arboretum Committee assists by providing guidance for future planning, input for a comprehensive campus tree plan, education of the campus community about the benefits of trees, and a community connection related to campus and community trees.

In 2019 the Arboretum received the designation as a Tree Campus USA with the Arbor Day Foundation. In 2020, the program changed names to Tree Campus Higher Education, and LC State Arboretum again received that designation. Also, in 2019, LC State became a Level 1 accredited arboretum with ArbNet and is on the Morton Register of Arboreta-Accredited. LC State is the only four-year institution in Idaho to have both of these designations.

The LC State Arboretum Committee and Physical Plant staff maintain an inventory of trees on the campus and other grounds owned by the college. The purpose of the inventory is to keep track of the diversity and health of trees that are currently part of the campus. The inventory aids in the maintenance of trees on campus and helps inform decisions about future species for planting. The inventory also provides students with the opportunity to learn real-world applications of GIS technology through the collection and upkeep of data, data analysis, and report writing. As of spring 2020 semester, 1,437 trees had been inventoried on campus.

In 2018, after several aging street trees north of Sacajawea Hall had to be removed, a project known as the Presidents' Row was installed. As part of Lewis-Clark State College's 125th anniversary celebration, the college planted a row of new trees along 7th Avenue to honor past, current, and future presidents of the college. This was the legacy project for that year by the Associated Students of LC State, which is comprised of elected student officers who represent the student body. The first tree, in honor of LC State's first President George Knepper, was planted on 7th Avenue just east of the entrance to the 4th Street parking lot. There were 13 trees planted between the entrance to the parking lot and the 5th Street entrance to campus. The final two president trees were planted on the east side of the 5th Street entrance to campus near the bus stop location. Those two trees were planted during a special ceremony on Arbor Day, April 27, 2018. The public was invited to attend the ceremony. Then in 2019, there was an addition to Presidents' Row with a tree planting ceremony to honor Lewis-Clark State College's current president near the intersection of 7th Avenue and 5th Street on the LC State campus. With help from the college's Foundation office, Arboretum Committee, Physical Plant office, and the Associated Students of LC State, Presidents' Row now consists of 16 trees with the addition of the Purple Robe Black Locust tree planted to honor President Cynthia Pemberton.

Another ongoing project is the update to the sloped banks at the Student Union Building/Center for Student Leadership. In 2018, the previously planted wildflowers were removed. Sculptural metal logos were added to the banks, and Vinca minor were planted on the slopes. The project needs further revisions to reach its full potential and best use of the space, but the current changes have added aesthetics to the space.

Projected Needs

The focus of this section's projected needs is to strengthen campus identity, preserve existing spaces, leverage program adjacencies, promote sustainability, develop and maintain spaces, and accessibility. The following describe these priorities:

Strengthen Identity

- Maintain beautiful, comfortable, and navigable active open spaces that reflect LC State identity and pride.
    - Develop a campus identity with standards for light fixtures, signage, plant selection, and outdoor furniture.
    - Unify the campus using materials, plant selection and space design.
- Assure enhancements are historically respectful, presently relevant and forward-thinking.

- Enhance visibility of the campus arboretum resources; Continue the Tree Campus Higher Education designation with the National Arbor Day Foundation; Continue the designation as a Registered Arboretum with ArbNet.

Preservation and Enhancement of Existing Spaces

- Main fountain/quad area.
- Add an information plaque to tell the story of the Centennial Mall.
- Historical Tree Grove (between the SUB and Talkington Hall)
    - Develop space into a more student-friendly area with additions such as fire pits, by thinning out trees to allow for more space, and developing other outdoor features students may like such as an outdoor BBQ and dining area.
- Commit to retaining green spaces and multiuse indoor/outdoor spaces. If an open space is used for another purpose, replacing the space with equivalent open space should be prioritized as resources and campus needs permit. A driver of this need is to maintain open space for residence hall and student programming activities.
- Beautify campus entrances to create focal points for entrance to the campus and for photography.

Leverage Program Adjacencies

- Foster educational environments by incorporating living laboratories that serve as functional landscapes for use by faculty, staff, and students, as well as the community.
- Cultivate landscapes for learning, research, and recreation in proximity to buildings with related programs.
    - Plant species significant to nursing practices near the nursing building.
    - Plant species significant to the region, such as to logging industry, the Nez Perce Tribe, agriculture, etc.
    - Have outdoor learning spaces and outdoor laboratories near the buildings where those classes are located.
    - Have student residence focused spaces near residence halls and the SUB/Center for Student Leadership.

Promote Sustainability

- Promote sustainable landscapes (irrigation, plant selection, etc.).
- Consider multi-seasonal use and aesthetics in any campus landscape design. Select plants with multi-seasonal interest.
- Plant selection: Plants for the campus landscape should be selected to enhance the beauty of the campus as well as support a sustainable landscape. Low maintenance plants are preferred. Plant selection should expand diversity and educational exploration, plus select species that best fit the microclimate and use of a space.
- Maintain the health of the Arboretum by regular review of trees that need removed due to end of life, disease, damage, and potential hazards.

Development of Spaces

- Develop the Library lawn to address current needs such as a walkway, entrance sign focal point, and to remove aging trees while maintaining an open middle space for activities.
- Assess the desire for development of land at the Schweitzer Career & Technical Education Center for student and employee use.
- As landscaping develops, consider safety and visibility (parking lots, next to buildings, etc.).
- Consider non-slip surface types as new walkways and entryways are built.

Security and Accessibility

- Maintain plantings to the standards for security:
    - Traditionally shrubs and ground cover should be maintained to a maximum height of 3 feet. For tall shrubs and trees, the canopy should not descend any lower than 6-8 feet.
    - Overgrowth can obscure vision and create spaces for vandals or thieves to hide. Eliminate dark spots and keep campus looking pristine by keeping up on landscape maintenance.

- Follow guidelines from the Crime Prevention Through Environmental Design Association (CPTED).

Outdoor Lighting

- As new exterior lighting is installed or current lighting is replaced, LC State will consider locations appropriate for a Wi-Fi component. For example, Wi-Fi in outdoor congregation areas. The inclusion of Wi-Fi on exterior lighting is a component that comes pre-wired into lighting; therefore, a cost savings can be realized in comparison to purchasing components separately.

Funding Recommendations & Project Phases

Funding opportunities include internal reallocation of resources, institutional resources, Arboretum funds, and grants.

Ongoing

- Apply annually (in December) to maintain a Tree Campus Higher Education standing with the National Arbor Day Foundation. The most recent application can be found online: 2020 Application for Tree Campus Higher Education.
- Maintain the college's status as a registered Arboretum with ArbNet.
- Continue to evaluate and remove aging trees.
    - See the attached document (Appendix A) for the most recent evaluation and plan for removal.
- Communication and marketing of landscape vision – It is key for campus to promote the health and benefits of the Arboretum.
    - Walks with resident experts – Provide informative tours of campus that are led by the landscape foreman.
    - Tree tours – There is a self-guided tree tour. In 2019, the Arboretum Committee hosted a Professional Development Training on the Arboretum and took staff on a tour of the Arboretum.
    - Tree identification tags – Throughout campus, many of the trees have species identification tags. These have been an ongoing project for the campus for over 10 years. Courses on campus, such a botany, use the tree tags when learning about plant identification. An update to the tree tag is planned for 2021/2022.
- Evaluate the inclusion of Wi-Fi for new and replacement exterior lighting.

Phase I: Immediate Priorities (0-5 years):

- Implement the guidelines laid out in The Plan section of this document.
- Library lawn transformation, plan creation. See Appendix B.
- Former historical tree grove/space between Talkington and SUB – plan development. See Appendix C.
- SUB banks/shading, courtyard development. See Appendix D.
- Concentrate on removing aging and hazardous trees. See Appendix A.
- Beautification of campus entrances. See Appendix E.
- Install informational plaque at the Centennial Mall.
- Assess interest in a developed outdoor space at the Schweitzer Career & Technical Education Center for student and employee use. Possible options could include a partnership with the City of Lewiston to begin planting a new tree grove.

Phase II: Mid-Range Priorities (5+ years)

- Library lawn redevelopment (put the plan into action). See Appendix B.
- Develop the Talkington/SUB space (put the plan into action). See Appendix C.
- Address the health and future of "Sycamore row."

Phase III: Long Range Priorities (over 10 years)

- Develop spaces that follow the expansion of campus and meet the goals outlined in the "The Plan" section of this document.

APPENDIX A

See Tree Removal document on Arboretum Committee website: www.lcsc.edu/administrative-services/arboretum-committee.



APPENDIX B
Transformation of Library Lawn

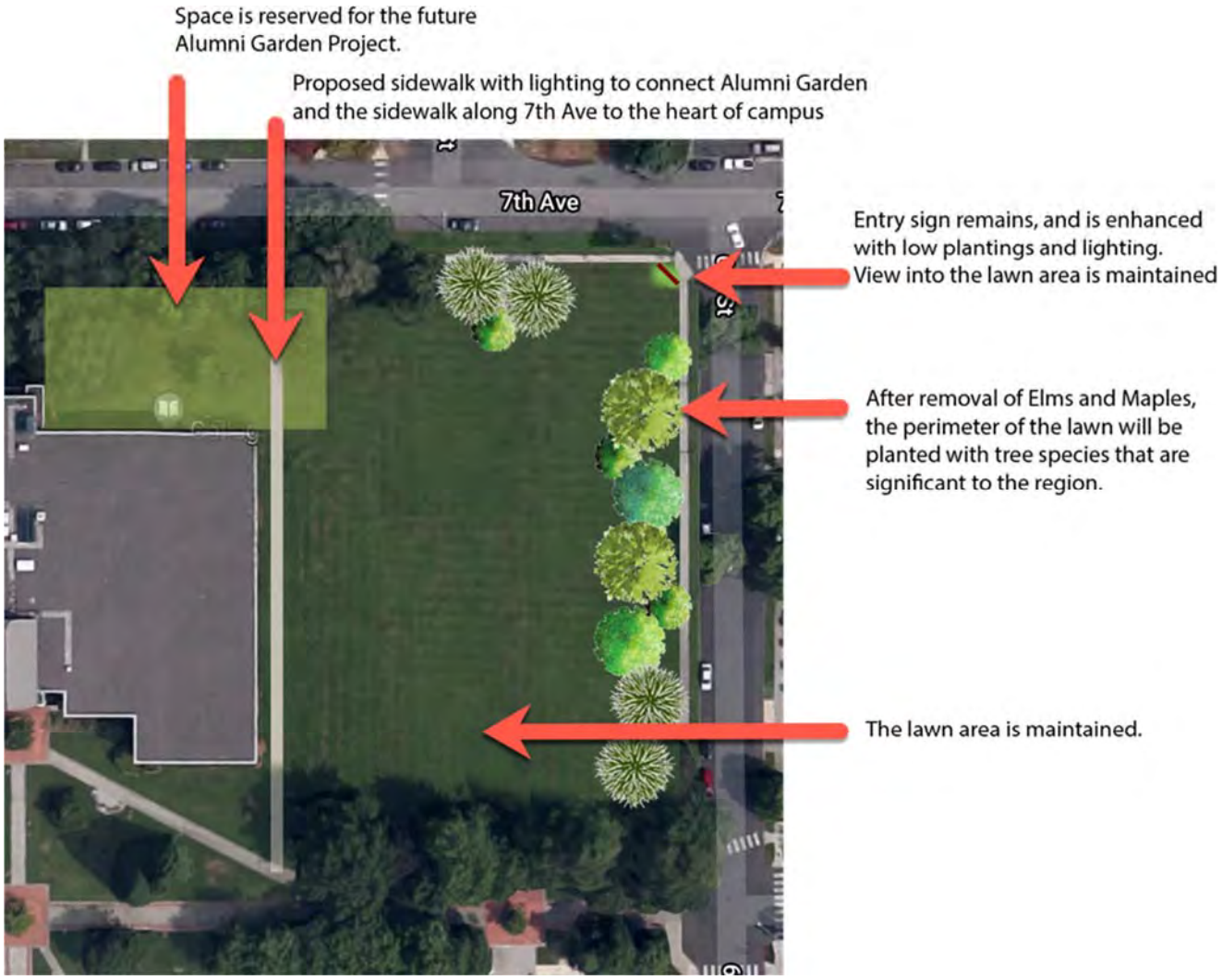
CURRENT VIEW OF LIBRARY LAWN:
In March 2020, two dying Elm trees were removed from near the northeast entry to campus. Based on current evaluation of trees, several other large trees need removed. These trees are indicated in the plan below.

Proposed Plan View of Library Lawn:



After removal of trees, the proposed plan calls for planting of only the perimeter of the lawn. Tree species will include selections that are significant to the regions (such as to the lumber industry, native Idaho trees, and trees significant to the Nez Perce Tribe). The entry sign will be enhanced with low plantings, so

as not to impede the view into the lawn. The space north of the library is reserved for the proposed future Alumni Garden. A new sidewalk with pedestrian lighting is proposed along the east side of the library to connect 7th Ave, the future Alumni Garden, and the heart of campus. The large lawn space is maintained.

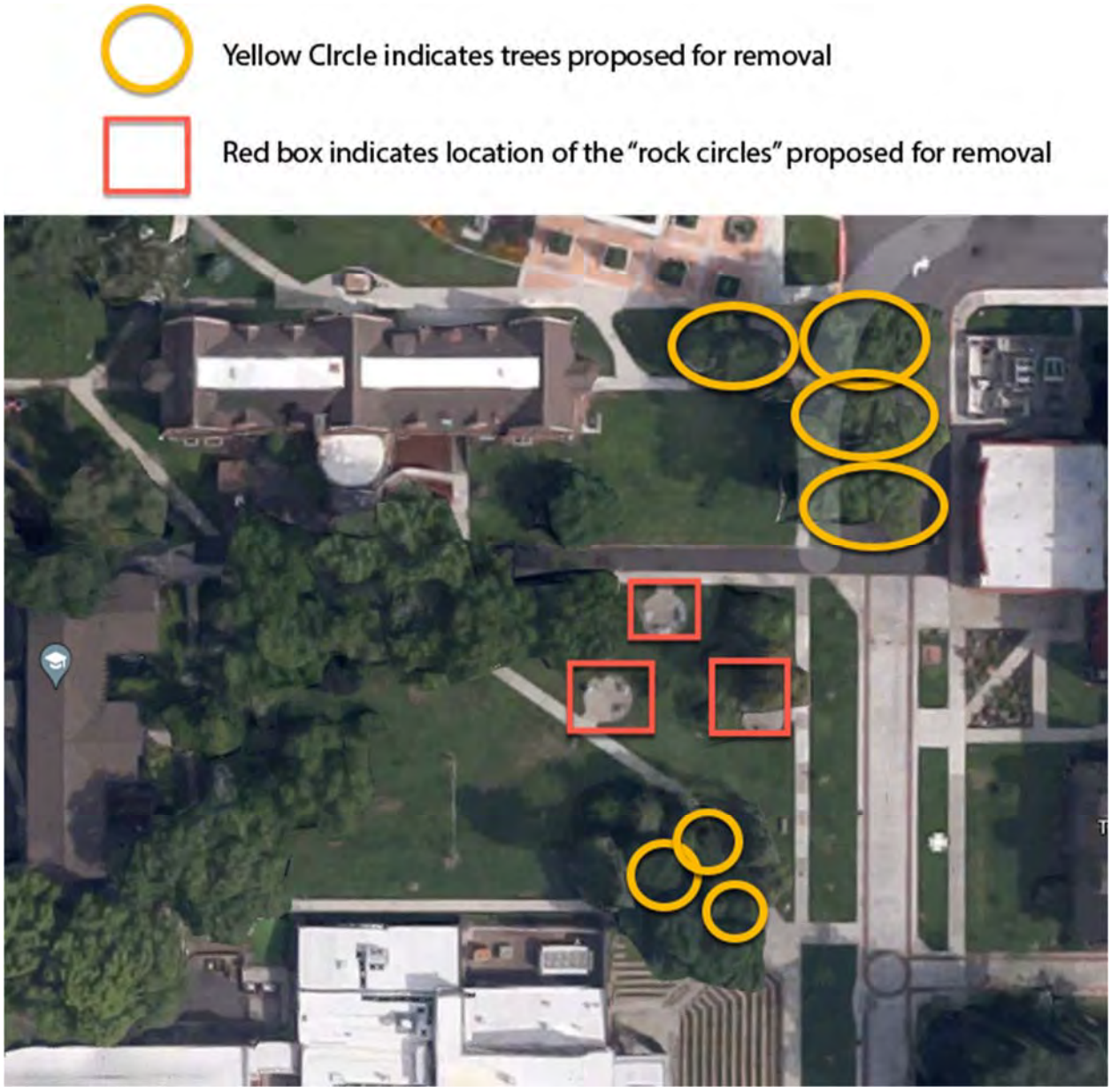


APPENDIX C

The area south of Talkington Hall, north of the SUB, and east of KinderCollege, currently has three concrete circles that have interpretive signs on the perimeter.

The LC State Arboretum Committee proposes the removal/relocation of the Urban Forest signs. The reason for this is the signs need repair, the rocks they are sitting in are cracking, and the information on the signs should better reflect the current Arboretum on campus. Additionally, the signs are not well trafficked, and the space should be used for student-oriented activities.

This location was once part of the "Historical Tree Grove" that did not reach its full plan, and with the designation of the campus as an Accredited Arboretum and a Tree Campus, an update to the space is appropriate. Two options for redesign are proposed, with Option 1 being a more quiet and private space, while Option 2 creates a more active space. Determination of what design should be implemented should include input from faculty, staff, and students.



Images of existing signs:





Option 1 for Redesign

Dr. Rhett Diessner and Dr. Rachelle Genthos conducted research on the stress relieving ability of micro-green spaces on students. The professors are looking for a location on campus to install quiet, private green spaces where students can relax and recharge in nature. One proposal is to take the space created by the removal of the rock circles and install student green spaces.

Current:



Conceptual design:

Once the rocks, signs, and concrete are removed, the space can be updated to a serene seating area:



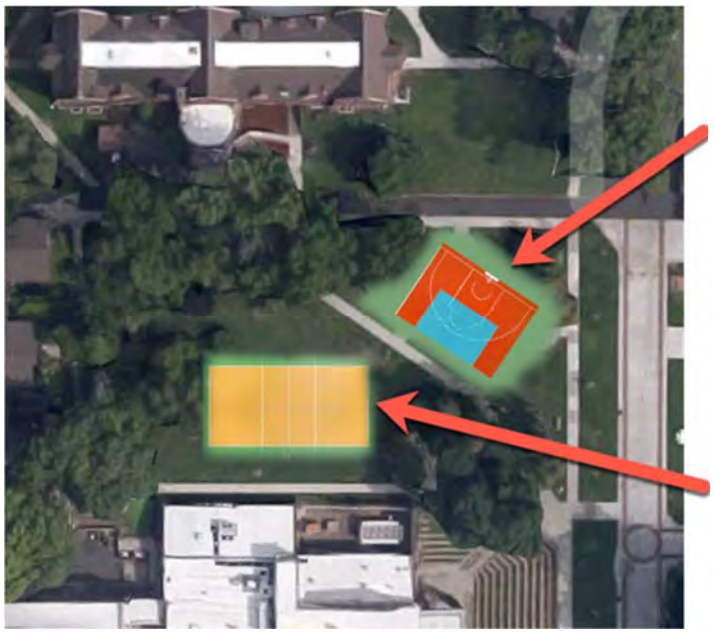
Option 2 for Redesign
The space left after the removal of the rock circles could also be transformed into an active recreation space. In this option, a half-court basketball area is added, and the existing volleyball court is converted to a sand volleyball space.

Current:



Conceptual design:





Add a half-court basketball pad

Convert existing volleyball area into a sand volleyball pit

APPENDIX D

Just outside the south entrance to the Student Union Building/Center for Student Leadership (SUB/CSL), is a courtyard bordered by vegetated slopes. The area has proven to be difficult to maintain vegetation due to the steep slope and heat from the concrete and building. About four years ago, the slopes were replanted with a monoculture of Vinca minor, and decorative signage was added. Today, that vegetation has filled in and stabilized the bank, but the space is still underutilized due to intense sun and lack of seating/programming.

Image of current space looking west:



Image of current space looking east:



To enhance the space and make it more usable and desirable to faculty, staff, and students, a design plan needs to be created that considers:

- Addition of shade – sun sails, umbrellas at tables, trees, and/or permanent structures.
- Addition of seating – in addition to fixed tables, look at options for moveable seating or different seating arrangements.
- Lighting – for security and usability.
- Vegetation – besides the monoculture of Vinca minor, additions of shrubs and small trees on the banks add interest and potential shade.
- Connections to the building – the main dining area for the college looks out onto this space, if the two could be physically connected via large doorways it makes the space more inviting.
- Programming – the potential to transform part of the sloped banks into amphitheater type seating creates the opportunity for outdoor classroom use.

APPENDIX E

The northeast and northwest corners of campus currently have existing brick signs denoting the entrances to the college. A proposed beautification project for campus is to update the signs and enhance them with vegetation and lighting. Various design options are possible for the beautification. As to not impede the views into campus, a plan with lower plantings and no structure is proposed.

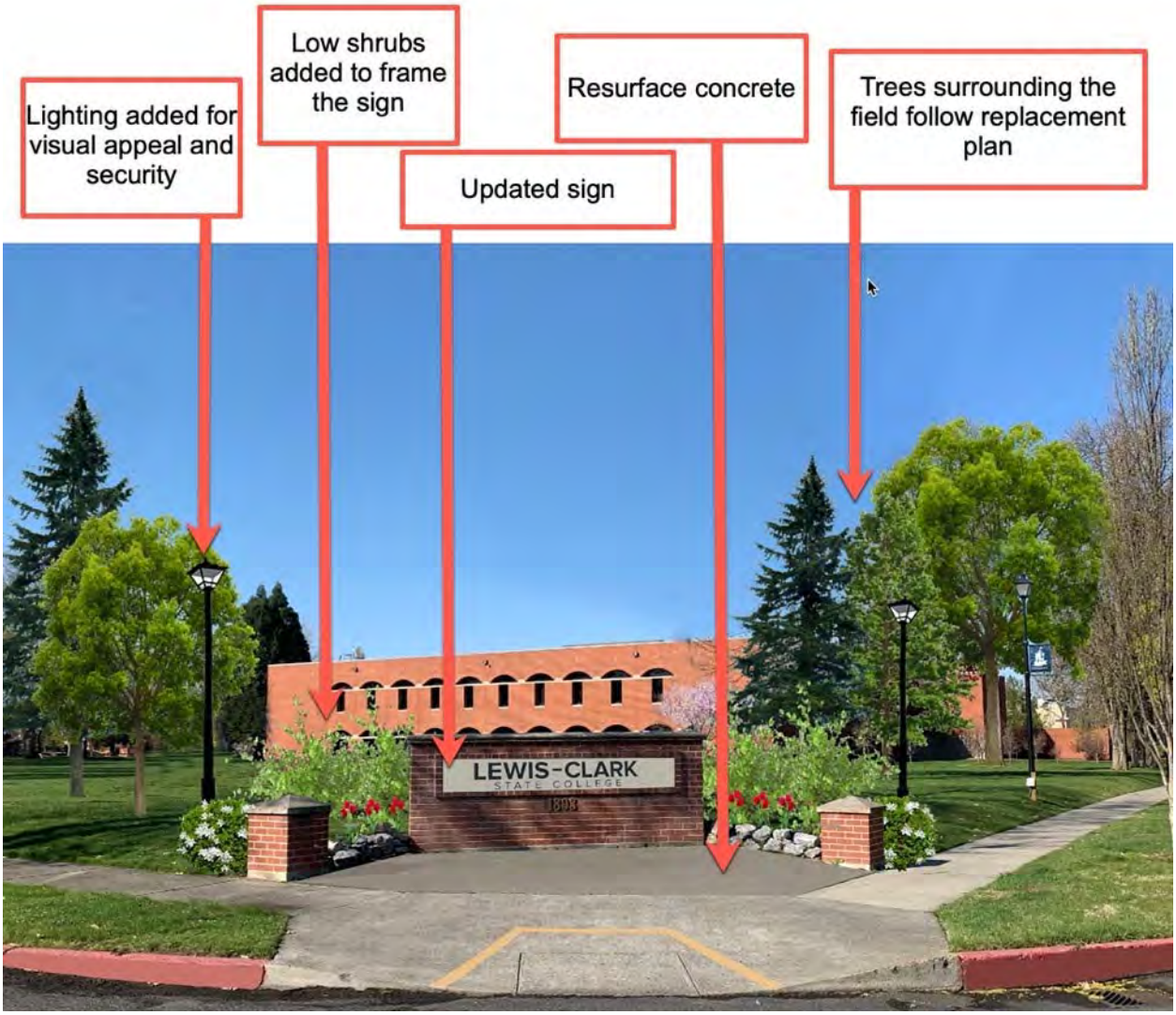
Current:



Conceptual design:



Annotated conceptual design:



VII. Student Housing and Rentals

Background

The college currently offers student housing in residence halls and rental properties, with 459 beds available. There are 327 beds in the four college-owned residence halls, 88 beds in College Place (college-managed residence hall), and 44 beds available in the various rental properties. The rental properties cater to different student body constituencies, with two living and learning communities for education majors, a non-traditional student housing option at York house, and an upper-class housing option at Parrish House. The goal is to have 600 beds available by 2030, adding approximately 16 beds per year, to accommodate expected growth.

Projects and initiatives have been completed to upgrade and increase student housing. The living and learning communities were added in 2020, College Place was built and Clearwater Hall was purchased in 2006. LC State began managing College Place again in 2013 (College Place owners had managed the building previously, then asked LC State to manage again in 2013). Talkington Hall and Clark Hall showers were upgraded in 2018 and roof upgrades were made to Clark Hall, Clearwater Hall and Parrish House in the last nine years. Electronic door access was added to all rooms and exterior doors at Clark Hall, all suite and exterior doors at Clearwater Hall, and to the front doors of Talkington Hall and Parrish House.

Projected Needs

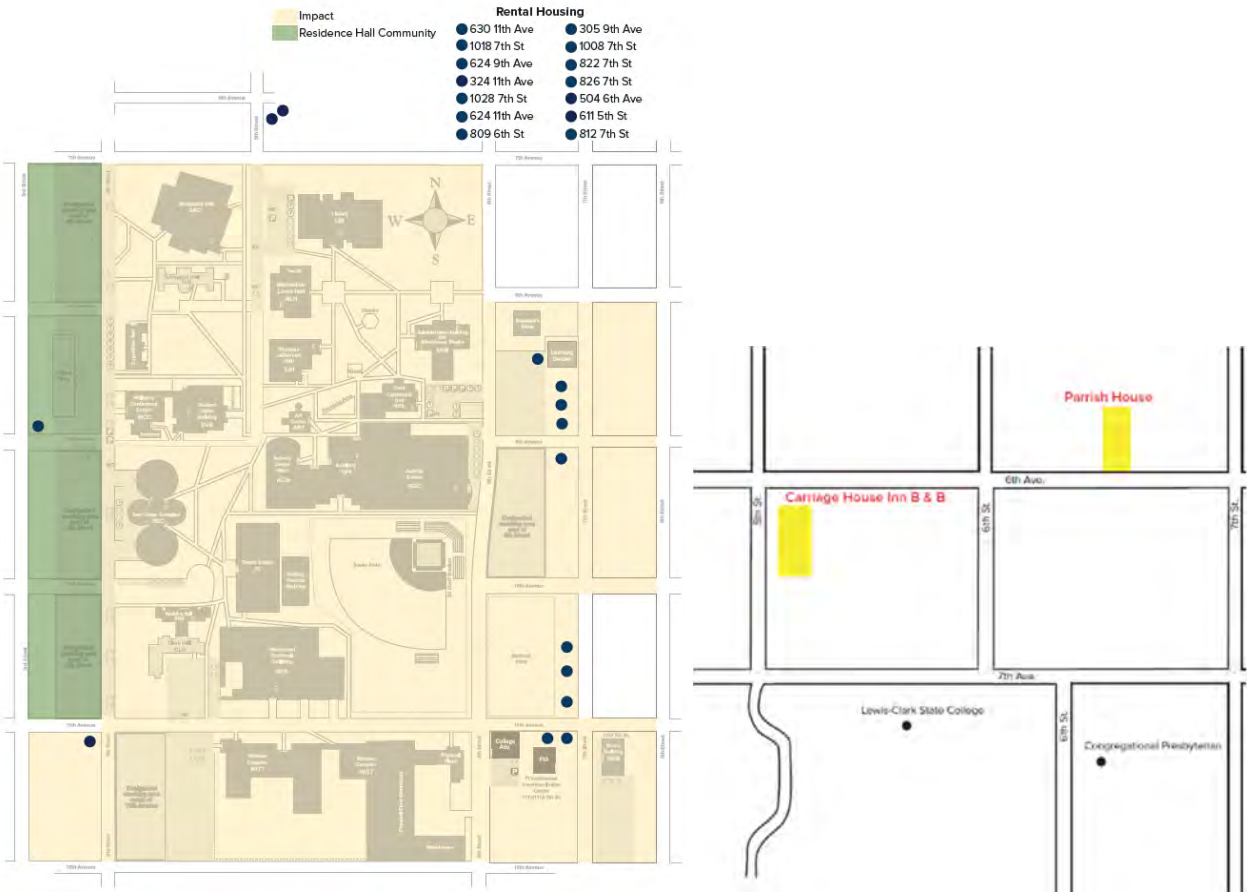
Student housing is in need of renovations and to continue expanding housing options in a strategic and impactful way to assist in LC State's enrollment growth. When building renovation projects are considered, the college needs to ensure there are beds available for displaced students during the project. Parrish House (acquired in the early 1990s), Clark Hall (built in 1955), and Talkington Hall (built in the 1930s) will require renovation. The following are needed projects:

Complete strategic renovations

- Talkington Hall is need of major renovations – plumbing, electrical, bathrooms, and the addition of central HVAC.
    - Need to identify alterative space to house students during renovation. This decision will impact the project timeline.
- Parrish House will need to be renovated within the next five years with new windows, a kitchen remodel, and a plumbing update.
    - Need to identify alternative space to house students during renovation and/or complete project during a low enrollment year.
- Clark Hall needs plumbing and bathroom upgrades.

Expand traditional housing options.

- Expand residence halls and rentals on the west side of campus and one block west.
- Continue to purchase properties on the east side of campus expanding towards 8th street, to be used as rental houses or other non-instructional spaces. Potential to expand at least two blocks south of 9th Ave.
- Consider rental properties that fall outside of the campus footprint. These properties could be sold to allow for funding of other Residence Hall properties. Timeline to sell those properties is before February when house occupancy is determined for the next academic year.



Expand alternative housing options

- Add convenient housing options for adult learners.
- Increase managed properties, such as existing apartment complexes located close to campus.

Considerations

- Expanding to add a 100-125 bed facility will enable the renovation of other aging buildings by providing space for displaced students, as well as increasing campus capacity. Students that live on campus have a higher rate of continued enrollment and graduation, thus expansion and renovation will support college retention goals.
- As LC State expands, it must plan for additional infrastructure to support students, such as dining, food service, and outlets for entertainment.

Funding Recommendations & Project Phases

Funding opportunities may include Idaho Division of Public Works, institutional and departmental resources.

Ongoing

- Purchase available houses within campus impact areas (need 40 bed spaces to meet current demand pre-COVID).
- Plan Parrish House renovation project.

Phase I: Immediate Priorities (0-5 years)

- Enter into agreement to manage additional properties.

Phase II: Mid-Range Priorities (5+ years)

- Complete Talkington Hall renovation.

- Complete Clark Hall renovation.

Phase III: Long Range Priorities (over 10 years)

- Build additional Residence Hall (estimated 100-125 beds).

VIII. Pedestrian, Bicycle and Vehicular Circulation

Background

Lewis-Clark State College's pedestrian, bicycle and vehicular circulation has predominantly evolved in response to buildings as they have been developed. This development, however, was not a part of any construction standard or policy. Strides have been made in the area of accessibility on campus pathways, controlling entrance into the interior of campus, and supporting bike use.

Over the years, ADA access has been added to all the campus pathways (except one, which will be addressed by a 2021 Idaho Division of Public Works project). Pedestrian pathways should be thoughtfully considered during building development and future projects. Pathways would benefit from a construction standard, mainly an 8-foot wide requirement. Decorative elements should be carefully considered in light of durability, longevity, and ability to replicate in the future.

Vehicle access has been loosely controlled by the installation of bollards; however, they are easily removed and there has been no policy for permission to access campus by vehicle. That control is being addressed with an Idaho Division of Public Works project focused on campus access. One of the project objectives is to install traffic arms that require a SALTO credential to enter campus. This will be controlled by Public Safety in conjunction with Physical Plant.

Bicycle traffic would be characterized as very low. It does not appear to be a major service demand by patrons. There are bicycle racks throughout campus that do have some use and the walkways are currently managing the low demand. Bicycle patrons are courteous, and it does not appear to be a major impact activity. Setting a sidewalk width standard for future projects would help us to continue accommodating the needs for both pedestrians and cyclists.

Currently, there is no defined entryway to campus for students or guests. Typically, new students enter by Reid Centennial Hall and guests are directed to destination buildings.

Projected Needs

Campus would benefit from construction and design standards as future pedestrian, bicycle and vehicular circulation upgrades are considered. The addition of pedestrian walkways and the design and implementation of a formalized entryway would increase accessibility to campus. Additionally, designating an entryway to campus would create a sense of arrival and welcome for visiting new students and guests. Ideas regarding construction standards, walkways, and a campus entryway are detailed below.

Establish standards

- Establish a construction standard that considers main elements of pedestrian, bicycle, and traffic thoroughfares. For example, width (8 feet wide) and decorative elements of pathways and additional bicycle parking (along with bicycle signage and branding considerations). Bicycle parking is a requirement of all new facilities.

Define walkways and an entrance

- Develop a walkway along the east side of the Library, from 7th Ave to the quad. This is a natural pathway that is already in use and could benefit from development. Include consideration of main campus entrance location and concept while reviewing this new pathway.
- Designate and develop a main campus entrance. The decision will impact potential growth of the campus footprint and defined pathways to campus (principal and secondary routes). A few options are listed below and visuals are listed in appendix A:

- Administration Building – vehicular traffic will flow into a potential turn-around near the Administration Building parking lot, with short-term parking options available. Pedestrian and bike parking will continue into the heart of campus.
- 5th Street parking lot – develop the parking lot by the Library and Public Safety to construct a campus entrance.
- 9th Ave. – add entryway between Reid Centennial Hall and the Activity Center and continue expanding toward 8th Street.
- 7th Ave. – develop off 7th Ave. and incorporate the Library lawn.
  - Current concept would run across Library lawn toward front of the Administration Building.
- If the City of Lewiston were to vacate 6th street from the President's House to Physical Plant, LC State could take over ownership and provide for additional opportunities for a campus entrance location.
- Aspects of the different examples may be incorporated into a final design.

Funding Recommendations & Project Phases

Funding options may include Idaho Division of Public Works projects, add-ons to building development, and institutional resources.

Ongoing

- Campus Access project.

Phase I: Immediate Priorities (0-5 years)

- Consider a walkway along the east side of the Library, from 7th Ave to the quad (see appendix B).
- Develop pathway standards for campus including bicycle parking.
- Review and determine a main campus entrance (see appendix A).

Phase II: Mid-Range Priorities (5+ years)

- Main campus entrance – project (timeline is contingent on which option is selected, 9th Ave. option may be 10+).
- Decision on City of Lewiston vacating 6th Street and LC State development.

APPENDIX A: CAMPUS ENTRANCE EXAMPLES






GEORGIA SOUTHERN UNIVERSITY


SAMFORD UNIVERSITY

APPENDIX B: WALKWAY ALONG EAST SIDE OF THE LIBRARY



IX. Parking and Roadways

Background

Prior to the college's centennial celebration in 1993, roadways existed which enabled ingress and egress of traffic onto campus. These roadways extended west of the Library and passed through campus in front of the Administration Building and extended from 9th Avenue down to 4th Avenue. A large parking lot existed between Reid Centennial Hall and the baseball field at this time. When the Activity Center was constructed, LC State limited roadways into campus and constructed parking lots on the east and west ends of campus. Feedback from the neighborhoods immediately adjacent to campus factored into the creation of the parking lots. Currently, there are still portions of neighborhoods next to campus that require residential permits to park on the street.

There are currently 1,181 parking spaces available on the main Lewiston campus, and an additional 148 spaces at the Schweitzer Career & Technical Education Center (STC). In 2021, the annual parking fee was increased from $10 to $75. The department of Public Safety is responsible for parking lot striping and signage maintenance; parking fees provide funds to maintain safe parking lots for all of campus.

Recent projects of note

- Security camera upgrades.
    - Security cameras were added to various parking lots throughout campus as part of the Wi-Fi access upgrades. Cameras have been installed in the following lots: 11th Ave., Clark Hall, Library, Harris Field, adjacent to the President's Residence, Workforce Training, Schweitzer Career & Technical Education Center, and the Administration Building.
    - A camera expansion plan is currently being developed and will consider camera needs for new construction.
- Resurfacing of 11th Ave. and Library parking lots was completed in summer 2020.
- Campus Access point project in process.
    - Guard arms will be installed to enhance physical restriction of unauthorized access onto campus. The current access control measure (bollards) can be removed by anyone. The guard arms will be operated with Salto access, and will be placed at the Activity Center ramp, by the Tennis Center/Spalding Hall lot, and by Public Safety in the Library parking lot.

Projected Needs

Parking has a need for expansion and optimization to account for growth, events, new technology, economic considerations and safety. The following are initiatives for consideration.

Install electric vehicle (EV) charging stations

- LC State needs to plan for an increase in electronic vehicle use; currently there are no EV charging stations. Washington state is in the process of passing a bill (Clean Cars 2030) which will phase out the sale of gasoline operated vehicles. Note: the closest EV charging station in the area is at the Clearwater Casino. Grant opportunities may be available and Avista has employees to coach through acquiring EVs.
- To expand funding opportunities, LC State will explore how to encourage Idaho state incentives for charging stations like incentives offered in Washington.

Plan for 6th Street

- LC State needs to determine whether to request the vacating of a portion of 6th street where LC owns the property on both sides. If request to vacate is made, consider whether the college should convert the space to parking or adjust the landscaping. Additionally, vacating could allow for an opportunity to expand athletics facilitates indoors and outdoors.
- If LC State pursues vacating, the portion adjacent to college properties could transition to expanded parking and/or a pedestrian roadway.
- If 6th street is to remain a roadway, traffic calming measures and better defined pedestrian access to campus needs to be installed for safety.

As LC State works toward enrollment and revenue diversification objectives (e.g., increasing events), the associated parking needs of this growth should be considered. LC State needs to complete a traffic flow and parking master plan design to determine and address these future needs. Engagement in this process should consider the following:

- Approximate ratio of 1.8-2 students per parking space is needed.
- The number of students who live on campus and have a vehicle.
- Working with the city to eliminate the residential parking permits on streets adjacent to space owned by LC (e.g., west side of 7th street) to allow for expanded parking.
- Remote event parking solutions such as shuttling people from the Schweitzer Career & Technical Education Center parking lot to the main campus as an option. LC State owned vans could assist with transportation.
- The diversion of traffic away from adjacent neighborhoods during large events.
- Establishing MOUs between LC State and A&B Foods, City of Lewiston, and others such as Fenton Gym and Vollmer Bowl with intention to shuttle guests. Parking lot standards and maintenance.

Establish a standard for parking lots to include at least one ingress and one egress point

- For new lots, these standards should be considered when planning. For existing lots that do not have two ingress/egress points, include adding an additional ingress/egress point when the lot is resurfaced (e.g., Sam Glenn Complex 4th Street and 9th Ave.).

Lot resurfacing – ongoing

Establish differential parking categories

- Consider adding designated residence hall parking spaces, electric vehicle spaces, and metered spaces.
- Develop a standard for short-term, metered, and long-term spaces in parking lots. For example: one meter per 25 spaces.
- Metered parking spaces will be convenient for students participating in remote instruction/distance learning who occasionally come to campus.
- Explore college-controlled parking solution at Clearwater Hall. Currently using public parking.

Parking lot camera expansion

- A camera expansion plan to more adequately cover parking areas will be created in 2022.

Note: Parking enforcement and roadway considerations will need to include the STC building and easements to it.

Funding Recommendations & Project Phases

Funding options include grants, ID Division of Public Works opportunities (such as parking lot resurfacing, guard arm and meter projects), internal reallocation and institutional resources.

Ongoing

- Lot resurfacing.

Phase I: Immediate Priorities (0-5 years)

- Camera expansion planning.
- Metered parking space planning.
- Differential parking.
- Install EV parking spaces.
- Plan for 6th Street.

Phase II: Mid-Range Priorities (5+ years)

- College-controlled parking solution for Clearwater Hall residents.

Phase III: Long Range Priorities (over 10 years)

- Contract for campus traffic flow and parking master plan design.

X. Utility Infrastructure

Background

Campus utility infrastructure may include systems such as information technology, HVAC, electrical, and other infrastructure areas on the LC State campus. The state of physical plant and information technology infrastructure along with changes that have occurred since the last campus master plan are detailed in the following.

In reviewing infrastructure, it is noted that the campus has grown organically without a strategic or utility-use plan which has resulted in multiple systems on campus that are not optimized and infrastructure without planned redundancy. As an example, LC State has a central heat plant and non-centralized HVAC systems. There are multiple types of HVAC systems that require a broad knowledgebase for serviceability and maintenance. There are steam driver radiators from the central plant and individual forced air systems; there are high-tech mini splits and residential-style furnaces in some building. An unintended consequence is that the college has taken load off the central plant, which stresses the equipment.

Recent changes and projects affecting physical plant infrastructure:

- The Spalding Hall renovation project in 2017 was able to accommodate a better placement of utilities. However, this project also introduced new HVAC technology, requiring more highly educated technicians to maintain. The Spalding HVAC took load off the central plant, which further decentralized campus. This is a broader strategic discussion (centralizing vs. decentralizing campus) that needs to occur as it impacts overall campus infrastructure decisions.
- The Schweitzer Career & Technical Education Center was designed and built with relatively simple HVAC systems for long-term maintenance and durability. The property is not adjacent to campus proper thereby requiring a stand-alone system.

The current state of Information Technology infrastructure includes:

- One data center and a single connection/single provider to the internet.
- The campus infrastructure is a Star Topology, meaning a single line goes from one location to each building, there is no redundant line to assist in an outage.
- Telephony is a mixture of analog, digital, and VoIP.
- Small presence in the Cloud Computing Environment.
- Completed project to install wireless access and video surveillance in additional parking lots to enhance student access to wireless on campus.
- In the last year, VPN was enhanced to provide more capacity for employees working at home.
- Additional devices and equipment (mostly laptops, headsets and webcams) were added to campus inventory to support remote work.
    - Need to understand future expected remote work and plan accordingly to support.

Projected Needs

Review of systems and infrastructure and proper planning are the primary needs in this area. Information Technology needs to review systems and determine the best path forward for redundancy in operations and the future of data storage, and potential cloud-based migration. The campus needs to review the HVAC systems and determine the most prudent path forward regarding a centralized and decentralized system, while also considering necessary expertise and maintenance. Additionally, aesthetics of infrastructure should be considered to maintain a beautiful campus environment. Like IT, the electrical infrastructure needs a redundancy option. The following further details these needs.

LC State needs to plan for infrastructure upgrades and modifications and future growth in technology requirements to meet redundancy and business continuity and disaster recovery criteria. Opportunities to consider are:

Review data center needs

- Analyze cloud opportunities. In the near-term, there is a need to create an online presence to provide redundancy for on-site services.
- Review risk of a single point of failure.

- Review the necessity for a data center versus data closet considering the cloud opportunities analysis.

Network infrastructure topology

- Research mesh wireless networking and 5G networking to provide redundant pathways to each building.
- Upgrade campus network backbone to 10 Gbps connections between each building and the center to accommodate additional traffic and be able to support the backhaul necessary for mesh networking.

Telephony

- Create a comprehensive digital voice environment.
    - Do a cost analysis for extending existing VoIP telephony system versus locally hosted systems.
    - Upgrade or migrate to fully converged identified solution.

Internet service

- Currently a single point of failure risk. Explore additional connectivity through a separate ISP to create redundancy for business continuity in the event of prolonged failure of primary ISP.

Cloud Environment

- Encourage Cloud SaaS when feasible.
- Benefits – SaaS can reduce operational cost, increase information and system security, and eliminate single points of failure caused by self-hosted systems.

Analysis and decision needed on centralized, decentralized, or mixed utility infrastructure

- Initiatives are underway to provide data and recommendations to inform this decision and additional considerations are being developed utilizing the Deferred Maintenance Study and a campus overview of energy and utility distribution.
- Additional reviews need to occur to better inform this decision such as a staff review of the current HVAC systems and pros and cons regarding a central plant vs a non-centralized system, exploration of funding options and contracting methods and a review of industry trends and the impact of environmental laws and future conditions.
- In reviewing an optimal route forward, LC State needs to determine the long-term total cost of ownership of the system(s) such as maintenance and utility costs. An optimal system should allow us to minimize these costs. Person power and expertise will need to be factored into this decision as it will be realized as a utility cost (e.g., higher maintenance cost is required for more sophisticated systems).

Building upgrades required due to aging

- Modernize the existing equipment that the serves the following buildings: Administration Building, Talkington Hall, Reid Centennial Hall, Meriwether Lewis Hall, and Sam Glenn Complex. Modernization may involve comprehensive HVAC system changes, and removal and replacement of plumbing/electrical systems. If a central plant is no longer supported, these buildings will need stand-alone systems for heat and cooling.

Explore the addition of a redundant electrical source to campus

- Currently, if electrical service goes down, the entire campus is compromised.
- In phase 1, LC State will work with Avista to research options on switching feeders and laterals within feeders when power goes out on campus to re-route power as quickly as possible to the affected areas.
- In phase 2, LC State will need to add a new service leg and a switch leg, to enable a backup electrical service.
- In phase 3, LC State will move the three-phase protection device from the current location to the “true” (near bookstore) entry point into campus.

Proper planning for utility yards is necessary to increase the aesthetics of campus

- Utility yards (trash enclosures, chillers, other utility spaces at entryways) across campus are in plain sight. For example, chillers could have been placed on roofs, which would leave the

architectural features open and visible. By planning the proper utility placement LC State can avoid students and guests having to walk past mechanical rooms and utility areas when on campus.

Recommendations & Project Phases

Funding options include grants, Idaho Division of Public Works opportunities, internal reallocation and institutional resources.

Ongoing

- IT infrastructure study to be completed in FY 2022.
- Use Deferred Maintenance Study data for ongoing planning.
- Review energy and utility distribution study and incorporate enhancements as appropriate.
- Physical Plant staff review of HVAC systems.
- Pre-planning utility yards.

Phase I: Immediate Priorities (0-5 years)

- Work with Avista to research options for switching feeders and laterals within feeders when power goes out on campus to re-route power as quickly as possible to the affected areas.
- Upgrade campus network backbone to 10 Gbps connections between each building.
- Cloud presence for data centers.
- Explore a secondary internet service provider.
- Mesh/5G networking to provide redundancy to existing physical network.
- Explore adding a redundant electrical source.

Phase II: Mid-Range Priorities (5+ years)

- Transition the local Data Center to a data closet – accomplish by transitioning services to the cloud.
- Telephony conversion.
- Building upgrades required by aging.

Phase III: Long Range Priorities (over 10 years)

- Move from wired networking to wireless networking.
- Infrastructure renewal (centralized or decentralized).

XI. Sustainability and Resource Management

Background

Lewis-Clark State College has made small strides with regard to sustainability and resource management. Primary initiatives include upgrading lighting to LED and assisting with water usage. The following buildings are almost entirely LED for lighting and most benefited from Avista rebates: Meriwether Lewis Hall, Library, Mechanical Technical Building, Physical Plant, Activity Center, Activity Center West, Spalding Hall, Student Union Building/Center for Student Leadership, Williams Conference Center, Expedition Hall, Tennis Center, Wittman Complex, Schweitzer Career & Technical Education Center, Center for Arts & History, and Sam Glenn Complex; Clearwater Hall is in progress and Sacajawea Hall will be completed with a FY2022 lighting project. The LC State owned exterior lighting in parking lots and exterior to buildings was also upgraded to LED, and there are a few remaining exterior lights not upgraded of which are owned by Avista.

With regard to water usage, the irrigation timers/controllers were upgraded to account for weather and temperature and city water meters were upgraded by the city to electronically monitored meters for faster detection of water leaks. Schweitzer Career & Technical Education Center landscaping is comprised of regional natural grasses and low impact landscaping for efficiency in maintenance and water conservation. LC State is slowly transitioning parking islands from grass to low impact landscapes (reduces water costs, maintenance, and labor). Regarding resource management, LC State is cognizant of the need to be efficient with resources such as personnel and expertise necessary in relation to facilities. As systems are replaced or upgraded, standardization is a goal to allow for better training and greater experience with systems for the maintenance staff.

Projected Needs

LC State will continue with several sustainability/resource conservation initiatives such as installation of LED lighting and water conservation. LC would like to implement several new initiates such as interior and exterior water conservation and baseline electrical usage analysis (pre-post projects). The following are objectives for this area:

Lighting efficiencies

A continuation of building and exterior lighting upgrades is necessary to increase efficiency. The next areas of consideration are:

- Internal LED lighting – residence halls (Clark and Talkington), Administration Building, Reid Centennial Hall, complete Activity Center (est. 30% remaining), Thomas Jefferson Hall, Music building, Pi'amkinwaas, and Adult Learning Center/Idaho Small Business Development Center.
- Exterior LED lighting – remaining areas are at the center of campus, bulbs will be replaced with LED as they go out.

Water efficiencies

- There are areas of opportunity in water usage. Water meters can be consolidated to reduce costs, but not usage. LC State is charged per water meter and can reduce costs if meters are combined. A review of consolidation opportunities is warranted.
- As interior water faucets need replaced (dripping, etc.), a touchless auto shutoff faucet can be installed to conserve water. Additionally, other touchless fixtures such as dryers can be utilized to reduce water usage (such as if users leave water running while getting a towel to turn off faucet).
- LC State should explore a capture of storm water to use for irrigation. The cost/benefit of this system should be reviewed and then LC State should determine whether to pursue a project. Future considerations as buildings are built is a grey water capture and reuse to assist in irrigation needs.

Electrical efficiencies

- Internal metering for electricity usage is an opportunity area to monitor savings and return on investment as buildings receive upgraded LED lighting and other facility efficiency enhancements (windows, HVAC, etc.). The focus will be on temporary/mobile meters to monitor before and after major efficiency projects, creating baseline data and then periodic updates of the data. To further upgrade electricity usage and conservation, longer-term consideration should be given to the use of solar power on new and existing facilities.

Funding Recommendations & Project Phases

The funding opportunities for these projects are donations, Idaho Division of Public Works, rebate incentives, internal reallocations, and local accounts.

Ongoing

- LED lighting upgrades as rebates and funding is available. Goal is to address at least one building per year.
- Water faucet replacement with touchless as fixtures need replaced.

Phase I: Immediate Priorities (0-5 years)

- Mobile/temporary internal electricity metering with a focus on non-LED buildings for a before and after comparison – install meters at these buildings as an initial priority.
    - Idaho Division of Public Works projects – Meriwether Lewis Hall, Sam Glenn Complex, Wittman Complex, and Mechanical Technical Building.
    - LED projects – residence halls (Clark Hall and Talkington Hall), Administration Building, Reid Centennial Hall, Activity Center, and Thomas Jefferson Hall.

Phase II: Mid-Range Priorities (5+ years)

- Explore storm water and grey water reuse for irrigation.

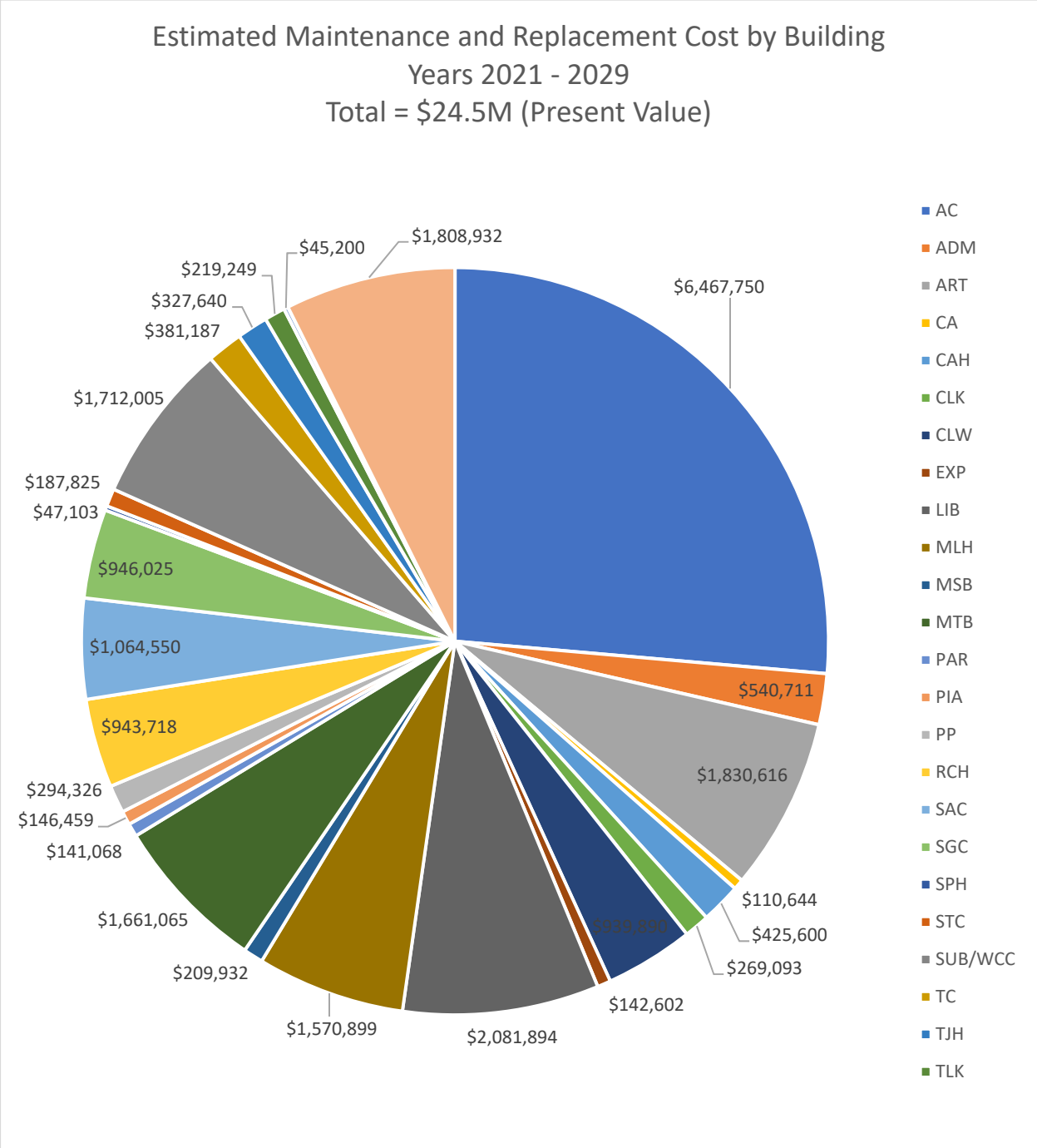
Phase III: Long Range Priorities (over 10 years)

- Water meter consolidation review and a cost benefit analysis.
- Explore solar power as an option on new or existing facilities.

Campus Master Plan – Deferred Maintenance

I. Background

This section contains information from a deferred maintenance study conducted in 2021. The needs identified in this study are detailed in the proceeding sections and will be a focus for Idaho Division of Public Works alteration and repair requests. For background, LC State had not engaged a company to perform a deferred maintenance study prior to 2021. The 2021 study has identified over $24.5 million in short term facility maintenance needs. The following chart details these needs and the respective locations:



II. Deferred Maintenance Study

LC State contracted McKinstry to complete a deferred maintenance study in spring 2021 in order to establish a baseline of the current conditions of the facilities and deferred maintenance needs. The following Executive Summary is from the McKinstry 2021 Facility Condition Assessment completed in April 2021 and provides an overview of the assessment results.

Overview

McKinstry conducted an onsite facility assessment of the LCSC campus to help establish a data-driven understanding of the current condition of building systems. The assessment reviewed the physical condition of the equipment list, supplied by LCSC, and scored the assets on a variety of criteria. Each asset was provided with an estimated years life remaining, condition score, impact on the classrooms score, estimated energy/water impact score, and the estimated replacement/renewal costs. An equipment data sheet, including a 30-Year Outlook Plan, is attached as an appendix for LCSC to help navigate their capital investments over the next thirty years.

McKinstry's Eric Caldwell and Mark Hood walked the buildings to visually assess the mechanical, plumbing, electrical, and architectural components listed in the original scope of work. Observations were generated during multiple site visits conducted the first week of February 2021 with a follow up mid-March 2021. Justice Stocks, an LCSC representative, was present and provided McKinstry with access to mechanical spaces and was interviewed for knowledge that was useful when compiling all information for final report.

NOTE: This information was gathered by visual inspection only. No tools or destructive testing was used for any equipment or system analysis.

SCOPE OF WORK

- Systems to include: heating, ventilation, air conditioning, roofing, electrical, fire/life safety/plumbing, vertical transportation
- Review existing construction as-builts and maps.
- Interview staff to understand what improvements have been made in the past three years, what improvements are planned, and known problems.
- Inventory all major facility equipment including quantity, size, asset tag number, manufacturer, model, and serial.
- Identify deficient conditions in terms of deferred maintenance and facility condition.
- Provide a reasonable cost analysis for above mentioned efforts.
- Provide cost tables and digital photographs to document the deficient conditions at each site.

Scoring

Building systems were given scores across three main categories, Asset Condition, Classroom Impact, and Energy/Water Savings to help prioritize their replacements.

The scoring criteria are as follows:

ASSET CONDITION	
1	**Excellent Condition** – Approximately 80%+ Remaining Life
2	**Good Condition** – Approximately 60-80% Remaining Life
3	**Fair Condition** – Approximately 30-60% Remaining Life
4	**Poor Condition** – Approximately 10-30% Remaining Life
5	**Unsatisfactory Condition** – Approximately 0-10% Remaining Life

CLASSROOM IMPACT	
1	**Little or No Impact** on Occupants
2	**Mild Impact** to Few Occupants
3	**Moderate Impact** to Some Occupants
4	**High Impact** to Some and/or many Occupants
5	**Space May Be Unusable**

ENERGY/WATER SAVINGS	
1	**Little or No Impact** on Energy/Water Savings
2	**Mild Impact** to Few Energy/Water Savings
3	**Moderate Impact** to Energy/Water Savings
4	**Mid to High Impact** to Energy/Water Savings
5	**High Impact** to Energy/Water Savings

All assets were also given the evaluation **based on their** condition and age:

LIFE REMAINING	**Estimated** number of years remaining until equipment/system requires replacement, calculated by combining asset condition with expected life and installation date.
LIFE EXPECTANCY	Standard Industry Life Expectancy of Equipment or System.
ESTIMATED REPLACEMENT COST	The estimated cost to replace the equipment.

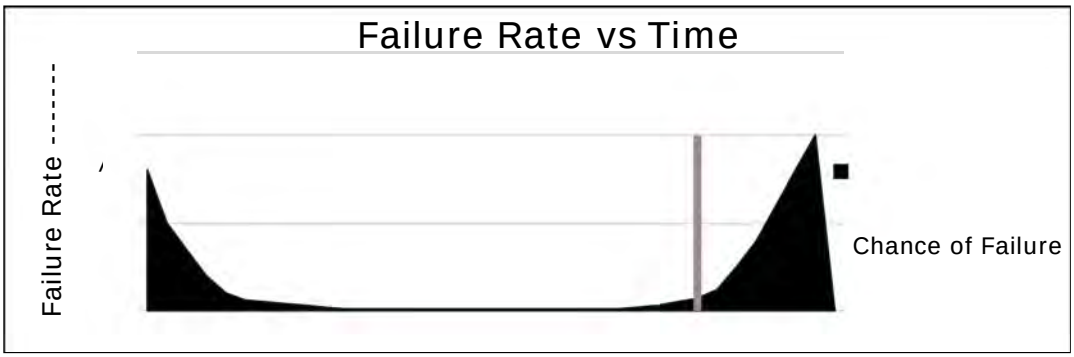
The team applied scoring and replacement costs to 1,829 pieces of equipment and system components combined. The overall campus score was 2.82 which puts the overall state of the building in **fair** condition.

Capital Planning

The **net present value of replacing equipment** reviewed in this study is **$76,803,695** over the **next 30 years**, assuming a 3% discount rate and a 3% inflation rate. This equates to approximately $2,560,123 per year that should be allocated for capital improvement projects plus an additional 3-4% inflation per year. These costs are estimates for what it will take to replace the existing assets with like-for-like systems when they reach their end-of-life. It does not consider potential technology upgrades, changes in demand at the facilities, or alternative sources of funding such as capital levies, bonds, or financing.

The estimated average remaining life of equipment and systems is approximately nine (9) years. This doesn't necessarily mean that the equipment will fail at that time, but the probability of failure increases each year past the expected life date. Planned replacements always cost less than unplanned emergency replacements.

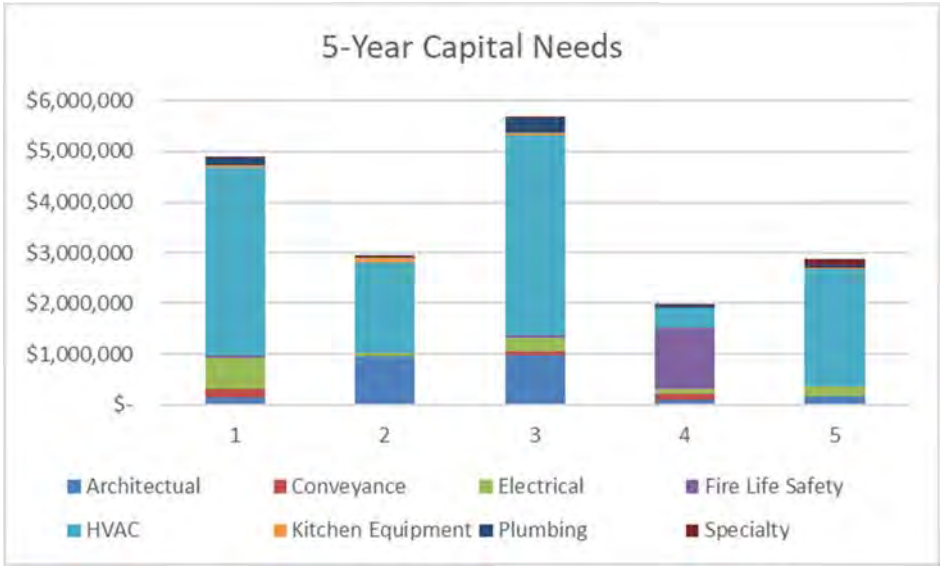
The term "expected useful life" is relevant because as equipment approaches or passes its expected useful life, the probability of failure dramatically increases. The bathtub curve (shown below) is a widely used analogy that reliability engineers use to demonstrate equipment failure rates over time.



REPLACEMENT NEEDS FOR THE LCSC OVER THE NEXT FIVE (5) YEARS

The tables below show the dollar values broken out by system that need to be addressed over the next five years.

Equipment Type	5-Year Estimated Budget
HVAC	$12,184,150
Plumbing	$247,700
Electrical	$1,261,700
Fire Life Safety	$1,307,602
Architectural	$2,378,990
Other	$826,500
Total	**$18,206,642**



INDIVIDUAL BUILDING SCORES

The overall scores of each building are based on a comprehensive look at all the scoring criteria for each asset and system within the building. The Building Scores provided in the chart below are an average of five different criteria, all with equal weighting. Those criteria include:

- Asset Condition
- Classroom Impact
- Energy/Water Savings
- Observed Remaining Life
- Estimated Cost Remaining

The prioritization and weighting of each of these assets and systems can be adjusted using the Tableau Visualization Tool provided to LCSC.

ACADEMIC					
LCSC Facility	**Bldg. Score**	**FCI Score**	**LCSC Facility**	**Bldg. Score**	**FCI Score**
Administration Building	2.72	0.03	N. Lewiston Training Ctr.	2.76	0.08
Activity Center	2.85	0.06	Physical Plant Building	2.79	0.19
Central Stores Warehouse	2.74	0.10	Physical Plant Storage Bldg	2.12	0.08
Center for Arts & History	2.62	0.07	Pi'amkinwaas	2.81	0.05
College Advancement	2.76	0.11	Reid Centennial Hall	3.14	0.06
Expedition Hall	2.80	0.05	Sacajawea Hall	2.73	0.01
Heating Plant / Art Ctr.	3.17	0.52	Sam Glenn Complex	2.97	0.04
Library	2.96	0.03	Spalding Hall	2.12	0.01
Meriwether Lewis Hall	3.14	0.04	Thomas Jefferson Hall	2.68	0.01
Music Building	3.07	0.24			
PROFESSIONAL					
LCSC Facility	**Bldg. Score**	**FCI Score**	**LCSC Facility**	**Bldg. Score**	**FCI Score**
Mechanical Technical Building	3.18	0.06	Wittman Complex (Industrial Agricultural Building)	3.22	0.10
Schweitzer Career & Technical Education Center	1.97	0.02			
RESIDENTIAL					
LCSC Facility	**Bldg. Score**	**FCI Score**	**LCSC Facility**	**Bldg. Score**	**FCI Score**
Clark Hall	2.89	0.06	Parrish House	2.96	0.11
Clearwater Hall	2.58	0.02	Talkington Hall	2.84	0.05
OTHER FACILITIES					
LCSC Facility	**Bldg. Score**	**FCI Score**	**LCSC Facility**	**Bldg. Score**	**FCI Score**
Student Union Bldg. / WCC	2.89	0.06	Tennis Center	3.00	0.10

Review of Building Scores

A review of these scores shows concerns with: Heating Plant/Art Center, Meriwether Lewis Hall, Music Building, Reid Centennial Hall, Mechanical Technical Building and the Wittman Complex. All facilities are academic/technical facilities, where system failures can lead to classrooms closures. Many of these facilities are also running off systems that are original to their buildings construction. The average age of the assets within these buildings is roughly around the mid-1980s.

FCI SCORE

The Facility Condition Index (FCI) Score is representation of the Maintenance, Repair, and Replacement Deficiencies of a facility divided by the Replacement Value of a new facility. The score allows capital planning based on a benchmark to compare the relative condition of a facility to what a new facility would cost. Standard practice in the facilities industry have set ratings of:

Good: Under .05 Fair: Between .05 to .10 Poor: Over .10

**Items not included in FCI detail: Floor/Stair Construction, Roof Construction, Domestic and Hydronic Water Piping, Plumbing Fixtures, Sewer Piping, Interior Walls, Interior Doors, Flooring, Ceilings, Institutional Equipment, Fixed Equipment and Furnishings. If any of these items are in fair to poor condition it will increase the FCI Score further for the facility.*

STAFFING

The table below references staffing models. The current staffing for the operations and maintenance department consists of 10 total Full Time Employees (FTEs). McKinstry was only able to make recommendations based on the Preventative Maintenance (PM) needs for the equipment inventoried during the FCA. This is a baseline recommendation for the college based on PM guidelines, there are still many more assets within the colleges portfolio that do not require PMs but still fail and require repairs or replacements (radiant heaters, terminal units etc.) McKinstry recommends a minimum of 5 FTEs to provide PMs and repairs for their MEP equipment. The final column is recommendations based off the International Facility Management Association (IFMA) Operations and Maintenance Benchmarks. These benchmarks have a wide variety of sector and facility specifications that differentiate industries from their peers based on its use-type, size, and location. McKinstry has taken these specifications and applied as much relevant information about LCSC to match the correct staffing benchmarks for the college.

	LCSC Current Staffing	McKinstry Baseline MEP Recommendation	IFMA Staffing Benchmark
HVAC	2	3	3.5
Plumber	1	1	1.92
Electrician	1	1	2.04
Controls and Low Voltage	0	N/A	3.7
Stationary Engineer	0	N/A	3.5
Carpenter	1	N/A	2
Generalist	3	N/A	3.15
Locksmith	1	N/A	0.82
Painter	1	N/A	1.74
Total Maintenance	**10**	**5 (MEP ONLY)**	**22.37**

DEFERRED MAINTENANCE – ALL BUILDINGS

Electrical Infrared Testing

- In conversations with LCSC staff, it was mentioned that infrared testing is not being completed for any electrical components. Infrared testing is an inspection process that utilizes infrared/thermography cameras to perform testing for hot spots within electrical equipment. This testing can help to determine if the electrical equipment is near a potential failure point so that repairs can be made to reduce potential costly emergency repairs in the event of a failure.
  - *Recommendation—Perform infrared testing on all electrical equipment (electrical panels, switchboards, and transformers) at least once every 5 years and on equipment that is over 30 years of age (297 items found district-wide) once every-other year.*
  - *In addition, all breakers campus should be exercised once a year to ensure proper function.*

Abandoned Equipment

- Many of the older buildings on campus have old equipment that is no longer in service just abandoned in place. Having old equipment left in place tends to clutter mechanical rooms and can become safety hazards for tripping or low height clearances. It is recommended that if any renovations or retrofits are completed to older buildings that all equipment that is being rendered out of service be removed and disposed of correctly.

General Condition of Electric Panels, Transformers, and Switchgear

- There are approximately 20% electrical components that have far exceeded expected useful life.

Fire Sprinkler Coverage

- It was noted that over half of the buildings do not have fire sprinkler coverage. This pricing was not included in the facility condition assessment but should be considered as buildings are upgraded for the safety of the students and faculty. Buildings without fire suppression systems include:

  - Administration Building
  - College Advancement
  - Central Stores Warehouse
  - Expedition Hall
  - Music Building
  - North Lewiston Training Center
  - Parrish House
  - Physical Plant Building
  - Physical Plant Storage Building
  - Pi'amkinwaas
  - Reid Hall
  - Talkington Hall
  - Tennis Center
  - Williams Conference Center
  - Wittman Complex (portions of)

Sidewalks

- Multiple sections of sidewalk have minor damage due to spalling. This is typically attributed to the use of ice melt over time. This condition will only continue to get worse due to frequent freezing and thawing during the winter months.

Earthquake Valves

- No earthquake valves were noted while on site. For the buildings with gas valves install, should be considered for safety. A quick look up of Idaho susceptibility to earthquakes revealed Idaho is ranked 5th in the nation for earthquake risk.

Exterior Brick

- Multiple buildings need brick repair by filling voids and gaps in brick and mortar to avoid damage due to water and pest intrusion.

Facility Overview and Building Descriptions

Twenty-three major buildings are located on Lewiston's Normal Hill campus, on Cecil Andrus Way, and other locations in Lewiston, Idaho. Most of the academic programming and academic support functions of the college occur on the Normal Hill campus and the Cecil Andrus Way campus houses select Career & Technical Education programs in the Schweitzer Career & Technical Education Center. Twenty-three structures are also maintained – these include storage, maintenance, special-use facilities, and residential units. Additional information regarding the buildings is listed in the Facility Inventory section of the campus master plan.

Major Buildings

Activity Center
Administration Building
Center for Arts and History
Clark Hall
Clearwater Hall
Expedition Hall
Library
Mechanical Technical Building
Meriwether Lewis Hall
Music Building
North Lewiston Training Center
Parrish House
Physical Plant
Reid Centennial Hall
Sacajawea Hall
Sam Glenn Complex
Schweitzer Career & Technical Education Center
Spalding Hall
Student Union Building/Center for Student Leadership/Williams Conference Center
Talkington Hall
Tennis Center
Thomas Jefferson Hall
Wittman Complex

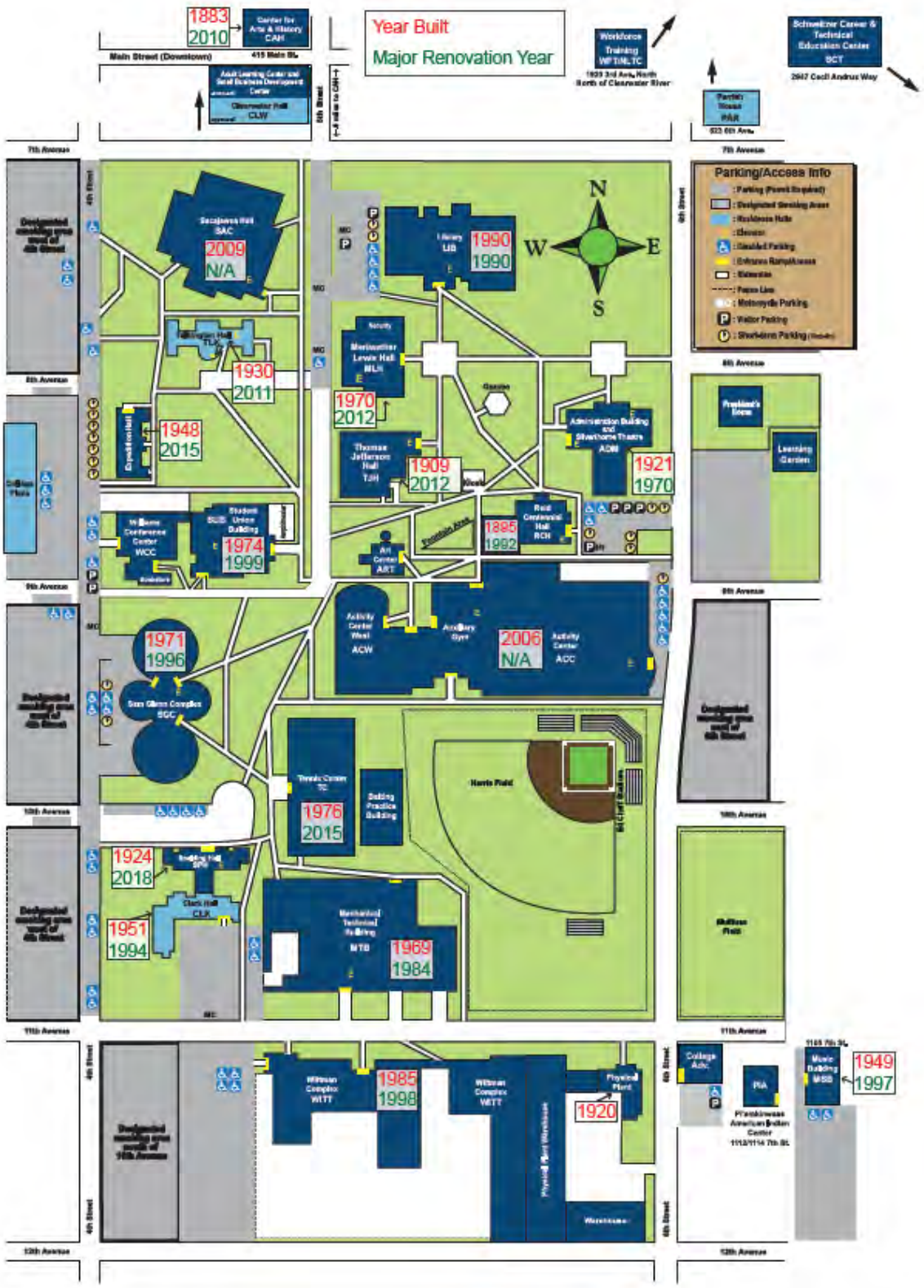
Other Structures

12 properties purchased for rental units or future expansion
Athletic Field Complex
College Advancement
Harris Field Facilities
Heating Plant/Art Center
International Living & Learning Center (formerly the "York House")
Maintenance and warehouse areas operated by the Physical Plant Department
Pi'amkinwaas American Indian Center
President's Residence
Skid Shop/Building (at WFT)
Storage Shed - Athletics
Tote and Float Pole Building

LC State Regional Outreach Center facilities

Coeur d'Alene facilities (Harbor Center, Molstead Library and joint DeArmond Building)
Grangeville Adult Learning Center
Orofino Adult Learning Center
Moscow Adult Learning Center
Recruiting Office in Boise

Campus map noting facility year built and last major renovation





ACTIVITY CENTER:

Built in phases, the Activity Center was partially occupied in 2005 and finished (west wing) in 2006. It is a three-story, masonry structure that includes classrooms, offices for the Physical, Life, Movement & Sport Science Division, Athletics, a fitness center, and two gymnasiums. The multilevel building has a modern single ply roof, hot water boiler heat, and a central air conditioning/chiller system. A self-funded project expanded and remodeled the Fitness Center area in 2015. A new roof was installed in 2019. Movement & Sport Sciences offices were expanded with the assistance of Idaho Division of Public Works Project 19-153.

The condition of the building is excellent. The Activity Center has a useable area of 106,000 square feet and has a replacement value of $19,550,077.96.



ADMINISTRATION BUILDING:

Built in 1921, the Administration Building is a two-story, masonry structure with a full basement, currently containing administrative offices including the President, Provost, and Vice President for Finance and Administration, Controller's Office, Grants Office, Human Resource Services, Purchasing, and Institutional Planning, Research, and Effectiveness; multiple classrooms; and the Silverthorne Theatre. The building was re-roofed in 2009, and the windows and exterior were last refurbished in 1994. All classrooms, offices, and multiuse areas need technological and physical upgrades.

A number of in-house repairs/upgrades to the Silverthorne Theatre (plumbing, curtains and stage rigging, performance electronics, acoustical treatments) were accomplished between FY2009 and FY2011. A major renovation of the Silverthorne Theatre/Auditorium, the basement green room, workshops, and external access ways was completed in 2015 (a project which earned the City of Lewiston Historical Commission's annual "Orchid Award" for historical preservation and renovation). Idaho Division of Public Works 15-152 Conference Room project was completed in 2019 in ADM 206, formally a classroom.

The Administrative Building is 26,280 square feet and has a replacement value of $9,765,821.78.



CENTER FOR ARTS & HISTORY:

The Lewis-Clark State College Center for Arts & History is located in the heart of historic downtown Lewiston, Idaho, and is listed on the National Register of Historic Places. The building is the largest art gallery in northern Idaho and home to the permanent exhibit of Lewiston's Chinese Beuk Aie Temple.

The 12,000 square foot building was completed in 1884 when it was known as Vollmer's Great Bargain Store. It was custom built, beginning in 1883, for Idaho's first millionaire, J.P. Vollmer.

The First National Bank of Lewiston, which Vollmer started, occupied the building from 1904-1946, when it was sold to First Security Bank, which continued its operations in the building until 1989. In March 1991 First Security Bank of Idaho donated the building to the Lewis-Clark State College Foundation for use as "a center for arts and culture." Since its opening in October 1991, the Center has welcomed more than 75,000 visitors from all 50 states and 38 foreign countries. Ownership of the Center was transferred from the LCSC Foundation to the college in October 2010.

On March 5, 2009, the building suffered a fire that closed it for nearly two years. The Center nevertheless continued operations in a temporary space until its grand reopening in September of 2011. The building currently houses the offices for the staff of the Center for Arts & History.

The building was re-roofed in 2013. An Idaho Division of Public Works (DPW) Project to upgrade the HVAC system to the Center was completed, and DPW Project 19-150 was completed Summer 2020 to repair external masonry and windows on the facility.

The Center for Arts and History is 12,000 square feet and has a replacement value of $2,587,855.78.



CLARK HALL:

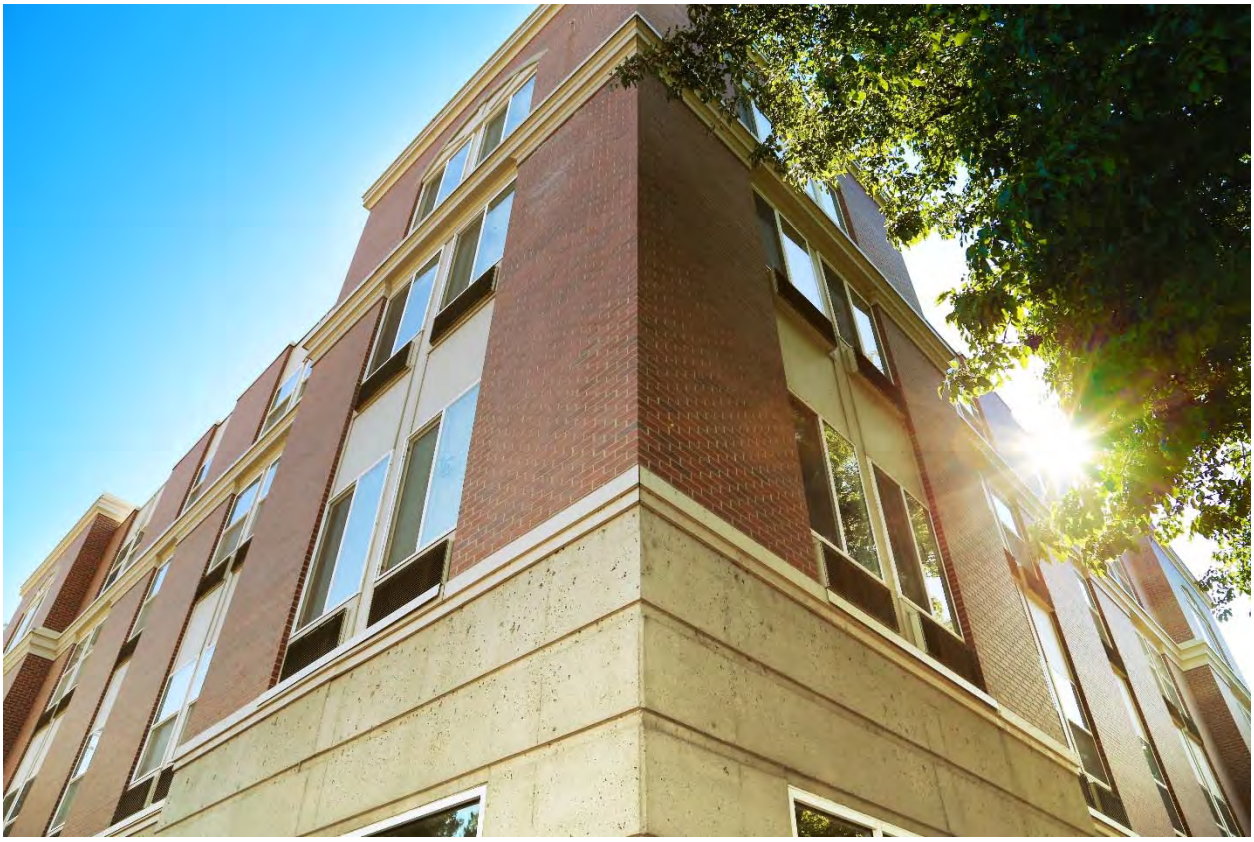
Construction of Clark Hall began in 1951 under the Civilian Conservation Corps (CCC). The building was completed shortly after the Lewiston Normal School (as the college was then known) was closed by the Legislature that same year. When the college was re-opened in 1956, Clark Hall was occupied as a men's dormitory. It remains a residence hall today.

The building is made of poured-in-place structural concrete. The concrete post structure divides the building into 16-foot square increments, which is likely to pose challenges to any future reconfiguration of the building for other than residence hall or office use. The walls and ceilings are un-insulated; there is no central air conditioning system. Windows, carpets, and window-mounted air conditioner units were installed in 2009.

In 1999 the second floor of DK wing was joined to the second floor of Spalding Hall and eight rooms were annexed in Spalding Hall as faculty offices. Following this remodel, Clark Hall has an 80-bed dormitory capacity.

The building was re-roofed in 2013. The condition of this building is safe but marginally acceptable for residential living.

Clark Hall has 23,545 square feet and has a replacement value of $5,321,775.63.



CLEARWATER HALL:

Clearwater Hall, located on Main Street in downtown Lewiston, consists of new construction (east side of facility) which is integrally joined on the west side to a renovated former office building which had been destroyed in a fire in 1994 (the “Adams Building” built shortly after the turn of the 19th century by descendants of John Adams and John Quincy Adams). Construction of the modernized facility was accomplished by a private developer for use as a college residence hall. Upon completion of the project in 2006, the college leased the housing facility from College Town Development Idaho LLC. In April of 2009, LCSC purchased the property for use as a college-owned and managed residence hall.

The four-story unit contains 117 living units arranged in suites with two to four bedrooms, each sharing a bathroom, living room, and cooking area. A major upgrade of the unfinished west end of the first floor was completed in 2012, including the creation of the space now used by the Adult Learning Center. A build-out to the center section of the first floor houses the Small Business Development Center.

The facility area is 34,396 square feet, with a replacement value of $7,959,424.00.



EXPEDITION HALL

Expedition Hall is a two-story building with a daylight basement. It has wood framed interior walls with brick veneer; the wood truss roof system is fitted with a new asphalt shingle roof. The building was donated by Walla Walla Community College in Walla Walla, Wash. The structure was cut into two halves and transported to the campus in Lewiston in 1948.

The building contains the KinderCollege Daycare program, Social Work faculty and staff along with elements of the Early Childhood Development program. Each level of the building has grade access that makes it accessible for handicapped persons. Idaho Division of Public Works Project 15-151 provided for new doors, windows, major electrical and HVAC renovation.

The building is 8,216 square feet and has a replacement value of $1,829,620.83.



LIBRARY:

Built in 1990, the Library houses the college library functions –Testing Center, Spanish Lab/Writing Center, and Communications & Marketing.

The two-story part of this masonry building is the Library proper and includes large stack areas along with administration space, classrooms, computer lounges, and interactive centers, including the Writing and Spanish Labs. The building also contains a television studio and a classroom equipped for distance education along with media distribution and graphic production activities.

As one of the newer structures on campus, the Library is in good overall condition. It was designed to allow expansion to the east by the use of removable wall sections at current window locations.

Upgrades to the facility (requested as part of PBFAC FY2014) were completed, including removal of the obsolete fire suppression system in the Library server room, replacement of the building's external chiller unit, and renovation of the large Telecommunications Center Classroom (TCC). A new Teaching and Learning Center was established in the area formerly occupied by the "Library Commons" computer lab, and became fully operational in 2015. Idaho Division of Public Works Project 18-151 to replace HVAC controls was completed in 2019.

The Library 53,073 square feet in area and has a replacement value of $13,025,545.33.



MECHANICAL TECHNICAL BUILDING

Constructed in 1969, the Mechanical-Technical Building (MTB) was built on the site of the original Industrial Arts Building. The Mechanical Technical Building was built using Economic Development funds earmarked for vocational training programs. It is a two-story masonry building with all but approximately 20% being on the ground level. The building was completely destroyed by fire in 1984.

The Collision, Diesel and Welding programs are the primary occupants of the original, reconstructed building. Both are accessible by handicapped persons and had modern roofing installed in 2011. A new chiller was installed in Mechanical Technical in the winter of 2009. The main transformer for the facility's power supply was replaced in 2015.

The Mechanical Technical Building is 59,143 square feet and has a replacement value of $18,714,975.01.



MERIWETHER LEWIS HALL:

Meriwether Lewis Hall is a three-story masonry building with a full basement. Built in four phases, the first facility was constructed on the site of Old Lewis Hall in 1970 and was approximately one sixth the size of the current building. Other phases, completed in 1977 and 1981, increased the total size, added an elevator to serve all floors, included a theater-style classroom room, and provided facilities for the Nursing program.

MLH now houses offices, classrooms and laboratories for Physical, Life, Movement & Sport Science. Two large general-purpose classrooms are equipped for distance education programs. Following the completion of the new Nursing/Health Sciences Building (Sacajawea Hall) in 2009, a major ID Division of Public Works (DPW) project was completed which reconfigured the 1960s-vintage laboratory spaces and offices in the MLH to bring them up to modern standards. Public Safety offices are located at the northwest corner of the first floor.

A series of upgrades has brought the MLH elevator into compliance with ADA code, and the fire alarm system for the building was upgraded as part of the elevator project. A new chiller was installed in 2009. A new roof was installed in 2019 with the assistance of DPW Project 18-152.

Meriwether Lewis Hall is 38,860 square feet and has a replacement value of $ 12,296,703.40.



MUSIC BUILDING:

The “new” Music Building was originally a church located near campus and later a local Boy Scouts of America headquarters. It was built in 1949. In 1994 LCSC purchased the building and converted the two large rooms into music classrooms to accommodate dance and music programs; these rooms need physical and technological improvements. Offices and practice rooms make up the rest of the buildings current use.

The facility is displaced from – but lies within easy walking distance of – the main campus. Future development of this property would be subject to a rezoning or conditional use permitting process. This single-story brick structure is accessible to handicapped persons; it was given a new roof in 2008.

The Music Building is 5,527 square feet and has a replacement value of $852,639.98.

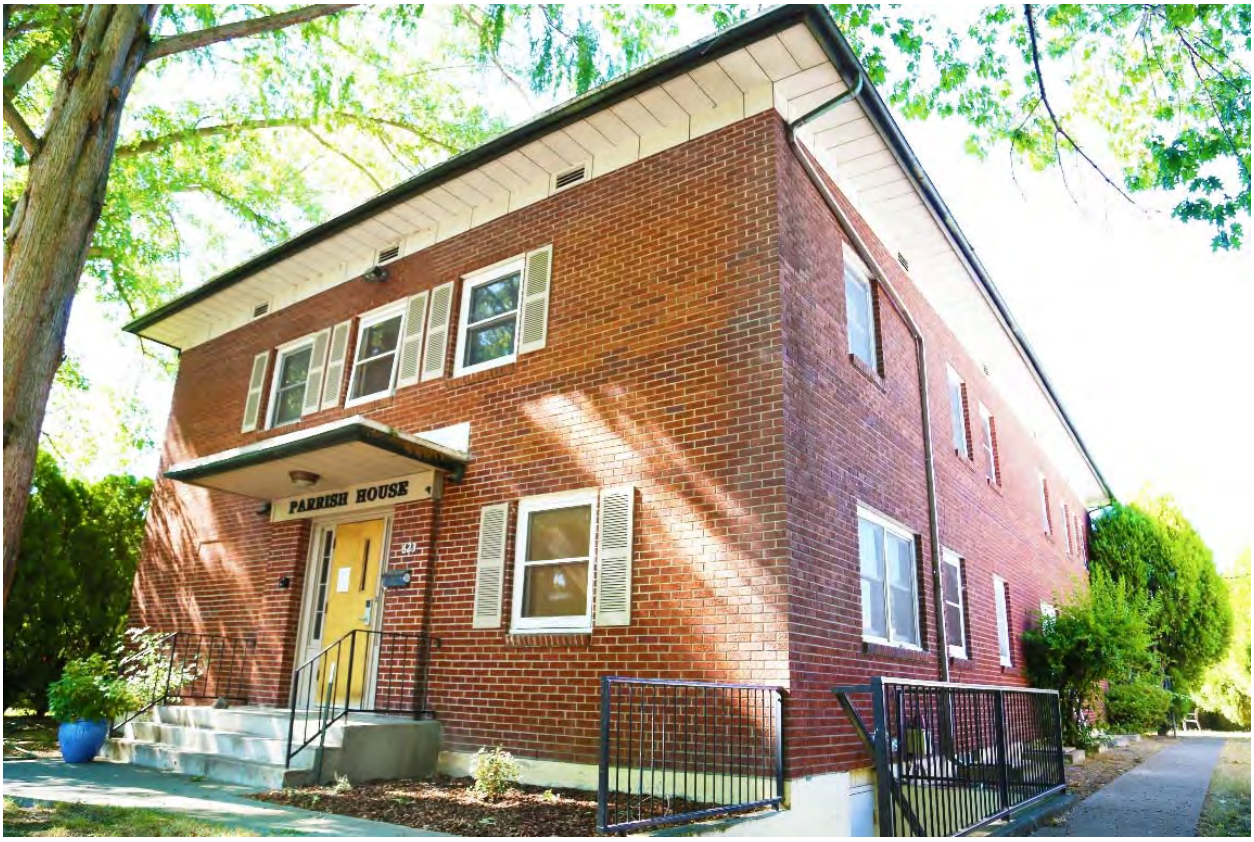


NORTH LEWISTON TRAINING CENTER:

The North Lewiston Training Center building was donated to the Foundation by DeAtley Corporation in November 1999 and acquired by Lewis-Clark State College in March 2010. Before it was moved to its current location, the complex of portable units was located on Snake River Avenue, where it served as the main office for DeAtley Corporation.

The facility is comprised of six modular units, totaling 4,900 square feet, under a single roof. It houses LC State's Workforce Training programs which include Allied Health, computer classes, apprentice classes, and technical and industrial classes. In the fall of 2012 the leaky roof was replaced with a new roof at a cost of $66,447. Climate control of the facility is provided by six externally mounted heat pump units, five of which were replaced in 2013.

The NLTC is 4,900 square feet and has a replacement value of $465,744.92.



PARRISH HOUSE:

The Parrish House residence facility, located two blocks north of the main campus, was built in 1956 as a private apartment complex and was acquired by the college in 1993 (for $130,000) for use as student housing. The 8,500 square foot facility has 19 bedrooms, three single bathrooms (sink, toilet, shower), a powder room (sink and toilet only), and four full bathrooms. The facility also contains a laundry area, a living-dining-kitchen area, a large utility room, and a mail room. The unit is served by a gas boiler. Roofing repairs and carpeting upgrades were completed in the summer of 2012.

While still safe, the aging unit does not meet the standards expected of a contemporary residence facility, and planning is underway to determine the long-term disposition of the facility.

Parrish House is 8,500 square feet and has a replacement value of $1,397,162.33.



PHYSICAL PLANT/CENTRAL STORES WAREHOUSE:

The Physical Plant building was built in 1920 and was used as a fire station until the college acquired it. In 1970 the Central Stores warehouse was built south of the plant building forming a secure complex that houses the physical plant shops and offices, motor vehicles, custodial supplies warehouse, and general shops storage.

LC State's Permanent Building Fund request for an expansion of storage space was approved in the FY2014 planning cycle, and the new storage facility, located within the Physical Plant parking and loading area, was completed January 2016.

The Physical Plant building is 8,708 square feet with a replacement value of $577,876.17. Central Stores warehouse is 5,120 square feet with a value of $423,546.14.



PRESIDENT'S RESIDENCE:

Built in 1905, the President's Residence is a two-story Queen Anne Victorian home built for J.O. Bender, a Lewiston attorney, for the cost of $7,200. James Nave, the preeminent architect at the time, designed the house along with many other renowned Lewiston buildings. The multi-gabled roof of this elegant home has Queen Anne styling, cedar clapboard siding, a wrap-around porch, turned port balustrade, and boxed cornices with ornate brackets. After its completion, the Tribune reported the "outside architecture is of the most pleasing character and the residence will be one of the most attractive on Normal Hill." There were three previous owners before Lewis-Clark State College purchased the house in 1925 to serve as the president's residence. The house was extensively renovated in 1978 under the direction of LC State President Dr. Lee Vickers and his wife Deanna, who preserved the original character of the house's interior and exterior. It was renovated again in 1991 and reroofed in 1997 for $44,696. It is the oldest president's house within the Idaho higher education system.

The facility is in good general condition. A new HVAC system was retrofitted to the facility as part of a delegated Idaho Division of Public Works (DPW) FY2015 project. The wooden decking (and under supports) for the house have reached the end of their useful service life. DPW Project 19-158, initially intended to upgrade the kitchen, was used to repair the siding and porch in summer 2020. The President's Residence is 4,200 square feet and has a replacement value of $603,599.47.

Note: Historical information drawn from LC State archives, historian Steve Branting and *Educating the West*, written by Keith Peterson.



REID CENTENNIAL HALL:

This is the oldest building on campus, constructed in 1895 as the first college classroom and administration building. The two-story masonry building with a full basement houses Student Affairs functions and three classrooms.

In 1905, a large addition was built to the east, nearly doubling the floor area. In 1917, a fire gutted the building and completely destroyed the east wing. When rebuilt in 1918, all that was salvaged was the tower and the front and rear exterior walls. The east wing was not rebuilt nor was the spire. In 1993, in preparation for the college Centennial celebration, a replica of the old spire was put in place atop the clock tower. In 2018, as part of the college's 125th anniversary celebration, a flag was added to the top, per the tower's original design. Until 1990 the facility served as the college Library.

When the "new" Library was built in 1990, library functions moved from RCH, and it was deemed to be structurally unsuitable to resist earthquakes if remodeled. However, because of its historic nature, the building was remodeled, and the project cost was expanded and included extensive work to stabilize it. At that time, elevator accessibility was also added.

The condition of this building is satisfactory. Due to the age of the structure, the state facilities inventory identifies its status as "Remodeling A," needing modifications that are less than 25% of the current value. A new external chiller system for the facility was installed through an FY2014 PBF-funded project.

Reid Centennial Hall is 28,083 square feet and has a replacement value of $8,886,472.49.



SACAJAWEA HALL:

The Nursing & Health Sciences building was completed in the summer of 2009 and sits on approximately 1.9 acres on the northwest corner of campus. This building has become one of the focal points for the campus. The 60,000 square foot, two-story building includes laboratories, classrooms, two large lecture halls, and faculty offices, and is completely handicapped accessible. The building features cast-in-place concrete and structural steel infrastructure with steel joist, metal decks and steel framing. The exterior is a combination of brick and concrete plaster stucco over gypsum board sheeting.

The first floor of this building houses nursing labs, simulation rooms, practice hospital rooms, classrooms and faculty offices. The second floor houses science labs, preparation spaces, chemical storage areas, and faculty offices.

The building construction cost was $16,000,000 and the current replacement value of the facility is $20,693,910.59.



SAM GLENN COMPLEX:

This building is a two-level, daylight basement, masonry structure comprised of four circular elements. It was built in 1971 using Economic Development funds earmarked for vocational training programs. Initially the basement level was not finished. Following several major expansion phases, the entire building is now finished. Career & Technical Education programs continue to be major tenants of the facility, and other functions now located in SGC include Student Health Services and the Information Technology Department.

A new chiller was installed in 2009. The classrooms are in satisfactory condition; new carpet was provided for several classrooms in the summers of 2012 and 2013. Self-help projects have been used to upgrade some of the office and classroom spaces, and there were also major upgrades of classroom furniture in 2012. The roof of the facility was replaced as part of an FY2014 PBF project. Idaho Division of Public Works Project 18-150 to upgrade the HVAC system was completed in the summer of 2020.

The Sam Glenn Complex is 60,962 square feet and has a replacement value of $18,570,078.55.



SCHWEITZER CARREER & TECHNICAL EDUCATION CENTER:

The Schweitzer Career & Technical Education Center is LC State's newest building and construction was completed in 2020. The facility houses seven of the Technical & Industrial programs. The main building is a three-story steel-built structure with two attached prefabricated metal buildings. The facility has 22 classrooms/labs, a 16-bay auto shop with two separate dynameter labs, one outdoor classroom for HVAC, a community conference room, a learning resource center, four student breakout areas and a lunch area. There are two parking areas and the sustainable landscaping is comprised of regional prairie grasses and local stone for minimal water usage, care and maintenance.

The Schweitzer Career & Technical Education Center is 86,169 square feet and has a replacement value of $19,561,600.



SPALDING HALL:

This three-story masonry building, with basement, was constructed in 1924. The building is named after pioneer educator Eliza Hart Spalding, who, with her husband, Henry, established the famous mission school at Lapwai for the Nez Perce people. Spalding Hall was originally a spacious dormitory designed for young women. Its “sleeping porches” could accommodate 72 female students who slept in groups of four and enjoyed all the modern amenities of the time, including hot and cold running water, wardrobes, and study halls. In 1930, Spalding Hall became the official men’s residence at the college, and later in the same decade the building served as the district headquarters for the Lewiston Civilian Conservation Corps (CCC). Still later, Spalding Hall provided residences for married students until the building closed in 1950. Reopened in 1966, Spalding was remodeled into offices. In 1975 a fire damaged the basement. The entire building was refurbished in 1977.

In 1994, construction of an elevator made the building handicapped accessible. Other projects the same year added accessible restrooms, new roofing and new windows. In 1996, the masonry was cleaned and re-grouted; the terrazzo accent areas were refinished or repainted. The facility was re-roofed in 2015. With the assistance of Idaho Division of Public Works Project 16-151, the building was refurbished to include upgraded classrooms, conference, office spaces, including energy efficient windows and doors, improved lighting, flooring repairs, re-carpeting, HVAC and electrical improvements at the cost of $3,156,102. The project was complete the summer of 2018 and earned the City of Lewiston Historical Commission’s 2018 annual “Orchid Award” for historical preservation and renovation.

Spalding Hall is 20,063 square feet and has a replacement value of $6,254,833.



STUDENT UNION BUILDING/CENTER FOR STUDENT LEADERSHIP:

The original two-story masonry structure was built in 1974 on the site of outdoor tennis courts. In 1999, the Student Union Building/Center for Student Leadership was completely remodeled. At that time the college Bookstore and the Williams Conference Center, which are attached to the SUB, were also improved. As a result, this complex is modern and attractive.

The Williams Conference Center has movable walls which make the center flexible with several possible room configurations which will accommodate various uses. The movable walls were showing signs of wear and tear and were replaced with new ones in 2018 with the assistance of Idaho Division of Public Works (DPW) Project #17-153. Upgrades to the HVAC system for the WCC were carried out in an FY2010 DPW project.

A unique aspect of the Student Union Building is the kitchen and serving area. This area is designed to prepare and serve food for 600 customers per hour; including dish washing and seating. A concessions contract to provide all food service needs of the college is currently held by Sodexo Corporation.

In addition to the bookstore (Follett Higher Education Group) and conference area, this building is home for food services and dining, the student radio station, student government, club offices, the Pathfinder, Jitterz coffee house, student lounge, a computer room, and an amphitheater. The 1999 remodel was funded entirely by student fees and all areas are handicapped accessible. A new roof was installed on the SUB (and adjoining Bookstore and Williams Conference Center area) in 2015.

The Student Union Building is 49,326 square feet and has a replacement value of $15,377,854.



TALKINGTON HALL:

Talkington Hall was built in 1930 as a women's dormitory. This three-story masonry building is named for Dr. Henry L. Talkington who was Chairman of Social Sciences from 1899 to 1939.

The old kitchen and the third-floor lounge were converted to student-use rooms in recent years. Gutters were installed in 1996, the building was re-roofed in 2008, and in the summer of 2009 new windows were installed and floors were improved.

Several priority upgrades were completed in 2012, including installation of an ADA-accessible elevator, asbestos abatement, electrical and lighting upgrades, fire alarm and sprinkler improvements, and ADA door modifications. Self-help efforts have been undertaken to refurbish wooden floors and replace worn carpets.

Talkington Hall is 21,866 square feet and has a replacement value of $4,869,239.



TENNIS CENTER:

The Tennis Center was built in 1976. It is a metal building that houses four indoor tennis courts. It is used as a recreational center, physical educational center, interscholastic tennis facility and classroom. A renovation of the entrance, restrooms, office, and team areas was completed in 2015 with funding provided from private donors and the Lewis-Clark State College Foundation. On the west side of the center there is an office and restroom. This office is the main entrance of the center and is handicapped accessible. The interior ceiling (which was covered with a sprayed acoustical treatment) was re-covered in 2011.

The tennis center is 24,964 square feet with a replacement value of $1,657,936.



THOMAS JEFFERSON HALL

This facility has changed names over the years as its uses evolved. Built in 1910, the facility hosted the college's domestic sciences/home economics programs. As missions shifted in later years, the facility served in a wide variety of functions as the Science Building, Music Building, and Fine Arts Building, hosting various programs, offices, and classrooms. Following the renovation of the facility in 2012-2013, the structure became home to the Business & Computer Science Division and was renamed "Thomas Jefferson Hall" in light of that president's contributions to the opening of the West (including the Louisiana Purchase and the commissioning of the Lewis and Clark expedition which is commemorated in several other LC State facility names). Historically and architecturally speaking, the building is one of the most interesting edifices on campus. Kirtland K. Cutter, one of the most influential architects in the northwest at the turn of the century, designed the original building. The original structure cost $25,000.

In 2004, an elevator and restroom addition were added making the entire building handicapped accessible and blending into the historic architecture. The building was re-roofed in 2008, and a total renovation of the main portion of the building was completed in March 2013 at a cost of over $1.9M. The college received the City of Lewiston's 2014 "Orchid Award" for historic preservation and renovation for this project.

The building contains 11,011 square feet and has a replacement value of $3,294,268. CBIZ appraised the building at $3,149,800 in December 2016.



WITTMAN COMPLEX

As part of the 1986 rebuilding process, the Wittman Complex, also known as the Industrial Agricultural Building, was erected on the south side of 11th Avenue, opposite the Mechanical Technical Building. The Wittman Complex is a single level facility fitted with large lab areas for training in auto-body repair, and the repair of industrial and agriculture equipment. A 25-seat general use interactive classroom is in satisfactory condition. In 1996, a classroom, laboratory, and storage facility were added to the complex to address critically-needed storage space for the then School of Technology's training aides and to provide classroom and laboratory space for the Major Appliance Service Technician Program.

The Wittman Complex is 26,512 square feet and has a replacement value of $8,265,370.

Appendix

a. Appendix A: Major Building Information Summary

Building	Year Built	Heat	A/C	Fire-Sprinklers	Fire Alarms	Major Renov.	Replacement Cost
Activity Center	2006	Local Boiler	Central	Yes	Yes	n/a	$19,550,077.96
Administration Bldg.	1921	Central Boilers	Window + Central	No	Yes	1970	$9,765,821.78
Center for Arts & History	1883	Local Boiler	Central	Yes	Yes	2010	$2,587,855.78
Clark Hall	1951	Central Boilers	Window	Yes	Yes	1994	$5,321,775.63
Clearwater Hall	2006	External + Central	Window + Central	Yes	Yes	2012	$7,959,424.00
Expedition Hall	1948	Central Boilers	Window	No	Yes	2015	$1,829,620.83
Library	1990	Central Boiler	Chiller	Yes	Yes	1990	$13,025,545.33
Mechanical Technical Bldg.	1969	Local Boilers	Chiller (new 2009)	Yes	Yes	1984	$18,714,975.01
Meriwether Lewis Hall	1970	Central Boilers	Chiller (new 2009)	Yes	Yes	2012	$12,296,703.40
Music Bldg.	1949	Local Boiler	Central (x3)	No	Local	1997	$852,639.98
North Lewiston Training Center	1980	External Heat Pump	6 external units	No	No	N/A	$465,744.92
Parrish House	1956	Local Boiler	Central	No	Yes	2012	$1,397,162.33
Physical Plant complex	1920	Local Boiler	Central	No	No		$577,876.17
Reid Centennial Hall	1895	Central Boilers	Chiller	No	Yes	1992	$8,886,472.49
Sacajawea Hall	2009	Local Boilers	Chiller	Yes	Yes	N/A	$20,693,910.59
Sam Glenn Complex	1971	Gas Furn. + Boiler	Chiller (new 2009	Basement only	Yes	1996	$18,570,078.55
Schweitzer Career & Technical Education Center	2020	Gas Boiler	Air Cooled Chillers	Yes	Yes	n/a	$19,561,600.00
Spalding Hall	1924	Local Boiler	Window	No	Yes	2018	$6,348,655.71
Student Union Bldg./Center for Student Leadership	1974	Central Boilers	Chiller	Yes	Yes	1999	$15,608,522.69
Talkington Hall	1930	Central Boilers	None	No	Yes	2011	$4,942,278.44
Tennis Center	1976	Gas Co-Rayvac	None	No		2015	$1,682,805.95
Thomas Jefferson Hall	1909	Hydronic	Central	Yes	Yes	2012	$3,343,682.07
Wittman Complex	1985	Gas Furnace	Central	In building and paint booth	Yes	1998	$8,389,351.53

b. Appendix B: Major Initiatives (six-year plan) as submitted to Div. of Public Works in FY2023

Lewis-Clark State College's six-year plan, submitted to the Idaho Division of Public Works annually, includes renovations and plans for facilities and buildings. The focus of the six-year plan is primarily renovations associated with existing facilities to ensure LC State is a good steward of Idaho's state properties and resources. Conceptual ideas for potential new facilities include a Living and Learning Center to expand resident student housing in conjunction with student support services, tutoring, and teaching and learning instructional spaces, and completion of phase 2 of the Career & Technical Education Center concept to house LC State Technical & Industrial programs together and increase capacity, allowing program expansion as well as increased synergies associated with Workforce Training. The list below is in order of priority as presented in the Division of Public Works request for FY2023. Note these are subject to change as the educational environment evolves.

1. The first priority is to address infrastructure and safety needs associated with the Wittman Complex and Mechanical Technical Building. These include updates to the HVAC and fire alarm systems in both buildings. Additionally, the Wittman Complex needs a fire sprinkler system update.
2. The Sam Glenn Complex, which serves as the education hub for LC State Business Technology & Service programs, needs remodeling to address safety issues and refresh a building that has not had a major revitalization since 1996. The request includes replacing the failing ceiling tile structure, installing new carpeting and addressing other minor repairs and necessary related painting.
3. Meriwether Lewis Hall needs safety updates to the HVAC, electrical, alarm, and sprinkler systems. Plumbing and flooring upgrades are also essential.
4. Talkington Hall needs safety updates such as HVAC, plumbing, electrical, and full bathroom remodels.
5. The Administration Building updates include HVAC, stairwell restoration, and window upgrades for energy efficiency.
6. Reid Centennial Hall needs safety and system upgrades such as plumbing, electrical and HVAC. The basement walls need to be re-plastered. Bathrooms throughout the building need updates and the main floor needs an ADA accessible bathroom.
7. The Central Heat Plant is reaching end-of-life and needs to be replaced with an energy efficient system. The 2021 deferred maintenance study indicates this facility needs major upgrades to the boiler system and/or a master planning effort is recommended. There are six buildings that currently utilize steam from the heating plant: Reid Centennial Hall, Administration Building, Expedition Hall, Student Union Building/Center for Student Leadership, Meriwether Lewis Hall, and Talkington Hall. A review and determination of what is in LC State's best interest from an efficiency and effectiveness standpoint is needed.
8. The Living/Learning Center & General-Purpose Facility would be a new facility with a combined use for residential and instructional purposes. A multiuse facility will allow LC to increase its residential student population and provide additional multipurpose classroom space to support instructional programs.
9. The CTE/Workforce Training Center represents the full vision of the original plan. This phase 2 CTE facility would include labs and classrooms to support increased capacities, facility and equipment upgrades for technical and industrial programs as well as non-credit, workforce training students.
10. The Music Building needs to be renovated, including possible repurposing of space usage. Renovation needs include updates to the HVAC, fire, and alarm systems and replacement of flooring. A review of the electrical and plumbing systems should take place for evaluation of suitability (possible end-of-life conditions).

PROJECT DESCRIPTION/ LOCATION	**FY 2023 $**	**FY 2024 $**	**FY 2025 $**	**FY 2026 $**	**FY 2027 $**	**FY 2028 $**
Wittman Complex/MTB System Updates	$3,763,200					
Sam Glenn Complex Remodel	2,352,000					
Meriwether Lewis Hall Remodel	17,640,000					
Talkington Hall Remodel		$14,112,000				
Administration Building Updates		4,468,800				
Reid Centennial Hall Remodel		14,112,000				
Central Heat Plant			$35,280,000			
Living/Learning Center & Student Support Instructional Facility				$29,400,000		
CTE/WFT					$29,400,000	
Music Building Repurposing						$17,640,000
TOTAL	$23,755,200	$32,692,800	$35,280,000	$29,400,000	$29,400,000	$17,640,000

TAB	DESCRIPTION	ACTION
1	DEVELOPMENTS IN K-12 EDUCATION	Information Item
2	ADVANCED OPPORTUNITIES ANNUAL REPORT	Information Item
3	MASTERY BASED EDUCATION – PROGRESS REPORT	Information Item
4	EDUCATOR PROFESSIONAL DEVELOPMENT UPDATE	Information Item
5	LEARNING LOSS GRANT SEPTEMBER REPORT	Information Item
6	IDAHO CONTENT STANDARDS – MATHEMATICS, ENGLISH LANGUAGE ARTS, SCIENCE – UPDATE	Information Item
7	LESS THAN 10 STUDENTS IN ATTENDANCE ANNUAL REPORT	Information Item
8	IDAPA 08.02.03, ALTERNATE ASSESSMENT ACHIEVEMENT STANDARDS WAIVER	Action Item
9	ARP ESSER SEA SET ASIDE 2.5% DISTRIBUTION METHODOLOGY, NON-TITLE I AND LOW-TITLE I LEA'S	Action Item

SUBJECT

Developments in K-12 Education

BACKGROUND/DISCUSSION

Sherri Ybarra, Superintendent of Public Instruction, will share developments in K-12 Education with the Board, including:

- Tracking of changes in school operating status
- Partnership with Idaho Digital Learning Academy for online substitute teacher training
- PEBT update
- Schoolhouse.world update
- Federal ESSER funds update

BOARD ACTION

This item is for informational purposes only.

SUBJECT

Advanced Opportunities Annual Report

REFERENCE

October, 2018	Board received the statutorily required report for Advanced Opportunities program managed by the State Department of Education (Department).
October 21, 2020	Board received FY 20 Advanced Opportunities Annual Report

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III.Y.
Section 33-4602, Idaho Code
Idaho Administrative Code, IDAPA 08.02.03 – Section 106, Advanced Opportunities

BACKGROUND/DISCUSSION

Student participation and usage in Advanced Opportunities is reported annually to the Idaho State Board of Education. The report outlines the various uses of the program including college credit, high school overload and workforce training courses as well as various approved exams. The report also includes usage of the Early Graduation Scholarship.

IMPACT

This report provides the Board with the statutorily required update on the usage of funds appropriated for the Advanced Opportunities program.

ATTACHMENTS

Attachment 1 – Advanced Opportunities Annual Totals Fiscal Year 2021 Report

BOARD STAFF COMMENTS AND RECOMMENDATIONS

Pursuant to Administrative Code, IDAPA 08.02.03.007, Advanced Opportunities are defined as Advanced Placement courses, dual credit courses, technical competency credit, and International Baccalaureate programs. This program mirrors the Board's definition of Advanced Opportunities established in Board Policy III.Y. In addition to this definition set in Idaho law, IDAPA 08.02.03.106, requires all high schools in Idaho to provide Advanced Opportunities or to provide opportunities for student to take courses at a postsecondary campus. Board Policy III.Y. establishes the parameters, including minimum standards, by which the postsecondary institutions may offer Advanced Opportunities to secondary students. Chapter 51, Title 33, Postsecondary Enrollment Options, enacted in 1997, is the enabling section of Idaho Code, allowing secondary students to take postsecondary courses and defines dual credit courses.

Section 33-4602, Idaho Code, Advanced Opportunities was enacted in 2016 and establishes a program by which all public school students in grades 7 through 12

are entitled to $4,125 that can be used toward the students' cost for participating in Advanced Opportunities as well as the cost to take postsecondary credit-bearing or career technical certificate examinations and secondary overload courses. This funding may be used for dual credits taken either at the high school or on the postsecondary institution campus and will reimburse up to $75 per credit of the cost. This program also limits the reimbursement for secondary overload courses to $225 per course.

In addition to the certificate or credit costs that are covered by this program, students who graduate one year or more early are eligible for an Advanced Opportunities scholarship. The amount of the scholarship is equal to 35% of the statewide average daily attendance-driven funding per enrolled pupil for each year the student graduated early. Students must apply for the scholarship within two years of graduating from a public school. The Advanced Opportunities program managed by the Department was amended in 2019 to also include career technical workforce training courses, such as federally registered apprenticeships, up to $500 per course and $1,000 per year.

In FY 20, the legislature appropriated $20,000,000 for the Advanced Opportunities program and $29,700,000 for FY 21. In years when the appropriation does not cover the cost of the $4,125, the overture is covered by the Public Education Stabilization Fund (PESF). This program has consistently incurred more expenses than funds appropriated. For FY 22, the Legislature has frozen withdrawals from the stabilization fund. If expenses exceed appropriations in FY 22, the funds distributed directly to school districts and charter schools per support unit will be reduced to cover the amount. In FY 20, $5.2M was withdrawn from PESF to cover the expenses and approximately $25M has been withdrawn from PESF since the program's inception. On average, the program has grown by approximately $3.6M per year over the past three years.

Students may participate in any of the Board's Advanced Opportunities outside of the state funded program established in Section 33-4602, Idaho Code, at their expense. The report provided in Attachment 1 provides participation and cost information.

A dual credit report has also historically been provided to the Board at its regular December Board meeting. The dual credit report provides information on the impact dual credit courses have on student behavior, the participation of Idaho's various student population in taking dual credits and participation numbers for all student taking dual credits at our public postsecondary institutions.

Additionally, Board staff, through the Board's college and career advising initiative, are working with school districts and charter schools in developing programs to provide meaningful advising and pathways for their students participating in Advanced Opportunities. This work is being done in collaboration with the Idaho

Digital Learning Academy, the Department, and the Division of Career Technical Education.

BOARD ACTION

This item is for informational purposes only.

ADVANCED OPPORTUNITIES

Annual Totals FY 2021

IDAHO STATE DEPARTMENT OF EDUCATION
STUDENT ENGAGEMENT & SAFETY COORDINATION | ADVANCED OPPORTUNITIES

650 W STATE STREET, 2ND FLOOR
BOISE, IDAHO 83702
208 332 6800 OFFICE
WWW.SDE.IDAHO.GOV

CREATED 08/16/2021

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FY 21 ADVANCED OPPORTUNITIES TOTALS

Overall Program Total	
Payment Totals	$21,375,966.50
Student Served	37880

Use by Grade

Grade	Students Using A.O.	Total Student Population	Participation Percentage	Student Participation-Overload	Student Participation-Dual Credit	Student Participation-Exams	Total Amount Spent	Average Amount Spent per Student
7	329	25198	1.31%	465	11	0	$39,460.00	$119.94
8	828	25204	3.29%	1155	69	25	$86,851.00	$104.89
9	4089	24811	16.48%	3239	8012	599	$1,013,420.00	$247.84
10	8948	24596	36.38%	3576	39428	2491	$3,466,534.00	$387.41
11	12638	23077	54.76%	3582	91702	6996	$7,667,766.50	$606.72
12	12824	22576	56.80%	4238	79051	8743	$6,798,026.00	$530.10

Examinations

Students Served	**11467**

	Amount	Number of Exam Funding Requests
Exam Total	**$1,239,359.50**	**18854**
Advanced Placement (AP)	$934,369.00	14170
International Baccalaureate (IB)	$67,949.00	571
Professional Certification Exams (CTE)	$226,007.50	3961
College Level Examination Program (CLEP)	$11,034.00	152

Overload Courses

Students Served	**10355**

	Amount	Number of Overload Funding Requests
Overload Total	**$1,562,522.00**	**16255**
Idaho Digital Learning Alliance	$503,430.00	9706
Districts	$1,050,427.00	6467
Other	$4,345	62

Dual Credit

Students Served	**27130**

	Amount	Number of Dual Credit Funding Requests	Total Number of Credits
Dual Credit Total	**$17,894,016.00**	**70661**	**218273**
Dual Credit Tuition Only	**$16,205,266.00**		
Out-of-district Tuition Only	**$1,693,100.00**		
Boise State University	$2,044,862	9005	27366
College of Eastern Idaho	$301,745	1280	4124
College of Southern Idaho	$3,074,104	13466	41320
College of Western Idaho	$4,457,047	18597	59981
Idaho State University	$1,692,277	7348	22814
Lewis-Clark State College	$586,038	2577	7893
North Idaho College	$1,262,776	6373	17159
University of Idaho	$664,633	3096	8866
Brigham Young University-Idaho	$18,160	165	449
Northwest Nazarene University	$1,961,565	8158	26249
Treasure Valley Community College	$98,215	433	1512
Other	$43,814	183	596

Workforce Training Courses

Students Served	**126**

	Amount	Number of Workforce Training Funding Requests
Workforce Training Total	**$69,260.00**	**189**
College of Eastern Idaho	$9,327.00	23
College of Southern Idaho	$633.00	3
College of Western Idaho	$31,350.00	66
Idaho State University	$16,100.00	67
Lewis-Clark State College	$2,850.00	6
North Idaho College	$9,000.00	24

Early Graduation Scholarship

Early Graduation Scholarship	Eligible Students	Students Awarded Scholarship
Students	349	73

Early Graduation Scholarship	Amount
Post-secondary Scholarships	$109,297
School District Awards	$501,647

DEMOGRAPHIC INFORMATION

Total Students Served	37880

Race	Number of Students	Percent Participating in Adv. Ops.	Statewide Comparable Percent
American Indian	243	0.64%	1.10%
Asian	708	1.87%	1.17%
Black or African American	300	0.79%	1.14%
Hispanic	5276	13.93%	18.70%
Native Hawaiian or Pacific Islander	104	0.27%	0.30%
White	30255	79.87%	74.64%
Multiple	994	2.62%	2.95%

Gender	Number of Students	Percent Participating in Adv. Ops.	Statewide Comparable Percent
Female	21592	57.00%	48.78%
Male	16266	42.94%	51.22%
Unknown	22	0.06%	

Other Demographics	Number of Students	Percent Participating in Adv. Ops.	Statewide Comparable Percent
Private/Homeschool	248	0.65%	NULL
Free/Reduced Lunch	6517	17.20%	27.29%
Special Education	794	2.10%	10.25%

Other Demographics	Number of Students	Percent Participating in Adv. Ops.	Statewide Comparable Percent
504	1811	4.78%	5.83%
At Risk	1739	4.59%	11.10%
English Learners	498	1.31%	4.27%
Gifted	3103	8.19%	5.47%
Neglected/Delinquent	0	0.00%	NULL
Homeless	321	0.85%	1.80%

STUDENT USAGE

Student Amount Expended	Number of Students
$4,125	**1758**
> $3,500	2088
> $3,000	2564
> $2,500	4743
> $2,000	9594
> $1,500	17204
> $1,000	31129
> $500	58477
> $0	121421
Total Number of Students Who Have Used Advanced Opportunities	**127557**

DISTRICT PARTICIPATION AND EXPENDITURES

ID	L.E.A. Name	FY 21 A.O. Payments	Student Participation	Total Student Population	Participation Percentage	Participation Rank	Average Expenditure per Student	Expenditure Rank
58	ABERDEEN DISTRICT	$36,180.00	85	329	25.8%	59	$425.65	82
381	AMERICAN FALLS JOINT DISTRICT	$57,405.00	136	701	19.4%	93	$422.10	83
482	AMERICAN HERITAGE CHARTER DISTRICT	$10,620.00	21	130	16.2%	114	$505.71	62
476	Another Choice Virtual Charter District	$945.00	6	377	1.6%	153	$157.50	142
492	ANSER CHARTER SCHOOL	$285.00	4	100	4.0%	148	$71.25	151
72	BASIN SCHOOL DISTRICT	$21,685.00	38	160	23.8%	70	$570.66	35
33	BEAR LAKE COUNTY DISTRICT	$97,490.00	182	517	35.2%	28	$535.66	49
477	BLACKFOOT CHARTER COMMUNITY LEARNING CENTER, INC.	$465.00	6	74	8.1%	138	$77.50	148
55	BLACKFOOT DISTRICT	$156,085.00	275	1992	13.8%	123	$567.58	38
61	BLAINE COUNTY DISTRICT	$209,815.00	542	1577	34.4%	32	$387.11	92
234	BLISS JOINT DISTRICT	$2,175.00	6	54	11.1%	129	$362.50	104
1	BOISE INDEPENDENT DISTRICT	$1,278,911.00	4044	12031	33.6%	36	$316.25	116

93	BONNEVILLE JOINT DISTRICT	$1,227,742.00	2312	6344	36.4%	21	$531.03	50
101	BOUNDARY COUNTY DISTRICT	$94,234.00	143	616	23.2%	76	$658.98	19
365	BRUNEAU-GRAND VIEW JOINT DIST	$8,475.00	30	149	20.1%	88	$282.50	125
412	BUHL JOINT DISTRICT	$31,026.00	91	574	15.9%	116	$340.95	112
111	BUTTE COUNTY JOINT DISTRICT	$26,325.00	38	174	21.8%	81	$692.76	17
132	CALDWELL DISTRICT	$249,841.00	601	2549	23.6%	71	$415.71	85
121	CAMAS COUNTY DISTRICT	$4,110.00	19	97	19.6%	91	$216.32	136
432	CAMBRIDGE JOINT DISTRICT	$3,620.00	7	78	9.0%	135	$517.14	56
555	CANYON-OWYHEE SCHOOL SERVICE AGENCY (COSSA)	$2,965.00	41	130	31.5%	45	$72.32	149
422	CASCADE DISTRICT	$3,000.00	7	88	8.0%	139	$428.57	81
151	CASSIA COUNTY JOINT DISTRICT	$252,342.00	516	2535	20.4%	86	$489.03	67
417	CASTLEFORD DISTRICT	$23,175.00	47	140	33.6%	37	$493.09	65
181	CHALLIS JOINT DISTRICT	$3,105.00	10	155	6.5%	142	$310.50	118
161	CLARK COUNTY DISTRICT	$3,450.00	15	55	27.3%	57	$230.00	134
491	COEUR D'ALENE CHARTER ACADEMY DISTRICT	$126,018.00	172	491	35.0%	29	$732.66	15
271	COEUR D'ALENE DISTRICT	$557,991.00	946	4838	19.6%	92	$589.84	29
455	COMPASS CHARTER SCHOOL	$196,245.00	210	456	46.1%	12	$934.50	5
242	COTTONWOOD JOINT DISTRICT	$62,649.00	86	191	45.0%	14	$728.48	16
13	COUNCIL DISTRICT	$22,775.00	68	140	48.6%	9	$334.93	115
342	CULDESAC JOINT DISTRICT	$17,000.00	18	29	62.1%	2	$944.44	4

314	DIETRICH DISTRICT	$15,525.00	35	103	34.0%	33	$443.57	75
523	ELEVATE ACADEMY INC.	$11,005.00	53	370	14.3%	120	$207.64	138
221	EMMETT INDEPENDENT DIST	$126,175.00	252	1204	20.9%	83	$500.69	63
456	FALCON RIDGE CHARTER SCHOOL	$90.00	2	64	3.1%	150	$45.00	155
531	FERN-WATERS PUBLIC CHARTER SCHOOL, INC.	$855.00	12	24	50.0%	8	$71.25	150
413	FILER DISTRICT	$92,175.00	177	802	22.1%	79	$520.76	55
59	FIRTH DISTRICT	$74,820.00	121	383	31.6%	44	$618.35	22
487	FORREST M. BIRD CHARTER DISTRICT	$26,485.00	67	264	25.4%	63	$395.30	91
495	FORRESTER ACADEMY, INC.	$810.00	7	124	5.7%	144	$115.71	144
215	FREMONT COUNTY JOINT DISTRICT	$76,290.00	201	1020	19.7%	90	$379.55	95
373	FRUITLAND DISTRICT	$74,635.00	157	818	19.2%	96	$475.38	68
71	GARDEN VALLEY DISTRICT	$19,265.00	41	133	30.8%	48	$469.88	71
498	GEM PREP: MERIDIAN, INC.	$6,705.00	26	144	18.1%	101	$257.88	130
796	GEM PREP: NAMPA, INC.	$1,950.00	11	110	10.0%	133	$177.27	141
534	GEM PREP: ONLINE	$103,414.00	138	294	46.9%	11	$749.38	13
496	GEM PREP: POCATELLO, INC.	$4,575.00	16	92	17.4%	103	$285.94	124
282	GENESEE JOINT DISTRICT	$31,400.00	53	140	37.9%	18	$592.45	28
192	GLENNS FERRY JOINT DISTRICT	$5,625.00	22	192	11.5%	127	$255.68	131
231	GOODING JOINT DISTRICT	$62,421.00	125	623	20.1%	89	$499.37	64
148	GRACE JOINT DISTRICT	$13,310.00	45	263	17.1%	106	$295.78	122
233	HAGERMAN JOINT DISTRICT	$22,500.00	37	149	24.8%	66	$608.11	23

415	HANSEN DISTRICT	$13,835.00	34	155	21.9%	80	$406.91	86
479	Heritage Academy District	$165.00	3	39	7.7%	140	$55.00	154
305	HIGHLAND JOINT DISTRICT	$9,675.00	16	71	22.5%	77	$604.69	25
370	HOMEDALE JOINT DISTRICT	$51,780.00	137	581	23.6%	72	$377.96	97
73	HORSESHOE BEND SCHOOL DISTRICT	$7,530.00	21	110	19.1%	97	$358.57	107
795	IDAHO ARTS CHARTER SCHOOL	$12,580.00	54	448	12.1%	126	$232.96	133
489	IDAHO COLLEGE & CAREER READINESS ACADEMY	$24,355.00	64	293	21.8%	82	$380.55	94
469	IDAHO CONNECTS ONLINE CHARTER DISTRICT	$23,625.00	85	229	37.1%	19	$277.94	127
91	IDAHO FALLS DISTRICT	$338,317.00	832	4837	17.2%	105	$406.63	87
468	IDAHO SCIENCE & TECHNOLOGY CHARTER	$810.00	14	85	16.5%	111	$57.86	153
485	IDAHO STEM ACADEMY DBA BINGHAM ACADEMY CHARTER DISTRICT	$29,490.00	52	115	45.2%	13	$567.12	39
452	IDAHO VIRTUAL ACADEMY	$160,890.00	363	1788	20.3%	87	$443.22	76
457	INSPIRE VIRTUAL CHARTER	$31,665.00	79	1053	7.5%	141	$400.82	90
466	iSUCCEED VIRTUAL HIGH SCHOOL	$57,592.00	152	1017	15.0%	119	$378.89	96
251	JEFFERSON COUNTY JT DISTRICT	$407,627.00	875	2888	30.3%	49	$465.86	72
261	JEROME JOINT DISTRICT	$189,124.00	326	1947	16.7%	110	$580.13	33
2	JOINT SCHOOL DISTRICT NO. 2 (WEST ADA)	$3,404,289.50	6065	19070	31.8%	43	$561.30	41

304	KAMIAH JOINT DISTRICT	$25,620.00	49	211	23.2%	75	$522.86	54
391	KELLOGG JOINT DISTRICT	$14,045.00	24	459	5.2%	146	$585.21	31
283	KENDRICK JOINT DISTRICT	$7,650.00	20	118	17.0%	108	$382.50	93
414	KIMBERLY DISTRICT	$160,755.00	298	862	34.6%	30	$539.45	48
470	Kootenai Bridge Academy	$27,675.00	31	351	8.8%	137	$892.74	7
274	KOOTENAI DISTRICT	$6,300.00	6	64	9.4%	134	$1,050.00	1
641	KTEC - Kootenai Tech Ed Campus	$32,515.00	182	364	50.0%	7	$178.65	140
3	KUNA JOINT DISTRICT	$357,898.00	684	2714	25.2%	64	$523.24	53
84	LAKE PEND OREILLE DISTRICT	$106,368.00	313	1626	19.3%	95	$339.83	114
272	LAKELAND DISTRICT	$272,900.00	338	2124	15.9%	115	$807.40	9
341	LAPWAI DISTRICT	$26,235.00	65	216	30.1%	50	$403.62	89
340	LEWISTON INDEPENDENT DISTRICT	$305,274.00	545	2139	25.5%	61	$560.14	42
458	LIBERTY CHARTER	$83,785.00	105	297	35.4%	27	$797.95	10
182	MACKAY JOINT DISTRICT	$6,761.00	18	110	16.4%	113	$375.61	99
321	MADISON DISTRICT	$264,210.00	560	2531	22.1%	78	$471.80	70
21	MARSH VALLEY JOINT DISTRICT	$45,325.00	84	600	14.0%	121	$539.58	47
363	MARSING JOINT DISTRICT	$63,410.00	114	391	29.2%	54	$556.23	43
421	MCCALL-DONNELLY JT. SCHOOL DISTRICT	$66,553.00	195	620	31.5%	46	$341.30	110
11	MEADOWS VALLEY DISTRICT	$1,706.00	15	73	20.6%	84	$113.73	145
136	MELBA JOINT DISTRICT	$94,741.00	174	440	39.6%	17	$544.49	45
785	MERIDIAN MEDICAL ARTS CHARTER	$183,257.00	184	195	94.4%	1	$995.96	2

768	MERIDIAN TECHNICAL CHARTER DISTRICT	$34,879.00	68	202	33.7%	34	$512.93	58
134	MIDDLETON DISTRICT	$355,888.00	751	2077	36.2%	22	$473.89	69
433	MIDVALE DISTRICT	$5,575.00	11	65	16.9%	109	$506.82	61
331	MINIDOKA COUNTY JOINT DISTRICT	$239,069.00	362	1994	18.2%	99	$660.41	18
813	MOSCOW CHARTER SCHOOL	$360.00	4	37	10.8%	131	$90.00	146
281	MOSCOW DISTRICT	$111,197.00	190	1098	17.3%	104	$585.25	30
193	MOUNTAIN HOME DISTRICT	$99,971.00	293	1587	18.5%	98	$341.20	111
244	MOUNTAIN VIEW SCHOOL DISTRICT	$22,945.00	80	526	15.2%	118	$286.81	123
392	MULLAN DISTRICT	$300.00	1	48	2.1%	152	$300.00	121
418	MURTAUGH JOINT DISTRICT	$42,612.00	71	163	43.6%	15	$600.17	26
131	NAMPA SCHOOL DISTRICT	$791,354.00	1556	6311	24.7%	67	$508.58	59
372	NEW PLYMOUTH DISTRICT	$105,890.00	164	458	35.8%	25	$645.67	21
302	NEZPERCE JOINT DISTRICT	$6,825.00	15	64	23.4%	73	$455.00	74
149	NORTH GEM DISTRICT	$11,975.00	21	81	25.9%	58	$570.24	36
480	NORTH IDAHO STEM CHARTER ACADEMY DISTRICT	$61,089.00	110	209	52.6%	4	$555.35	44
493	NORTH STAR CHARTER DISTRICT	$66,146.00	109	363	30.0%	51	$606.84	24
465	NORTH VALLEY ACADEMY	$14,775.00	40	78	51.3%	6	$369.38	102
135	NOTUS DISTRICT	$6,525.00	26	169	15.4%	117	$250.96	132
351	ONEIDA COUNTY DISTRICT	$56,086.00	153	1720	8.9%	136	$366.58	103
171	OROFINO JOINT DISTRICT	$83,915.00	160	538	29.7%	53	$524.47	52
137	PARMA DISTRICT	$132,380.00	163	485	33.6%	35	$812.15	8

497	PATHWAYS IN EDUCATION - NAMPA, INC.	$1,050.00	3	293	1.0%	154	$350.00	108
371	PAYETTE JOINT DISTRICT	$57,290.00	184	641	28.7%	55	$311.36	117
44	PLUMMER-WORLEY JOINT DISTRICT	$4,575.00	9	179	5.0%	147	$508.33	60
25	POCATELLO DISTRICT	$858,023.00	1471	5879	25.0%	65	$583.29	32
273	POST FALLS DISTRICT	$353,770.00	464	2737	17.0%	107	$762.44	12
285	POTLATCH DISTRICT	$13,185.00	35	195	18.0%	102	$376.71	98
201	PRESTON JOINT DISTRICT	$140,394.00	390	1196	32.6%	40	$359.98	106
513	PROJECT IMPACT STEM ACADEMY, INC.	$450.00	2	53	3.8%	149	$225.00	135
453	RICHARD MCKENNA CHARTER HIGH SCHOOL	$900.00	3	422	0.7%	155	$300.00	120
316	RICHFIELD DISTRICT	$6,675.00	13	79	16.5%	112	$513.46	57
252	RIRIE JOINT DISTRICT	$57,506.00	89	374	23.8%	69	$646.13	20
382	ROCKLAND DISTRICT	$6,481.00	34	95	35.8%	26	$190.62	139
475	SAGE INTERNATIONAL SCHOOL OF BOISE	$32,148.00	75	414	18.1%	100	$428.64	80
291	SALMON DISTRICT	$28,072.00	104	363	28.7%	56	$269.92	128
243	SALMON RIVER JOINT SCHOOL DIST	$5,400.00	11	45	24.4%	68	$490.91	66
60	SHELLEY JOINT DISTRICT	$101,813.00	244	1048	23.3%	74	$417.27	84
312	SHOSHONE JOINT DISTRICT	$18,195.00	45	220	20.5%	85	$404.33	88
537	SHOSHONE-BANNOCK JR-SR HIGH DISTRICT	$1,800.00	5	NULL	NULL	156	$360.00	105
52	SNAKE RIVER DISTRICT	$91,035.00	243	946	25.7%	60	$374.63	100

150	SODA SPRINGS JOINT DISTRICT	$115,102.00	213	405	52.6%	5	$540.38	46
292	SOUTH LEMHI DISTRICT	$4,180.00	15	45	33.3%	38	$278.67	126
41	ST MARIES JOINT DISTRICT	$49,350.00	83	431	19.3%	94	$594.58	27
322	SUGAR-SALEM JOINT DISTRICT	$88,860.00	295	822	35.9%	24	$301.22	119
461	TAYLORS CROSSING CHARTER SCHOOL	$18,105.00	41	126	32.5%	41	$441.59	78
401	TETON COUNTY DISTRICT	$52,866.00	114	851	13.4%	124	$463.74	73
460	THE ACADEMY AT ROOSEVELT CNTR	$3,960.00	50	116	43.1%	16	$79.20	147
494	THE POCATELLO COMMUNITY CHARTER SCHOOL, INC.	$270.00	4	76	5.3%	145	$67.50	152
559	THOMAS JEFFERSON CHARTER DISTRICT	$12,306.00	58	159	36.5%	20	$212.17	137
287	TROY SCHOOL DISTRICT	$34,665.00	38	122	31.2%	47	$912.24	6
411	TWIN FALLS DISTRICT	$733,719.00	1290	4334	29.8%	52	$568.77	37
262	VALLEY DISTRICT	$10,830.00	29	257	11.3%	128	$373.45	101
139	VALLIVUE SCHOOL DISTRICT	$888,861.00	1533	4264	36.0%	23	$579.82	34
451	VICTORY CHARTER SCHOOL	$65,160.00	88	255	34.5%	31	$740.45	14
463	VISION CHARTER SCHOOL	$168,580.00	175	312	56.1%	3	$963.31	3
393	WALLACE DISTRICT	$7,620.00	22	199	11.1%	130	$346.36	109
431	WEISER DISTRICT	$85,400.00	251	775	32.4%	42	$340.24	113
232	WENDELL DISTRICT	$53,520.00	121	476	25.4%	62	$442.31	77
83	WEST BONNER COUNTY DISTRICT	$6,745.00	26	409	6.4%	143	$259.42	129
253	WEST JEFFERSON DISTRICT	$24,281.00	43	311	13.8%	122	$564.67	40

202	WEST SIDE JOINT DISTRICT	$92,344.00	174	370	47.0%	10	$530.71	51
464	WHITE PINE CHARTER SCHOOL	$120.00	4	163	2.5%	151	$30.00	156
288	WHITEPINE JT SCHOOL DISTRICT	$8,675.00	11	109	10.1%	132	$788.64	11
133	WILDER DISTRICT	$4,530.00	29	227	12.8%	125	$156.21	143
462	XAVIER CHARTER SCHOOL	$38,844.00	89	270	33.0%	39	$436.45	79

NOTES

Note: All figures are based on data available from July 1, 2020 to July 1, 2021. Information reported can be subject to change. Student usage is compiled from July 1, 2016 to July 1, 2021.

SUBJECT

Progress Update on Mastery-Based Education

REFERENCE

October 2014	Board adopted recommendations for implementing the 2013 Task Force recommendations, including implementation of those regarding mastery-based education in Idaho's public schools.
May 2015	Board received a presentation from the Foundation for Excellence in Education regarding mastery-based education and possible partnership opportunities.
January 2016	Board endorsed the Governors 2016 Legislative Initiatives, including funding for the mastery-based education pilot programs.
June 2017	Board received a brief update from the State Superintendent of Public Instruction on the mastery-based pilot program.
August 2017	Board received a presentation from the State Department of Education regarding the progress of the mastery-based education initiative.
December 2017	Board received an update from the State Department of Education on the implementation of the mastery-based education initiative.
February 2018	Board acted to support SB 1059 (2018), to lift the cap and expand the mastery-based education initiative and formalize the Idaho Mastery Education Network (IMEN).
October 2019	Board received an update from the State Department of Education regarding determining mastery for credit and financial literacy.
February 2020	Board received an update on status of mastery education initiative.

APPLICABLE STATUTE, RULE, OR POLICY

Section 33-1632, Idaho Code, Mastery-Based Education
IDAPA 08.03.03 – SECTION 004.01.l College and Career Readiness Competencies
IDAPA 08.03.03 – SECTION 140.01. Workforce Skills

BACKGROUND/DISCUSSION

This update, from the Mastery-Based Education Coordinator, will focuses on the significant and continued progress made towards supporting mastery.
Essential Message:

1. **Legislative Statute** and **Investment** has allowed mastery to continue to **grow** across the state and **create**, high quality, diverse, rich and responsive resources.
2. The **Idaho College and Career Readiness Competencies** provide an opportunity to ***unite*** a diverse range of perspectives and offers students a chance to develop ***Life Ready*** skills.

Ongoing statute guided efforts include:

A. Provide ongoing outreach and communication
B. Facilitate and maintain the Idaho Mastery Education Network. The network shall:
   (i) Advise the Superintendent of Public Instruction and the State Board of Education on the progress of the transition to mastery-based education;
   (ii) Develop evidence-based recommendations for continued implementation;
   (iii) Implement the policies of the legislature and the State Board of Education for the transition to mastery-based education; and
   (iv) Provide network resources, including professional development, coaching, and best practices, to Idaho public school districts and charter schools;
C. Create a sustainability plan for statewide scaling of mastery-based education

IMPACT

This report will provide the Board with an update on the Master-based Education efforts in Idaho public schools.

ATTACHMENTS

Attachment 1 – Mastery Update Presentation

STAFF COMMENTS AND RECOMMENDATIONS

In 2014, the Board facilitated the work of five (5) subcommittees working on recommendations for implementing the 2013 Education Improvement Task Force Recommendations. The Structure and Governance Subcommittee's responsibilities included implementation strategies for the shift to a mastery-based system where students advanced based upon content mastery, rather than seat time requirements. The subcommittee found there were no prohibitions in state law to moving to a mastery-based system, and that there is specific authorization in Administrative Code that allows school districts and charter schools to develop their own mechanisms for assessing student mastery of content and awarding credits for the mastery at the secondary level. The subcommittee recognized that there were some barriers in how school districts reported students in specific grade levels to the state for funding. However, most barriers were largely perceived rather than actual obstructions. The full recommendations may be viewed on the Board's website (https://boardofed.idaho.gov/resources/task-force-for-improving-education/).

Section 33-1632, Idaho Code, requires the State Department of Education to: (a) provide ongoing statewide outreach and communication to increase awareness and understanding in mastery-based education; (b) facilitate and maintain the Idaho mastery education network; and (c) create a sustainability plan for statewide scaling of mastery-based education.

As identified in the original subcommittee of the Governor's Task Force for Improving Education, state law and administrative code allow for school districts and charter schools to implement a master-based education system. The purpose of the original incubators was intended to be used to identify barriers, real and perceived, that were keeping school districts from implementing mastery-based systems. Implementation of mastery-based education through the incubators identified local barriers such as student management systems and professional development needs, but no statute or administrative code changes were identified.

Working with a broad group of stakeholders and the Planning, Policy and Governmental Affairs Committee of the Board, Board staff brought forward recommendations for developing a common understanding of college and career readiness in FY 2017. The Board adopted the work group's recommendations and approved College and Career Readiness Competencies at the June 15, 2017 regular Board meeting. These competencies were then included in the state content standards and incorporated into administrative rule through the negotiated rulemaking process and became effective March 28, 2018

BOARD ACTION

This item is for informational purposes only.

Mastery-Based Education Annual Report October 2021



Aaron McKinnon
Mastery-Based Education Coordinator

Supporting Schools and Students to Achieve

SHERRI YBARRA, ED.S., SUPERINTENDENT OF PUBLIC INSTRUCTION

A Brief History of Mastery-Based Education in Idaho



- 2013 Governors Task Force #1 Recommendation
- 2016 Legislative Support Statute §33-1632; $1.4 million
- 2016-2020 IMEN, *INCUBATION*
- Today: Resources and continued growth!
- Future: Mastery and the Competencies to Scale

MBE Annual Report | 2

From There to Here: A Flower Analogy











IMEN Cohort Progress 2021-2022

- **Cohort 1:** Established 2016-2017, **14** Schools in 2021-2022
- **Cohort 2:** Established 2019-2020, **10** Schools in 2021-2022
- **Cohort 3:** Established 2021-2022, **16** Schools
  - Several lab to lighthouse, “proof of concept” schools/districts under development

Essential Resources

- Idaho College and Career Readiness Competencies
  - *Poised to Unify* ALL the Independent Programs & Perspectives
    - 2017 SBOE approved
    - 2020 SDE operationalized
    - Aligned to Higher ED ***and*** Work Force through NACE
    - Supports legislative intent
      - Ex: HB §172 Credit for extended learning opportunities
  - *Primed to Establish* "Life Ready" students

"*College and Career Readiness* is the attainment and demonstration of requisite competencies that broadly prepare high school graduates for a successful transition into some form of postsecondary education and/or the workplace".

And "graduate(s) will need to possess (them) in order lead a successful and meaningful life".

ISBOE College and Career Readiness 6/15/2017

Essential Resources



MBE Framework

- ***Statute*** based
- Guides ***ALL*** Mastery work including the development of all other support resources

4 Components of the Framework:

- Students Empowered
- Learning Personalized
- Competencies Demonstrated
- Mastery Recognized

Support Resources

Staging Guide: Organized by the Framework, over 100 accessible resources for ***everyone***, in ***any stage*** of implementation

Professional Development:

- Responsive to prioritized Framework "shifts"
- Based in Canvas

- **Revamped, Resource Rich Website**
  - Now available!

MBE Annual Report | 7

Application Process: Framework Aligned

Each school reflected on each component of the Framework, identified their strengths, areas for improvement, recognized evidence, and set goals.

We have data to show growth
relative to their framework aligned, statute based goals.

Presentation Title | 8

Take Away's…

1. ***Legislative Statute and Investment*** has allowed mastery to ***grow*** across the state and ***create*** high quality, diverse, rich, and responsive resources.
2. The ***Idaho College and Career Readiness Competencies*** provide an opportunity to ***unite*** a diverse range of perspectives and offers students a chance to develop ***Life Ready*** skills.

On Going *Statute* Efforts to "move Idaho toward MBE"

Provide ongoing outreach and communication

Facilitate and maintain the Idaho Mastery Education Network

The Network shall:

I. Advise the Superintendent
II. Develop evidence-based recommendations
III. Implement legislative and board policies
IV. Provide network resources



Create a sustainability plan for *statewide scaling* of mastery-based education

What can the Board do?

COLLABORATE and *CONSULT*
to ***elevate*** and ***scale***
your competencies
and ***mastery-based principles***
across the state,
through ***Primary, Secondary,*** and ***Higher Ed***
learning environments.

Presentation Title | 11

Questions?



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Supporting Schools and Students to Achieve
SHERRI YBARRA, ED.S., SUPERINTENDENT OF PUBLIC INSTRUCTION

SBOE Mastery Update October 21-22, 2020 | 12

SUBJECT

Professional Development Update

REFERENCE

June 10, 2020	The Board approved the use of the ESSER 10% SEA reserve funds for grants to local education agencies and for funding for professional development to provide social emotional and behavioral health supports remotely.
October 2020,	The Board was provided an update on the Department's efforts to provide professional development resources to the school districts and charter schools as part of the K-12 Developments agenda item.
April 2021	The Board was provided an update on the Department's efforts to provide professional development resources to the school districts and charter schools as part of the K-12 Developments agenda item.

APPLICABLE STATUTE, RULE, OR POLICY

House Bill 358 (2021), Sections (6), (7), and (9)

BACKGROUND/DISCUSSION

The Superintendent's office receives an annual appropriation for professional development in all content areas as specified in the annual appropriations bill, which for the current Fiscal Year 2022 is HB358. This update is to provide the Board with an update and overview of professional development programs currently being provided as well as programs under development.

ATTACHMENTS

Attachment 1 – Professional Development Presentation

BOARD STAFF COMMENTS AND RECOMMENDATIONS

The Legislature appropriates funding for the specific purpose of providing professional development for certificated staff each year. In FY 21, the Legislature appropriated approximately $12.35M, of which $9.85M was distributed to the school districts and charter schools and $2.5M in the Central Services portion of the Public Schools appropriation was used by the State Department of Education to provide professional development.

For FY 22, the legislature has specified the following requirements specific to professional development funding:

- House Bill 358 (2021), SECTION 6. PROFESSIONAL DEVELOPMENT. Of the moneys appropriated in Section 3 of this act, the Department of Education may expend up to $2,700,000 for professional development, teacher training, and to track usage and effectiveness of professional development efforts at the state and local levels.

- HB 385 (2021) SECTION 4. PROFESSIONAL DEVELOPMENT. Of the moneys appropriated in Section 3 of this act, $10,850,000 from the Public School Income Fund shall be distributed for professional development that supports instructors and pupil services staff to increase student learning, mentoring, and collaboration. Professional development efforts should be measurable, provide the instructors and pupil services staff with a clear understanding of their progress, be incorporated into their performance evaluations, and, to the extent possible, be included in the school district or public charter school continuous improvement plans required by Section 33-320, Idaho Code. Funding shall be distributed by a formula prescribed by the Department of Education, and the Department of Education shall track usage and effectiveness of professional development efforts at the state and local levels.

In addition to the general fund appropriations for professional development noted above, school districts and charter schools may also use federal coronavirus funds toward professional development and federal Title funding for professional development.

BOARD ACTION

This item is for informational purposes only.

Content and Curriculum



Supporting Schools and Students to Achieve

SHERRI YBARRA, ED.S., SUPERINTENDENT OF PUBLIC INSTRUCTION

9/15/2021

Professional Development

Gifted and Talented Education (GATE)

- Updated Best Practices manual
  - Written in 1997, revised in 2005
    - Time to revise
    - Align with the National Association for Gifted Children's Programming Standards
- Reduced number of pages from 153 to 60
- Alignment with §33-2003; IDAPA 08.02.03.171
- New Idaho Framework link here
- Regional Facilitators link here

Professional Development

- Arts and Humanities
  - In partnership with
    - Idaho Arts Education Association (IAEA)
    - Idaho Dance Education Organization (IDEO)
    - Idaho Music Education Association (IMEA)
    - Idaho Association of Teachers of Language and Culture (IACTFL)
    - IAEA Fall conference
      - Visual and Media Arts through STEM lens
    - STEAM, Master Classes, Book Study

IAEA Conferences & PD webpage

SBOE / October 2021| 3

Professional Development

- Arts and Humanities
  - In partnership with IAEA, IDEO, IMEA, IACTFL
    - IDEO Annual Fall conference
    - IMEA Idaho All-State Inservice conference
      - Mentor program
    - IACTFL Yearlong Virtual Conference and PD series

IDEO Annual Fall Conference
IMEA Mentorship Kickoff Conference
IACTFL Conference and PD

SBOE / October 2021| 4

Professional Development

- Instructional Technologies
  - HB358
  - Professional Development
  - Certifications
  - Growth of Programs

https://www.sde.idaho.gov/academic/information-tech/

Professional Development

Science

- Think, Make, Create trailers
- Implementing the Science Standards course
- P20 conference
- Picture Perfect
- Book Study
- ISAS
- Science coaches
  - Newsletter
  - Website
  - Resources

Unpacking the 3D Science Standards Phenomenon

Professional Development

- Math
  - Regional Math Centers (RMC)
    - Focus shift
      - Projects
        - Targeted school support, Teaching Mathematical Thinking (TMT), Math Transitions Network (MTN), Teacher Leadership Development (LeaDs)
    - Math Transitions Network
      - Catalyzing Change
    - iSTEM
    - How the Brain Learns Mathematics

SBOE / October 2021| 7

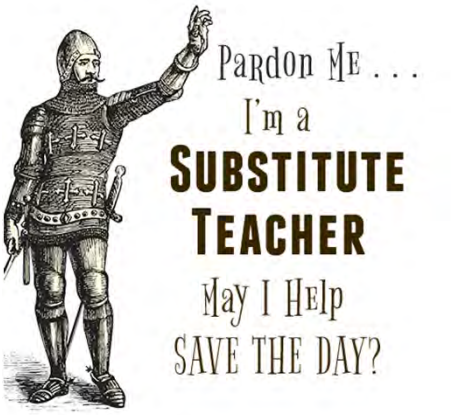
Professional Development

- English Language Arts and Literacy
  - K-3 Summit
    - SMART
    - Reading Coach Academy
  - Idaho Builds Capacity Project (IBC)
  - Reading Coach training
  - Response To Intervention (RTI)/Multi-Tiered Systems of Support (MTSS)

SBOE / October 2021| 8

In development

- Substitute teacher training
- Statewide mentor teacher network



Questions



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Supporting Schools and Students to Achieve
SHERRI YBARRA, ED.S., SUPERINTENDENT OF PUBLIC INSTRUCTION

SUBJECT

Learning Loss Grant Update and September Report

APPLICABLE STATUTE, RULE, OR POLICY

Executive Order 2020-07
House Bill 356 (2021)

BACKGROUND/DISCUSSION

The 2021 Legislature enacted House Bill 356, which outlines funding and reporting requirements for programs addressing K-4 and K-12 learning loss. Through House Bill 356 (2021), the legislature appropriated $215 million from the Federal COVID-19 Relief Fund for the Public Schools Educational Support Program's Division of Children's Programs. Within this bill, $15 million was appropriated to address K-4 learning loss and $5 million was appropriated to address K-12 learning loss. The appropriation language included several requirements for each program, including reporting.

The reporting requirements for the K-4 and K-12 learning loss funding are as follows:

> *"The Department of Education shall report to the State Board of Education and the Joint Finance-Appropriations Committee by no later than September 15, 2021, and provide a second report no later than December 31, 2021, on the uses of funds and effectiveness of the programs and efforts."*

The Department provided this report to the Board Office in September for distribution to Board members. This presentation provides an update on the learning loss grants and summarizes the September 15th report and the planned December deliverables.

IMPACT

Summarizing the use of the Governor's "Learning Loss" funds meets the requirements in the authorizing legislation and provides information about how local education agencies are addressing unfinished learning.

ATTACHMENTS

Attachment 1 – Update on Governor's Learning Loss Grants
Attachment 2 – Complete September Learning Loss Report

BOARD STAFF COMMENTS AND RECOMMENDATIONS

In addition to reporting requirements established by the state legislature, ARP Act ESSER funding also places reporting requirements on the state and local education agencies on the effectiveness of the use of the federal funding and the evidence based supports implemented by school districts and charter schools. It will be important to help limit the reporting burdens on the school districts and

charter schools by coordinating the reporting around student growth and program effectiveness as much as possible.

BOARD ACTION

This item is for informational purposes only.



Governor's Learning Loss Grant

HB356

Supporting Schools and Students to Achieve

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9/15/2021

Governor's Building Idaho's Future

- $10 million appropriated for Fiscal Year 2021
  - $5 million for K-4 learning loss
  - $5 million for K-12 learning loss
- $20 million appropriated/re-appropriated for Fiscal Year 2022
  - $15 million for K-4 learning loss
  - $5 million for K-12 learning loss

Presentation Title | 2

Learning Loss Source of Funds & Timeline

- These are Coronavirus Relief Funds allocated through the Governor's Coronavirus Financial Advisory Committee
  - US Treasury Department guidance applies https://www.federalregister.gov/documents/2021/01/15/2021-00827/coronavirus-relief-fund-for-states-tribal-governments-and-certain-eligible-local-governments
- Expenses must be incurred by December 31, 2021
  - An additional 90 days is allowed to draw down funds

Presentation Title | 3

K-4 Metric

- Performance on the Idaho Reading Indicator
  - Spring 2021 to September 2021 Students demonstrate at least 50% of the growth needed to reach "at grade level" performance.
  - Spring 2021 to December 2021 students reach "at grade level" performance.

Presentation Title | 4

K-12 Metrics

- Required:
  - Idaho Reading Indicator for grades K-3.
  - ISAT interim comprehensive assessment/shortened interim comprehensive assessment (recommended) or locally-selected, evidence-based mid-year assessment in December 2021.
  - Number of students who successfully participated in a credit recovery course over the summer or in the fall.
  - Successful completion of intervention for students at risk for not making standard grade progression.
- Additional Reporting Metrics:
  - Change in the percentage of students who are chronically absent.
  - A school or district metric for addressing learning loss.

Presentation Title | 5

Currently

- Review committee
  - Team members from Finance, Federal Programs, and Content & Curriculum
    - 15 Million allocated for K-4
    - 5 Million allocated for K-12

Presentation Title | 6

Contact



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Presentation Title | 7

SEPTEMBER REPORT

COVID-19 K-4 and K-12 Learning Loss Funds

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CREATED 09/13/2021

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EXECUTIVE SUMMARY

This document meets the September reporting requirement associated with K-4 and K-12 "learning loss" funds distributed to districts and charters following the 2021 legislative session.

The main findings are as follows:

- Nearly two-thirds of districts and charter schools applied for these funds.
- The State Department of Education has currently received over $2 million in reimbursement requests for summer programs.
- However, most districts and charter schools have not yet submitted reimbursement requests for using these funds between their initial availability in mid-summer and the current reporting date.
- Reimbursement requests lag actual expenditures, but other reasons for the modest use of learning loss funds during the summer include: limited time with the funds, challenges with staffing based on fatigue from a difficult school year, and the ability to use other sources of funding to support interventions during this period.
- Programs and interventions using the learning loss funds will be more extensive during the 2021-2022 school year, which will be reflected in the December reporting period.
- Even with the limitations in measuring implementation over this early period, districts and charter schools still reported supporting thousands of Idaho students using these funds.
- The most frequent use of K-4 funds was for summer reading/early literacy programs. Districts and charter schools reported serving over 6,000 students with this type of intervention during the summer.
- For the K-12 funds, the largest number of students were supported in credit recovery programs, which reached over 3,000 students during the summer.
- Data from the fall Idaho Reading Indicator indicate that, on average, students who ended last school year at the lowest performance tier showed substantial growth. However, the majority of these students will need to demonstrate accelerated growth to be reading at grade level by the end of the calendar year.

BACKGROUND

The Sixty-sixth Idaho Legislature appropriated $20 million from the Federal COVID-19 Relief Fund to address "learning loss" associated with COVID-19. Of this total, the Legislature appropriated $15 million for K-4 programs and $5 million for K-12 programs. A portion of these funds were made available for Fiscal Year 2021 to support immediate implementation, with the full amount re-appropriated for Fiscal Year 2022 to continue any interventions.

The intent language in House Bill 356 specified that the K-4 funds were to be distributed based on the number of students at the lowest performance level on the most recent Idaho Reading Indicator (IRI). For the K-12 funds, House Bill 356 tasked the State Department of Education with developing a distribution formula based on assessment scores when possible. Consistent with this guidance, the Department used the distribution formulas below.

K-4 Funding Formula

The K-4 funding was based on the on the number of students in kindergarten through third grade who scored "Below Grade Level" on an April 2021 IRI administration. For districts and charter schools unable to assess in the April time period, the Department incorporated data from January through March 2021. The minimum distribution was $6,000.

K-12 Funding Formula

The K-12 funding was allocated using a combination of FY 2021 mid-term Average Daily Attendance (ADA) and academic performance. The base distribution was as follows:

- Mid-term ADA < 25 = $3,250
- Mid-term ADA between 25-100 = $130 per ADA
- Mid-term ADA > 100 = $13,000

The funding remaining after the base distribution was allocated based on an "academic need" value. The Department calculated this value based on percentage of kindergarten through third grade students who scored "Below Grade Level" on the April IRI (incorporating January-March, if needed) and the percentage of students in grades six through twelve identified as "At Risk" in the March data districts and charter schools submitted via the Idaho System for Educational Excellence (ISEE).

Participation

The Department shared information about the learning loss funds during the spring and early summer, before inviting interested districts and charter schools to apply. Districts and charter schools could apply for the K-4 funding, the K-12 funding, or both. Nearly two-thirds of districts and charter schools participated. The table below summarizes participation by funding category.

Participation Type	Number of Districts and Charter Schools
K-4 Only	5
K-12 Only	19
Both K-4 and K-12	96

Reporting Requirements

House Bill 356 also provided the Department with responsibility on reporting to the State Board of Education and the Joint Finance Appropriation Committee on the use and effectiveness of the learning loss funds and associated programs. The first report is due no later than September 15, 2021 and the second is due by December 31, 2021.

In applying for the funds, districts and charter schools agreed to several requirements necessary for the Department to meet this reporting obligation. Those receiving the K-4 funds were to administer the fall IRI by September 10, 2021 to students supported over the summer using the learning loss funds to track progress towards reading at grade level by the end of the calendar year. Those receiving the K-12 funds had the same fall IRI requirement and were also originally asked to administer an Idaho Standards Achievement Test (ISAT) interim comprehensive assessment (ICA) or shortened interim comprehensive assessment (SICA) to supported students. However, due to the challenges with implementing this metric at the opening of the school year, the ISAT interim component has been deferred until later in the year. Additionally, as some districts and charter schools are already using locally-selected assessments, such as NWEA MAP and Star assessments, the Department anticipates providing flexibility to incorporate data from these tests in lieu of the recommended ICAs or SICAs.

In addition to using assessment data to measure progress for students supported during the summer, the Department developed a reporting form for districts and charter schools to share the number of students successfully served over the summer by each of the following types of programs using the K-4 or K-12 funds:

- Summer reading/early literacy program
- General content remediation for ELA/Literacy
- General content remediation for Math
- Intervention for students at risk of not being promoted to the next grade
- Credit recovery
- Absenteeism

Districts and charter schools could also provide information about any other programs or local assessments and were told to provide a brief narrative description of their activities using the learning loss funds during the summer.

The following sections of this report summarize the current fund usage based on reimbursement requests along with the information available via the reporting form and IRI results.

REIMBURSEMENTS

K-4 Reimbursement Summary	Reimbursement Data
Number of Districts/Charter Schools Submitting Reimbursement Requests	29
Reimbursed Expense by Purpose…	
Purchased Services (not including Professional Development)	$120,598.81
Salaries/Benefits	$977,175.70
Supplies/Materials	$57,462.09
Travel for Students/Transportation	$17,548.19
Total	$1,172,784.79

Districts and charter schools may have expended funds that they have not yet submitted for reimbursement, which would not be included in this table.

K-12 Reimbursement Summary	Reimbursement Data
Number of Districts/Charter Schools Submitting Reimbursement Requests	33
Reimbursed Expense by Purpose…	
Purchased Services (not including Professional Development)	$63,083.72
Salaries/Benefits	$635,114.92
Supplies/Materials	$134,280.60
Travel for Students/Transportation	$94,413.38
Total	$926,892.62

Districts and charter schools may have expended funds that they have not yet submitted for reimbursement, which would not be included in this table.

PROGRAM SUMMARY

K-4 Program Summary	Number of Students Successfully Supported
Summer/reading early literacy	6,137
General content remediation for ELA/Literacy	2,466
General content remediation for Math	2,623
Intervention for Students at risk of not being promoted to the next grade	419
Credit recovery	34
Absenteeism	430

K-12 Program Summary	Number of Students Successfully Supported
Summer/reading early literacy	838
General content remediation for ELA/Literacy	1,682
General content remediation for Math	1,690
Intervention for Students at risk of not being promoted to the next grade	1.664
Credit recovery	3,029
Absenteeism	403

The narratives submitted by each district and charter school during this reporting period are included in Appendix A.

ASSESSMENT SUMMARY

All K-3 students have to participate in the IRI at the start of the school year in either August or September. The Department asked districts and charter schools to assess students supported by the K-4 or K-12 learning loss funds in a summer reading/early literacy program by September 10th to facilitate the required reporting. This analysis is restricted to students who were "Below Grade Level" on the spring 2021 IRI, as they were prioritized for these funds. However, the data may include students who were tested during this early administration period but who were not supported by the learning loss funds during the summer. The data are also for all Idaho schools with results during this time period and are not matched to enrollment records. Consequently, readers should be cautious in using these results to draw conclusions about the effectiveness of summer intervention programs.

Between May and August/September, the IRI performance tiers incorporate expected scale score changes. For some grades, this expected change includes a regression or stalling during the summer. The table below shows the expected May to August and May to September scale score growth based on the IRI performance tiers. Next to each is the average observed growth for students in this analysis. Students are counted in August if their first assessment this year was in that month and in September if their first assessment this year was in that month. At all grades, the average IRI scale score growth for this group exceeded the expected summer progress.

Grade Transition	May to August Expected	May to August Observed (Mean)	May to September Expected	May to September Observed (Mean)
KG to 1st Grade	-2	.4152941	0	1.770492
1st Grade to 2nd Grade	0	3.395531	1	3.201613
2nd Grade to 3rd Grade	1	4.037037	3	4.596047

Total N = 7,627

Another way to analyze the fall IRI results is using the three reporting tiers: At Grade Level, Near Grade Level, and Below Grade Level.

Among the students who were Below Grade Level in the spring and who tested by the September 10th deadline, 2.9 percent were At Grade Level in the fall, 16.3 percent were Near Grade Level in the fall, and 80.8 percent remained Below Grade Level in the fall.

Taken together, these results highlight that students can demonstrate growth, but may not cross the threshold to the next performance tier. This finding is reinforced by the final outcome measure in included in this assessment summary, which is the percent of students who made sufficient growth to be on track to be At Grade Level by the end of the calendar year.

This calculation is based on a linear trajectory between the student's spring score and the minimum scale score to be At Grade Level in December. Among the students in this analysis group, 9.2 percent were on track to move from Below Grade Level in spring to At Grade Level in December. These figures will be updated in the December reporting period.

Additional assessment data will be included in the December report.

APPENDIX A

Districts and charter schools were asked to provide a brief narrative description of their use of the learning loss funds over the summer. Responses below are for the districts and charter schools that responded by the September 10, 2021 deadline. The Department consolidated responses for districts and charter schools that submitted multiple responses with slight edits for readability.

COEUR D' ALENE	Coeur d'Alene Public Schools added a variety of resources for students during the summer including specialized learning in our summer school. We converted our fleet into "Imagine Busses" traversing our communities providing reading buddies and free resources, and built student capacity through leadership development and mentorship programs. As we have just completed our first week, we do not have immediate results but will be reviewing results of our fall screening assessments against our student list to identify levels of impact. That data should be available in early October.
MIDDLETON	As a district we provided credit recovery to students in grades 6-12 to address credit deficits for these students. We offered a summer school program and allowed students to attend to recover credits. We also served breakfast and lunch for these students. This ran for six weeks. We measured success of this program through credits earned. We had 70 high school student earn 118 credits this summer. We had 30 middle school students earn 40 credits this summer. We also offered extended school year to our Special Education students. We had five K-4 students participate and two 6-12 students participate. The metric used was the IEP goals. All students who participated made progress towards their IEP goals. This helped close the learning loss gap created for these students in terms of progress on their IEP's.
MOUNTAIN VIEW	The district provided learning loss opportunities throughout the summer. We had jumpstart reading programs at all elementary schools. We provided opportunities for credit recovery, ELA and Math instruction, and for students with excessive absences. The students that participated in summer school were able to recover credits and were promoted to the next grade level. The schools used teacher made assessments to determine learning gains throughout summer school.
MOSCOW	The Moscow School District's Summer Learning Loss program offered intervention to academically at-risk students in grades kindergarten-8th grade. Certified teachers and paraprofessionals provided targeted instruction in reading and math. Students who participated in the Summer Learning Loss program increased their reading and math skills, including motivation and confidence. Additionally, paraprofessionals assisted students in courses they failed, allowing most students to complete the remediation and move on to the next grade level.
FILER	Filer School District hosted a summer credit recovery opportunity for students in grades 7-12 who needed extra time to complete course requirements in order to earn credit. The program ran for two weeks in June after the end of the school year. Filer also hosted a summer program for students in grades 4-6. The program was held four days a week for three weeks -- twelve

	days -- in August prior to the start of a new school year. The focus was on reading and math for students who would benefit from extra help.
VISION CHARTER SCHOOL	Vision offered in person extended year summer school in June and July to all K-12th grade students who were at risk of not being promoted, required credit recovery, or who needed specific English and Math intervention specifically due to Learning Loss experienced due to the pandemic and decreased time in the classroom in person. We used Certified Teachers working with Educational Assistants to offer small group highly targeted tutoring, interventions, and supports.
ST. MARIES JOINT	Credit recovery was offered in four three week summer sessions. Forty-nine students attempted to earn credits. Forty-five students were able to earn credits in core subjects. We used Edgenuity for our online credit recovery platform. The balance of the funds will be used to pay for certified staff to provide learning loss interventions in grades K/12.
LAKELAND JOINT	John Brown Elementary piloted a Jumpstart program supporting at-risk students in the area of reading. At Kinder, we focused on letter names and letter sounds with an emphasis on CVC patterns. Students were assessed using letter sounds, 6 out of 7 students made growth in this area. At first grade, the students were provided intentional explicit instruction in the area of phonics, specifically with CVC, CVCE, vowel teams, and fluency, 7 out of 15 students made gains from their spring ISIP. In second through fifth grade, teachers focused on phonics, vocabulary and word attack skills. 16 out of 31 students made gains in this area as measured by their fall ISIP and oral reading fluency.
BUHL JOINT	Learning loss funds were used to provide credit recovery at the high school level. Students were able to take English or Math in order to helpmstay on track for graduation. Funds were used for staffing summer school. Buhl Middle School held a session of summer school to provide an opportunity for students to pass classes they had previously failed in order to be promoted to the next grade level. Students were given instruction in math and language arts. Money was used to provide certified staff and paraprofessional support to our students.
NOTUS	We provided a summer learning program right after school ended to support any student who had struggled K-6. We also did a book in a bag program, the focus was on those students who did not make the growth we were hoping for during the school year, but we also included students who were on the bubble. They received new books throughout the summer that they could keep as well as working in partnership with the community library. Our math teacher worked one on one with students who needed extra support in math, and 14 of our students were enrolled, and passed, a credit recovery program so they are closer to being on track for graduation.
HERITAGE ACADEMY, INC.	Heritage Academy utilized the Governor's Learning Loss funding to provide individual and small group intervention for students with significant gaps in reading/literacy due to the COVID school building closures. Students were identified using Idaho Reading Indication (IRI) scores, Istation progress monitoring data, Core Phonics Survey data, Curriculum-Based Assessments and teacher referral. Parents of identified students were provided with information about grade level proficiency expectations, current level of performance and options for summer intervention. The approach used to address learning loss was individualized, based upon student need. Two staff members provided options for individual or small group tutoring. Participating students made significant gains over the summer. Unfortunately, very few of the students identified for intervention participated in the program. As a result, the school will continue to implement strategies over the 2021-22 school year to address the significant losses the occurred due to the COVID pandemic school building closures.

FREMONT COUNTY JOINT	We utilized our learning loss funds to provide credit recovery, and remediation/advancement for our students who failed a class or were behind academically. We did this during the month of June, and we will utilize iReady and IStation to measure our students to see if there has been a significant summer slide, or our enhanced summer school did what it was designed to do; stop the summer slide. Our K-5 summer programs were housed at Ashton Elementary School and Henry's Fork Elementary School. Our 6-8 summer programs were housed at South Fremont Junior High School and North Fremont Junior High School.
BONNEVILLE JOINT	Bonneville Joint School District used the K-12 learning loss funds over the summer to fund teacher salaries to run summer school for our middle school and high school students. Two middle schools and four high schools in our district participated in the summer school program. Because of the opportunity provided by these funds, 141 students were able to earn 192 credits. Some of these students were at risk of not being able to advance to the next grade because of lost credits. This allowed many students to stay on track with their courses and remain with their grade level peers this year.
HAGERMAN JOINT	Learning loss funds in the Hagerman School District were used over the summer of 2021 to meet district needs in general content remediation for ELA/Literacy and Math, absenteeism, intervention for grade promotion and credit recovery. General content remediation, absentee recovery and promotion intervention were applicable mostly in grades k-6 while credit recovery was applicable more in grades 7-12 (with content remediation naturally following the learning in credit recovery). Where we are a small rural school district, learning loss funds were also very important for access to our summer school program. Nearly 60% of our summer school students required bussing. Learning loss funds allowed our district to meet needs in student learning that have previously been difficult for our rural school district to meet. Learning loss funds were truly valuable for the academic and social/emotional development of our students.
IDAHO FALLS	All K-4 students in Idaho Falls School District who did not score proficient on the April IStation assessment were invited to participate in the 2021 “Summer Learning Camps” program, which was expanded from previously only addressing K-3 literacy to addressing both ELA and math. Idaho Falls School District had 497 K-4 students enrolled in Summer Learning Camps at three different sites; of these 497 students, 324 students attended 75% or more of the time during the three-week summer program. “Learning Loss” funds were used to fund staff and supplies. The IStation was administered at the end of the program in July to measure student growth in literacy: 63% of kindergarten students made growth; 53% of 1st grade students made growth; 64% of 2nd grade students made growth; 68% of 3rd grade students made growth; and 59% of 4th grade students made growth. Math skills were assessed with classroom-based assessments that addressed differentiated learning needs; there was not a way to aggregate this data because of the various assessments used.
JEFFERSON COUNTY JOINT	We did not use learning loss funds over the summer. We have a plan in place to utilize those funds beginning when students returned to school.
MARSING JOINT	We provided credit recovery to middle and high school students, Migrant credit recovery for our migrant middle and high school students. Jump Start Summer School was also provided for our K-5 elementary students. All of this was already budgeted into our Title 1 program, Title IC and a local grant received from Department of Health and Welfare. We will be spending Blended Learning Loss dollars on additional intervention educational assistants, afterschool tutoring and Friday schools.
CALDWELL	This summer we offered Summer Bridge Academies at all of our schools. Students were invited to attend either a morning or afternoon session. Classes were held throughout the month of June. Our main purpose was to rebuild relationships with students who had spent most of their school year attending either remotely or in a hybrid model. Our academic focus was on improving reading and math skills. In many cases, activities and course work was tied to STEAM.

BUTTE COUNTY JOINT	We paid six teachers to work with students during the summer to make up credits. Most students worked on missing assignments or redid assignments to pass the classes they failed. At the K-4 level, students worked to close learning gaps so they are better prepared to start school in the fall. The district also purchased APEX Learning to use for credit recovery during the school year so we can provide "just in time" interventions to help students recover credits as they go. Due to the lack of electives available in the district, APEX is also used for original credit to personalize student learning.
BASIN	The learning loss funds were used to help students in grades K-6 and 7-12. For elementary most of the funds were used to pay for staffing summer school teachers. For secondary funds were used for staffing and for the cost of Edegnuity credit recovery. Assessment was used in the form of iReady, iStation, and Edgenuity.
ABERDEEN	Aberdeen School District provided summer school for grades K-8 to focus on proficiency skills using various computer programs and curriculum. Students in grades 9-12 were enrolled in credit recovery classes through IDLA and were provided assistance as needed by school personnel. Learning loss was determined by ISAT scores and IRI scores. These tests were also used to determine proficiency levels.
OROFINO JOINT	We were able to use the "learning loss" funds to reach students over the summer to help prevent that gap of leaning that happens over the summer months. Books and supplies were purchased for the children, as well as providing transportation and lunches/snacks for the children that participated in the program. We are in a rural area, and providing the transportation and snacks enabled children to participate that otherwise would not be able to. The books and supplies purchased for the program helped facilitate learning activities specific to strengthening foundational reading skills that were needed.
EMMETT INDEPENDENT	K-4 Learning loss was a targeted summer program based on student IRI data and ISAT data. Students were invited to attend 3 sessions that were 2 weeks in length. The focus of these sessions were focused on individual student learning gaps. The program integrated a number of science and hands on learning projects to engage students in a variety of ways. The secondary learning loss summer funds were used to help 9-12 students that had gaps in learning. The small group instruction and mentoring was conducted by high school teachers in specific content areas of math and ELA. The 6th grade BARK camp was to help 5th grade students and was open to the entire district with their transition from elementary to middle school. Middle school teachers and counselors used this week of instruction to give students a jump start into Middle school but it was not targeted individual instruction as our other two programs were. Visible outcomes from K-4 will be assessed using the Fall IStation data 5-8 students will our district will use Fall Star data.
INSPIRE ACADEMICS, INC.	Inspire has chosen not to expend/accept the funds after all. Requiring additional assessments when students and staff already deal with assessment fatigue is not something Inspire will engage, especially right when students are working to ensure they are on track with course completion before the end of a semester.
CASTLEFORD JOINT	We did not use our learning loss funds over the summer. Instead, we are having an after school tutoring program for students K-12. This fall, we used Istation and interim assessments to help identify and monitor student learning.
NAMPA	Elementary programs - we targeted students with specific ELA or math gaps in their learning as evidenced by IRI and PMA or IMA. Middle School programs - students at risk at not progressing to the next grade were identified (using grades and ISAT) were invited to focus on specific content areas.

	High School - students who needed additional time to demonstrate proficiency in content areas were invited to catch up programs. Other students wishing to earn full credit (replacing F's in previous classes) attended the district main summer school program.
WALLACE	Our funds were used to cover intervention and curriculum programs access, salary and benefits for staff instructing the program as well as that of salary and benefits involved in transporting students to and from the summer activity. Supplies associated with the program and limited snacks were covered by funding also. Students were selected using results from the IStation Reading test in the spring of 2021. Students maintained or slightly dropped in scores using this assessment in the fall.
AMERICAN FALLS JOINT	k-12 funds were used for credit recovery. There were 109 credits earned. k-4 funds were used for k-8 reading and math summer school. At this time we are still analyzing results of outcomes.
GOODING JOINT	Gooding Elementary School was able to provide K-5 students with instruction in math and reading. Students were selected to attend summer school based on ISIP reading and/or math scores that fell below proficiency. Students received up to 5 hours of daily instruction, 4 days per week, for 4 weeks. Gooding Middle School: Number of students ending 2020/2021 under 80% of credits passed requirement: 18 students; out of that 18, 11 students attended summer school to make up failed classes, 6 of the 18 students will need to finish with credit recovery first semester, only 4 students will be retained (out of 352 students).
IDAHO ARTS CHARTER SCHOOL	Our learning loss fund covered the funding of a six week summer program for students at risk for retention, who suffered from absenteeism during remote learning, or who needed credit recovery. We held school 4 days a week from 9-1:00pm and provided both bussing and meals for students. Students were provided strategic instruction in both math and reading from certified teachers. An aide was also placed in almost every grade level to support instruction. Pre and post assessments were given in a power standard taught in both reading and math for each grade level. All grades showed a growth increase in at least one of the reading or math content areas. 100% of students needing credit recovery were able to recover those Middle School credits and advance to the next level. In addition, all students were able to get back into the routine of attending school safely to experience a stint of in person learning while cases were down. Attendance remained between 85 and 100% for the entirety of the program.
VALLIVUE	While Vallivue did submit an application for learning loss funds back in May, we have yet to use any of those monies. We chose to wait until students returned this fall to assess their skills and skill loss to determine where the money would best be spent. Even though our original plan requested the use of both the K-12 and the K-4 funds, we plan to use only the K-4 dollars. Our plan is to used this money on supplemental materials to support instruction and student learning. We plan to spend our K-4 allotment on the following items: Hands on math kits for each classroom, K-4, to enhance our math lessons and to increase student understanding of our mathematical standards. Iready program licenses Istation math licenses This is not an exhaustive list as we are still reviewing and discussing the results of assessments we have given. We plan to purchase these items in the near future and will be able to explain expenditures in detail on the next report.
NORTH STAR CHARTER SCHOOL	North Star invited all students who received a 1 or 2 on the spring ISAT test for ELA or Math and/or a 1 or 2 on the IRI to participate in our summer learning program. This program ran for 6 weeks and students who chose to attend received instruction from

	certified teachers using research based program materials to include Bridges, CPM, Wonders, SIPPS. Students will take the interim ISATs and IRI by the state required date (along with district required benchmarking) to track impact of the program. The unspent dollars will be used in our secondary program (6th-12th) to run an after school program taught be highly qualified staff to support students whose data trends , spring ISAT results and current school performance show learning loss impact. This program will be completed by the December deadline.
NEZPERCE JOINT	Students who showed "learning loss" in reading and math were invited to attend a 4 week summer program. This program featured reading instruction focused on K-3 skills including phonics, sight words, oral reading skills, and comprehension. A daily writing activity was included also at each grade level. Math skills included direct teaching of topics such as number recognition, addition, subtraction, and multiplication. These math skills were reinforced with students using the online math program, Dreambox.
PAYETTE JOINT	We took advantage of the learning loss funds to provide a summer program for students in grades K-5. Students were selected based on data from spring testing, grades and those marked to be retained due to loss of academic achievement. Program selected 'power standards' for all staff to address throughout the four week program. Formative testing was conducted at the beginning and throughout the sessions, but IRI and ISAT will be used as metric for growth.
MARSH VALLEY JOINT	We ran summer programs at three of our elementary schools. Because the needs were different at different schools, the programs that were offered were different. At one school, we offered a summer reading/early literacy program. At the other two schools, we ran "camps" that used activities to remediate ELA and Math.
HANSEN	Hansen School District plans to purchase curriculum for secondary classrooms with the K-12 Learning Loss Funds. K-4 funds will be used to hire support personnel for elementary reading and to purchase curriculum. We didn't use any funds over the summer. Our 21st Century does summer school so that was already paid for K-6. Our plan is to use the funds this fall.
SODA SPRINGS JOINT	Credit recovery was the goal for our high school and middle school students, of the 12 students that arrived all of them completed the necessary work to gain the credit that was lost. Teacher's were paid to assist the students. A local curriculum was used with some purchased programs the district already owned.
CAMBRIDGE JOINT	Our district decided to try a "Jumpstart to School" program. We invited students who were not at benchmark on the IRI at the end of the 2021 school year, students who have special needs with an IEP, and students recommended by the teacher as needing intervention services to be ready for the beginning of the school year. Our staff targeted literacy skills, math skills, and STEM activities that combined literacy and math/science skill practice. 80% of students invited attended. 90% of students who came to our Jumpstart program attended 100% of the time. Also our district used the Governor's Grant to procure the ISIP assessment for math for our elementary students and ISIP reading assessment for 4th grade students. This program includes intervention instruction in reading and math that students can use at home, as well as at school. Our district will use the ISIP reading and math percentile rankings from the assessments given monthly to track growth and to calculate annual growth for all elementary students. This program also allows teachers to determine which students are at benchmark and to target intervention instruction, both in the classroom and in our Title I tier II instruction program.

HOMEDALE JOINT	We were unable to staff a summer school program as we had previously planned. Therefore, our summer learning loss dollars went unspent. We plan to utilize the K-4 and K-12 dollars before December 31, 2021 by providing additional IRI and ISAT remediation. We will target students and provide additional support on designated Friday's throughout the Fall semester as we are on a 4-day school week.
MINIDOKA COUNTY JOINT	During the summer, Minidoka County School District (MCSD) held summer school programs for several groups of students. The summer school migrant program had 142 elementary students enrolled. In addition to enrichment activities specific to the migrant program, these students received small group instruction based on learning deficits. Students used software programs that provided them with instruction at their specific level. Students in the the secondary summer school program attended to recover lost credits due to learning deficits and/or absences. Students either received instruction in small class sizes to better ensure content application and retention or instruction from Edgenuity that allows students to work at their own pace to learn content and demonstrate mastery of content. MCSD uses a model that incorporates software programs that tailors instruction to individual needs in combination with in-person instruction that may be whole-group on one-on one.
PARMA	Parma School District focused efforts on K-4 students who were very close to meeting proficiency targets at the end of the 20-21 school year in hopes that the boost from attending summer school would give them that little bit extra to start the year ready to meet proficiency targets. Teachers worked with students on reading and math daily. Students remained with teachers they finished the 20-21 school year with in order to target specific skills that an unfamiliar teacher would need more time to diagnose. Students and teachers working in that familiarity meant they hit the ground running to improve student outcomes. Parma also had a 5-8th grade program providing high-quality and engaging programming in ELA, Math, Science, and STEM education. Students participated in all 4 subjects everyday. Funding has been used for summer school salaries and benefits. Supplies and needed equipment were also purchased with learning loss funding.
SWAN VALLEY ELEMENTARY	We hired our 1-2 grade teacher to run a summer reading program for students that did not get a 1 spring 2021 IRI.
FUTURE PUBLIC SCHOOL, INC.	We launched three academic summer camps, including a Kinder Readiness Camp and two 1st-6th grade camps (mid-June and mid-July). All camps targeted students based on spring testing or screening, and both camps included instruction in literacy and math. They were staffed by certified teachers and supported by classified staff, all of whom are current staff that can support on-going support in the school year. Transportation and free meals were provided to allow our most vulnerable students to participate. The effectiveness of the program is being evaluated using FY21 spring Istation (IRI) and NWEA Map testing data and FY22 beginning of year fall Istation (IRI) and NWEA Map testing data.
BLACKFOOT CHARTER COMMUNITY LEARNING CENTER	No learning loss funds were used during the summer portion of the school year. Funds have instead been allocated for use during the school year.
JEROME JOINT	Jerome School District used some of the K-4 and K-12 Learning Loss funding for the JSD 2021 Summer School that addressed learning loss due to COVID and credit recovery in the secondary schools. Funds were primarily used to pay transportation services, salaries and benefits. The IRI will be the metric used to determine outcomes for our primary grades and successful credits recovered/earned were the metric used for our secondary grades.

	The balance of the available funds will be used to address COVID learning loss needs in the 21-22 SY.
CASSIA COUNTY JOINT	Cassia Joint School District provided a robust summer learning program. We offered all students K-12 the opportunity to attend summer learning programs in all four of our communities: Burley, Declo, Malta, and Oakley. Every elementary school offered anywhere from 10 to 25 additional days of learning. The focus for learning at the elementary school was on literacy and math skills. In addition, we offered enrichment experiences to all students at the end of each week. At the secondary level, we focused on credit recovery in ELA, math, science, and social studies. Salaries and benefits for instructors, para educators, and child nutrition were all a part of the expenses covered by learning loss funds. In addition, curriculum and resources were also purchased with learning loss funds.
COUNCIL	For Council Jr.-Sr. High School, we concentrated our efforts on credit recovery. Using learning loss funds we had 17 students recover 24 total credits. This allows those students to start the 2021-2022 school year on a positive note and equal to their peers. For Council Elementary School we had dual purpose this last summer. Using learning loss funds we provided remediation for 23 students in both Reading and Math. We also opened up our library and started a bookmobile to provide reading books for our students throughout the community of Council, with 55 students checking out books.
WEST BONNER COUNTY	We were able to offer reading, math and literacy interventions on location at all 3 of our elementary schools. We reached out to all who were below grade level and invited them to this opportunity. We were also able to offer summer school to our secondary students, this was based around credit deficiency and need. Thanks for these opportunities!
NORTH IDAHO STEM CHARTER ACADEMY	We implemented IDLA classes, IXL curriculum, stipends for online teachers and hardware for students to use at home during this time to assist in learning loss.
BLACKFOOT	Blackfoot School District offered a "Jump Start" program for all K-6 students at each elementary school and BHSG in August. MVMS offered interventions for students at rick of not being promoted for grades 7-8 June through July. At the Migrant Outreach Center, we offered time recovery for absenteeism June through August and at Independence Alternative High School, we offered credit recovery through face-to-face learning, ICON, and PLATO for credit accrual.
TWIN FALLS	The TFSD utilized Plato for 8th grade students lacking middle school credits necessary for matriculation to the high school. Students were contacted and 34 students were enrolled into math and/or ELA classes. Of the 34 students who took Plato courses, approximately 17 students successfully completed the course and earned the credit to fully matriculate. The remaining students are finishing courses this year in a Plato lab at the high school.
NORTH VALLEY ACADEMY	We served K - 12. K - 6 focused on reading, math, and ELA learning loss as well as preparing students for the upcoming grade. 7 - 12 focused on credit recovery. We served students at four different locations and had two to three adults at each location to provide the best options for one to one instruction.
KOOTENAI JOINT	We did not use this program.
SHELLEY JOINT	K-4th grades were provided the opportunity to attend summer tutoring where they received direct instruction to help them improve their reading and math skills. Transportation and lunch were provided. 7th-12th grade students were given the opportunity to take asynchronous courses during the summer for credit recovery. IRI and STAR scores will be used as a metric.Total summer credits earned will be used as a metric.

POCATELLO COMMUNITY CHARTER SCHOOL	Our data shows from our summer program reading went from 32% proficient to 42% and in math we went from 29% to 47% proficiency.
SNAKE RIVER	Due to the time when the award was received it was decided that the funds would be used in the fall semester. The elementary schools will use either the Isation or the STAR assessment to determine which students have the most learning loss and those students would receive extra instruction on Fridays throughout the fall semester.The plan is to put together tutoring classes for the secondary level as well
MURTAUGH JOINT	The District did not use learning loss funds over the summer to fund our programs.
BOISE INDEPENDENT	Boise School District established a K-4 summer program to address the needs of unfinished learning from the 2020-2021 school year. During this summer program students participated in high-engaging, skill deficit building activities in the areas of Reading and Math. Students from 33 elementary buildings enrolled into these summer programs that were offered at 5 different locations. A pre-post model of assessment was implemented to determine the levels of improvement in the areas of Reading (iStation) and Math (iReady). The pre-assessment evidence was obtained from the Spring IRI for reading and the Spring iReady in grades K-4. The post-assessment evidence will be obtained following the fall administration of iStation (grades K-5) and iReady (grades K-5).
FORREST M. BIRD CHARTER SCHOOL	We did not use any funds over the summer. We are not planning to use the funds as we cannot find people to work as paraprofessionals. We are buying the program via ESSER II or III funds instead.
ONEIDA COUNTY	I believe the most effective way to address remediation/learning loss is in small groups that can focus on the individual needs of each student. That is why we choose to use the remediation dollars working with the students on Fridays when they would typically not be in school. We will have to use some dollars on technology and programs specifically designed to help individual students. While we may not be able to fund the Friday work sessions on a going basis, we will have the technology and the programs in place to use on an ongoing basis to include summer school.

ROLLING HILLS PUBLIC CHARTER SCHOOL	Learning loss plan is to be implemented after the start of the school year gets started. This summer teachers were burnt out and needed the time to recover from a very intense school year. We are a small school district (250 total students) and the parents also needed time away from the school to be with their kids. Safety of being on campus was a concern. We plan on giving all of our students the Istation (k-8) Reading and Math, additional baseline assessments, and the ISAT interim assessments in the fall. This will allow us to have students in K-4 Math, K-4 ELA, 5-8 Math, 5-8 ELA in an after school program running 4 days a week for students to receive instruction. We will use our Certified Teachers and support staff to run the Learning Loss after school program from Fall 2021 to Winter 2021. We will implement the assessments (Istation Reading and Math, ISAT Interim Math and ELA) to demonstrate progress from baseline in the fall to winter. We are using August and first week of September to establish baselines of students and take the Interim Assessment. We are also looking at their Spring data to identify "Learning Loss" need. On Sept. 7, 2021, students will be invited to our After School Program to address learning loss. The program is to run Monday- Thursday (2:45-3:45pm). Two days dedicated to ELA and two days dedicated to Math. Most students will need help in both area so they can participate in all four day. It is expected from our preliminary numbers that we will serve about 150 students in the area of Math and ELA, grades K-1-2-3-4-5-6-7-8. We will extend supplemental contracts to teachers and staff to support the program of instruction.
WEST ADA	We have utilized some of the learning loss funding through the summer. We did anticipate a larger Summer Program for Special Education than actually occurred - less students requested services than was originally anticipated. Much of the learning loss funding in the plan is being devoted to programs that will start when school begins and will be expanded programs leveraging current literacy funding. Expenditures will be incurred throughout the fall through December.
CAMAS COUNTY	Due to the dynamics of our community, we had only two families who were willing to participate in our summer reading program. Due to this, we are planning our reading intervention for this October/November, thus allowing our teachers to use monthly benchmarks to identify students who are below grade level, and allow for appropriate grouping. Teachers attended professional development this summer, learning how use our new adopted reading and writing intervention curricula. Assessments are included in this curricula that help us to identify students who are below grade level proficiency. Our instructional coach has designed both push in and pull out intervention.
RIRIE JOINT	At the end of the 2020-2021 school year we held our regularly scheduled summer school and paid for it with Title funds. I did not have any other staff that wanted to work through the summer so we did not offer any addition summer programs. Our plan is to utilize the funds during our first semester of school this year.
AMERICAN HERITAGE CHARTER SCHOOL	American Heritage Charter School provided a summer learning opportunity for students in grades K-12. The students were identified and invited to attend the summer school programs. Students in PK - 1 came on Monday and Wednesdays and Students in 2-5 came on Tuesdays and Thursdays. Students in 6-12 were invited to attend M-TH to receive help in reading and mathematics. The library was also opened for students to come and check out books during the summer. We tested students in these levels at the end of the summer school program. The teachers felt they had an impact on the students' learning and parents provided positive feedback to the teachers on how the could see their students improving in these areas.

GARDEN VALLEY	K-4 Seven students in K-4 participated in our Jump Start program. This program is provided annually by one of our Paraprofessionals. Students are selected to participate by teacher recommendation and/or assessment results. In previous years there was less participation. The summer of 2021 the program served seven students. K-12 Seven MS/HS students participated in Credit Recovery during the 2021 summer. Students attended in person during the month of June. Those that did not finish their class worked independently in July and August. Our Summer School Paraprofessional supported them four days a week in June. In July and August the para communicated with them online and by phone. She monitored their progress and kept them motivated and focused on finishing their classes.
IDAHO SCIENCE AND TECHNOLOGY CHARTER SCHOOL	The school hosted a summer reading camp in August to prepare students for a successful 2021-22 school year. Five certified teachers worked with 39 students on reading skills ranging from early phonics to advanced vocabulary and spelling. Students who participated read daily at home and at reading camp. Those 39 students performed better on the September IRI. They also read (as a group) a total of 8500+ pages during the camp. SEL indicators showed student anxiety over attending school in the fall decreased dramatically after participating in the camp.
COTTONWOOD JOINT	We provided summer school for 41 K-7 students and credit recovery for 4 high school students. We had a summer school coordinator along with 5 paraprofessionals. There were 3 elementary groups which were assigned stations throughout the morning. One session was included live interaction with their IDLA teacher focusing on math and reading/literacy. 2nd session was small group work with a paraprofessional and the 3rd session was iStation independent work. Summer school ran every Tuesday and Thursday from 8:30-12:30 starting June 8th and ending July 29th. The credit recovery high school students took their courses via IDLA and worked on their own or with our high school IDLA coordinator.
ARBON ELEMENTARY	We ran a summer reading program every Mon through out the summer. Mrs. Williams also had activities sheets to do with their library books. Mrs. Curry tutored one student 4 days a week in math. After taking the I Ready diagnostic at the beginning of the school year she showed growth in each domain, but is still performing a grade level behind. She did show a 3 grade level improvement in geometry.
SUGAR-SALEM JOINT	We used the extra funding to help students that were struggling with reading and math. We hired teachers and paraprofessionals at each grade level pre-K through 6th grade to come and help the students we had identified for intervention. We had one session of summer school at the end of June and another session at the beginning of August. We used a 1 minute reading test to determine the effectiveness of our program for those students that were struggling in literacy.
MACKAY JOINT	Mackay School District operated a summer school for students in grades 1-8. We utilized Learning Loss K-4 funds for literacy intervention for 8 students and Learning Loss K-12 funds for math intervention for 15 students. Some students were served for both literacy and math. Students were recommended for summer school based on ISAT scores, IRI scores, and teacher recommendations. In addition to Learning Loss funds, Title 1 and Special Education funds were also utilized for additional students. Students served by Learning Loss funds were in grades 4-8. Participating students will complete an ISAT comprehensive interim assessment between December 1 and 10, 2021.
BRUNEAU-GRAND VIEW JOINT	We didn't offer any summer programs in 2021

WILDER	Wilder Elementary has partnered over the summer with the local library to have reading groups each week throughout the summer. Many fun ideas and experiences were had helping to have more students in the library with parents. The program went well, however we had to keep recruiting as there were only a few students who attended. We did have families attend so preschool age kids also benefited. We are looking forward to implement "Read Right" that was in the planning stages as it has taken time to find training for this program. This will provide extra opportunities as well for students who have struggled in the past.
BLAINE COUNTY	Blaine County School District was able to serve over 400 students this summer through a variety of programs. The programs were split into target categories that provided instruction to target early literacy, provide intervention services for ela/math in elementary grades, provide intervention and academic support in middle school, and credit recovery/advancement in high school. High school students recovered over 54 credits as a result of these efforts. Middle School students received intervention instruction in Math and ELA that will benefit their academic progress, and elementary students received targeted intervention/support in literacy and math.
BEAR LAKE COUNTY	We utilized these funds to pay staff to keep our school libraries open specific hours during the summer. We had a great turnout overall for students to come in, check out books, and then read during summer when many students do not spend a lot of time reading.
LAPWAI	K-4 summer reading program, transportation, and salaries/benefits for: Learning Loss Recovery and Leap Ahead Services K-4: Of the 100 students who participated in the summer reading/early literacy program, 65% received content remediation for ELA/Literacy K-12 Credit Recovery Program: Learning Loss Recovery and Leap Ahead Services, Math Interventionist and Intervention Materials Locally selected metrics for all grade level include STAR Reading and Math
PATHWAYS IN EDUCATION - NAMPA, LLC	The plan we have developed for these funds did not include additional summer support above and beyond what is already in place for summer. These funds will be used during the fall semester.
WENDELL	Funds were used to assist with Migrant Pre K-12 and ELL Pre K-12 summer school. Additionally, we had a jump start program at our middle school in August and credit recovery at the high school. Gov Learning Loss monies will benefit all students in the district with purchases of curriculum, remediation program, technology, PD, etc.
FRUITLAND	Learning loss funds were used at the secondary level to address credit recovery in the areas of math and language arts. Some of the students were at risk of not moving to the 9th grade, while upper classmen were doing credit recovery to get back on track for graduation. The elementary had school for the month of June, focusing on literacy. The students were selected based upon Istation scores. 180 of our 500 elementary students attended in the month of June.
TREASURE VALLEY CLASSICAL ACADEMY, INC.	TVCA offered an 8 day reading program for students entering 1st and 2nd grade who scored a 2 or 3 on the IRI. Students reviewed phonogram sounds, decoding, letter formation, rhyming, and read daily from primary phonics readers. The goal was to review and

	help these students retain what they had learned the previous year in school so to be better prepared to enter their new grade level.
MOSAICS PUBLIC SCHOOL, INC.	We provided two 3 hour summer school sessions focused on literacy and math for 3 weeks for students who were behind their grade level peers. We invited 110 students to participate, and the families of 79 students accepted the invitation. During our summer program, we focused on remediation of literacy skills using a combination of HeadSprout, Fundations direct instruction, and targeted math skills aligned to our math skills. We used the CORE Phonics Survey to assess students' skills entering and to help target the Fundations groups. We paid for 4 teachers salaries, 1 administrator, and paid for transportation for students to and from the school. We also purcahed Headsprout and RazKids so students would have access to the intervention materials online as well as books at their level. Even though we requested parents commit to sending their child every day for all 3 weeks (15 days), we saw many students miss multiple days due to trips or other family commitments. The parents were able to continue access to Headsprout throughout the summer with the hopes students would be able to complete the 40 hour intervention. The school offered to provide a Chromebook and Wifi hotspot for parents who needed it so they could access the program. No parents checked out a device and most students did not complete the Headsprout intervention.
UPPER CARMEN PUBLIC CHARTER SCHOOL	Students who had either been home schooled due to Covid, or were at risk of being below their grade level participated in an all subjects summer program. At summers end all students are working at the entry level expected for the start of school. Funds were used to pay the instructor, her mentor and to also provide mileage to the teacher and to two families living in excess of 30 miles one way from the school.
FERN-WATERS PUBLIC CHARTER SCHOOL, INC.	Students participated in a 6-week program, two times per week for 2.5 hours. Students performed math tasks and worked from a math workbook in the first hour. The second hour was a book club, focused on reading and comprehension. The last half was devoted to socio-emotional learning. Students who participated will complete the interim ISAT their first week of school. Fernwaters will also use MAPS testing to measure student growth.
KUNA JOINT	For our k-4 summer learning loss funds were used to catch up all students who had learning gaps in reading and math. All teachers gave the core phonics survey to all students. There was focus on incorporating STEM activities in math and reading. Teachers were focused essential standards at each grade level For k-12 funds for our secondary we used this money to help add extra supports for our 9-12 students before the start of school on August 26th.We had two intervention specialists work with 9-12 students for two weeks. They called parents and students who were in danger of not graduating and offered additional supports once school started. They called over 200 families and they were able to get 175 of the students back to school. Other alternatives were offered to all students also.
MIDVALE	The Midvale School District had a summer school session for the first time in my remembrance. Funds were used to purchase curriculum, training, materials, salaries/pay for two certified teachers and one paraprofessional.
VALLEY	Our learning loss funds were used to hire teachers to run a secondary credit recovery program in the content areas of English and Social Studies, and an intervention/retention program at the ELE level. Secondary students had to demonstrate mastery through end-of-unit assessments. The ELE program was designed to recover missing or failed assignments, with support from (2) ELE certified teachers. Both programs lasted 6 weeks.

KIMBERLY	Kimberly School District #414 did not use any "learning loss" funds over the summer .
COEUR D'ALENE CHARTER ACADEMY	We provided a three-week math instruction opportunity for incoming middle school students and middle school students who struggled in our math classes the previous year. This was not required, but attendance was fairly consistent. Instructors did do informal assessments throughout, but primarily to guide their instruction. We plan to provide a math center during the school year for students who would like help, as well as those referred by teachers.
FALCON RIDGE PUBLIC CHARTER SCHOOL	Falcon Ridge provided a Summer Reading program for 46 students that were able to attend. We did not provide transportation. The "Reading Coaches" reviewed the IRI's and ISAT scores of the students participating and used that as a basis to help each individual student. They all received one on one instruction. No local assessment was taken at the end of the program.
HIGHLAND JOINT	Highland JSD 305 did not use any learning loss funds over the summer of 2021.
IDAHO VIRTUAL ACADEMY	Students participating in the summer learning loss program were enrolled in Mindplay to improve reading from June 21st to August 6th. Mindplay is a personalized reading plan that meets individual student needs. Mindplay focuses on phonics, grammar, silent reading rate, comprehension, and fluency in this order. Students were asked to complete a minimum of 20 hours during the summer. Students were supported by a teacher who helped students to complete a screener, track progress, set goals, provide instruction and assistance, and motivate students. We are planning to compare Spring IRI to Fall IRI for the students involved in our summer program.
KAMIAH JOINT	No use over the summer.
WHITEPINE JOINT	Our secondary students recovered credit. We employed several staff members to regain credits in math, history, english and science. Our elementary students had summer school working on general math and english remediation. The program for both elementary and secondary lasted for 4 weeks.
COSSA	Purchased Odysseyware software to be used for online credit recovery by students who fail regular classes during the school year. No students enrolled in Odysseyware during the June 2021 summer school.
TAYLOR'S CROSSING PUBLIC CHARTER SCHOOL	We did not use the $ for summer school this year as we focused our efforts to provide learning loss supports throughout the school year in 21-22 and potentially the summer of 2022. We did not access any money for this past summer.
LEWISTON INDEPENDENT	The District did not use learning loss grant funding during the summer of 2021. We will use these funds between now and December 30, 2021.
GENESEE JOINT	We are using IRI scores for all students to assess the impact of our summer program. To be bluntfully honest, our kids are so burnt out on the IRI which was part of our summer program, that they didn't do their best nor have any interest in doing iStaiton over the summer. I reviewed student scores and the scores did not show growth after a 6 week program due to students not attempting to show what they know. Our test scores at the end of the program did not show the growth we had hoped for. Hopefully my Sept. data will show an improvement since students will be monitored in a more structured environment.
ELEVATE ACADEMY, INC.	Learning loss money was spent on staff. $21,972.77. An average of 25-30 high school students arrived Monday-Thursday to work on Credit Recovery, and they recovered close to 75 credits altogether. An average of 20-30 middle school students arrived Monday-Thursday to work on Math and ELA intervention from 9-12 each day, and while we didn't test, we focused on reading, writing, and math skills in fun and engaging manners to continue learning into the next school year.

HORSESHOE BEND	We implemented two summer reading programs. One was 2 days/week and was open to all students. The other was 4 days/week was by invitation for students who were lower than 50th % on Spring 2021 NWEA MAP tests and/or May 2021 Istation tests. We will use Fall 2021 MAP and Istation test results to measure effectiveness. Fall testing is not yet complete at this time.
PRESTON JOINT	We utilized learning loss funds for literacy and math content and salaries and benefits of staff for summer intervention programs.
MOUNTAIN HOME	We provided secondary credit recovery summer school that served 107 students who ended up earning a total of 190 credits. At the elementary level, we set up multiple different sessions for students to choose from. Some were week long literacy/math camps and others were spread out over the month of June and took place 2 days a week. Each school focused on what they felt their greatest need was.
NORTH GEM	We provided a summer reading and math program for our K-5 grade students. We had 25 out of 51 students participate in the program and we evaluated their progress using our Monthly I-Station. The math portion will be evaluated using our iReady Assessment that is given in October.
WEST SIDE JOINT	We utilized learning loss funds to pay salaries and benefits of certified and classified staff providing reading intervention to students.
TETON COUNTY	We offered a 5 week summer tutoring program to students in grades K-8 that focused on reading, writing, and math skills. The program ran in 4 locations, Victor Elementary (K-3), Driggs Elementary (K-3), Rendezvous Upper Elementary (4-5), and Teton Middle School (6-8). A total of 8 teachers, 1 cook, and 2 admin oversaw the program. Students increased their foundational reading skills in phonemic awareness (K-1), phonics (K-5), and comprehension (K-8) as evidenced by informal assessments by the teachers. We used a researched based curriculum to support students including the Wilson Fundations curriculum (K-3), and Reading Horizons Elevate (4-8).

SUBJECT

Update on New Idaho Content Standards in Mathematics, English Language Arts and Science

REFERENCE

April 2009	Board approved updated Content Standards in Science
April 2010	Board approved adoption of updated Mathematics and English Language Arts content standards and proposed rule incorporating them by reference
August 2015	Board approved updated Science content standards (rejected by legislature)
August 2016	Board approved updated English Language Arts and Mathematics content standards
December 2016	Board approved updated Science content standards (partially rejected by legislature)
October 2020	Board received an update on the ELA, Math, and Science content standards rewrite process.
January 2021	Board received an update on the first draft of the ELA, Math and Science content standards revisions.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section IV.B.9
Section 33-1612, Idaho Code
Idaho Administrative code, IDAPA 08.02.03 – Section 4, Rules Governing Thoroughness, Idaho Content Standards

BACKGROUND/DISCUSSION

The Idaho Content Standards reflect statements of what students should know and do in various content disciplines and grades. Content standards are adopted statewide and reviewed every six (6) years by teams of educators and stakeholders for possible revision. These standards provide a consistent foundational level of academic expectation at each grade level in a number of content areas across Idaho's public schools.

Both Mathematics and English Language Arts were due for review by the department this year and approval by the Legislature in the 2022 legislative session for curricular review in 2022-2023.

The Idaho Legislature rejected the Idaho Content Standards for Science in Spring 2016, citing the need for additional public input. The State Department of Education (Department) facilitated rulemaking for the Board, in April 2016, which included solicitation of public comment online and through statewide, face-to-face meetings and meetings of the science standards working committee. The resulting science standards included substantial revisions of structure and

organization and revisions to accommodate and address concerns of stakeholders and legislators.

The revised science standards were presented to the 2017 Legislature, and the standards were approved with the exception of five (5) paragraphs dealing with human impacts on the environment. The Department was asked to gather additional public comment and consider revisions to the five (5) paragraphs that address both positive and negative impacts.

After additional rulemaking, public comment and public hearings in 2017, the State Board of Education approved revisions August 10, 2017. The Idaho Content Standards for Science were accepted by the Legislature in the 2018 legislative session as an incorporated by reference document in IDAPA 08.02.03, although they were rejected by the House Education Committee and approved only by the Senate Education Committee.

The updated Idaho Content Standards for English Language Arts, Mathematics, and Science represent the work of dozens of stakeholders and educators who have worked since June of 2020 to address the continued concerns regarding these standards.

IMPACT

These changes to the Idaho Content Standards for English Language Arts, Mathematics, and Science may have a fiscal impact at the state and local levels for professional development. A study to ascertain alignment with the current assessment and curricular review and implementation is needed.

ATTACHMENTS

Attachment 1 – March 9, 2020 House and Senate Education Committee Letter
Attachment 2 – Joint Education Committee Letter
Attachment 3 – SBOE President and SDE Response Letter
Attachment 4 – Revised English Language Arts Content Standards Markup
Attachment 5 – Revised English Language Arts and Literacy Content Standards Clean Version
Attachment 6 – Revised Idaho Mathematics Content Standards Markup
Attachment 7 – Revised Idaho Mathematics Content Standards Clean Version
Attachment 8 – Revised Idaho Science Content Standards Markup
Attachment 9 – Revised Idaho Science Content Standards Clean Version

BOARD STAFF COMMENTS AND RECOMMENDATIONS

Pursuant to Board Policy IV.B.9.a. the Idaho content standards must be reviewed, at a minimum on a six (6) year cycle and the process for reviewing and updating the content standards will include at a minimum:

i. A review committee consisting of Idaho educators with experience in the applicable content area. The committee shall be made up of elementary

and secondary instructional staff and at least one postsecondary faculty member from a four-year institution and at least one from a two-year institution, at least one public school administrator, and at least one parent of school-aged children or representative of an organization representing parents with school aged children. Instructional staff and postsecondary faculty members must have experience providing instruction in the applicable content area. Additional members may be included at the discretion of the Department. To the extent possible, representatives shall be chosen from a combination of large and small schools or districts and provide for regional representation.

ii. The review committee will make an initial determination regarding the need to update the standards.

iii. Based on the review, the committee shall meet to develop initial recommendations for the creation of new content standards or amendments to the existing content standards. The Department will provide multiple opportunities for public input on the draft recommendations including but not limited to the Department website and processes that allow for individuals in each region of the state to participate.

iv. Drafts of the recommended amendments will be made available to the public for comment for a period of not less than 20 days. At the close of the comment period, the committee will finalize recommendations for Board consideration.

While Board policy sets out a process for reviewing and updating content standards, it does not require standards be amended during each review cycle.

In addition to these requirements set in Board policy, because the content standards are incorporated by reference into Administrative Code, they must also go through the negotiated rulemaking process before they can be amended and go into effect. This process allows the public to provide input prior to the Board approving the content standards incorporating them by reference into IDAPA 08.02.03. Amendments to the content standards take effect when the administrative rule incorporating them by reference takes effect. As an example, content standards incorporated into a pending rule taking effecting at the end of a legislative session would be in effect for the following school year. This would mean the new content standards would be the minimum standards taught in the school the following year and in the case of ELA, mathematics, and science would need to be assessed on the statewide assessment and used for accountability purposes. The negotiated rulemaking process starts with a notice of intent and the opportunity for the public to participate in negotiations prior to the incorporation into a proposed rule and final consideration as a pending rule.

The Elementary Secondary Education Act as amended by the Every Student Succeeds Act in 2015 requires states to have high academic standards and statewide assessments that measure students' progress toward those academic standards. At a minimum, states are required to have a statewide assessment

aligned to the applicable content standards in grades 3 through 8 and once in high school for English language arts and mathematics and an assessment aligned to our science content standards given once in each grade band (elementary, middle school, high school). Significant amendments to the content standards for these three subjects additionally will require review of the alignment between the statewide assessments and the content standards. New or amended assessments would be required if it is determined the content standards are no longer aligned with the statewide assessments. Implementation of any new content standards should be considered in conjunction with discussions around cost of new assessment development and professional development for instructional staff, as well as the impact on the state accountability system and timing for roll out that aligns professional development, student instruction, assessment, and accountability requirements.

Chapter 52, Title 67, Administrative Procedures Act, sets out the requirements for negotiated rulemaking. Pursuant to Section 67-5221, Idaho Code, notices of proposed rules must include any fiscal impact greater than $10,000. As part of the process to request approval to enter into negotiated rulemaking, all agencies are required to submit requests to the state Administrative Rules Coordinator, in the Division of Financial Management. Without the fiscal impact required by the Administrative Procedures Act, a request to promulgate proposed rules cannot move forward. Unlike other content areas, the ELA, mathematics, and science content standards' tie to the statewide assessments. As such, proposed amendments to those standards must be evaluated against alignment with the existing applicable statewide assessments to determine if amendments will trigger the requirement for new assessments to be developed. The development of new assessments can have a significant fiscal impact. Additionally, changes to the assessments are likely to also require a delayed implementation to the standards as the new assessment is developed and professional development is implemented at the school level.

BOARD ACTION

This item is for informational purposes only.

Idaho Content Standards



Supporting Schools and Students to Achieve

SHERRI YBARRA, ED.S., SUPERINTENDENT OF PUBLIC INSTRUCTION

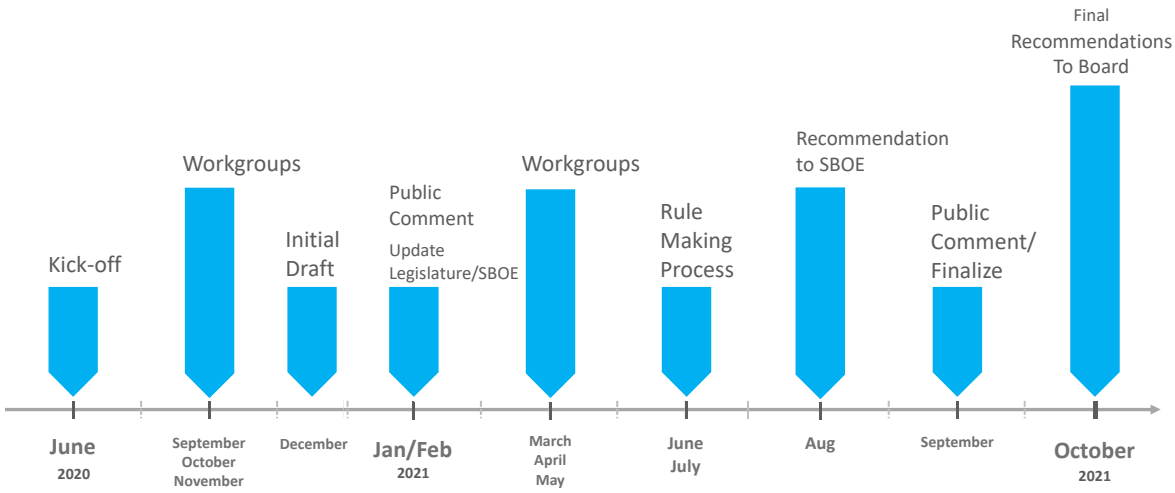
ELA | Math | Science

Proposed Content Standards Revisions



Negotiated Rule Making | 2

Content Standards Review Timeline



Negotiated Rule Making | 3

Committee Processes

- Nomination process
- Broad diverse stakeholder representation
- Norms were agreed upon
- Processes were agreed upon
  - Why - high quality standards, not Common Core
  - What - focus of changes grounded in legislative requests
  - How – virtual, all consensus reached in public

Negotiated Rule Making | 4

Mathematics



Education Committees' Letter: Math Focus

- Explicitly state grade levels at which students should demonstrate mastery of addition, subtraction, multiplication, and division facts. Integrate these basics with critical thinking and real-life problem solving throughout the standards to ensure more connections to science, business, and other related disciplines.
- Reduce the number of standards, use less complex verbiage, and prioritize the more important concepts without marginalizing the accuracy of the standards.
- Ensure the standards are age and grade level-appropriate especially in the early grades, emphasizing the concrete nature of young minds.
- Make certain that standards requiring problem solving are age appropriate and do not exceed the knowledge standards accepted for each grade level.

Math Standards Document Walk Through

REQUEST	SOLUTION
Mastery of Basic Facts	• Mastery Standards identified for each grade level K-6 on Grade Level Overview page
Real-life problem solving	• Examples in blue boxes throughout document • Emphasis on application of concepts • Added Idaho based scenarios
Number of standards	• Fewer standards was not accomplished – this interest conflicted with adding clarity. • Added more subpoints for standards with complex verbiage and syntax • Numbering maintained as much as possible to align to curriculum resources used nationally • Teachers on groups did not feel there were too many standards.

Math Standards Document Walk Through (cont.)

REQUEST	SOLUTION
Complex verbiage	• Vocabulary and sentence structure changed throughout document to be more understandable for all stakeholders. • Much discussion about mathematical vocabulary used when considered essential to the concept. • Examples and clarifications pulled out of standards and put into blue text boxes.
Prioritized concepts	• Mastery standards identified for each grade level • K-8 Coding at Cluster Level – Major Work(☐). Supporting Work(△) , Additional Work (○) • 9-12 Coding - (+) Advanced Standards ★ Modeling Standard • Coding is explained in all grade level or conceptual category introductions.

Math Standards Document Walk Through (cont.)

REQUEST	SOLUTION
Age and grade-level appropriateness	• Standards for Mathematical Practice rewritten for each grade level with age and content of grade in mind. • Learning progressions from multiple sources consulted • Studied standards from other states. • Much discussion in small grade level teams and with whole team. • How a concept flows through the grades was carefully considered

Science



Education Committees' Letter: Science Focus

- Please remove the supporting content (curriculum) from the incorporated by reference document immediately. Local school districts are responsible for curriculum. COMPLETED BY SBOE
- Provide balance in standards that have been politicized. (e.g. include both positive and negative aspects of energy sources).
- Focus on age appropriateness for science, ensuring that these basic concepts are understood before delving deeply into theoretical science. Additionally, please ensure that standards requiring problem solving are age appropriate and do not exceed the knowledge standards accepted for each grade level.
- April 27, 2021 joint letter requested that all supporting content be returned to the document.

Negotiated Rule Making | 11

Science Standards Document Walk Through

REQUEST	SOLUTION
Supporting content	All supporting content was returned to the standards so that each standard has both a performance expectation and one or more content expectations.
Balance on politicized content	Standards were rewritten to avoid politicized content or to focus on positive aspects rather than negative aspects
Age appropriateness	Standards were moved to ensure age appropriateness, assessment limits and additional information were added, teachers from all grade bands reviewed the standards to ensure that material is appropriately placed.

English Language Arts/Literacy



Education Committees' Letter: ELA/Literacy Initial Focus

- Ensure that explicit, systematic, and sequential approaches to teaching phonemic awareness, phonics, vocabulary, fluency, and text comprehension are included.
- Prioritize the basics of reading and writing, with less emphasis on analysis, style, and complex writing forms in lower grades.
- Balance fiction and non-fiction reading materials, emphasizing value-rich, historically important, and uplifting literature.
- Reduce the number of standards, lessen complex verbiage, and prioritize the more important concepts.

Education Committees' Letter: ELA/Literacy Additional Focus

- Comprehensive review of the College and Career Readiness Anchor standards.
- Review classifications of literature and informational text and better give a better balance of genres.
- Reevaluate the categories of reading, writing, speaking, listening. Combine some standards in reading, listening, writing, speaking.
- Remove or move the standards for Literacy in History/Social Studies, Science, and Technical Subjects.
- Compare state Comprehensive Literacy Plan with Reading Foundational Skills K-5.
- Ensure adequacy and progression of cursive writing.
- Review of standards for conventions to ensure adequacy.
- Remove or significantly revise suggested reading that illustrates Complexity, Quality, and Range of Student Reading K-5.
- Remove all other reading lists from standards and their appendices.

Proposed ELA Standards

Request	Solution
Ensure that explicit, systematic, and sequential approaches to teaching phonemic awareness, phonics, vocabulary, fluency, and text comprehension	• Aligned foundational reading standards to the state Comprehensive Literacy Plan • Changed phonological awareness to phonemic awareness to align with current research

Prioritize the basics of reading and writing, with less emphasis on analysis, style, and complex writing forms in lower grades.	• Continued the progression of phonemic awareness standards previously ending in grade 1 into grade 2
	• Reduced K-2 writing standards
	  • Kindergarten from 10 to 1
	  • First grade from 10 to 1
	  • Second grade from 10 to 5

Balance fiction and non-fiction reading materials	• Reading lists were removed from standards and all appendices at the direction of the 2021 legislative letter
Reduce the number of standards, lessen complex verbiage, and prioritize the more important concepts	• Reduced total number of standards • Verbiage changes to most all standards • Reorganization of strands (foundational skills to reading comprehension to vocabulary development)

Proposed ELA Standards

Request	Solution
Review classifications of literature and informational text and better give a better balance of genres	• Sub strands were re-named literature and non-fiction
Comprehensive review of the College and Career Readiness Anchor (CCRA) standards	• CCRA were removed
Reevaluate the categories of reading, writing, speaking, listening. Combine some standards in reading, listening, writing, speaking	• New strands and sub strands were developed • See page(s)4-5 of proposed ELA standards
Remove or move the standards for Literacy in History/Social Studies, Science, and Technical Subjects	• Standards for literacy in content areas were removed.
Ensure adequacy and progression of cursive writing	• Cursive standard was carried through grade 6
Review of Standards for Conventions to ensure adequacy	• Grammar and Conventions strand was added • Subs strands K-12 for grammar & usage and mechanics to ensure adequacy

Negotiated Rule Making

Questions



Todd Driver | Director Content & Curriculum
Cathy Beals | Mathematics Coordinator
Sharon Cates | Science Coordinator
Alayna Knop | ELA/Literacy Coordinator

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Supporting Schools and Students to Achieve
SHERRI YBARRA, ED.S., SUPERINTENDENT OF PUBLIC INSTRUCTION

Idaho House of Representatives

House Education Committee

Idaho Senate

Senate Education Committee

March 9, 2020

Dear Governor Little, State Board of Education and State Superintendent Sherri Ybarra,

We, the undersigned, believe it is time to replace the Idaho Content Standards sometimes referred to as "Common Core Standards". The Idaho House Education Committee voted on February 6, 2020 to reject the English Language Arts, Math, and Science Standards. We want standards which work for students, parents, and educators. We seek compromise and agreement in creating new content standards.

The purpose of this letter is to give direction to the State Board of Education and the State Department regarding what the House and Senate Education committees would like to see happen going forward. These recommendations are based on input from hundreds of parents and educators across the state since Common Core was implemented.

Our concern is that any new standards developed by the State Board of Education and the State Department of Education may not be accepted by parents, educators, administrators, the public, and therefore the legislature. Stating with clarity what the House and Senate Education committees would deem appropriate will avoid wasted time, effort, and manpower of the State Board of Education and the State Department of Education during any standards rewriting process.

Following are specific recommendations of the Education Committees. We would appreciate a written response to address each of these issues.

Content Standards

A. Math
   a. Explicitly state grade levels at which students should demonstrate mastery of addition, subtraction, multiplication, and division facts. Integrate these basics with critical thinking and real-life problem solving throughout the standards to ensure more connections to science, business, and other related disciplines.
   b. Reduce the number of standards, use less complex verbiage, and prioritize the more important concepts without marginalizing the accuracy of the standards.
   c. Ensure the standards are age and grade level-appropriate especially in the early grades, emphasizing the concrete nature of young minds.
   d. Make certain that standards requiring problem solving are age appropriate and do not exceed the knowledge standards accepted for each grade level.

B. English Language Arts
   a. Idaho Standards should have explicit, systematic and sequential approaches to teaching phonemic awareness, phonics, vocabulary, fluency, and text comprehension.
   b. Provide better balance between fiction and non-fiction reading materials, emphasizing value-rich, historically important, and uplifting literature (particularly American and English literature).
   c. Reduce the number of standards, use less complex verbiage, and prioritize the more important concepts.

d. Renew Idaho's focus on content-rich English Language Arts standards by prioritizing the basics of reading and writing, with less emphasis on analysis, style, and complex writing forms in the lower grades.

C. Science

a. Please remove the supporting content (curriculum) from the incorporated by reference document immediately. Local school districts are responsible for curriculum.
b. Provide balance in standards that have been politicized. (E.g. Include both positive and negative aspects of energy sources.)
c. Focus on age appropriateness for science, ensuring that these basic concepts are understood before delving deeply into theoretical science. Additionally, please ensure that standards requiring problem solving are age appropriate and do not exceed the knowledge standards accepted for each grade level.

D. ESSA Assessment

a. Use some items (questions) on the assessments that have been written or approved by experts in Idaho, and that all items to be used on the new Idaho assessment reviewed by a complement of experts and others in Idaho.
b. Ensure that this test is not based on Common Core. Please explore assessment options including removing Idaho from the SBAC consortium and cancelling the SBAC contract.

Process

We believe the process of rewriting the content standards should take place beginning immediately and be completed as soon as possible while creating excellent standards. We expect schools will use current standards during the rewrite process.

In reviewing/rewriting the standards, we would like to see the Board and the Department look at nationally recognized quality standards from a variety of sources, including states such as Florida, Massachusetts, Texas and Nebraska, and compare and contrast these standards with Idaho's. From this work, develop what Idaho teachers, parents, and administrators believe to be the best set of standards considering age appropriateness, readability, quality of content, and sequential nature.

Please provide estimated costs such as requirements for a new test, and fulfilling federal accountability requirements. However, the first priority should be the needs of the students, secondly parents and teachers, and third, accountability to the federal government.

When selecting the committees to rewrite the content standards please include people who understand current issues with Common Core, retired teachers who have used previous standards, parents from across the state who have expressed interest, administrators with a variety of perspectives, as well as experts from other states. Bring together experts from across all grade levels to evaluate sequencing of concepts and grade level appropriateness.

Please embed traditional American civics throughout K-12 standards.

We would like you to develop a clear progression of content from one grade to the next that is aligned from early learning to post-secondary education to continue increasing student knowledge and skills over time.

While rewriting the standards, keep in mind the professional development needed to implement them.

Please address financial literacy in all grades at appropriate places in the standards.

Curriculum, Instruction, Student Assignments

While it is not in the Legislature's purview to be involved in curriculum, instruction, and/or student assignments, we do request that the State Department of Education utilize the appropriated resources to provide enough support to schools and teachers so the standards can be implemented in a suitable fashion. Engaging instruction, meaningful assignments, and interaction with parents are each critically important, and hopefully will be accomplished in every classroom across Idaho. Please work with school boards and district administrators to ensure they understand their roles in choosing curriculum, using the best instructional techniques, and giving students meaningful assignments.

Other Issues

During the House Education committee's administrative rules review of the omnibus docket several additional issues were discussed at length. The House Education committee would like to identify four issues that garnered commentary. While the House Education committee believes these issues are on the State Board and Department of Education's radar, there is value to confirm our interest in seeing them addressed.

1. Review the standards for initial certification in order to reduce paperwork and other requirements which cause unnecessary expense, time, and work for the colleges but don't truly improve the quality of graduating teachers. Work with the teacher preparation programs to provide them more flexibility through the streamlining of this process.
2. Remove the senior math requirement while still requiring six math credits for graduation.
3. Consider not requiring veteran teachers to be evaluated on all evaluation standards every year.
4. Evaluate social studies and other endorsement requirements considering the difficulty small and rural schools have in hiring endorsed teachers in some subjects. Please consider a consistent degree of difficulty for the various disciplines.

House Members

Lance Clow, Chairman

Ryan Kerby, Vice Chairman

Senate Members

Dean Mortimer, Chairman

Rep. Paul Shepherd

Rep. Judy Boyle

Steven Thayn, Vice Chairman

Rep. Ron Mendive

Rep. Gayann DeMordaunt

Rep. Dorothy Moon

Rep. Barbara Ehardt

Rep. Bill Goesling

Rep. Gary Marshall

Rep. Jerald Raymond

Rep. Tony Wisniewski

66th Idaho Legislature
House and Senate Education Committees

Dear Governor Brad Little, State Board of Education and State Superintendent Sherri Ybarra,

We have actively reviewed the progress made to replace the Idaho Content Standards, sometimes referred to as "Common Core Standards". The Idaho Constitution Article IX, Section 1 establishes, "The stability of a republic form of government depending mainly upon the intelligence of the people, it shall be the duty of the Legislature of Idaho, to establish and maintain a general, uniform and thorough system of public, free common schools." Uniformity and Thoroughness are included in the Idaho Administrative Rules, as documents by reference. The Idaho Joint Education Committees are expecting that any new standards are not simply modified Common Core standards.

The purpose of this letter is to acknowledge the progress made over the past eleven months to meet the recommendations specified in a letter from the Joint Education Committees dated March 9, 2020. In the following paragraphs we will acknowledge the progress to date, make recommendations for further direction and provide suggestions that can lead to a final approval of new Administrative Rules covering Thoroughness of the Idaho English Language Arts, Math and Science Content Standards.

A. ELA Standards - Committee comments and suggestions for completing these standards

a. We are asking that the process for completing the ELA Standards revision be significantly modified. We ask that a smaller committee of practicing or retired teachers who understand the initial directive to replace Common Core (eight to ten teachers) be assembled this summer and given the opportunity to dedicate sufficient time and energy to the process. We ask that the process not rely on volunteers, but that great teachers be sought out and invited to join the process. We suggest that four to eight weeks be dedicated to the process, and that these teachers be paid for their time so they can give their full energy to the task and feel valued for their professionalism and expertise. We would like to offer the opportunity to continue the process into another year if that is deemed necessary and wise to create the best standards possible.

b. We would like the revision committee to ask all pertinent questions, to probe deeply, to be comfortable with a different approach, and to make major changes. We are not asking the revision committee to "start over," but we encourage review and comparison of our revised standards with the standards from other states, with related material from major publishers, and with materials from other organizations like the Core Knowledge Sequence in order to glean the best of the best standards available.

c. We believe that Idaho can truly create exceptional standards that are appropriate for Idaho students, parents, and teachers—standards that will endure, provide clarity and vision, provide a better way forward for student proficiency, and encourage good teaching for years to come. We encourage a focus on necessary, underlying knowledge as well as the processes of reading, writing, and "doing" language arts skills.

d. It is extremely important that the standards can be evaluated effectively. Committee members should not assume that Idaho must continue to use our current testing models or providers.

e. Appendix A includes other Suggestions and Thoughts.

B. Science Standards – Committee Comments and Suggestions for Completing these Standards

a. In addition to the "Common-Core-Standards" it was the desire to review and rewrite the Science Standards, modeled after the Next Generation Science Standards, to make them more usable for students, parents, and educators. The journey toward this end has brought together many talented individuals that spent a great deal of time, energy, and cooperation.

b. The resulting revision, although an improvement, still falls short of the original intent of a fresh approach to the standards. A broader vision of a system of enduring value to the teachers, parents, and the long-term needs of our students.

c. When the standards were reviewed in detail, it became apparent that some requests of the House and Senate Education Committees were problematic, such as removing the supporting content. We recommend including the supporting content, with assurance that supporting content and standards are depoliticized.

d. A more focused group of compensated individuals should be assembled to finish this task. When selecting the committees to rewrite the content standards we should include people who understand current issues with the Next Generation Science Standards, both current and retired teachers. Experts from across all grade levels should be brought together to evaluate sequencing of concepts and grade level appropriateness.

e. Appendix B includes other Suggestions and Thoughts.

C. Math Standards – Committee Comments and Suggestions for Completing these Standards

a. Legislators on the State Math Standards Committee have a few standards they would still like to see improved. These suggestions have been taken to the State Math Standards Committee for consideration. Once the content of the standards document has been finalized, the SDE should have a small team of qualified K – 12 practicing or retired teachers who understand the initial directive to replace Common Core go through the standards to check for any mathematical errors, and then hire a professional editor to make sure formatting and verbiage is consistent.

b. Appendix C includes other Suggestions and Thoughts.

The House and Senate Education Committees have established a goal that these content standards be available for the State Board of Education to present to the public for negotiated rulemaking to allow rule changes presented for the 2022 Legislative Session with implementation as soon as possible following approval. This letter and Appendixes A, B & C have been reviewed by the Idaho House and Senate Education Committees and approved for delivery to the Governor, State Board and Department of Education.

Respectfully,

Chairman Lance W. Clow
House Education Committee

Chairman Steve Thayn
Senate Education Committee

Vice Chairman Ryan Kerby
House Education Committee

Vice Chairman Carl Crabtree
Senate Education Committee

APPENDIX A – English Language Arts Content Standards

Structure and Organizational Issues:

1. We would like to see a complete, comprehensive review of the College and Career Readiness Anchor Standards. We believe that the Anchor Standards, if used, could be listed once (not repeated at various places throughout the standards). We are also concerned that the structure imposed by the Anchor Standards results in standards that are developmentally inappropriate at the lower grades, too many standards at all grade levels, and unnecessary duplication and repetition. Said another way, there should not necessarily be ten writing standards at the kindergarten level just because there are ten anchor standards in writing.
2. We are concerned about the use of "literature" and "informational texts" as classifications of reading. Perhaps the more traditional classifications of fiction and non-fiction would be better. We also want the standards to better balance the fiction and non-fiction requirements and give better instruction in the various genres of those two majors categories (e.g. historical fiction, science fiction, romance, poetry, drama, biography, historical narrative, instructional and technical texts, journalism, etc.).
3. We would ask that the categories of "Reading and Writing" and "Listening and Speaking" be reevaluated. In the current standards, there is significant duplication of skills when reading and listening are compared, and when writing and speaking are compared. There may be value in combining some standards for reading, listening, writing, and speaking.
4. We would ask that the reading and writing standards for Literacy in History/Social Studies, and Science, and Technical Subjects be taken out of the ELA Standards and moved to the appropriate content standards in social studies and science, or these standards should be removed altogether.

Content Issues:

1. Please compare the State's Comprehensive Literacy Plan (pp. 9-13) with the Reading Standards for Foundational Skills K-5 and make certain that there are no discrepancies that would make things more difficult for teachers. We believe that the foundational skills for reading should appear first in the standards to give them appropriate emphasis.
2. We feel there is still too much emphasis in the K-5 standards on literary analysis of both literature and informational texts. We feel that the consequence may be to suck the joy out of reading throughout all the grades, but especially in the early years of reading. We want students to read for the joy of entertainment and learning.
3. Please make certain that the cursive writing standards for grades 3 and 4 are adequate, clearly defined, follow a logical progression, and require continued practice in grades 5-8. We want this generation of students to be able to read the written record or our history as well as being efficient in their own writing.
4. We would like a comprehensive review of the Standards for Conventions of Standard English (grammar, punctuation, parts of speech, usage, sentence structures, clauses, phrases, tense, voice, etc.) to make certain that they are adequate. We would like the standards to emphasize the importance of continued instruction for these skills in grades 6-12.
5. We would like a full review of the suggested reading that illustrates the "Complexity, Quality, and Range of Student Reading K-5" on pages 33-35 of the original ELA standards; we feel that this list may need to be removed or significantly revised.
6. We would like all other reading lists removed from the standards and their appendices. We would encourage something like the following statement to be included in the introductory material for the standards: In article IX, section 1, the Idaho State Constitution says, "The stability of a

APPENDIX A – English Language Arts Content Standards (Continued)

republican form of government depending mainly upon the intelligence of the people, it shall be the duty of the legislature of Idaho, to establish and maintain a general, uniform and thorough system of public, free common schools." The Idaho Legislature believes that Idaho's public-school system should teach its citizens the background knowledge to maintain a free society and a republican form of government. The texts used in the ELA curriculum must include selections from American history and American literature that promote kindness, generosity, civility, individual responsibility, and socially acceptable behavior.

APPENDIX B – Science Content Standards

Summary - ***The following are more specific areas that require additional scrutiny.***

Proper Assessments of Performance Based Standards

1. There is excessive emphasis in the Science Standards on the performance of tasks which thereby detracts from learning science facts and principles. This is demonstrated by the Standards almost exclusively using terms such as:
    - Gather evidence to support or refute
    - Plan and conduct an investigation
    - Use tools and materials to design and build
    - Use observations to describe
    - Construct an argument supported by evidence
    - Communicate solutions that will
    - Use materials to design a solution
    - Analyze data obtained from testing

    Assessment is a fundamental shortcoming of the Performance Standards as currently written. We request that the Science Standards include clear content (knowledge-based) standards. Since the Standards are performance based, the assessment of these skills is next to impossible in an individual written or computer-based testing environment. A one-on-one evaluation from the teacher may approach this required level of evaluation, but this is neither practical, uniform, objective, or affordable.

2. Certain test questions have multiple interdependent steps where an incorrect answer on one step will necessarily result in incorrect answers on subsequent questions. This cascading effect of a single incorrect answer may give a skewed assessment of a student's aptitude.

Age Appropriateness

We believe many of these performance requirements are above grade level for the early years. Although these skills are necessary for students to learn before they complete their education, the "doing" of science vs. content knowledge in the early grades causes concern.

Use of other Science Based Skills

When reviewing the fifth-grade sample test questions, there was no usage of mathematics on any of the questions. The highest use of mathematical skill needed to answer the ninth and twelfth grade sample test questions was at a third-grade level (addition and subtraction of two-digit numbers). This is entirely inadequate.

Because mathematics is the language of science, the Standards revision should maximize the use of the level of mathematics that is appropriate to the grade level of the assessment.

Content Issues

1. One of the original intent of the Joint Education Committees was to eliminate the politicization of the material being taught. Although much progress has been made on this front, the same issue is evident in some of the testing materials. There is still a heavy emphasis on environmental and ecology related topics. The limited information given the students in the questions forces a desired outcome for the answers. (Examples of Sample Test Questions: Grade 5 Question 1: repair of coastal shoreline; G5 Question 4: breaching of a dam on a river; High

School Question 6: reforestation of South Korea; HS Question: improving blue crab harvesting yields).

2. It's not productive to remove these materials from the Performance Standards only to insert them again in the assessments where they have no visibility to legislators and the public.
3. The fundamental premise of how to understand our physical world is not addressed in the Science Performance Standards. Specifically, the four steps of the scientific method are never even mentioned in the Standards. The Joint Education Committees recommend a focus on teaching fundamental scientific principles.

APPENDIX C – Math Content Standards

We have reviewed the initial recommendation and provide the following comments:

1. The Math Committee switched from Idaho Standards to Massachusetts standards. The standards were similar, but Massachusetts had modified the language in many standards to make them more understandable, added more examples, and put the standards in a format that was easier to read. The committee also used language from Florida's Best standards at times, as well as verbiage from Colorado, Nebraska, and a few other states when their approach to a standard was especially strong.
2. The Committee added "mastery standards" for each grade in elementary school. These standards, prominently displayed at the beginning of each grade, make it clear that Idaho expects students to be extremely proficient in addition, subtraction, multiplication and division facts and algorithms at the appropriate grade levels.
3. The Math Committee took great care in addressing the issue of students using multiple methods of solve problems. Teachers help students learn a variety of approaches to solving problems, but the student is then able to choose the method with which they are most comfortable. Standard algorithms, (the way previous generations solved problems), are included in the standards and students are expected to become proficient in using these approaches.
4. The Math Committee did a lot of work to make sure the standards are easily understood by teachers and other interested parties. In some cases, the Committee modified the verbiage in the standard, in other cases they included examples or clarifications. The examples are highlighted in blue, and the clarifications in light red, making the math standards clean and easy to read. In some cases, Committee members wrote the new language, and sometimes they borrowed from the aforementioned states.
5. The standards are age appropriate. They are carefully constructed so building blocks are in place for concepts learned in successive grades.
6. The Committee thoroughly eliminated all aspects of Common Core in these draft standards.

Idaho State Board of Education
IDAHO
STATE DEPARTMENT OF EDUCATION

LEN B JORDAN OFFICE BUILDING
650 W. STATE STREET
BOISE, ID 83720

March 18, 2020

Dear Idaho Senate and House Education Committees,

Thank you for your letter of March 9th. We are committed to working with you to review Idaho's content standards in a manner that reflects Idaho's needs and values through a collaborative process with the Legislature, educators, parents and the public. We share your goal to seek compromise and agreement on the content standards.

Below are responses to the specific requests in your letter. All information and responses provided are contingent on coordination with the legislative interim committee contemplated by SCR 132 (2020) to avoid duplication of effort.

Content Standards

The process to review content standards includes a review committee consisting of Idaho educators with experience in the content area. At a minimum the committee will include both elementary and secondary instructional staff as well as postsecondary faculty from four-year and two-year institutions, public school administrators, and parents of school-aged children. We also ask that you help us in identifying representatives from the Legislature to serve on each content review committee.

A. Math

a. Explicitly state grade levels at which students should demonstrate mastery of addition, subtraction, multiplication, and division facts. Integrate these basics with critical thinking and real-life problem solving throughout the standards to ensure more connections to science, business, and other related disciplines.
b. Reduce the number of standards, use less complex verbiage, and prioritize the more important concepts without marginalizing the accuracy of the standards.
c. Ensure the standards are age and grade level-appropriate especially in the early grades, emphasizing the concrete nature of young minds.
d. Make certain that standards requiring problem solving are age appropriate and do not exceed the knowledge standards accepted for each grade level.

We will ensure that the review committees have specific instruction to include these considerations in their process and that the resulting work reflects these points.

B. English Language Arts

a. Idaho Standards should have explicit, systematic and sequential approaches to teaching phonemic awareness, phonics, vocabulary, fluency, and text comprehension.

b. Provide better balance between fiction and non-fiction reading materials, emphasizing value-rich, historically important, and uplifting literature (particularly American and English literature).
c. Reduce the number of standards, use less complex verbiage, and prioritize the more important concepts.
d. Renew Idaho's focus on content-rich English Language Arts standards by prioritizing the basics of reading and writing, with less emphasis on analysis, style, and complex writing forms in the lower grades.

We will ensure that the review committees have specific instruction to include these considerations in their process and that the resulting work reflects these points.

C. Science

a. Please remove the supporting content (curriculum) from the incorporated by reference document immediately. Local school districts are responsible for curriculum.

The Superintendent favors removing supporting content, and will recommend such to the State Board of Education, which can be accomplished immediately through a waiver.

b. Provide balance in standards that have been politicized. (e.g. include both positive and negative aspects of energy sources).
c. Focus on age appropriateness for science, ensuring that these basic concepts are understood before delving deeply into theoretical science. Additionally, please ensure that standards requiring problem solving are age appropriate and do not exceed the knowledge standards accepted for each grade level.

We will ensure that the review committees have specific instruction to include these considerations in their process and that the resulting work reflects these points.

D. ESSA Assessment

a. Use some items (questions) on the assessments that have been written or approved by experts in Idaho, and that all items to be used on the new Idaho assessment reviewed by a complement of experts and others in Idaho.

This will be assigned to the Bias and Sensitivity Committee for review. This committee is established in Idaho Code §33-134.

b. Ensure that this test is not based on Common Core. Please explore assessment options including removing Idaho from the SBAC consortium and cancelling the SBAC contract.

The State Board will be discussing the state assessment at its April meeting.

Process

We believe the process of rewriting the content standards should take place beginning immediately and be completed as soon as possible while creating excellent standards. We expect schools will use current standards during the rewrite process.

In reviewing/rewriting the standards, we would like to see the Board and the Department look at nationally recognized quality standards from a variety of sources, including states such as Florida, Massachusetts, Texas and Nebraska, and compare and contrast these standards with Idaho's. From this work, develop what Idaho teachers, parents, and administrators believe to be

the best set of standards considering age appropriateness, readability, quality of content, and sequential nature.
We will ensure that the review committees have specific instruction to review, discuss and consider standards adopted by other states.

Please provide estimated costs such as requirements for a new test, and fulfilling federal accountability requirements. However, the first priority should be the needs of the students, secondly parents and teachers, and third, accountability to the federal government.
The State Department of Education has prepared cost estimates for a new assessment and will provide them to the germane committees and the interim committee.

When selecting the committees to rewrite the content standards please include people who understand current issues with Common Core, retired teachers who have used previous standards, parents from across the state who have expressed interest, administrators with a variety of perspectives, as well as experts from other states. Bring together experts from across all grade levels to evaluate sequencing of concepts and grade level appropriateness.
The review committees will be comprised of a diverse set of educators and stakeholders as described previously.

Please embed traditional American civics throughout K-12 standards.
Pursuant to Idaho Code §33-1602, instruction in citizenship is required to be delivered in all elementary and secondary schools. Citizenship instruction shall include lessons on the role of the citizen in the constitutional republic, how laws are made, how officials are elected, and the importance of voting and of participating in government. The civics and government standards are embedded in the social studies standards for each grade level. As part of the content standards review process, a review committee will evaluate the current civics and government standards at each grade level and make recommendations for improvement.

We would like you to develop a clear progression of content from one grade to the next that is aligned from early learning to post-secondary education to continue increasing student knowledge and skills over time.
The review committees will be asked to consider recommendations on developing a matrix showing the progression of content from one grade to the next. This will help to identify gaps that can be addressed in the recommendations for the content standards review.

While rewriting the standards, keep in mind the professional development needed to implement them. Please address financial literacy in all grades at appropriate places in the standards.
Financial literacy is currently included in the state social studies content standards as part of the economics content. A coordination of what currently exists within subject matters for financial literacy can be reviewed and provided to review committees to avoid duplication. Similar to the civics and government standards, the review committee will be asked to look at the standards for each grade level and make recommendations to the grade and crosswalk with the mathematics content standards with the intent of incorporating financial literacy in mathematics courses.

Curriculum, Instruction, Student Assignments

While it is not in the Legislature's purview to be involved in curriculum, instruction, and/or student assignments, we do request that the State Department of Education utilize the appropriated resources to provide enough support to schools and teachers so the standards can be implemented in a suitable fashion. Engaging instruction, meaningful assignments, and interaction with parents are each critically important, and hopefully will be accomplished in every classroom across Idaho. Please work with school boards and district administrators to ensure they understand their roles in choosing curriculum, using the best instructional techniques, and giving students meaningful assignments.
Passage of S1285 (2020) would require training of all school district and charter school board trustees or directors. Should this bill become law, the State Board will work with the Idaho School Boards Association for the development and delivery of training. In addition, there are existing qualified trainers identified to provide training to school district and charter school leadership in the areas of governance.

Other Issues

During the House Education committee's administrative rules review of the omnibus docket several additional issues were discussed at length. The House Education committee would like to identify four issues that garnered commentary. While the House Education committee believes these issues are on the State Board and Department of Education's radar, there is value to confirm our interest in seeing them addressed.

1. Review the standards for initial certification in order to reduce paperwork and other requirements which cause unnecessary expense, time, and work for the colleges but don't truly improve the quality of graduating teachers. Work with the teacher preparation programs to provide them more flexibility through the streamlining of this process.
   The Superintendent has already committed to convening a broad-based review committee of all the teacher preparation standards over the next 18 months (see letter attached).

2. Remove the senior math requirement while still requiring six math credits for graduation.
   The Superintendent will bring this forward to the Board at its April meeting.

3. Consider not requiring veteran teachers to be evaluated on all evaluation standards every year.
   Idaho Code requires all certificated staff to have an annual evaluation. Additionally, instructional staff and pupil service staff who do not have an evaluation would be impacted in their ability to move on the career ladder or to receive the professional endorsement and the new advanced professional endorsement. School districts currently have the ability to focus on different domains as they are relevant to an

individual's professional practice and level of experience. The Office of the State Board of Education will continue to work with school districts and charter schools on how to document their decisions to not rate a specific component, but rather focus on other domains or components based on a staff person's individualized professional learning plan.

4. Evaluate social studies and other endorsement requirements considering the difficulty small and rural schools have in hiring endorsed teachers in some subjects. Please consider a consistent degree of difficulty for the various disciplines.
The Superintendent has already committed to convening a broad-based committee to review all the teacher preparation standards over the next 18 months.

Debbie Critchfield
President
State Board of Education

Sherri Ybarra
Superintendent of Public Instruction
State Department of Education

February 26, 2020

Dear Senate Education Committee,

I appreciate your support for taking a thoughtful, measured approach to reviewing and revising Idaho's teacher certification standards and want to take this opportunity to share my thoughts about how to proceed.

Rather than bring forward only 20 percent of the certification and endorsement standards next year as the Department typically does, I plan to have a broad-based committee review all the teacher preparation standards over the next 18 months. The review committee would include educators, legislators, parents and others interested in reviewing, streamlining, and simplifying certification standards and endorsements.

The committee will be tasked with reviewing the standards with the goal of reducing requirements that cause unnecessary expense, time, and work for our higher education institutions but have no correlation to improving the quality of teaching. The goal would be to provide our teacher preparation programs with more flexibility and opportunity to innovate.

The work would begin this summer with the intent to bring changes to the Board of Education in Nov. of 2021 for review and approval of the Legislature in 2022.

I look forward to working with you and to having members of your committee participate in this important process.

Sincerely,

Sherri A. Ybarra, Ed.S.
Superintendent of Public Instruction

IDAHO CONTENT STANDARDS

English Language Arts/Literacy

Literacy in History/Social Studies, Science, Technical Subjects, and Handwriting

www.sde.idaho.gov/academic/ela-literacy



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Idaho Content Standards

Introduction

About the Idaho Content Standards in English Language Arts/Literacy & Literacy in History/Social Studies, Science, and Technical Subjects

Idaho Content Standards describe what Idaho students should know and be able to do at each grade level in certain content areas. Content standards are reviewed by teams of Idaho educators on a rotating basis every six years to ascertain whether changes or revisions are indicated to ensure that the most current and effective standards form the foundational basis for instruction, which is the responsibility of each local public school district. Idaho's Content Standards were revised and adapted in 2015 by Idaho Stakeholders from the Common Core State Standards for English Language Arts/Literacy and Literacy in History/Social Studies, Science, and Technical Subjects. In 2015, Idaho's Content Standards in English Language Arts & Literacy were reviewed through a four-month online review process. In December of 2015, Stake Holders from across Idaho came together to review all comments and suggestions submitted.

The committee then recommended changes to Idaho's English Language Arts (ELA)/Literacy Standards to best meet the needs of Idaho students and educators. Legislation approved these standards during the 2017 Idaho Session.

How to Write the Idaho Content Standards for English Language Arts/Literacy & Literacy in History/Social Studies, Science, and Technical Subjects

Full Name of Standard (Grade Level Indicator)	Standard Abbreviation	Grade Level	Standard Number	Standard Subcategory Letter (if applicable)	How to Write as College Career Readiness Anchor (CCRA) Standard (no grade level indicated)	How to Write for Grade Level Standard
Reading Literature (K-12)	RL	6	3	n/a	CCRA.R.3	RL.6.3
Reading Informational Text (K-12)	RI	9-10	9	n/a	CCRA.R.9	RI.9-10.9
Reading Literacy in History/Social Studies (6-12)	RH	9-10	2	n/a	CCRA.R.2	RH.9-10.2
Reading Literacy in Science and Technical Subjects (6-12)	RST	11-12	9	n/a	CCRA.R.9	RST.11-12.9
Reading Foundational Skills (K-5)	RF	1	2	b	CCRA.R.2	RF.1.2.b
Writing (K-12)	W	7	9	b	CCRA.W.9	W.7.9.b
Writing Literacy in History/Social Studies, Science, and Technical Subjects (6-12)	WHST	11-12	2	e	CCRA.W.2	WHST.11-12.2.e
Speaking and Listening (K-12)	SL	8	1	c	CCRA.SL.1	SL.8.1.c
Language (K-12)	L	11-12	4	d	CCRA.L.4	L.11-12.4.d
Handwriting (K-6)	HW	1	1	a	No anchor standard	HW.1.1.a

Write Anchor Standards as: College & Career Readiness Anchor Standard. Standard Strand. Standard Number

- **C**ollege & **C**areer **R**eadiness **A**nchor. **R**eading (both Reading Literature and Reading Informational Text are just Reading). Standard **1: CCRA.R.1**
- **C**ollege & **C**areer **R**eadiness **A**nchor. **W**riting. Standard **9: CCRA.W.9**

Write Grade Level Standards as: Standard. Grade Level. Standard Number. Subcategory letter if applicable

- **S**peaking and **L**istening. **Eighth** grade. Standard **1**. Subcategory letter **c: SL.8.1.c**
- **W**riting in **H**istory/Social Studies, **S**cience, and **T**echnical Subjects. **Eleventh-Twelfth** grades. Standard **2**. Subcategory letter **e: WHST.11-12.2.e**
- **R**eading **L**iterature. **Sixth** grade. Standard **3**: **RL.6.3**
- **R**eading Informational Text. **Ninth-Tenth** grades. Standard **9: RI.9-10.9**

Key Design Considerations

CCR and grade-specific standards

The CCR standards anchor the document and define general, cross-disciplinary literacy expectations that must be met for students to be prepared to enter college and workforce training programs ready to succeed. The K-12 grade-specific standards define end-of-year expectations and a cumulative progression designed to enable students to meet college and career readiness expectations no later than the end of high school. The CCR and high school (grades 9-12) standards work in tandem to define the college and career readiness line—the former providing broad standards, the latter providing additional specificity. Hence, both should be considered when developing college and career readiness assessments.

Students advancing through the grades are expected to meet each year's grade-specific standards, retain or further develop skills and understandings mastered in preceding grades, and work steadily toward meeting the more general expectations described by the CCR standards.

Grade levels for K-8; grade bands for 9-10 and 11-12

The Standards use individual grade levels in kindergarten through grade 8 to provide useful specificity; the Standards use two-year bands in grades 9-12 to allow schools, districts, and states flexibility in high school course design.

A focus on results rather than means

By emphasizing required achievements, the Standards leave room for teachers, curriculum developers, and states to determine how those goals should be reached and what additional topics should be addressed. Thus, the Standards do not mandate such things as a particular writing process or the full range of metacognitive strategies that students may need to monitor and direct their thinking and learning. Teachers are thus free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards.

An integrated model of literacy

Although the Standards are divided into Reading, Writing, Speaking and Listening, and Language strands for conceptual clarity, the processes of communication are closely connected, as reflected throughout this document. For example, Writing standard 9 requires that students be able to write about what they read. Likewise, Speaking and Listening standard 4 sets the expectation that students will share findings from their research.

Research and media skills blended into the Standards as a whole

To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in a separate section.

Shared responsibility for students' literacy development

The Standards insist that instruction in reading, writing, speaking, listening, and language be a shared responsibility within the school. The K-5 standards include expectations for reading, writing, speaking, listening, and language applicable to a range of subjects, including but not limited to ELA. The grades 6-12 standards are divided into two sections, one for ELA and the other for history/social studies, science, and technical subjects. This division reflects the unique, time-honored place of ELA teachers in developing students' literacy skills while at the same time recognizing that teachers in other areas must have a role in this development as well.

The Standards are not alone in calling for a special emphasis on informational text. The 2015 reading framework of the National Assessment of Educational Progress (NAEP) requires a high and increasing proportion of informational text on its assessment as students advance through the grades.

Distribution of Literary and Informational Passages by Grade in the 2015 NAEP Reading Framework

Grade	Literary	Informational
4	50%	50%
8	45%	55%
12	30%	70%

Source: National Assessment Governing Board. (2008). Reading framework for the 2015 National Assessment of Educational Progress. Washington, DC: U.S. Government Printing Office.

The Standards aim to align instruction with this framework so that many more students than at present can meet the requirements of college and career readiness. In K-5, the Standards follow NAEP's lead in balancing the reading of literature with the reading of informational texts, including texts in history/social studies, science, and technical subjects. In accord with NAEP's growing emphasis on informational texts in the higher grades, the Standards demand that a significant amount of reading of informational texts take place in and outside the ELA classroom. Fulfilling the Standards for 6-12 ELA requires much greater attention to a specific category of informational text—literary nonfiction—than has been traditional. Because the ELA classroom must focus on literature (stories, drama, and poetry) as well as literary nonfiction, a great deal of informational reading in grades 6-12 must take place in other classes if the NAEP assessment framework is to be matched instructionally.[1]

Distribution of Communicative Purposes by Grade in the 2011 NAEP Writing Framework

Grade	To Persuade	To Explain	To Convey Experience
4	30%	35%	35%
8	35%	35%	30%
12	40%	40%	20%

Source: National Assessment Governing Board. (2007). Writing framework for the 2011 National Assessment of Educational Progress, pre-publication edition. Iowa City, IA: ACT, Inc.

NAEP likewise outlines a distribution across the grades of the core purposes and types of student writing. The 2011 NAEP writing framework, like the Standards, cultivates the development of three mutually reinforcing writing capacities: writing to persuade, to explain, and to convey real or imagined experience. Evidence concerning the demands of college and career readiness gathered during development of the Standards concurs with NAEP's shifting emphases: standards for grades 9-12 describe writing in all three forms, but, consistent with NAEP, the overwhelming focus of writing throughout high school should be on arguments and informative/explanatory texts.[2]

Focus and coherence in instruction and assessment

While the Standards delineate specific expectations in reading, writing, speaking, listening, and language, each standard need not be a separate focus for instruction and assessment. Often, several standards can be addressed by a single rich task. For example, when editing writing, students address Writing standard 5 ("Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach") as well as Language standards 1-3 (which deal with conventions of standard English and knowledge of language). When drawing evidence from literary and informational texts per Writing standard 9, students are also demonstrating their comprehension skill in relation to specific standards in Reading. When discussing something they have read or written, students are also demonstrating their speaking and listening skills. The CCR anchor standards themselves provide another source of focus and coherence.

The same ten CCR anchor standards for Reading apply to both literary and informational texts, including texts in history/social studies, science, and technical subjects. The ten CCR anchor standards for Writing cover numerous text types and subject areas. This means that students can develop mutually reinforcing skills and exhibit mastery of standards for reading and writing across a range of texts and classrooms.

[1] The percentages on the table reflect the sum of student reading, not just reading in ELA settings. Teachers of senior English classes, for example, are not required to devote 70 percent of reading to informational texts. Rather, 70 percent of student reading across the grade should be informational.

[2] As with reading, the percentages in the table reflect the sum of student writing, not just writing in ELA settings.

What is Not Covered by the Standards

The Standards should be recognized for what they are not as well as what they are. The most important intentional design limitations are as follows:

1. The Standards define what all students are expected to know and be able to do, not how teachers should teach. For instance, the use of play with young children is not specified by the Standards, but it is welcome as a valuable activity in its own right and as a way to help students meet the expectations in this document. Furthermore, while the Standards make references to some particular forms of content, including mythology, foundational U.S. documents, and Shakespeare, they do not—indeed, cannot—enumerate all or even most of the content that students should learn. The Standards must therefore be complemented by a well-developed, content-rich curriculum consistent with the expectations laid out in this document.

2. While the Standards focus on what is most essential, they do not describe all that can or should be taught. A great deal is left to the discretion of teachers and curriculum developers. The aim of the Standards is to articulate the fundamentals, not to set out an exhaustive list or a set of restrictions that limits what can be taught beyond what is specified herein.

3. The Standards do not define the nature of advanced work for students who meet the Standards prior to the end of high school. For those students, advanced work in such areas as literature, composition, language, and journalism should be available. This work should provide the next logical step up from the college and career readiness baseline established here.

4. The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.

5. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-high school lives.

Each grade will include students who are still acquiring English. For those students, it is possible to meet the standards in reading, writing, speaking, and listening without displaying native-like control of conventions and vocabulary. The Standards should also be read as allowing for the widest possible range of students to participate fully from the outset and as permitting appropriate accommodations to ensure maximum participation of students with special education needs. For example, for students with disabilities reading should allow for the use of Braille, screen-reader technology, or other assistive devices, while writing should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, speaking and listening should be interpreted broadly to include sign language.

6. While the ELA and content area literacy components described herein are critical to college and career readiness, they do not define the whole of such readiness. Students require a wide-ranging, rigorous academic preparation and, particularly in the early grades, attention to such matters as social, emotional, and physical development and approaches to learning. Similarly, the Standards define literacy expectations in history/social studies, science, and technical subjects, but literacy standards in other areas, such as mathematics and health education, modeled on those in this document are strongly encouraged to facilitate a comprehensive, schoolwide literacy program.

Students who are College and Career Ready in Reading, Writing, Speaking, Listening, and Language

The descriptions that follow are not standards themselves but instead offer a portrait of students who meet the standards set out in this document. As students advance through the grades and master the standards in reading, writing, speaking, listening, and language, they are able to exhibit with increasing fullness and regularity these capacities of the literate individual.

They demonstrate independence.

Students can, without significant scaffolding, comprehend and evaluate complex texts across a range of types and disciplines, and they can construct effective arguments and convey intricate or multifaceted information. Likewise, students are able independently to discern a speaker's key points, request clarification, and ask relevant questions. They build on others' ideas, articulate their own ideas, and confirm they have been understood. Without prompting, they demonstrate command of standard English and acquire and use a wide-ranging vocabulary. More broadly, they become self-directed learners, effectively seeking out and using resources to assist them, including teachers, peers, and print and digital reference materials.

They build strong content knowledge.

Students establish a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and discipline-specific expertise. They refine and share their knowledge through writing and speaking.

They respond to the varying demands of audience, task, purpose, and discipline.

Students adapt their communication in relation to audience, task, purpose, and discipline. They set and adjust purpose for reading, writing, speaking, listening, and language use as warranted by the task. They appreciate nuances, such as how the composition of an audience should affect tone when speaking and how the connotations of words affect meaning. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in science).

They comprehend as well as critique.

Students are engaged and open-minded—but discerning—readers and listeners. They work diligently to understand precisely what an author or speaker is saying, but they also question an author's or speaker's assumptions and premises and assess the veracity of claims and the soundness of reasoning.

They value evidence.

Students cite specific evidence when offering an oral or written interpretation of a text. They use relevant evidence when supporting their own points in writing and speaking, making their reasoning clear to the reader or listener, and they constructively evaluate others' use of evidence.

They use technology and digital media strategically and capably.

Students employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.

They come to understand other perspectives and cultures.

Students appreciate that the twenty-first-century classroom and workplace are settings in which people from often widely divergent cultures and who represent diverse experiences and perspectives must learn and work together. Students actively seek to understand other perspectives and cultures through reading and listening, and they are able to communicate effectively with people of varied backgrounds. They evaluate other points of view critically and constructively. Through reading great classic and contemporary works of literature representative of a variety of periods, cultures, and worldviews, students can vicariously inhabit worlds and have experiences much different than their own.

How to Read This Document

Overall Document Organization

The Standards comprise three main sections: a comprehensive K-5 section and two content area-specific sections for grades 6-12, one for ELA and one for history/social studies, science, and technical subjects. Three appendices accompany the main document:

- Appendix A contains supplementary material on reading, writing, speaking and listening, and language as well as a glossary of key terms.
- Appendix B consists of text exemplars illustrating the complexity, quality, and range of reading appropriate for various grade levels with accompanying sample performance tasks.
- Appendix C includes annotated samples demonstrating at least adequate performance in student writing at various grade levels.

Each section is divided into strands. K-5 and 6-12 ELA have Reading, Writing, Speaking and Listening, and Language strands; the 6-12 history/social studies, science, and technical subjects section focuses on Reading and Writing. Each strand is headed by a strand-specific set of College and Career Readiness Anchor Standards that is identical across all grades and content areas.

Standards for each grade within K-8 and for grades 9-10 and 11-12 follow the CCR anchor standards in each strand. Each CCR anchor standard has an accompanying grade-specific standard translating the broader CCR statement into grade-appropriate end-of-year expectations.

Who is responsible for which portion of the Standards

A single K-5 section lists standards for reading, writing, speaking, listening, and language across the curriculum, reflecting the fact that most or all of the instruction students in these grades receive comes from one teacher. Grades 6-12 are covered in two content area-specific sections, the first for the English language arts teacher and the second for teachers of history/social studies, science, and technical subjects. Each section uses the same CCR anchor standards but also includes grade-specific standards tuned to the literacy requirements of the particular discipline(s).

Key Features of the Standards

Reading: Text complexity and the growth of comprehension

The Reading standards place equal emphasis on the sophistication of what students read and the skill with which they read. Standard 10 defines a grade-by-grade "staircase" of increasing text complexity that rises from beginning reading to the college and career readiness level. Whatever they are reading, students must also show a steadily growing ability to discern more from and make fuller use of text, including making an increasing number of connections among ideas and between texts, considering a wider range of textual evidence, and becoming more sensitive to inconsistencies, ambiguities, and poor reasoning in texts.

Writing: Text types, responding to reading, and research

The Standards acknowledge the fact that whereas some writing skills, such as the ability to plan, revise, edit, and publish, are applicable to many types of writing, other skills are more properly defined in terms of specific writing types: arguments, informative/explanatory texts, and narratives. Standard 9 stresses the importance of the writing-reading connection by requiring students to draw upon and write about evidence from literary and informational texts. Because of the centrality of writing to most forms of inquiry, research standards are prominently included in this strand, though skills important to research are infused throughout the document.

Speaking and Listening: Flexible communication and collaboration

Including but not limited to skills necessary for formal presentations, the Speaking and Listening standards require students to develop a range of broadly useful oral communication and interpersonal skills. Students must learn to work together, express and listen carefully to ideas, integrate information from oral, visual, quantitative, and media sources, evaluate what they hear, use media and visual displays strategically to help achieve communicative purposes, and adapt speech to context and task.

Language: Conventions, effective use, and vocabulary

The Language standards include the essential "rules" of standard written and spoken English, but they also approach language as a matter of craft and informed choice among alternatives. The vocabulary standards focus on understanding words and phrases, their relationships, and their nuances and on acquiring new vocabulary, particularly general academic and domain-specific words and phrases.

Idaho Content Standards

English Language Arts/Literacy
&
Literacy in History/Social Studies, Science, and Technical Subjects:

K-5 Section

College and Career Readiness Anchor Standards for Reading

The grades K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

CCRA.R.1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

CCRA.R.2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

CCRA.R.3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure

CCRA.R.4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

CCRA.R.5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

CCRA.R.6 Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

CCRA.R.7 Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.*

CCRA.R.8 Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

CCRA.R.9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

CCRA.R.10 Read and comprehend complex literary and informational texts independently and proficiently.

**Please see "Research to Build and Present Knowledge" in Writing and "Comprehension and Collaboration" in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.*

Note on range and content of student reading

To build a foundation for college and career readiness, students must read widely and deeply from among a broad range of high-quality, increasingly challenging literary and informational texts. Through extensive reading of stories, dramas, poems, and myths from diverse cultures and different time periods, students gain literary and cultural knowledge as well as familiarity with various text structures and elements. By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas.

Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success.

Reading Standards for Literature K-2 RL

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Key Ideas and Details

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
RL.K.1 With prompting and support, aAsk and answer questions about key details in a texts heard.	RL.1.1 Ask and answer questions about key details in a texts heard or read..	RL.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in grade-level a texts heard or read.
RL.K.2 With prompting and support, rRetell key details of familiar stories, poems, and nursery rhymes heard including key details.	RL.1.2 Retell the beginning, middle, and end of familiar stories with, including key details heard or read, , and demonstratinge understanding of their central messages or morals. lesson.	RL.2.2 Recount stories, including fables and folktales Identify the central message, lesson, or moral of stories (including fables and folktales) from diverse cultures heard or read. , and determine their central message, lesson, or moral.
RL.K.3 With prompting and support, Describe the connections between identify characters, settings, and major events in stories heard a story.	RL.1.3 Describe the connection between characters, settings, and major events in a stories heard ,y, using key details.	RL.2.3 Describe how characters in a stories heard or read y respond to major events and challenges.

Craft and Structure

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
RL.K.4 Ask and answer questions about unknown words in a text.	RL.1.4 Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.	RL.2.4 With guidance and support from adults, identify and describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.
RL.K.5 Recognize common types of texts (e.g., storybooks, poems).	RL.1.5 Explain Describe major differences between books that tell stories and books that give information., drawing on a wide reading of a range of text types.	RL.2.5 Describe the overall structure of a stories heard or ready, including describing how the beginning introduces the story and the ending concludes the action.
RL.K.6 With prompting and support, name the author and illustrator of a story and define the role of authors and illustrators each in presenting the ideas or information in stories. telling the story.	RL.1.6 Identify Describe who is telling the stories heard or read y at various points in a texts.	RL.2.6 Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.

Integration of Knowledge and Ideas

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
RL.K.7 With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).	RL.1.7 Use illustrations and details in a story to describe its characters, setting, or events.	RL.2.7 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.
RL.K.8 (Not applicable to literature)	RL.1.8 (Not applicable to literature)	RL.2.8 (Not applicable to literature)
RL.K.9 With prompting and support, compare and contrast the adventures or and experiences of characters in familiar Stories heard.	RL.1.9 Compare and contrast the adventures or and experiences of characters in stories heard.	RL.2.9 Compare and contrast two or more versions of the same story (heard or read)e.g., Cinderella stories) by different authors or from different cultures.

Range of Reading and Level of Text Complexity

Kindergarteners:	Grade 1 Students:	Grade 2 Students:

~~**RL.K.10** Actively engage in group reading activities with purpose and understanding.~~	~~**RL.1.10** With prompting and support, read prose and poetry of appropriate complexity for grade 1.~~	~~**RL.2.10** By the end of the year,~~ Independently and proficiently read and comprehend texts representing a balance of genres, cultures and perspectives, that exhibit ~~literature, including stories and poetry, in the grades 2-3~~ text complexity at the lower end of the grades 2-3 band. ~~proficiently, with scaffolding as needed at the high end of the range.~~

Reading Standards for Literature 3-5

RL

Key Ideas and Details

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
RL.3.1 Ask and answer questions to demonstrate understanding of a grade-level texts, referring explicitly to the text as the basis for the answers.	**RL.4.1** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	**RL.5.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
RL.3.2 Recount Describe key details from stories, (including fables, folktales, and tall tales) myths from diverse cultures; and explain how they support determine the central message, lesson, , or moral, or theme. and explain how it is conveyed through key details in the text.	**RL.4.2** Determine the central a theme of a in stories (including myths and legends) y, drama, or poems or plays and explain how they are supported by from key details in the text; summarize the text.	**RL.5.2** Summarize a text and Ddetermine the central a themes of a stories, y, drama, orplays, or poems from details in the text, including how they are developed using details. characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.
RL.3.3 Describe Explain how characters develop in a story (e.g., their traits, motivations, or feelings) throughout the text.and explain how their actions contribute to the sequence of events.	**RL.4.3** Describe in depthDescribe a character, setting, or event in depth in a storiesy and plays,or drama, drawing on specific details in the texts (e.g., a character's thoughts, words, or actions).	**RL.5.3** Compare and contrast two or more characters, settings, or events in a stories or playsy or drama, drawing on specific details in the text. (e.g., how characters interact).

Craft and Structure

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
RL.3.4 Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.	**RL.4.4** Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).	**RL.5.4** Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
RL.3.5 Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.Explain major structural differences between poems, plays, and prose.	**RL.4.5** Explain major differences between poems, drama, and prose, and refer to thethe overall structuresal of stories, plays, and elements of poems and how each successive part builds on earlier sections. (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.	**RL.5.5** Explain how a series of chapters, scenes, or stanzas workfits together to provide the overall structure of a particular story, drama, or poem.literacy text.
RL.3.6 Distinguish their ownExplain the difference between a narrator's point of view and various from that of the narrator or those of the characters' perspectives in stories. .	**RL.4.6** Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.	**RL.5.6** Describe Explain how a narrator's or speaker's point of view influences how events are described in stories, plays, or poems..

Integration of Knowledge and Ideas

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
RL.3.7 Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).	**RL.4.7** Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.	**RL.5.7** Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).
RL.3.8 (Not applicable to literature)	**RL.4.8** (Not applicable to literature)	**RL.5.8** (Not applicable to literature)
RL.3.9 Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).	**RL.4.9** Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.	**RL.5.9** Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.

~~Range of Reading and Level of~~ Text Complexity

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~**RL.3.10** By the end of the year,~~ Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the higher end of the 2-3 band. ~~literature, including stories, dramas, and poetry, at the high end of the grades 2-3 text complexity band independently and proficiently~~.	~~**RL.4.10** By the end of the year,~~ Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the lower end of the grades 4-5 grade band. ~~literature, including stories, dramas, and poetry, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.~~	~~**RL.5.10** By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4-5 text complexity band independently and proficiently.~~

Reading Standards for Informational Text K-2 RI

Key Ideas and Details

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
RI.K.1 With prompting and support, ask and answer questions about Retell key details of in a texts heard.	RI.1.1 Ask and answer questions about Retell key details of texts that demonstrate understanding of the main topics of texts heard or read. in a text.	RI.2.1 Ask and answer questions as *who, what, where, when, why,* and *how,* to demonstrate understanding of key details in a text.
RI.K.2 With prompting and support, identify the main topic and retell key details of a text.	RI.1.2 Identify the main topic and retell key details of a text.	RI.2.2 Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
RI.K.3 With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a texts heard.	RI.1.3 Describe the connection between two individuals, events, ideas, or pieces of information in a texts heard or read .	RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

Craft and Structure

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
RI.K.4 With prompting and support, ask and answer questions about unknown words in a text.	RI.1.4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.	RI.2.4 Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
RI.K.5 Identify the front cover, back cover, and title page of non-fiction texts. a book.	RI.1.5 Know and use various text features (e.g., tables of contents headings, tables of contents, glossaries, electronic menus, icons, index) to locate key facts or information in a text.	RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
RI.K.6 Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.	RI.1.6 Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.	RI.2.6 Identify the main purpose of a text, including what the author wants to answer, explain, or describe.

Integration of Knowledge and Ideas

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
RI.K.7 With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).	RI.1.7 Use the illustrations and details in a text to describe its key ideas.	RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
RI.K.8 With prompting and support, identify the reasons an authors gives to support points in a texts heard.	RI.1.8 Identify the reasons an authors gives to support points in a text.	RI.2.8 Describe how authors use facts and reasons to reasons support specific points the author makes in a text.
RI.K.9 With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	**RI.1.9** Identify basic similarities in and differences between two texts heard or read on the same topic. (e.g., in illustrations, descriptions, or procedures).	RI.2.9 Compare and contrast the most important points presented by two texts on the same topic.

Range of Reading and Level of Text Complexity

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
RI.K.10 Actively engage in group reading activities with purpose and understanding.	RI.1.10 With prompting and support, read informational texts appropriately complex for grade 1.	RI.2.10 By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading Standards for Informational Text 3-5 RI

Key Ideas and Details

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
RI.3.2 Determine the main idea of a text; Describe key details from texts and explain recount the key details and explain how they support the main idea.	RI.4.2 Determine the central main idea of a texts and explain how they areit is supported by key details; summarize the texts.	RI.5.2 Determine two or more mainExplain the central ideas of a texts, including and explain how they are developed using supported by key details; summarize the texts.
RI.3.3 Describe the relationship between a series events, concepts, steps, or procedures in of historical events, scientific ideas or concepts, or steps in technical procedures in a texts, using words language that pertains to comparison, time, sequence, and cause/effect.	RI.4.3 Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why., based on specific information in the text.	RI.5.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical texts. based on specific information in the text.

Craft and Structure

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
RI.3.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.	RI.4.4 Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.	RI.5.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
RI.3.5 Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.	RI.4.5 Describe Explain the overall structure (e.g., description, chronology, comparison, causesequence, cause/effect, problem/solution) and how each successive part builds on earlier sections. of events, ideas, concepts, or information in a text or part of a text.	RI.5.5 Compare and contrast the Explain how series of chapters or overall sections fit together to provide overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or of informational in two or more texts (e.g., description, sequence, comparison, problem-solution, cause/effect). .
RI.3.6 Distinguish their own point of view from that of the author of a text.	RI.4.6 Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.	RI.5.6 Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

Integration of Knowledge and Ideas

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
RI.3.7 Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).	RI.4.7 Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.	RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
RI.3.8 Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).	RI.4.8 Explain how an author uses evidence and reasons and evidence to support specific particular points in a text.	RI.5.8 Explain how an authors uses evidence and reasons and evidence to support specific claims particular points in a texts, identifying which reasons and evidence support which point(s) claims.
RI.3.9 Compare and contrast the most important points and key details presented in two texts on the same topic.	RI.4.9 Integrate Combine information from two texts on the same topic, noting important similarities and differences in focus and the information provided. in order to write or speak about the subject knowledgeably.	RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeablyto demonstrate a coherent understanding of the information.

~~Range of Reading and Level of Text Complexity~~

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~**RI.3.10** By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2-3 text complexity band independently and proficiently.~~	~~**RI.4.10** By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.~~	~~**RI.5.10** By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently.~~

~~Reading Standards for Foundational Skills K-2~~ No Anchor Standards for Foundational Skills ~~RF~~

~~These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: good readers will need much less practice with these concepts than struggling readers will. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.~~

~~***Note: In kindergarten, children are expected to demonstrate increasing awareness and competence in the areas that follow.***~~

Print Concepts

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~RF.K.1~~ Demonstrate understanding of the ~~organization and~~ basic features of print. ~~a.~~ Read~~Follow words from~~ left to right, top to bottom, and page by page. ~~b.~~ Recognize that spoken words are represented in written language by specific sequences of letters. ~~c.~~ Understand that words are separated by spaces in print. ~~d.~~ Recognize and name all upper- and lowercase letters of the alphabet.	~~RF.1.1 Demonstrate understanding of the organization and basic features of print.~~ ~~a. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).~~ In Kindergarten	In Kindergarten and First grade

~~Phonological~~ Phonemic Awareness

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~RF.K.2~~ Demonstrate understanding of spoken words, syllables, and sounds ~~(phonemes)~~. ~~a.~~ Identify ~~Recognize~~ and produce rhyming words. ~~b.~~ Count, pronounce, blend, and segment syllables in spoken words. ~~c.~~ Blend and segment onsets and rimes of single- syllable spoken words. ~~d.~~ Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words and say the resulting word. (This does not include CVCs ending with /l/, /r/, or /x/.) ~~e.~~ Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.	~~RF.1.2~~ Demonstrate understanding of spoken words, syllables, and sounds. ~~(phonemes).~~ ~~a.~~ Distinguish long from short vowel sounds in spoken single-syllable words. ~~b.~~ Orally produce single-syllable words by blending sounds ~~(phonemes)~~, including consonant blends. ~~c.~~ Isolate and pronounce initial, medial vowel, and final sounds ~~(phonemes)~~ in spoken single-syllable words. ~~d.~~ Segment and blend sequences of individual sounds in spoken single-syllable words. ~~into their complete sequence of individual sounds (phonemes).~~	In Kindergarten ~~and F~~irst grade, and second grade

~~Reading Standards for Foundational Skills K-2~~ ~~No Anchor Standards for Foundational Skills~~ ~~RF~~

~~*Note: In kindergarten, children are expected to demonstrate increasing awareness and competence in the areas that follow.*~~

Phonics and Decoding~~Word Recognition~~

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~RF.K.3~~ ~~Know and apply~~ Use knowledge of grade-level phonics and word analysis skills in decoding words. ~~a.~~ Demonstrate ~~basic~~ knowledge of one-to-one letter- sound correspondences by producing the ~~primary or many of~~ the most frequent sound for each consonant. ~~b.~~ Associate the long and short sounds ~~with common spellings (graphemes)~~ for the five major vowels. ~~c.~~ Read common high-frequency words with automaticity by sight (e.g., the, of, to, you, she, my, is, are, do, does). ~~d.~~ Distinguish between similarly spelled CVC words by identifying the sounds of the letters that differ.	~~RF.1.3~~ ~~Know and apply~~Use knowledge of ~~-~~grade-level phonics and word analysis skills in decoding words. ~~a.~~ Know the spelling-sound correspondences for common consonant digraphs. ~~(two letters that represent one sound).~~ ~~b.~~ Decode regularly spelled one-syllable words. ~~c.~~ Know final -e and common vowel team conventions for representing long vowel sounds (e.g., ai, ay, ee, ea, oa and oe). ~~d.~~ Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. ~~e.~~ Decode two-syllable words following basic patterns by breaking the words into syllables. ~~f.~~ ~~Read~~ Decode frequently encountered words with inflectional endings (e.g., -s, -ed, -est). ~~g.~~ Recognize and read grade-appropriate irregularly spelled words (e.g., what, said, have).~~-~~	~~RF.2.3~~ ~~Know and apply~~Use knowledge of grade-level phonics and word analysis skills in decoding words. ~~a. Distinguish long and short vowels when reading regularly spelled one-syllable words.~~ ~~b.~~ Know spelling-sound correspondences for additional common short and long vowel teams (e.g., head, hook, boat, weigh) including diphthongs (e.g., toil, cloud). ~~c.~~ Decode regularly spelled two-syllable words with long vowels. ~~d.~~ Decode words with common prefixes and suffixes (e.g., -un,-dis,-ful,-less). ~~e.~~ Identify words with inconsistent but common spelling-sound correspondences. ~~f.~~ Recognize and read grade-appropriate irregularly spelled words (e.g., was, again, been) including silent letter combinations) .

Reading Fluency

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~RF.K.4~~ Read emergent-reader texts (e.g., rhymes, songs, simple poems) with purpose and understanding.	~~RF.1.4~~ Read grade-level text with accuracy, appropriate rate, and expression ~~with sufficient accuracy and fluency~~ to support comprehension in successive readings. ~~a. Read grade-level text with purpose and understanding.~~ ~~b. Read grade-level text orally with accuracy, appropriate rate, and expression.~~ ~~c.~~a. ~~Use context to confirm or self-correct word recognition and understanding, rereading as necessary.~~	~~RF.2.4~~ Read grade-level text with accuracy, appropriate rate, and expression ~~with sufficient accuracy and fluency~~ to support comprehension in successive readings.~~-~~ ~~a. Read grade-level text with purpose and understanding.~~ ~~b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.~~ ~~c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.~~

~~Reading Standards for~~ Foundational Reading Skills ~~3-5 No Anchor Standards for Foundational Skills~~ RF

Print Concepts

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
In Kindergarten ~~and First grade~~	In Kindergarten and First grade	In Kindergarten and First grade

~~Phonological~~ Phonemic ~~-~~Awareness

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
In Kindergarten, ~~and First~~ grade 1, and grade 2.	In Kindergarten and First grade	In Kindergarten and First grade

Phonics and Decoding ~~Word Recognition~~

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~RF.3.3~~ Use knowledge of ~~Know and apply~~ grade-level phonics and word analysis skills to ~~in~~ decode~~ing~~ words. ~~a.~~ Decode words when known affixes are added to a known word. ~~Identify and know the meaning of the most common prefixes and derivational suffixes.~~ ~~b.~~ Decode words with common Greek and Latin roots (e.g., trans, port, bio).~~suffixes~~. ~~c.~~ Decode multi-syllable words. ~~d.~~ Read grade-appropriate irregularly spelled words (come, friend, today).	~~RF.4.3 Know and apply grade-level phonics and word analysis skills in decoding words.~~ ~~a.~~ Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar grade appropriate multisyllabic words (e.g., depart, beneficial, recycle) in context and out of context.	~~RF.5.3 Know and apply grade-level phonics and word analysis skills in decoding words.~~ ~~a.~~ Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words (e.g., disallow, misinform, transaction) ~~-~~in context and out of context.

Fluency

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
RF.3.4 Read grade-level text with ~~sufficient~~ accuracy, automaticity, appropriate rate, and expression in successive readings ~~and fluency~~ to support comprehension. ~~a. Read grade-level text with purpose and understanding.~~ ~~b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.~~ ~~c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.~~	~~RF.4.4~~ Read grade-level text with sufficient accuracy, automaticity, appropriate rate, and expression in successive readings ~~and fluency~~ to support comprehension. ~~a. Read grade-level text with purpose and understanding.~~ ~~b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.~~ ~~c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.~~	~~RF.5.4~~ Read grade-level text with sufficient accuracy, automaticity, appropriate rate, and expression in successive readings ~~and fluency~~ to support comprehension. ~~a. Read grade-level text with purpose and understanding.~~ ~~b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.~~ ~~c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.~~

College and Career Readiness Anchor Standards for Writing

The grades K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

CCRA.W.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

CCRA.W.2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

CCRA.W.3 Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

CCRA.W.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCRA.W.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

CCRA.W.6 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

CCRA.W.7 Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

CCRA.W.8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

CCRA.W.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

CCRA.W.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

**These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.*

Note on range and content of student writing

To build a foundation for college and career readiness, students need to learn to use writing as a way of offering and supporting opinions, demonstrating understanding of the subjects they are studying, and conveying real and imagined experiences and events. They learn to appreciate that a key purpose of writing is to communicate clearly to an external, sometimes unfamiliar audience, and they begin to adapt the form and content of their writing to accomplish a particular task and purpose. They develop the capacity to build knowledge on a subject through research projects and to respond analytically to literary and informational sources. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and extended time frames throughout the year.

Writing Strand ~~Standards K-2~~

W

~~The following standards for K-5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.~~

~~Text Types and Purposes~~

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~**W.K.1** Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is …).~~	~~**W.1.1** Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.~~	~~**W.2.1** Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.~~ Write arguments that express an opinion supported by details and reasons and provide a concluding sentence.
~~**W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.~~	~~**W.1.2** Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.~~	~~**W.2.2**~~ Write informational ~~ve/explanatory~~ texts that state a focus ~~in which they introduce a topic, use~~ with facts and details~~definitions to develop points,~~ and provide a concluding sentence. ~~statement or section.~~
~~**W.K.3** Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.~~	~~**W.1.3** Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.~~	~~**W.2.3**~~ Write personal or fictional stories that ~~narratives in which they~~ recount a ~~well- elaborated event or~~ short sequence of events, include details to develop the characters or experiences, ~~describe actions, thoughts, and feelings, use temporal words to signal event order,~~ and provide a sense of closure.

~~Production and Distribution of Writing~~

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~**W.K.4** (Begins in grade 3)~~	~~**W.1.4** (Begins in grade 3)~~	~~**W.2.4** (Begins in grade 3)~~
~~**W.K.5** With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.~~	~~**W.1.5** With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.~~	~~**W.2.5**~~ With ~~guidance and~~ support from adults and peers, ~~focus on a topic and~~ strengthen writing as needed by revising and editing.
~~**W.K.6** With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.~~	~~**W.1.6** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.~~	~~**W.2.6**~~ With ~~guidance and~~ support ~~from adults,~~ use ~~technology to produce and publish writing, (using~~ keyboarding skills to produce and publish writing.~~) as well as to interact and collaborate with others.~~

~~Research to Build and Present Knowledge~~

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~**W.K.7** Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).~~	~~**W.1.7** Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).~~	~~**W.2.7** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).~~
~~**W.K.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.~~	~~**W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.~~	~~**W.2.8** Recall information from experiences or gather information from provided sources to answer a question.~~
W.K.9 (Begins in grade 4)	~~**W.1.9** (Begins in grade 4)~~	~~**W.2.9** (Begins in grade 4)~~

Range of Writing

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~**W.K.10** (Begins in grade 3)~~	~~**W.1.10** (Begins in grade 3)~~	~~**W.2.10** (Begins in grade 3)~~

Writing Standards 3-5

W

~~Text Types and Purposes~~

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~W.3.1~~ Write arguments that introduce the topic, express an opinion supported with facts, details, and ~~pieces on topics or texts, supporting a point of view with~~ reasons, and provide a concluding statement. ~~a. Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons.~~ ~~b. Provide reasons that support the opinion.~~ ~~c. Use linking words and phrases (e.g., because, therefore, since, for example) to connect opinion and reasons.~~ ~~Provide a concluding statement or section.~~	~~W.4.1~~ Write arguments that introduce the topic, express a clear opinion supported with facts, details, and reasons, and provide a concluding statement or section. ~~pieces on topics or texts, supporting a point of view with reasons and information.~~ ~~a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.~~ ~~b. Provide reasons that are supported by facts and details.~~ ~~c. Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition).~~ ~~d. Use precise language and domain-specific vocabulary to support the opinion piece.~~ ~~e.~~a. ~~Provide a concluding statement or section related to the opinion presented.~~	~~W.5.1~~ Write arguments that introduce the topic clearly; express a distinct opinion supported with adequate facts, ideas, and reasons that are logically grouped and provide a concluding sentence. ~~pieces on topics or texts, supporting a point of view with reasons and information.~~ ~~a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.~~ ~~b. Provide logically ordered reasons that are supported by facts and details.~~ ~~c. Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically).~~ ~~d. Use precise language and domain-specific vocabulary to support the opinion piece.~~ ~~e. Provide a concluding statement or section related to the opinion presented.~~
~~W.3.2~~ Write informative~~/explanatory~~ texts that introduce the ~~to examine a~~topic, develop the focus with facts and details, and provide a concluding statement. ~~and convey ideas and information clearly.~~ ~~a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.~~ ~~b. Develop the topic with facts, definitions, and details.~~ ~~c. Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information.~~ ~~d.~~a. ~~Provide a concluding statement or section.~~	~~W.4.2~~ Write informational~~ive/explanatory~~ texts ~~to examine a~~that introduce the; develop the focus with facts, details or other information; and provide a concluding statement or section. ~~topic and convey ideas and information clearly.~~ ~~a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.~~ ~~b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.~~ ~~c. Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).~~ ~~d. Use precise language and domain-specific vocabulary to inform about or explain the topic.~~ ~~e. Provide a concluding statement or section related to the information or explanation presented.~~	~~W.5.2~~ Write informational texts tht introduce the topic; develop the focus with relevant facts, details, and examples from multiple sources that are logically grouped, including headings to support the purpose; and provide a concluding sentence. ~~ve/explanatory texts to examine a topic and convey ideas and information clearly.~~ ~~a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.~~ ~~b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.~~ ~~c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially).~~ ~~d. Use precise language and domain-specific vocabulary to inform about or explain the topic.~~ ~~e. Provide a concluding statement or section related to the information or explanation presented.~~

Writing Standards 3-5

W

Text Types and Purposes (continued)

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
W.3.3 Write personal or fictional stories that recount an event or experience, include details to develop the characters or event(s), and provide a sense of closure. narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. W.3.4 Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally. W.3.5 Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations. W.3.6 Use temporal words and phrases to signal event order. Provide a sense of closure.	W.4.3 Write personal or fictional narratives that organize the writing around a central problem, conflict, or experience; use descriptions or dialogue to develop the characters or event(s); and provide a sense of closure. to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use dialogue and description to develop experiences and events or show the responses of characters to situations. c. Use a variety of transitional words and phrases to manage the sequence of events. d. Use concrete words and phrases and sensory details to convey experiences and events precisely. e. Provide a conclusion that follows from the narrated experiences or events.	W.5.3 Write personal or fictional narratives that establish a situation and narrator; organize around a central problem, conflict, o experience using descriptions, dialogue or pacing to develop the characters, event(s), or experience(s); and provide a conclusion that follows from the narrated events. to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events. d. Use concrete words and phrases and sensory details to convey experiences and events precisely. e. Provide a conclusion that follows from the narrated experiences or events.

Production and Distribution of Writing

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
W.3.4 With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1-3.)	W.4.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3.)	W.5.4 Produce clear and coherent organizational structures of multiple paragraphs in which facts and details are logically grouped and linking words and phrases connect details and ideas. writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3.)
W.3.5 With guidance and support from adults and peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of grade-level Grammar and ConventionsLanguage standards 1-3 up to and including grade 3.)	W.4.5 With guidance and support from adults and peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of grade-level Grammar and Conventions) Language standards 1-3 up to and including grade 4.)	W.5.5 With guidance and support from adults and peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of grade-level Grammar and Conventions) - Language standards 1-3 up to and including grade 5.)
W.3.6 With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others; demonstrate sufficient command of Use keyboarding skills to produce and publish writing. type a minimum of one page in a single setting (e.g., 1-3 paragraphs).	W.4.6 With some guidance and support from adults, use technology, including the Internet,Use technology to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills. to type multi-paragraph text (e.g., 1-2 pages).	W.5.6 With some guidance and support from adults, use technology, including the Internet,Use technology to produce and publish writing as well as to interact and collaborate with others; demonstrainge sufficient command of keyboarding skills. to type multi-paragraph text (e.g., 1-3 pages).

Writing Standards 3-5

W

~~Research to Build and Present Knowledge~~

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~W.3.7~~ Conduct short research tasks to take some action or share findings orally or in writing by gathering and recording information on a specific topic from reference texts or through interviews, and using text features and search tools (e.g., (keywords, sidebars, hyperlinks) to locate information efficiently. ~~projects that build knowledge about a topic.~~	~~W.4.7~~ Conduct short research tasks ~~projects~~ to take some action or share findings orally or in writing by identifying what information is needed to answer a research question, using text features and search tools to gather relevant information efficiently; and taking notes, categorizing that information, and providing a list of sources.~~that build knowledge through investigation of different aspects of a topic.~~	~~W.5.7~~ Conduct short research tasks to take some action or share findings orally o in writing by formulating research questions; gathering relevant and reliable information from both primary and secondary sources as appropriate; paraphrasing and quoting ideas and information; and respecting copyright guidelines for use of that information and any images. ~~projects that use several sources to build knowledge through investigation of different aspects of a topic.~~
~~W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.~~	~~W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.~~	~~W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.~~
~~W.3.9 (Begins in grade 4)~~	~~W.4.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.~~ ~~a. Apply grade 4 Reading standards to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions]").~~ ~~b.~~a. ~~Apply grade 4 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text").~~	~~W.5.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.~~ ~~a. Apply grade 5 Reading standards to literature (e.g., "Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text [e.g., how characters interact]").~~ ~~b. Apply grade 5 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]").~~

Range of Writing

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~W.3.10~~ Develop flexibility in w~~W~~riting bye routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others summaries, reflections, descriptions, letters, and poetry, etc.~~over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences~~.	~~W.4.10~~ Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others summaries, reflections, descriptions, letters, and poetry, etc. ~~Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.~~	~~W.5.10~~ Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others summaries, reflections, descriptions, critiques, letters, and poetry, etc.~~Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.~~

College and Career Readiness Anchor Standards for Speaking and Listening

The grades K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

CCRA.SL.1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

CCRA.SL.2 Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

CCRA.SL.3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

CCRA.SL.4 Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

CCRA.SL.5 Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

CCRA.SL.6 Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Note on range and content of student speaking and listening

To build a foundation for college and career readiness, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner. Being productive members of these conversations requires that students contribute accurate, relevant information; respond to and develop what others have said; make comparisons and contrasts; and analyze and synthesize a multitude of ideas in various domains.

Speaking and Listening Standards K-2 SL

The following standards for K-5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Comprehension and Collaboration

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
SL.K.1 Participate Engage in collaborative conversations about grade level topics and texts with peers by Following agreed-upon rules for discussions; and taking turns speaking through at least two exchanges with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges.	SL.1.1 Participate Engage in collaborative Engage in collaborative discussions about *grade-level topics and texts* with peers by listening to others closely, taking turns speaking through multiple exchanges, and asking questions to clear up any confusions. conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others with care and speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges. c. Ask questions to clear up any confusion about the topics and texts under discussion.	SL.2.1 Participate inEngage in collaborative discussions about *grade-level topics and texts* with peers by gaining the floor in respectful ways, listening to others closely and building on others' ideas, and asking for clarification and further explanation to ensure understanding. conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, and speaking one at a time about the topics and texts under discussion). b. Build on others' talk in conversations by linking their comments to the remarks of others. c. Ask for clarification and further explanation as needed about the topics and texts under discussion.
SL.K.2 With support, Cconfirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions. about key details and requesting clarification if something is not understood.	SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.	SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
SL.K.3 With support, Aask and answer questions in order to seek help, get information, or clarify something that is not understood.	SL.1.3 Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.	SL.2.3 Ask and answer questions about what a speaker says in order to clarify comprehension,by gathering additional information, orinformation, or deepen understanding of a topic or issue.

Presentation of Knowledge and Ideas

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
SL.K.4 Describe familiar people, places, things, and events and, with prompting and support., provide additional detail.	SL.1.4 Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.	**SL.2.4** Tell a story or recount an experience with appropriate facts and relevant facts and, descriptive details, speaking audibly in coherent sentences.
SL.K.5 Add drawings or other visual displays to descriptions as desired to provide additional detail.	SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.	SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
SL.K.6 Speak audibly and express thoughts, feelings, and ideas clearly.	SL.1.6 Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 for specific expectations.)	SL.2.6 Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 for specific expectations.)

Speaking and Listening Standards 3-5 SL

Comprehension and Collaboration

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
SL.3.1 Engage in effectively in a range of collaborative discussions about (one-on-one, in groups, and teacher-led) with diverse partners on grade- level 3 topics and texts, with peers by staying on topic, linking comments to the remarks of others, asking questions to check understanding of information being discussed;, and reviewing ideas building on others' ideas and expressed. ing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. d.a. Explain their own ideas and understanding in light of the discussion.	SL.4.1 Engage in effectively in a range of collaborative discussions about grade-level topics and texts with peers by carrying out assigned roles; making comments that build on and link to others' remarks; clarifying or following-up on information; and reviewing key ideas expressed and explaining one's understanding. (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others. d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.	SL.5.1 Engage in effectively in a range of collaborative discussions about grade-level topics and texts with peers carrying out assigned roles; making comments and posing and responding to questions that contribute to the discussion and elaborate on others' remarks; and reviewing key details expressed and drawing conclusions considering the discussion. (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. b. Follow agreed-upon rules for discussions and carry out assigned roles. c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
SL.3.2 Determine the main ideas and supporting details of a text read aloud or information presented in a variety of diverse media and formats, including (audio, visually, and quantitative). ly, and orally.	SL.4.2 Paraphrase portions of a text read aloud or information presented in diverse media (audio, visual, quantitative). and formats, including visually, quantitatively, and orally.	SL.5.2 Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
SL.3.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.	SL.4.3 Identify the reasons and evidence a speaker provides to support particular points being made.	SL.5.3 Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

Presentation of Knowledge and Ideas

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
SL.3.4 Report orally on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.	SL.4.4 Report orally on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	SL.5.4 Report orally on a topic or text or present an argument opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes and; speaking clearly at an understandable pace.
SL.3.5 Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.	SL.4.5 Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.	SL.5.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

~~**SL.3.6**~~ Speak in complete sentences when appropriate to task and situation ~~in order~~ to provide requested detail or clarification. ~~(See grade 3 Language standards 1 and 3 for specific expectations.)~~	~~**SL.4.6** Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standard 1 for specific expectations.)~~	~~**SL.5.6** Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3 for specific expectations.)~~

College and Career Readiness Anchor Standards for Language

The grades K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions of Standard English

CCRA.L.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

CCRA.L.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

CCRA.L.3 Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

CCRA.L.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

CCRA.L.5 Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

CCRA.L.6 Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Note on range and content of student language use

To build a foundation for college and career readiness in language, students must gain control over many conventions of standard English grammar, usage, and mechanics as well as learn other ways to use language to convey meaning effectively. They must also be able to determine or clarify the meaning of grade-appropriate words encountered through listening, reading, and media use; come to appreciate that words have nonliteral meanings, shadings of meaning, and relationships to other words; and expand their vocabulary in the course of studying content. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Language Standards K-2

L

~~The following standards for K-5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 32 for a complete list and Appendix A for an example of how these skills develop in sophistication.~~

~~Conventions of Standard English~~

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~L.K.1~~ Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. ~~a.~~ ~~Print many upper- and lowercase letters.~~ ~~b.~~ ~~Use frequently occurring nouns and verbs.~~ ~~c.~~ Form regular plural nouns orally by adding /s/ or /es/ sound. ~~(e.g., dog, dogs; wish, wishes).~~ ~~d.~~ ~~Understand and~~ U~~u~~se interrogatives to ask questions in full sentences ~~words (interrogatives)~~ (e.g., who, what, where, when, why, how). ~~e.~~ Use the most frequently occurring prepositions (e.g., to, from, in, out, on, off, for, of, by, with). ~~f.~~ Produce and expand complete sentences in shared language activities.	~~L.1.1~~ Demonstrate command of the conventions of ~~standard~~ English grammar and usage when writing and/or speaking. ~~a.~~ ~~Print all upper- and lowercase letters.~~ ~~b.~~ ~~Use common, proper, and possessive nouns.~~ ~~c.~~ Match ~~Use~~ singular and plural nouns with matching verbs in simple ~~basic~~ sentences ~~(e.g., He hops; We hop).~~ ~~d.~~ Use personal, possessive, and indefinite pronouns (e.g., I, me, my; they, them, their; anyone, everything). ~~e. Use verbs to convey a sense of past, present, and future (e.g., Yesterday I walked home; Today I walk home; Tomorrow I will walk home).~~ ~~f.~~ Use frequently occurring adjectives. ~~g.~~ Use frequently occurring conjunctions to signal simple relationships. (e.g., and, but, or, so, because). ~~h. Use determiners (e.g., articles, demonstratives).~~ ~~i.~~ Use frequently occurring prepositions (e.g., ~~during, beyond, toward~~to, during, under, in, with, at). ~~j.~~ Produce and expand complete~~. simple and compound declarative, interrogative, imperative, and exclamatory~~ sentences in response to prompts.	~~L.2.1~~ Demonstrate command of the conventions of ~~standard~~ English grammar and usage when writing or speaking. ~~a. Use collective nouns (e.g., group).~~ ~~b.~~ Form and use regular frequently occurring irregular plural nouns (e.g., men, ~~feet, children~~, teeth, ~~mice,~~ fish). ~~c.~~ Use reflexive pronouns (~~e.g.,~~ e.g., yourself, herself)~~myself, ourselves~~). ~~d.~~ Form and use the past tense of frequently occurring irregular verbs (e.g., felt~~sat~~, told, went ~~hid, told~~). ~~e.~~ Use adjectives and adverbs, and choose between them depending on what is to be modified. ~~f.~~ Produce and~~,~~ expand~~, and rearrange~~ complete simple and compound sentences. ~~(e.g., The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy).~~
~~L.K.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.~~ ~~a. Capitalize the first word in a sentence and the pronoun I.~~ ~~b.~~ Recognize and name end punctuation. ~~c. Write a letter or letters for most consonant and short-vowel sounds (phonemes).~~ ~~d.~~ Spell ~~simple~~ words phonetically, drawing on knowledge of sound-letter relationships.	~~L.1.2~~ Demonstrate command of the conventions of ~~standard~~ English punctuation and capitalization, ~~punctuation, and spelling~~ when writing and reading aloud to create meaning~~.~~ ~~a. Capitalize dates and names of people.~~ ~~b. Use end punctuation for sentences.~~ ~~c.~~ Use commas in dates and to separate single words in a series. ~~d.~~ Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words. ~~e.~~ Spell untaught words phonetically, drawing on phonemic awareness and spelling	**L.2.2** Demonstrate command of the conventions of ~~standard~~ English punctuation and capitalization, ~~punctuation~~, ~~and spelling~~ when writing and reading aloud. a. Capitalize holidays, ~~product~~ names, places.~~and geographic names.~~ ~~b.~~ ~~Use~~ commas in greetings and closings of letters. ~~c.~~ ~~Use an~~ apostrophes to form contractions and frequently occurring possessives. ~~d.~~ Generalize learned spelling patterns when writing words (e.g., cage → badge; boy → boil).

Language Standards K-2	conventions.	~~e.~~ Consult reference materials, including beginning dictionaries, as needed to check and correct spelling. **L**

Language Standards K-2 L

~~Knowledge of Language~~

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~L.K.3~~ ~~(Begins in grade 2)~~	~~L.1.3~~ ~~(Begins in grade 2)~~	~~L.2.3~~ ~~Use knowledge of language and its conventions when writing, speaking, reading, or listening.~~ ~~a.~~ ~~Compare formal and informal uses of English.~~

~~Vocabulary Acquisition and Use~~

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~L.K.4~~ Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content. ~~a.~~ Identify new meanings for familiar words and apply them accurately (e.g., discovering the verb roll is also a noun). ~~knowing duck is a bird and learning the verb to duck).~~ ~~b.~~ ~~Use the most frequently occurring inflections and affixes (e.g., ed, s, re , un , pre , ful, less) as a clue to the meaning of an unknown word.~~	~~L.1.4~~ Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on ~~grade 1~~grade-level reading and content, choosing flexibly from an array of strategies. ~~a.~~ Use sentence-level context as a clue to the meaning of a word or phrase. ~~b.~~ Use frequently occurring affixes (e.g., re-, un- pre-, -ful, -less) as ~~a~~ clues to the nuance they add to known words. ~~e to the meaning of a word.~~ ~~c.~~ Identify frequently ~~occurring~~ encountered root words (e.g., help~~look~~) and use the roots as clues to the meaning of the full word.~~their inflectional forms~~ (~~e.g.,~~ e.g., helper, helpful) ~~looks, looked, looking~~).	~~L.2.4~~ Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level ~~2~~ reading and content, choosing flexibly from an array of strategies. ~~a.~~ Use sentence-level context as a clue to the meaning of a word or phrase. ~~b.~~ Determine the meaning of the new word formed when a known prefix is added to a known word (~~e.g.~~e.g. safe/unsafe, like/dislike~~,~~ ~~happy/unhappy, tell/retell~~) and suffixes (e.g., beauty/beautiful, light/lightness) are added to a known word. . ~~c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., addition, additional).~~ ~~d.~~ Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., ~~birdhouse,~~ backpack, backyard, flashlight, lighthouse, ~~housefly; bookshelf, notebook, bookmark~~). ~~e.~~ Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases.

Language Standards K-2

~~L.K.5~~ ~~With guidance and support from adults,~~ explore word relationships and nuances in word meanings. ~~a.~~ Sort common objects into categories (e.g., ~~shapes,~~ foods, sizes) to gain a sense of the concepts the categories represent. ~~b.~~ Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their synonyms and ~~opposites (~~antonyms~~)~~. ~~c.~~ Identify real-life connections between words and their use (e.g., note places at school that are cozy~~olorful~~). ~~d.~~ Distinguish shades of meaning among verbs describing the ~~same~~ general action (e.g., walk, march, strut, prance). ~~by acting out the meanings.~~	~~L.1.5~~ With ~~guidance and~~ support ~~from adults, demonstrate understanding of~~ explore word relationships and nuances in word meanings. ~~a.~~ Sort words into categories (e.g., ~~colors, clothing~~tools, pets) and define those words by one or more key attributes (e.g., a *saw* is a tool that cuts; *a goldfish* is a pet that lives in water). ~~to gain a sense of the concepts the categories represent.~~ ~~b. Define words by category and by one or more key attributes (e.g., a duck is a bird that swims; a tiger is a large cat with stripes).~~ ~~c. Identify real-life connections between words and their use (e.g., note places at home that are cozy).~~ ~~d.~~ Distinguish shades of meaning among verbs describing the same general action. ~~differing in manner~~ (e.g., ~~look, peek, glance, stare, glare, scowl~~walk, stroll, strut, prance) by acting out the meanings. ~~and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings.~~	L ~~L.2.5~~ Determine how words and phrases provide meaning and nuance to texts ~~Demonstrate understanding of word relationships and nuances in word meanings.~~ ~~a.~~ Identify real-life connections between words and their use (e.g., ~~describe~~ describe weather that is freezing or windy~~foods that are spicy or juicy~~). ~~b.~~ Distinguish shades of meaning among closely related verbs (e.g., toss, throw, hurl) and closely related adjectives (e.g., ~~thin, slender, skinny, scrawny~~hot, sizzling, blazing).

Language Standards K-2 L

~~Vocabulary Acquisition and Use (continued)~~

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
~~L.K.6~~ With support, u~~U~~se words and phrases acquired through conversations, reading and listening ~~being read to, and responding~~ to texts.	~~L.1.6 Use words and phrases~~ With support as needed, acquire~~d~~ and use general academic and content-specific words gained through conversations, reading, and listening to texts. ~~through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because).~~	~~L.2.6~~ Acquire and use general academic and content-specific words gained through conversations, and reading and listening to texts, including using adjectives and adverbs to describe situations with specificity (e.g., *When other kids are acting silly, that makes me feel giddy*). Use these words in discussions and writing. ~~Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).~~

Language Standards 3-5

L

~~Conventions of Standard English~~

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~L.3.1~~ Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. ~~a. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.~~ ~~b.~~ Form and use regular and irregular plural nouns (e.g., fish and teeth). ~~c.~~ Use collective ~~abstract~~ nouns (e.g., family, crew, assembly ~~childhood~~) matched to plural verb forms. ~~d.~~ Form and use progressive and perfect ~~regular and irregular~~ verb tenses.~~s~~. ~~e.~~ Form and use the simple (e.g., I walked; I walk; I will walk) verb tenses. ~~f.~~ Ensure subject-verb and pronoun-antecedent agreement.* ~~g.~~ Form and use comparative and superlative adjectives and adverbs.~~, and choose between them depending on what is to be modified.~~ ~~h.~~ Use coordinating and subordinating conjunctions. ~~i. Produce simple, compound, and complex sentences.~~	~~L.4.1~~ Demonstrate command of the conventions of ~~standard~~ English grammar and usage when writing or speaking. ~~a.~~ Use relative pronouns ~~(who, whose, whom, which, that)~~ and relative adverbs. ~~(where, when, why).~~ ~~b. Form and use the progressive (e.g., I was walking; I am walking; I will be walking) verb tenses.~~ ~~c. Use modal auxiliaries (e.g., can, may, must) to convey various conditions.~~ ~~d.~~ Order adjectives within sentences according to conventional patterns. ~~(e.g., a small red bag rather than a red small bag).~~ ~~e.~~ Form and use prepositional phrases. ~~f.~~ Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.~~*~~ ~~g.~~ Correctly use frequently confused words (e.g., to, too,~~ two; there, their~~).~~*~~	~~L.5.1~~ Demonstrate command of the conventions of ~~standard~~ English grammar and usage when writing or speaking. ~~a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.~~ ~~b. Form and use the perfect (e.g., I had walked; I have walked; I will have walked) verb tenses.~~ ~~c. Use verb tense to convey various times, sequences, states, and conditions.~~ ~~d. Recognize and correct inappropriate shifts in verb tense.*~~ ~~e. Use correlative conjunctions (e.g., either/or, neither/nor).~~
~~L.3.2~~ Demonstrate command of the conventions of ~~standard~~ English capitalization and when writing and reading aloud to create meaning. ~~, punctuation, and spelling when writing.~~ ~~a.~~ Capitalize appropriate words in titles. ~~b.~~ ~~Use~~ C~~c~~ommas in addresses and dates. ~~c.~~ ~~Use c~~Commas and quotation marks in dialogue. Form~~ing~~ and us~~e~~ing possessives. ~~d.~~ Use conventional spelling for high-frequency and other studied words ~~and~~ for adding suffixes to base words ~~(e.g., sitting, smiled, cries, happiness)~~. ~~e.~~ Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) ~~in~~ when producing and writing words. ~~f.~~ Consult reference materials~~, including beginning dictionaries, as needed~~ to check and correct spelling.	~~L.4.2~~ Demonstrate command of the conventions of ~~standard~~ English punctuation and capitalization, ~~punctuation, and spelling~~ when writing and reading aloud to create meaning. ~~a.~~ Use correct capitalization. ~~b.~~ ~~Use commas and~~ quotation marks to mark direct speech and quotations from a text. ~~c. Use a~~ C~~c~~ommas in a series ~~before a coordinating conjunction in a compound sentence.~~ ~~d.~~ ~~S~~Spell grade-appropriate words correctly, , including commonly confused words (e.g., there, their, they're). ~~consulting references as needed.~~	~~L.5.2~~ Demonstrate command of the conventions of ~~standard~~ English punctuation and capitalization~~, punctuation, and spelling~~ when writing and reading aloud to crate meaning. ~~a. Use punctuation to separate items in a series.*~~ ~~b.~~ ~~Use a~~ commas to separate an introductory element from the rest of the sentence. ~~c.~~ ~~Use a~~ commas before a coordinating conjunction. ~~to set off the words yes and no (e.g., Yes, thank you), to set off a tag question from the rest of the sentence (e.g., It's true, isn't it?), and to indicate direct address (e.g., Is that you, Steve?).~~ ~~d.~~ ~~Use~~ underlining, quotation marks, or italics to indicate titles of works. ~~e.~~ Spell grade-appropriate words correctly, ~~consulting references as needed.~~ including commonly confused words (it's/its, affect/effect).

Language Standards 3-5

L

~~Knowledge of Language~~

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~L.3.3~~ ~~Use knowledge of language and its conventions when writing, speaking, reading, or listening.~~ ~~a. Choose words and phrases for effect.*~~ ~~b. Recognize and observe differences between the conventions of spoken and written standard English~~.	~~L.4.3~~ ~~Use knowledge of language and its conventions when writing, speaking, reading, or listening.~~ ~~a. Choose words and phrases to convey ideas precisely.*~~ ~~b. Choose punctuation for effect.*~~ ~~c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).~~	~~L.5.3~~ ~~Use knowledge of language and its conventions when writing, speaking, reading, or listening.~~ ~~a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.~~ ~~b. Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems.~~

~~Vocabulary Acquisition and Use~~

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~L.3.4~~ Determine or clarify the meaning of unknown and multiple-meaning words~~ and phrases~~ based on grade-level ~~3~~ reading and content, choosing flexibly from a range of strategies. ~~a.~~ Use sentence-level context as a clue to the meaning of a word or phrase. ~~b.~~ Determine the meaning of the new word formed when ~~a~~ known affixes are~~is~~ added to a known word (e.g.,~~-~~ expensive/inexpensive, lock/unlock, help/helpless, care/careless). ~~agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat~~). ~~c.~~ Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., transport/portable~~company, companion~~). ~~d.~~ Use glossaries or beginning dictionaries, ~~both~~ print or ~~and~~ digital, to ~~determine or~~ clarify the precise meaning of key words and phrases.	~~L.4.4~~ Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade~~-4 reading~~level reading and content, choosing flexibly from a range of strategies. ~~a.~~ Use context (e.g., definitions, examples, or restatements in text) as ~~a~~ clues to the meaning of ~~a~~ words or phrase. ~~b.~~ Use ~~common, grade-appropriate Greek~~common Greek and Latin affixes and roots as clues to the meaning of a word (~~e.g.,~~e.g., thermometer, thermos, thermostat). ~~telegraph, photograph, autograph~~). ~~c.~~ Consult reference materials (e.g., dictionaries, glossaries, thesauruses), ~~both~~ print or~~and~~ digital, to find the pronunciation and ~~determine or~~ clarify the precise meaning of key words and phrases.	~~L.5.4~~ Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level~~-5~~ reading and content, choosing flexibly from a range of strategies. ~~a.~~ Use context (e.g., definitions, examples, or restatements in text) ~~cause/effect relationships and comparisons in text~~) as a clue to the meaning of a word or phrase. ~~b.~~ Use ~~common, grade-appropriate Greek~~common Greek and Latin affixes and roots as clues to the meaning of a word (e.g., biology, biography, biohazard~~photograph, photosynthesis~~). ~~c.~~ Consult reference materials (e.g., dictionaries, glossaries, thesauruses), ~~both~~ print or ~~and~~ digital, to find the pronunciation and ~~determine or~~ clarify the precise meaning of key words and phrases.
~~L.3.5~~ Demonstrate how ~~understanding of~~ words and phrases provide meaning and~~ relationships and~~ nuances to grade-level texts. ~~in word meanings.~~ ~~a.~~ Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., take steps). ~~b. Identify real-life connections between words and their use (e.g., describe people who are friendly or helpful).~~ ~~c.~~ Distinguish shades of meaning among grade-appropriate, related words that describe states of mind or degrees of certainty (e.g., knew,	~~L.4.5~~ Demonstrate how words and phrases provide meaning and ~~understanding of figurative language, word relationships, and nuances~~ nuance to grade-level texts. in word meanings. ~~a. Explain the meaning of simple similes and metaphors (e.g., as pretty as a picture) in context.~~ ~~b. Recognize and explain the meaning of common idioms, adages, and proverbs.~~ ~~c. Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).~~	~~L.5.5~~ Demonstrate how words and phrases provide meaning and nuance to grade-level texts. ~~understanding of figurative language, word relationships, and nuances in word meanings.~~ ~~a.~~ Recognize and explain ~~Interpret~~ figurative language, including similes and metaphors, in context. ~~b.~~ Recognize and explain the meaning of common idioms, adages, and proverbs. ~~c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.~~

believed, suspected, heard, wondered). **Language Standards 3-5**		**L**

Language Standards 3-5 L

~~Vocabulary Acquisition and Use (continued)~~

Grade 3 Students:	Grade 4 Students:	Grade 5 Students:
~~L.3.6~~ Acquire and use ~~accurately grade-appropriate conversational,~~ general academic, and content ~~domain~~-specific words and phrases occurring in grade-level reading and content, , including those that signal spatial and temporal relationships (e.g., She stood behind the doo before she entered the room). Use these words in discussion and writing. ~~After dinner that night we went looking for them~~).	~~L.4.6~~ Acquire and use accurately ~~grade-appropriate~~ general academic and ~~domain~~content-specific words and phrases occurring in grade-level reading and content, including those that signal precise actions~~, emotions~~, or states of being (e.g., frustrated, puzzled, ~~quizzed, whined~~, stammered) and vocabulary essential ~~that are~~ basic to a particular topic (e.g., heroes, villains, quest, fate when discussing myths) ~~wildlife, conservation, and endangered when discussing animal preservation~~).Use these words in discussion and writing.	~~L.5.6~~ Acquire and use accurately ~~grade-appropriate~~ general academic and content ~~domain~~-specific words and phrases occurring in grade-level reading and content, including those that signal contrast, addition, connection, and other logical relationships (e.g.~~, however, although, nevertheless, similarly, moreover, in addition~~ therefore, meanwhile, on the other hand). Use these word sin discussions and writing.

Language Progressive Skills, by Grade

The following skills, marked with an asterisk (*) in Language standards 1-3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standards	Grades
L.3.1.f Ensure subject-verb and pronoun-antecedent agreement.	3-12
L.3.3.a Choose words and phrases for effect.	3-12
L.4.1.f Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.	4-12
L.4.1.g Correctly use frequently confused words (e.g., to, too, two; there, their).	4-12
L.4.3.a Choose words and phrases to convey ideas precisely.*	4-6
L.4.3.b Choose punctuation for effect.	4-12
L.5.1.d Recognize and correct inappropriate shifts in verb tense.	5-12
L.5.2.a Use punctuation to separate items in a series.†	5-8
L.6.1.c Recognize and correct inappropriate shifts in pronoun number and person.	6-12
L.6.1.d Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).	6-12
L.6.1.e Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.	6-12
L.6.2.a Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.	6-12
L.6.3.a Vary sentence patterns for meaning, reader/listener interest, and style.‡	6-10
L.6.3.b Maintain consistency in style and tone.	6-12
L.7.1.c Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.	7-12
L.7.3.a Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.	7-12
L.8.1.d Recognize and correct inappropriate shifts in verb voice and mood.	8-12
L.9-10.1.a Use parallel structure.	9-12

*Subsumed by L.7.3.a
†Subsumed by L.9-10.1.a
‡Subsumed by L.11-12.3.a

Standard 10: Range, Quality, and Complexity of Student Reading K-5

Measuring Text Complexity: Three Factors



Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader variables (such as motivation, knowledge, and experiences) and task variables (such as purpose and the complexity generated by the task assigned and the questions posed)

Note: More detailed information on text complexity and how it is measured is contained in Appendix A.

Range of Text Types for K-5

Students in K-5 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature

- **Stories:** *Includes children's adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth*
- **Dramas:** *Includes staged dialogue and brief familiar scenes*
- **Poetry:** *Includes nursery rhymes and the subgenres of the narrative poem, limerick, and free verse poem*

Informational Text

- **Literary Nonfiction and Historical, Scientific, and Technical Texts:** *Includes biographies and autobiographies; books about history, social studies, science, and the arts; technical texts, including directions, forms, and information displayed in graphs, charts, or maps; and digital sources on a range of topics*

Texts Illustrating the Complexity, Quality, and Range of Student Reading K-5

Grade Level	Literature: Stories, Drama, Poetry	Informational Texts: Literary Nonfiction and Historical, Scientific, and Technical
K*	*Over in the Meadow* by John Langstaff (traditional) (c1800)‡ *A Boy, a Dog, and a Frog* by Mercer Mayer (1967) *Pancakes for Breakfast* by Tomie DePaola (1978) *A Story, a Story* by Gail E. Haley (1970)‡ *Kitten's First Full Moon* by Kevin Henkes (2004)‡	*My Five Senses* by Aliki (1962)‡ *Truck* by Donald Crews (1980) *I Read Signs* by Tana Hoban (1987) *What Do You Do With a Tail Like This?* by Steve Jenkins and Robin Page (2003)‡ *Amazing Whales!* by Sarah L. Thomson (2005)‡
1*	"Mix a Pancake" by Christina G. Rossetti (1893)‡ *Mr. Popper's Penguins* by Richard Atwater (1938)‡ *Little Bear* by Else Holmelund Minarik, illustrated by Maurice Sendak (1957)‡ *Frog and Toad Together* by Arnold Lobel (1971)‡ *Hi! Fly Guy* by Tedd Arnold (2006)	*A Tree Is a Plant* by Clyde Robert Bulla, illustrated by Stacey Schuett (1960)‡ *Starfish* by Edith Thacher Hurd (1962) *Follow the Water from Brook to Ocean* by Arthur Dorros (1991)‡ *From Seed to Pumpkin* by Wendy Pfeffer, illustrated by James Graham Hale (2004)‡ *How People Learned to Fly* by Fran Hodgkins and True Kelley (2007)‡
2-3	"Who Has Seen the Wind?" by Christina G. Rossetti (1893) *Charlotte's Web* by E. B. White (1952)‡ *Sarah, Plain and Tall* by Patricia MacLachlan (1985) *Tops and Bottoms* by Janet Stevens (1995) *Poppleton in Winter* by Cynthia Rylant, illustrated by Mark Teague (2001)	*A Medieval Feast* by Aliki (1983) *From Seed to Plant* by Gail Gibbons (1991) *A Drop of Water: A Book of Science and Wonder* by Walter Wick (1997) *Moonshot: The Flight of Apollo 11* by Brian Floca (2009)
4-5	*Alice's Adventures in Wonderland* by Lewis Carroll (1865) "Casey at the Bat" by Ernest Lawrence Thayer (1888) *The Black Stallion* by Walter Farley (1941) "Zlateh the Goat" by Isaac Bashevis Singer (1984) *Where the Mountain Meets the Moon* by Grade Lin (2009)	*Discovering Mars: The Amazing Story of the Red Planet* by Melvin Berger (1992) *Hurricanes: Earth's Mightiest Storms* by Patricia Lauber (1996) *A History of US* by Joy Hakim (2005) *Horses* by Seymour Simon (2006) *Quest for the Tree Kangaroo: An Expedition to the Cloud Forest of New Guinea* by Sy Montgomery (2006)

Note: Given space limitations, the illustrative texts listed above are *meant only to show individual titles that are representative of a wide range of topics and genres.* (See Appendix B for excerpts of these and other texts illustrative of K-5 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth. On the next page is an example of progressions of texts building knowledge across grade levels.

*Children at the kindergarten and grade 1 levels should be expected to read texts independently that have been specifically written to correlate to their reading level and their word knowledge. Many of the titles listed above are meant to supplement carefully structured independent reading with books to read along with a teacher or that are read aloud to students to build knowledge and cultivate a joy in reading.

‡Read-aloud
‡Read-along

Staying on Topic Within a Grade and Across Grades

How to Build Knowledge Systematically in English Language Arts K-5

Building knowledge systematically in English language arts is like giving children various pieces of a puzzle in each grade that, over time, will form one big picture. At a curricular or instructional level, texts—within and across grade levels—need to be selected around topics or themes that systematically develop the knowledge base of students. Within a grade level, there should be an adequate number of titles on a single topic that would allow children to study that topic for a sustained period. The knowledge children have learned about particular topics in early grade levels should then be expanded and developed in subsequent grade levels to ensure an increasingly deeper understanding of these topics. Children in the upper elementary grades will generally be expected to read these texts independently and reflect on them in writing. However, children in the early grades (particularly K-2) should participate in rich, structured conversations with an adult in response to the written texts that are read aloud, orally comparing and contrasting as well as analyzing and synthesizing, in the manner called for by the Standards.

Preparation for reading complex informational texts should begin at the very earliest elementary school grades. *What follows is one example that uses domain-specific nonfiction titles across grade levels to illustrate how curriculum designers and classroom teachers can infuse the English language arts block with rich, age-appropriate content knowledge and vocabulary in history/social studies, science, and the arts.* Having students listen to informational read-alouds in the early grades helps lay the necessary foundation for students' reading and understanding of increasingly complex texts on their own in subsequent grades.

Exemplar Texts on a Topic

Topic	Kindergarten	Grade 1	Grades 2-3	Grades 4-5
The Human Body Students can begin learning about the human body starting in kindergarten and then review and extend their learning during each subsequent grade.	**The five senses and associated body parts** • *y Five Senses* by Aliki (1989) • *earing* by Maria Rius (1985) • *ight* by Maria Rius (1985) • *mell* by Maria Rius (1985) • *aste* by Maria Rius (1985) • *ouch* by Maria Rius (1985) **Taking care of your body: Overview (hygiene, diet, exercise, rest)** • *y Amazing Body: A First Look at Health & Fitness* by Pat Thomas (2001) • *et Up and Go!* by Nancy Carlson (2008) • *o Wash Up* by Doering Tourville (2008) • *leep* by Paul Showers (1997)	**Introduction to the systems of the human body and associated body parts** • *nder Your Skin: Your Amazing Body* by Mick Manning (2007) • *e and My Amazing Body* by Joan Sweeney (1999) • *he Human Body* by Gallimard Jeunesse (2007) • *he Busy Body Book* by Lizzy Rockwell (2008) • *irst Encyclopedia of the Human Body* by Fiona Chandler (2004) **Taking care of your body: Germs, diseases, and preventing illness** • *erms Make Me Sick* by Marilyn Berger (1995) • *iny Life on Your Body* by Christine Taylor-Butler (2005) • *erm Stories* by Arthur Kornberg (2007)	**Digestive and excretory systems** • *hat Happens to a Hamburger* by Paul Showers (1985) • *he Digestive System* by Christine Taylor-Butler (2008) • *he Digestive System* by Rebecca L. Johnson (2006) • *he Digestive System* by Kristin Petrie (2007) **Taking care of your body: Healthy eating and nutrition** • *ood Enough to Eat* by Lizzy Rockwell (1999) • *howdown at the Food Pyramid* by Rex Barron (2004) **Muscular, skeletal, and nervous systems** • *he Mighty Muscular and Skeletal Systems* Crabtree Publishing (2009) • *uscles* by Seymour Simon (1998)	**Circulatory system** • *he Heart* by Seymour Simon (2006) • *he Heart and Circulation* by Carol Ballard (2005) • *he Circulatory System* by Kristin Petrie (2007) • *he Amazing Circulatory System* by John Burstein (2009) **Respiratory system** • *he Lungs* by Seymour Simon (2007) • *he Respiratory System* by Susan Glass (2004) • *he Respiratory System* by Kristin Petrie (2007) • *he Remarkable Respiratory System* by John Burstein (2009) **Endocrine system**

	~~*uel the Body* by Doering Tourville (2008)~~	~~*ll About Scabs* by Genichiro Yagu (1998)~~	~~*ones* by Seymour Simon (1998)~~ ~~*he Astounding Nervous System* Crabtree Publishing (2009)~~ ~~*he Nervous System* by Joelle Riley (2004)~~	~~*he Endocrine System* by Rebecca Olien (2006)~~ ~~*he Exciting Endocrine System* by John Burstein (2009)~~

Idaho Content Standards

English Language Arts/Literacy
Handwriting:
~~K-6~~K-5 Section

Handwriting Standards K-6 HW

Writing Components: Acquire Handwriting Skills for Print Handwriting

Kindergarteners:	Grade 1 Students:	Grade 2 Students:
HW.K.1 Write Print all upper and lowercase letters of the alphabet. a. Write left to right, top to bottom, with appropriate spaces between words.	HW.1.1 Print legibly and space words appropriately when writing . a complete sentence. a. Write a complete sentence with words spaced appropriately.	HW.2.1 Print Form letters correctly with functional speed. Space words and sentences properly so that writing can be read easily by another person. and maintain legibility.

Writing Components: Acquire Handwriting Skills for Cursive Handwriting

Grade 3 Students:	Grade 4 Students:
HW.3.1 Write legibly in cursive leaving space between letters in a word, in a sentence, and at the edges of the paper. .	HW.4.1 Write legibly and fluently and legibly in cursive by hand, forming letters and words that can be easily read by others. .

Writing Components: Acquire Handwriting Skills for Print and Cursive Handwriting

Grade 5 Students:	Grade 6 Students:
HW.5.1 Write in cursive legibly and fluently by hand with a consistent form and recognizable signature. fluently and legibly in print or cursive.	HW.6.1 Write fluently and legibly in print or cursive.

Idaho Content Standards

English Language Arts/Literacy:

6-12 ~~Section~~

College and Career Readiness Anchor Standards for Reading

The grades 6-12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

CCRA.R.1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

CCRA.R.2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

CCRA.R.3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure

CCRA.R.4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

CCRA.R.5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

CCRA.R.6 Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

CCRA.R.7 Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.*

CCRA.R.8 Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

CCRA.R.9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

CCRA.R.10 Read and comprehend complex literary and informational texts independently and proficiently.

**Please see "Research to Build and Present Knowledge" in Writing and "Comprehension and Collaboration" in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.*

Note on range and content of student reading

To become college and career ready, students must grapple with works of exceptional craft and thought whose range extends across genres, cultures, and centuries. Such works offer profound insights into the human condition and serve as models for students' own thinking and writing. Along with high-quality contemporary works, these texts should be chosen from among seminal U.S. documents, the classics of American literature, and the timeless dramas of Shakespeare. Through wide and deep reading of literature and literary nonfiction of steadily increasing sophistication, students gain a reservoir of literary and cultural knowledge, references, and images; the ability to evaluate intricate arguments; and the capacity to surmount the challenges posed by complex texts.

Reading Standards for Literature 6-8 RL

~~The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*~~

~~Key Ideas and Details~~

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
~~**RL.6.1** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text~~.	~~**RL.7.1** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.~~	~~**RL.8.1** Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.~~
~~**RL.6.2** Explain stated or implied Determine a~~ themes~~ or central idea of a~~ texts, including how they are developed using specific ~~and how it is conveyed through particular~~ details~~;~~ from texts. ~~provide a summary of the text distinct from personal opinions or judgments.~~	~~**RL.7.2** Determine a Explain stated or implied~~ themes~~, or central idea of a text and~~ analyzing their~~e its~~ development over the course of the texts; provide an objective summaries~~y~~ of the literary texts.	~~**RL.8.2** Determine a Explain stated or implied~~ themes ~~or central idea of a text and~~ analyzing their ~~e its~~ development over the course of the texts~~, including its~~ and the relationship ~~to the~~ characters, setting, and plot of those themes~~; provide an objective summary of the text.~~
~~**RL.6.3** Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the~~ characters respond or change as the plot moves toward a resolution.	~~**RL.7.3** Analyze~~Explain how particular elements of a stories~~y~~ or dramas interact, ~~(e.g., including~~ how setting shapes the characters or plot~~)~~.	~~**RL.8.3** Analyze how characters are revealed through~~ particular lines of dialogue or incidents in literary texts. ~~a story or drama propel the action, reveal aspects of a character, or provoke a decision.~~

~~Craft and Structure~~

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
~~**RL.6.4** Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone~~.	~~**RL.7.4** Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.~~	~~**RL.8.4** Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.~~
~~**RL.6.5** Analyze~~ Describe how a particular sentence, chapter, scene, or stanza fits into the overall structure of ~~a~~ texts and contributes to the development of the theme, setting, or plot.	~~**RL.7.5** Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning.~~	~~**RL.8.5** Compare and contrast the~~ Analyze how authors structure ~~of two or more~~ texts to advance a plot, explaining how each event gives rise to the next or foreshadows a future event. ~~and analyze how the differing structure of each text contributes to its meaning and style.~~
~~**RL.6.6** Explain how an~~ authors develop~~s~~ the point of view of the narrator or speaker in a text.	~~**RL.7.6** Analyze~~ Explain how ~~an~~ authors develops and contrast~~s~~ the point~~s~~ of view of different characters or narrators in ~~a~~ texts.	~~**RL.8.6** Analyze how differences in the points of view of the~~ characters and the audience or reader created with dramatic irony result in ~~(e.g., created through the use of dramatic irony) create such~~ effects as suspense or humor.

~~Integration of Knowledge and Ideas~~

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
~~**RL.6.7** Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they "see" and "hear" when reading the text to what they perceive when they listen or watch.~~	~~**RL.7.7**~~ Compare and contrast structures of two or more stories, poems, and plays and~~a written story, drama, or poem to its audio, filmed, staged, or multimedia version,~~ analyezing how the differing structure of each literary text contributes to meaning and style. ~~the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).~~	~~**RL.8.7** Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.~~

~~RL.6.8 (Not applicable to literature)~~ **Reading Standards for Literature 6-8**	~~RL.7.8 (Not applicable to literature)~~	~~RL.8.8 (Not applicable to literature)~~ **RL**
~~RL.6.9~~ Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.	~~RL.7.9~~ Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.	~~RL.8.9~~ Relate ~~Analyze how a modern work of fiction draws on~~ themes, patterns of events, or character types from myths, traditional stories, or religious works to contemporary stories, poems, or dramas. ~~(e.g., the Bible), including describing how the material is rendered new~~.

Reading Standards for Literature 6-8 RL

~~Range of Reading and Level of Text Complexity~~

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
~~**RL.6.10** By the end of the year,~~ Independently and proficiently read and comprehend texts representing a balance of genres, cultures, perspectives, and that exhibit complexity at the lower end of the grades 6-8 band. ~~literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.~~	~~**RL.7.10** By the end of the year,~~ Independently and proficiently read and comprehend texts representing a balance of genres, cultures, perspectives, and that exhibit complexity at the midrange of the grades 6-8 band. ~~literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.~~	~~**RL.8.10** By the end of the year,~~Independently and proficiently read and comprehend texts representing a balance of genres, cultures, perspectives, and that exhibit complexity at the higher end of the grades 6-8 band. ~~literature, including stories, dramas, and poems, at the high end of grades 6-8 text complexity band independently and proficiently.~~

Reading Standards for Informational Text 6-8 RI

Key Ideas and Details

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
RI.6.1 Cite textual Draw several pieces of evidence from grade-level texts to support claims and analysis of what the text says explicitly as well as inferences, including quoting and paraphrasing from texts accurately. drawn from the text.	RI.7.1 Cite Draw several pieces of textual evidence from grade-level texts to support claims and inferences, including quoting or paraphrasing from texts accurately and tracing where in texts relevant evidence is located. analysis of what the text says explicitly as well as inferences drawn from the text.	RI.8.1 Cite the Draw several pieces of textual evidence from grade-level texts that most strongly supports both what is saidan analysis of what the text says explicitly and what is implied, including quoting, and paraphrasing from relevant sections and accurately citing textual references. as well as inferences drawn from the text.
RI.6.2 Determine a Explain stated or implied central ideas from of a texts, including how they are developed using specific details from the text; and how it is conveyed through particular details; provide a summary of the texts distinct from personal opinions. or judgments.	RI.7.2 Determine two or more Explain stated or implied central ideas of in a texts, and analyzing e their development over the course of the texts; provide an objective summary of the texts.	RI.8.2 Determine a Explain state or implied central ideas of a texts and analyzinge their its development over the course of the texts, including the its relationship of individuals, to supporting ideas, or events to the central ideas; provide an objective summary ofsummaries of the texts.
RI.6.3 Analyze Explain in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a texts (e.g., through examples or anecdotes).	RI.7.3 Analyze the relationships or interactions between individuals, events, and ideas in a texts (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).	RI.8.3 Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).

Craft and Structure

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
RI.6.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.	RI.7.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.	RI.8.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.
RI.6.5 Analyze how a particular Explain how a specific sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.	RI.7.5 Analyze Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.	RI.8.5 Analyze in detail the structure elements of a specific paragraph in a text, including the role of specific particular sentences, paragraphs, and text features in developing and refining a key concepts.
RI.6.6 Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.	RI.7.6 Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.	RI.8.6 Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.

Integration of Knowledge and Ideas

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
RI.6.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.	RI.7.7 Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).	RI.8.7 Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.
RI.6.8 Trace and evaluate the argument and specific claims in a texts, distinguishing claims that are supported by reasons and evidence from claims that are not.	RI.7.8 Trace and evaluate the argument that and specific claims in a texts, and assessesing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.	RI.8.8 Delineate and evaluate Trace the argument and specific claims in a texts ,and assessesing whether the all reasoning is sound and the evidence is relevant and whether sufficient; recognize when irrelevant evidence was is introduced.

Reading Standards for Informational	Text 6-8	RI
~~RI.6.9~~ Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).	~~RI.7.9~~ ~~Analyze~~ Compare and contrast how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.	~~RI.8.9~~ Analyze ~~a~~ cases in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.

Reading Standards for Informational Text 6-8 RI

~~Range of Reading and Level of Text Complexity~~

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
~~**RI.6.10** By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.~~	~~**RI.7.10** By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.~~	~~**RI.8.10** By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6-8 text complexity band independently and proficiently.~~

College and Career Readiness Anchor Standards for Writing

The grades 6-12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

CCRA.W.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

CCRA.W.2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

CCRA.W.3 Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

CCRA.W.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCRA.W.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

CCRA.W.6 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

CCRA.W.7 Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

CCRA.W.8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

CCRA.W.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

CCRA.W.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

**These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.*

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college and career ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to know how to combine elements of different kinds of writing—for example, to use narrative strategies within argument and explanation within narrative—to produce complex and nuanced writing. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline as well as the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it.

Writing Standards 6-8

W

~~The following standards for grades 6-12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.~~

~~Text Types and Purposes~~

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
~~W.6.1~~ Write arguments that introduce and support a distinct point of view with relevant claims, evidence and reasoning; demonstrate an understanding of the topic; and provide a concluding section that follows from the argument presented.~~to support claims with clear reasons and relevant evidence.~~ ~~a. Introduce claim(s) and organize the reasons and evidence clearly.~~ ~~b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.~~ ~~c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.~~ ~~d. Use precise language and domain-specific vocabulary to support the argument.~~ ~~e. Establish and maintain a formal style.~~ ~~Provide a concluding statement or section that follows from the argument presented.~~	~~W.7.1~~ Write arguments that introduce and support a well-defined point of view with appropriate claims, relevant evidence and clear reasoning, demonstrate a keen understanding of the topic or text, and provide a concluding section that follows from the argument presented.~~to support claims with clear reasons and relevant evidence.~~ ~~a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically.~~ ~~b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.~~ ~~c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.~~ ~~d. Use precise language and domain-specific vocabulary to support the argument.~~ ~~e. Establish and maintain a formal style.~~ ~~f. Provide a concluding statement or section that follows from and supports the argument presented.~~	~~W.8.1~~ Write arguments or make claims that support well-defined points of view effectively with relevant evidence and clear reasoning in ways that logically advance the claim(s) made; demonstrate a nuanced understanding of the topic; and provide a concluding section that follows from and supports the argument presented. ~~to support claims with clear reasons and relevant evidence.~~ ~~a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.~~ ~~b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.~~ ~~c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.~~ ~~d. Use precise language and domain-specific vocabulary to support the argument.~~ ~~e. Establish and maintain a formal style.~~ ~~f. Provide a concluding statement or section that follows from and supports the argument presented.~~
~~W.6.2~~ Write informational ~~ive/explanatory~~ texts Write informational texts that introduce the topic, develop the focus with relevant facts, definitions, concrete details, quotations, and examples from multiple sources using appropriate strategies, such as description, comparison, and/or cause-effect; and provide a concluding section that follows from the information presented. ~~to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.~~ ~~a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and~~	~~W.7.2~~ Write informational ~~ve/explanatory~~ texts that introduce the topic clearly; develop the focus with relevant facts, definitions, concrete details, quotations, or other information and examples from multiple sources using strategies such as description, enumeration, classification, comparison, problem-solution, and/or cause-effect; and provide a concluding section that follows from the information presented. ~~to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.~~ ~~a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics~~	~~W.8.2~~ Write informational ~~ve/explanatory~~ texts that introduce the topic clearly; preview what is to follow by establishing and maintaining a clear focus with relevant, well-chosen facts, definitions, concrete details, quotations, and examples from multiple sources using appropriate strategies, such as description, enumeration, classification, comparison, problem-solution, and/or cause-effect; and provide a concluding section that follows from the information presented. ~~to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.~~ ~~a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader~~

multimedia when useful to aiding comprehension. **Writing Standards 6-8** b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. **W.6.3** Use appropriate transitions to clarify the relationships among ideas and concepts. **W.6.4** Use precise language and domain-specific vocabulary to inform about or explain the topic. a. Establish and maintain a formal style. Provide a concluding statement or section that follows from the information or explanation presented.	(e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.	categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. **W** b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

Writing Standards 6-8

W

Text Types and Purposes (continued)

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
W.6.3 Write personal or fictional narratives that establish a situation and narrator; engage and orient the reader to the context; use narrative techniques such as description, dialogue, pacing, concrete words and sensory details to develop the characters, event(s), or experience(s); and provide a conclusion that follows from the narrated event(s). to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events. e. Provide a conclusion that follows from the narrated experiences or events.	W.7.3 Write personal or fictional narratives that establish a situation and narrator; engage and orient the reader to the context and point of view; use narrative techniques such as description, dialogue, pacing and a variety of precise words and transitional words and phrases to develop the characters, convey sequence, and signal shifts from one timeframe or setting to another; and provide a conclusion that follows from the narrated event(s). to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. e. Provide a conclusion that follows from and reflects on the narrated experiences or events.	W.8.3 Write personal or fictional narratives that establish a situation and narrator; engage and orient the reader to the context and one or multiple points of view; use a variety of techniques such as description, dialogue, pacing, and precise words and phrases, sensory language and transition words to develop the characters, capture the action and convey sequence, and signal shifts from one timeframe or setting to another; and provide a conclusion that follows from the narrated event(s). to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters. c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. e. Provide a conclusion that follows from and reflects on the narrated experiences or events.

Production and Distribution of Writing

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
W.6.4 Produce clear and coherent organizational structures of multiple paragraphs in which facts and ideas are logically grouped; headings, as applicable are included to support writing in which the development, organization, and style are appropriate to task, purpose; and words, phrases, and clauses clarify the relationships between and among ideas and concepts. , and audience. (Grade-specific expectations for writing types are defined in standards 1-3.)	W.7.4 Produce clear and coherent organizational structures in which ideas and other information are logically grouped; headings and other formatting support the purpose; and precise language, content-specific vocabulary, and appropriate transitions create cohesion and clarify the relationships among ideas and concepts. writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3.)	W.8.4 Produce clear and coherent organizational structures in which ideas and other information are logically grouped; headings, other formatting, and graphics (e.g., charts and tables) support the purpose; and precise language, content-specific vocabulary, and varied transitions create cohesion and clarify the relationships between and among ideas and concepts. writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3.)

Writing Standards 6-8

W.6.5 With some guidance and support from adults and peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach to audience and purpose. (Editing for conventions should demonstrate command of grade-level Grammar and Conventions Language standards 1-3 up to and including grade 6.)	**W.7.5** With some guidance and support from adults and peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of grade-level Grammar and Conventions). Language standards 1-3 up to and including grade 7.)	**W.8.5** With some guidance and support from adults and peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of grade-level Grammar and Conventions). Language standards 1-3 up to and including grade 8.)
W.6.6 Write by hand or with Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three two pages in a single sitting.	**W.7.6** UseWrite by hand or with technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others. , including linking to and citing sources.	**W.8.6** Write by hand or with Use technology, including the Internet, to produce and publish writing, link to and cite sources, and present the relationships between information and ideas efficiently, and as well as to interact and collaborate with others.

Writing Standards 6-8

W

Research to Build and Present Knowledge

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
W.6.7 Conduct short research projects to answer a brief as well as multi-day research tasks to take some action or share findings orally or in writing by formulating research question, drawing on several sources and questions and refocusing the inquiry when appropriate. gathering and assessing the relevance and usefulness of information from multiple reliable sources; and, paraphrasing or quoting the data and conclusions of others, providing basic bibliographic information for sources, and respecting copyright guidelines for use of images	W.7.7 Conduct short brief as well as multi-day research tasks to take some action or share findings orally or in writing by formulating research questions and generating additional questions for further research; gathering and assessing the relevance and usefulness of information from multiple reliable sources; and, summarizing, paraphrasing, or quoting the data and conclusions of others, avoiding plagiarism, and providing basic bibliographic information for sources. projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.	W.8.7 Conduct brief as well as multi-day short research projects tasks to take some action or share findings orally or in writing by formulating research questions and generating additional questions that allow for multiple avenues of exploration; gathering and assessing the relevance and credibility of information from multiple sources; and, summarizing, paraphrasing, or quoting the data and conclusions of others while avoiding plagiarism and following a standard format for citations. to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
W.6.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.	W.7.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.	W.8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
W.6.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 6 Reading standards to literature (e.g., "Compare and contrast texts in different forms or genres [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and topics"). b. Apply grade 6 Reading standards to literary nonfiction (e.g., "Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not").	W.7.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 7 Reading standards to literature (e.g., "Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history"). b. Apply grade 7 Reading standards to literary nonfiction (e.g. "Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims").	W.8.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 8 Reading standards to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works [e.g., the Bible], including describing how the material is rendered new"). b. Apply grade 8 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced").

Range of Writing

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
W.6.10 Write Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc.	W.7.10 Write Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc. over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	W.8.10 Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

The grades 6-12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

CCRA.SL.1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

CCRA.SL.2 Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

CCRA.SL.3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

CCRA.SL.4 Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

CCRA.SL.5 Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

CCRA.SL.6 Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Note on range and content of student speaking and listening

To become college and career ready, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner—built around important content in various domains. They must be able to contribute appropriately to these conversations, to make comparisons and contrasts, and to analyze and synthesize a multitude of ideas in accordance with the standards of evidence appropriate to a particular discipline. Whatever their intended major or profession, high school graduates will depend heavily on their ability to listen attentively to others so that they are able to build on others' meritorious ideas while expressing their own clearly and persuasively. New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. The Internet has accelerated the speed at which connections between speaking, listening, reading, and writing can be made, requiring that students be ready to use these modalities nearly simultaneously. Technology itself is changing quickly, creating a new urgency for students to be adaptable in response to change.

Speaking and Listening Standards 6-8 SL

~~The following standards for grades 6-12 offer a focus for instruction in each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*~~

~~Comprehension and Collaboration~~

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
~~SL.6.1~~ Engage ~~effectively~~ in ~~a range of~~ collaborative discussions about *grade-level topics and texts* with peers by following agreed-upon rules for collegial discussions, setting specific goals, and carrying out assigned roles; making comments and posing and responding to specific questions with elaboration and detail; and demonstrating understanding of various perspectives through reflection and paraphrasing ~~(one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.~~ ~~a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.~~ ~~b. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.~~ ~~c. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.~~ ~~d. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.~~	~~SL.7.1~~ Engage ~~effectively~~ in ~~a range of~~ collaborative discussions about grade-level topics and texts with peers by following rules for collegial discussions and decision-making, defining individual roles, and tracking progress on specific goals; propelling conversations forward by posing and responding to questions, relating the current discussion to broader themes, and connecting the ideas of several speakers; and, when warranted, qualifying or justifying one's views considering new evidence heard. ~~(one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.~~ ~~a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.~~ ~~b. Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.~~ ~~c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.~~ ~~d. Acknowledge new information expressed by others and, when warranted, modify their own views.~~	~~SL.8.1~~ Engage in ~~effectively in a range of~~ collaborative discussions about *grade-level topics and texts* with peers by following rules for collegial discussions and decision-making, defining individual roles, and tracking progress on specific goals; propelling conversations forward by posing and responding to questions, relating the current discussion to broader themes, and connecting the ideas of several speakers; and, when warranted, qualifying or justifying one's views considering new evidence heard.. ~~(one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.~~ ~~a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.~~ ~~b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.~~ ~~c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.~~ ~~d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.~~
~~SL.6.2~~ Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.	~~SL.7.2~~ Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.	~~SL.8.2~~ Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.
~~SL.6.3~~ Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.	~~SL.7.3~~ ~~Delineate~~Delineate ~~a~~ a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence~~.~~	~~SL.8.3~~ ~~Delineate~~ Analyze a speaker's argument and specific claims, evaluating the soundness of the reasoning~~.~~ and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.

Speaking and Listening Standards 6-8 SL

~~Presentation of Knowledge and Ideas~~

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
~~SL.6.4~~ ~~Present claims and findings, sequencing ideas logically and~~ Report orally on a topic or text or present an argument, sequencing ideas logically and~~-~~ using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.	~~SL.7.4~~ ~~Present claims and findings,~~Report orally on a topic, ~~-~~ emphasizing salient points in a focused, coherent manner with ~~pertinent descriptions~~relevant evidence , and well-chosen details; ~~, facts, details, and examples;~~ use appropriate ~~eye contact,~~vocabulary, ~~adequate~~ volume, and clear pronunciation.	~~SL.8.4~~ ~~Present claims and findings,~~ Report orally on a topic or text or present an argument, emphasizing salient points in a focused, coherent manner with relevant evidence, ~~sound valid reasoning,~~ and well-chosen details;~~—~~use appropriate vocabulary ~~eye contact, adequate~~ volume, and clear pronunciation.
~~SL.6.5~~ Include ~~multimedia~~ digital components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.	~~SL.7.5 Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.~~	~~SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.~~
~~SL.6.6 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 6 Language standards 1 and 3 for specific expectations.)~~	~~SL.7.6 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 for specific expectations.)~~	~~SL.8.6 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 for specific expectations.)~~

College and Career Readiness Anchor Standards for Language

The grades 6-12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions of Standard English

CCRA.L.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

CCRA.L.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

CCRA.L.3 Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

CCRA.L.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

CCRA.L.5 Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

CCRA.L.6 Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Note on range and content of student language use

To be college and career ready in language, students must have firm control over the conventions of standard English. At the same time, they must come to appreciate that language is as at least as much a matter of craft as of rules and be able to choose words, syntax, and punctuation to express themselves and achieve particular functions and rhetorical effects. They must also have extensive vocabularies, built through reading and study, enabling them to comprehend complex texts and engage in purposeful writing about and conversations around content. They need to become skilled in determining or clarifying the meaning of words and phrases they encounter, choosing flexibly from an array of strategies to aid them. They must learn to see an individual word as part of a network of other words—words, for example, that have similar denotations but different connotations. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Language Standards 6-8 L

The following standards for grades 6-12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 63 for a complete listing and Appendix A for an example of how these skills develop in sophistication.

Conventions of Standard English

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
L.6.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Ensure thatUse pronouns correctly regarding pronouns are in the proper case number, person, including (subjective, objective, possessive). intensive pronouns (e.g., myself, ourselves). b. Use intensive pronouns (e.g., myself, ourselves). c. Recognize and correct inappropriate shifts in pronoun number and person.* d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).* e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.*	L.7.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of phrases and clauses in general and their function in specific sentences. b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. c Place phrases and clauses correctly within a sentence, recognizing and correcting misplaced and dangling modifiers.*	L.8.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences. b. Form and use verbs in the active and passive voice. c Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. d. Recognize and correct inappropriate shifts in verb voice and mood.*
L.6.2 Demonstrate command of the conventions of standard English capitalization, punctuation and, capitalization, and spelling when writing and reading aloud to create meaning. a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.* b. Spell derivatives correctly by applying knowledge of bases and affixes .	L.7.2 Demonstrate command of the conventions of standard English capitalization, punctuation and capitalization, and spelling when writing and reading aloud to create meaning. . a. Use a commas to separate coordinate adjectives (e.g., It was a fascinating, enjoyable movie). but not He wore an old[,] green shirt). b. Spell derivatives correctly by applying knowledge of bases and affixes.	L.8.2 Demonstrate command of the conventions of standard English punctuation and capitalization, punctuation, and spelling when writing and reading aloud to create meaning.. a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break, or omission.. b. Use an ellipsis to indicate an omission. c. Spell derivatives correctly by applying knowledge of bases and affixes..

Knowledge of Language

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
L.6.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Vary sentence patterns for meaning, reader/listener interest, and style.* b. Maintain consistency in style and tone.*	L.7.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.*	L.8.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).

Language Standards 6-8

L

Vocabulary Acquisition and Use

Grade 6 Students:	Grade 7 Students:	Grade 8 Students:
L.6.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level 6 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., in readings on pioneers of space, determine the meanings of the words *astronaut* and *nautical*).(e.g., audience, auditory, audible). c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print or and digital, to find the pronunciation of a word and or determine or clarify its precise meaning andor its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	L.7.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level 7 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., belligerent, bellicose, rebel).in readings about earth sciences, determine the meaning of the words geologist and geophysics). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print or and digital, to find the pronunciation of a grade-level a word andor determine or clarify its precise meaning and or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	L.8.4 Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade-level 8 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., in readings about mathematics, determine the meanings of the words *percentile* and *perimeter*precede, recede, secede). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print or and digital, to find the pronunciation of a grade-level word and or determine or clarify its precise meaning and or its part of speech. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., byphrase by checking the inferred meaning in context or in a dictionary).
L.6.5 DemonstrateDetermine how words and phrases provide understanding of figurative language, word relationships, and nuances in word meaning and nuance to grade-level texts.s. a. Interpret figures of speech (e.g., personification) in context.figurative language (e.g., personification, idioms) in context. b. Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., stingy, scrimping, economical, unwasteful, thriftyhouse verses home, cheap verses affordable).	L.7.5 Demonstrate understanding of figurative language, word relationships, and nuances in word Determine how words and phrases provide meaning and nuance to grade level-texts. s. a. Interpret figurative figures of speech (e.g., literary, biblical, and mythological allusions)language e.g., (euphemism, oxymoron) in context. b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., refined, respectful, polite, diplomatic, Condescendingcurious verses nosy, assertive verses pushy).	L.8.5 Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.Determine how words and phrases provide meaning and nuance to grade level-texts. a. Interpret figurative language figures of speech (e.g. verbal irony, puns) in context. b. Use the relationship between particular words (e.g., homonyms, person to location, object to use) to better understand each of the words. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *crowd* versus *mob*, *fired* versus *laid off*).bullheaded, willful, firm, persistent, resolute).
L.6.6 Acquire and use accurately grade-appropriate general academic and content domain-specific words and phrases; occurring in grade-level reading and content; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these word sin discussion and writing.	L.7.6 Acquire and use accurately grade-appropriate general academic and domaincontent -specific words and phrases occurring in grade-level reading and content; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these word sin discussion and writing.	L.8.6 Acquire and use accurately grade-appropriate general academic and domaincontent -specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these word sin discussion and writing.

Reading Comprehension StrandStandards for Literature 9-12 RL

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Key Ideas and Details

Grades 9-10 Students:	Grades 11-12 Students:
RL.9-10.1 Draw Cite strong and thorough textual ample evidence from grade-level texts to support claims and analysis of what the text says explicitly as well as inferences, attending to the precise details of the authors' descriptions or explanations through quoting, paraphrasing, and citing textual references. drawn from the text.	RL.11-12.1 CDraws and cite strong and thorough textual evidence from grade-level texts to support analysis of what the text says explicitly as well as claims and inferences, attending to important distinctions authors make and how those are supported, as well as any gaps or inconsistencies in accounts offered. drawn from the text, including determining where the text leaves matters uncertain.
RL.9-10.2 Determine a Analyze the development of themes or central idea over the course of a text and analyze in detail its development over the course of the text, including how themesit emerges and areis shaped and refined by specific details.; provide an objective summary of the text.	RL.11-12.2 Determine two or more Compare the development of a universal themes or central ideas of a text and analyze their development over the course of twothe texts, including how it emergesthey interact and is shaped and refined by specific details in each.build on one another to produce a complex account; provide an objective summary of the text.
RL.9-10.3 Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a texts, interact with other characters, and advance the plot. or develop the theme.	RL.11-12.3 Analyze the impact of Evaluate the choices author's choices make regarding how to develop and relate several elements of literary texts,a story or drama (e.g., where a story is set, how the action is ordered, including how the characters are introduced and developed and how the action is ordered).

Craft and Structure

Grades 9-10 Students:	Grades 11-12 Students:
RL.9-10.4 Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).	RL.11-12.4 Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or powerful language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
RL.9-10.5 Analyze how an author's choices concerning how to structure specific parts of a text, including the choice of where to begin and end a scene and explain how they contribute to its overall structure and meaning. order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.	RL.11-12.5 Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.
RL.9-10.6 Analyze a particular points of view or cultural experiences that represent diverse voices and perspectives reflected in a works of literature. from outside the United States, drawing on a wide reading of world literature.	RL.11-12.6 Analyze a case in which grasping point of view requires Evaluate how authors structure texts to distinguishing what is directly stated in a text from what is really meant, including (e.g., satire, sarcasm, irony, andor understatement).

Integration of Knowledge and Ideas

Grades 9-10 Students:	Grades 11-12 Students:
RL.9-10.7 Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's Landscape with the Fall of Icarus). Compare multiple interpretations of texts (including recorded or live production), evaluating how each version interprets the source text.	RL.11-12.7 Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)
RL.9-10.8 (Not applicable to literature)	RL.11-12.8 (Not applicable to literature)
RL.9-10.9 Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible, or how a later author draws on a play by Shakespeare).	RL.11-12.9 Demonstrate knowledge of eighteenth-, nineteenth-, and early-twentieth-century foundational works of American literature, and other Relate literary works and their author's points of view to the political events and seminal ideas of their eras. canons, including how two or more texts from the same period treat similar themes or topics.

~~Range of Reading and Level of Text Complexity~~

Reading ~~Comprehension Strand~~ ~~Standards for Literature 9-12~~ RL

Grades 9-10 Students:	Grades 11-12 Students:
~~RL.9-10.10~~ ~~By the end of grade 9, r~~Independently and proficiently, ~~R~~read grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support~~and~~ comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).~~d~~ ~~literature, including stories, dramas, and poems, in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range.~~ ~~By the end of grade 10, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 9-10 text complexity band independently and proficiently.~~	~~RL.11-12.10~~ ~~By the end of grade 11, r~~Independently and proficiently, r~~R~~ead grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support~~and~~ comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).~~d~~ ~~literature, including stories, dramas, and poems, in the grades 11-CCR text complexity band proficiently, with scaffolding as needed at the high end of the range.~~ ~~By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11-CCR text complexity band independently and proficiently.~~

Reading Standards for Informational Text 9-12 RI

Key Ideas and Details

Grades 9-10 Students:	Grades 11-12 Students:
RI.9-10.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**RI.11-12.1** Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
RI.9-10.2 Determine a Analyze the development of central ideas over the course of a texts and analyze its development over the course of the text, including how itthey emerges and isare shaped and refined by specific details; provide an objective accurate summariesy of how key events or ideas develop.the text.	**RI.11-12.2** Determine two or more central ideas of a Compare texts that express similar central ideas and analyze in detail how their development and treatment of the topic compares over the course of thetwo texts, including how they interact and build on one another to provide a complex analysis; provide an objectiveaccurate summariesy of how key events or ideas develop.the text.
RI.9-10.3 AnalyzeExplain how the authors unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between among them.	**RI.11-12.3** Analyze a complex set Evaluate various explanations of concepts and ideas or sequence of events andand determine which explaination best accords with textual evidence, noting discrepancies among sources. how specific individuals, ideas, or events interact and develop over the course of the text.

Craft and Structure

Grades 9-10 Students:	Grades 11-12 Students:
RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).	**RI.11-12.4** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
RI.9-10.5 Analyze in detail how an author's use structure to explain relationships among concepts in a text, including how keyideas or claims are developed and refined by particular sentences, paragraphs, and sections of texts contribute to the whole.or larger portions of a text (e.g., a section or chapter).	**RI.11-12.5** Analyze and eEvaluate the effectiveness of the structure(s) and rhetorical devices an authors uses in theirhis or her exposition or argument, including whether the structure helps makes points clear, convincing, and engaging.
RI.9-10.6 Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.	**RI.11-12.6** Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text.

Integration of Knowledge and Ideas

Grades 9-10 Students:	Grades 11-12 Students:
RI.9-10.7 Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.	**RI.11-12.7** Integrate and evaluate multiple Analyze the hypotheses, data, analysis, and conclusions in an argument, verifying the data when possible and corroborating or challenging conclusions with other sources of information. presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
RI.9-10.8 Delineate and evaluate Assess the argument and specific claims in a text, examining assessing whether the reasoning is valid, and the evidence is relevant, and sufficient; identify whether there are any false statements and unsupported statements.fallacious reasoning.	**RI.11-12.8** Delineate and eEvaluate the reasoning in seminal U.S. and other texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, and purposes, and arguments in works of public advocacy (e.g., The Federalist, presidential addresses).

Reading Standards for Informational Text 9-12	RI
~~**RI.9-10.9**~~ Analyze seminal ~~U.S.~~ documents of historical and literary significance ~~(e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail")~~, including how they address related themes and concepts of liberty, equality, individual responsibility, and justice.	~~**RI.11-12.9** Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln's Second Inaugural Address) and other documents of similar significance for their themes, purposes, and rhetorical features.~~

Reading Standards for Informational Text 9-12 RI

~~Range of Reading and Level of Text Complexity~~

Grades 9-10 Students:	Grades 11-12 Students:
~~**RI.9-10.10** By the end of grade 9, read and comprehend literary nonfiction in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9-10 text complexity band independently and proficiently.~~	~~**RI.11-12.10** By the end of grade 11, read and comprehend literary nonfiction in the grades 11-CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11-CCR text complexity band independently and proficiently.~~

Writing Standards 9-12 W

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

~~Text Types and Purposes~~

Grades 9-10 Students:	Grades 11-12 Students:
~~W.9-10.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.~~ ~~a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence.~~ ~~b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.~~ ~~c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.~~ ~~d. Use precise language and domain-specific vocabulary to manage the complexity of the argument.~~ ~~e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.~~ ~~f.~~a. ~~Provide a concluding statement or section that follows from and supports the argument presented.~~	~~W.11-12.1~~ Write arguments ~~to~~that support well defined points of view that~~claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.~~ ~~a. Introduce precise, knowledgeable claim(s),~~ establish the significance of the claim(s)~~,~~ distinguish those claim(s) from alternate or opposing claims~~, and create an organization that logically sequences claim(s), counterclaims, reasons, and~~ with persuasive evidence and clear reasoning;~~.~~ ~~b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while~~ point~~ing~~ out the strengths and limitations of ~~both~~each claim in a manner that anticipates the audience's knowledge level, concerns, values~~;, and possible biases.~~ ~~c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.~~ ~~d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile and analogy to manage the complexity of the argument.~~ ~~e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.~~ ~~f.~~ ~~P~~provide a concluding ~~statement or~~ section that ~~follows from and supports~~ articulates the implications, or the significance of the argument presented.
~~W.9-10.2~~ Write informative~~al/explanatory~~ texts that introduce the topic ~~to examine and convey complex ideas, concepts, and information~~ clearly by providing needed context, presenting well-defined theses, and previewing what is to follow; ~~accurately through the effective selection, organization, and analysis of content.~~ ~~a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.~~ ~~b.~~ ~~D~~develop the topic ~~with well-chosen,~~ through sustained use of the most significant and relevant~~, and sufficient~~ facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic;~~.~~ ~~c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.~~ ~~d. Use precise language and domain-specific vocabulary to manage the complexity of the topic.~~ ~~e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.~~ ~~f.~~ ~~P~~provide a concluding ~~statement or~~ section that follows from ~~and supports~~ the information or explanation presented. ~~(e.g., articulating implications or the significance of the topic).~~	~~W.11-12.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.~~ ~~a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.~~ ~~b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.~~ ~~c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.~~ ~~d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.~~ ~~e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.~~ ~~f.~~a. ~~Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).~~

Writing Standards 9-12 W

~~Text Types and Purposes (continued)~~

Grades 9-10 Students:	Grades 11-12 Students:
~~**W.9-10.3** Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.~~ ~~a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.~~ ~~b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.~~ ~~c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.~~ ~~d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.~~ ~~e.~~a. ~~Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.~~	~~**W.11-12.3** Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.~~ ~~a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.~~ ~~b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.~~ ~~c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).~~ ~~d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.~~ ~~e.~~a. ~~Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.~~

~~Production and Distribution of Writing~~

Grades 9-10 Students:	Grades 11-12 Students:
~~**W.9-10.4**~~ Produce clear and coherent ~~writing in which the development,~~ organizational~~, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3.)~~ structures that attend to the norms and conventions of the writing genre and in which ideas, concepts, and other information are logically grouped; include formatting and graphics to support the purpose and create a unified whole; and use precise language, content-specific vocabulary, and varied transitions link major sections of the text, create cohesion and clarify the relationships between and among ideas and concepts.	**W.11-12.4** Produce clear and coherent ~~writing in which the development,~~ organizational~~, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3)~~ structures that attend to the norms and conventions of the writing genre and in which ideas, concepts, and other information are logically grouped; include formatting and graphics to support the purpose and create a unified whole; and use precise language, content-specific vocabulary, and varied transitions link major sections of the text, create cohesion and clarify the relationships between and among ideas and concepts.
~~**W.9-10.5**~~ Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of grade-level Grammar and Conventions~~Language standards 1-3 up to and including grades 9-10~~.)	~~**W.11-12.5**~~ Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on reframing points to address~~ing what is most significant for a~~ specific purposes ~~and~~or needs of the audience. (Editing for conventions should demonstrate command of grade-level Grammar and Conventions~~Language standards 1-3 up to and including grades 11-12~~.)
~~**W.9-10.6**~~ ~~Use~~Write by hand or with technology~~, including the Internet,~~ to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.	~~**W.11-12.6**~~ ~~Use~~Write by hand or with technology~~, including the Internet,~~ to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

~~Research~~ Inquiry Process to Build~~, and~~ Present~~, and Use~~ Knowledge

Grades 9-10 Students:	Grades 11-12 Students:
~~**W.9-10.7**~~ Conduct ~~short~~brief as well as multi-day~~more sustained~~ research projects to take some action or share findings orally or in writing by formulating ~~answer~~ a research question ~~(including a self-generated question) or solve a problem; narrow or broaden the~~ and considering alternative avenues of inquiry ~~when appropriate~~; ~~synthesize multiple~~ gathering relevant information from a variety of authoritative sources and assessing which provide the most reliable and useful information; and, following a standard approved format.~~on the~~	~~**W.11-12.7**~~ Conduct ~~short~~brief as well as multi-day~~more sustained~~ research projects to take some action or share findings orally or in writing by formulating~~answer a~~ multiple interlocking research questions ~~(including a self-generated question) or solve a problem; narrow or broaden the~~ that span the field of inquiry ~~when appropriate~~in time and scope; ~~synthesize multiple~~gathering relevant information efficiently from a variety of authoritative sources, as well as from direction observation, interviews and surveys; making distrinctions about the

subject, demonstrating understanding of the subject under investigation. **Writing Standards 9-12**	strengths and limitations of each source in terms of the task, purpose, and audience, noting any discrepancies among the data; and, following a standard approved format (e.g., APA, MLA, Chicago) for citations and bibliographies.on the subject, demonstrating understanding of the subject under investigation. **W**
W.9-10.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.	**W.11-12.8** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Writing Standards 9-12 W

~~Research to Build and Present Knowledge (continued)~~

Grades 9-10 Students:	Grades 11-12 Students:
~~**W.9-10.9** Draw evidence from literary or informational texts to support analysis, reflection, and research.~~ ~~a. Apply grades 9-10 Reading standards to literature (e.g., "Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible, or how a later author draws on a play by Shakespeare]").~~ ~~b.~~a. ~~Apply grades 9-10 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning").~~	~~**W.11-12.9** Draw evidence from literary or informational texts to support analysis, reflection, and research.~~ ~~a. Apply grades 11-12 Reading standards to literature (e.g., "Demonstrate knowledge of eighteenth-, nineteenth-, and early-twentieth-century foundational works of American literature, and other literary canons, including how two or more texts from the same period treat similar themes or topics").~~ ~~b. Apply grades 11-12 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the reasoning in seminal U.S. and other texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., The Federalist, presidential addresses]").~~

Range of Writing

Grades 9-10 Students:	Grades 11-12 Students:
~~**W.9-10.10** W~~Develop flexibility in writinge by routinely engaging in the production of shorter and longer pieces ~~over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two)~~ for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc.	~~**W.11-12.10** W~~Develop flexibility in writinge by routinely engaging in the production of shorter and longer pieces~~over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two)~~ for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc.

Speaking and Listening Standards 9-12Oral and Digital Communications Strand SL

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Comprehension and Collaboration

Grades 9-10 Students:	Grades 11-12 Students:
SL.9-10.1 Initiate and participate effectively Engage in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 about *grade-level* topics, and texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers to by setting rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and, defining individual roles, tracking progress on specific goals; as needed. c. Propel conversations by posing and responding to others' questions and comments that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. d. Respond thoughtfully to and diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the with precise evidence, relevant observations, and ideas; making new connections considering the evidence and reasoning presented.	SL.11-12.1 Initiate and participate effectivelyEngage in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12about grade-level topics, and texts, and issues, building on others' ideas and expressing their own clearly and persuasively. a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. b. Work with peers toby promotinge civil, democratic discussions and decision-making, set clear goals and deadlines, and establishing individual roles, and tracking progress on specific goals; as needed. c. Ppropelling conversations forward by synthesizing comments and ideas of several speakersposing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives. d. Respond thoughtfully to diverse perspectives with relevant observations and ideas,; synthesize comments, claims, and evidence made on all sides of an issue; resolvinge contradictions when possible; and determininge what additional information or research is required to deepen the investigation or complete the task.
SL.9-10.2 Integrate multiple sources of information presented in diverse digital media, or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.	SL.11-12.2 Integrate multiple sources of information presented in diverse media formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
SL.9-10.3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.	SL.11-12.3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.

Presentation of Knowledge and Ideas

Grades 9-10 Students:	Grades 11-12 Students:
SL.9-10.4 Report orally on a topic or text or Ppresent an argument, information, findings, and supporting emphasizing salient points in a focuses, coherent manner with relevant evidence, clearly, concisely, and logically such that listeners can follow the line of sound reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.	SL.11-12.4 Present information, findings, and supporting evidence orally, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning; ensure, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
SL.9-10.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.	SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

~~**SL.9-10.6** Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grades 9-10 Language standards 1 and 3 for specific expectations.)~~	**SL.11-12.6** Adapt speech to a variety of contexts and tasks, using ~~demonstrating a command of~~ formal English when appropriate to task and situation and situations where informal discourse is more appropriate. ~~indicated or appropriate. (See grades 11-12 Language standards 1 and 3 for specific expectations.)~~

Language Standards 9-12 L

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

~~Conventions of Standard English~~Grammar and Conventions Strand

Grades 9-10 Students:	Grades 11-12 Students:
~~L.9-10.1~~ Demonstrate command of the conventions of ~~standard~~ English grammar and usage when writing or speaking. Use parallel structure.~~*~~ Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) to convey specific meanings and add variety and interest to writing or presentations. ~~and~~ Use various types of clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writingor presentations. ~~a.~~	~~L.11-12.1~~ Demonstrate command of the conventions of ~~standard~~ English grammar and usage when writing or speaking. ~~a.~~ Apply the understanding that usage is a matter of convention, can change overtime, and is sometimes contested, consulting references (e.g., ~~,~~ *Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage)* as needed ~~b. Resolve issues of complex or contested usage, consulting references (e.g., Merriam- Webster's Dictionary of English Usage, Garner's Modern American Usage) asneeded.~~
~~L.9-10.2~~ Demonstrate command of the conventions of ~~standard~~ English punctuation and capitalization~~, punctuation, and spelling~~ when writing and reading aloud to create meaning. ~~a.~~ Use a semicolon (~~and perhaps a~~ or appropriate conjunctive adverb) to link two or more closely related independent clauses. Use a colon to introduce a list or quotation. ~~b.~~ Spell correctly, consulting reference materials to check as needed.	~~L.11-12.2~~ Demonstrate command of the conventions of ~~standard~~ English punctuation and capitalization~~, punctuation, and spelling~~ when writing reading aloud to create meaning. ~~a. Use hyphenation conventions.~~ ~~b.~~ Spell correctly, consulting reference materials as needed.~~.~~

~~Knowledge of Language~~

Grades 9-10 Students:	Grades 11-12 Students:
~~L.9-10.3 Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.~~ ~~a. Write and edit work so that it conforms to the guidelines in a style manual (e.g., MLA Handbook, Turabian's Manual for Writers) appropriate for the discipline and writing type.~~	~~L.11-12.3 Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.~~ ~~a. Vary syntax for effect, consulting references (e.g., Tufte's Artful Sentences) for guidance as needed; apply an understanding of syntax to the study of complextexts when reading.~~

~~Vocabulary Acquisition and Use~~

Grades 9-10 Students:	Grades 11-12 Students:
~~L.9-10.4~~ Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level*~~s 9-10 reading and~~ *content*, choosing flexibly from a range of strategies. ~~a.~~ Use context (e.g., the overall meaning of a sentence, paragraph, or portion of a text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. ~~b.~~ Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., defend, defense, defendant, defensible~~analyze, analysis, analytical; advocate, advocacy~~). ~~c.~~ Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), ~~both~~ print or~~and~~ digital, to find the pronunciation of a	~~L.11-12.4~~ Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level ~~s 11-12~~ reading and content, choosing flexibly from a range of strategies. ~~a.~~ Use context (e.g., the overall meaning of a sentence, paragraph, or portion of text; a word's position or function in a sentence or a sentence within a paragraph) as a clue to the meaning of a word or phrase. ~~b.~~ Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., symbol, symbolism, symbolic, symbolize ~~conceive, conception, conceivable~~). ~~c.~~ Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), ~~both~~ print or~~and~~ digital, to find the pronunciation of grade-level a word ~~o~~rand determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.

Language Standards 9-12	L
grade-level word ~~or~~ and determine or clarify its precise meaning, its part of speech, or its etymology. ~~d.~~ Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	~~d.~~ Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

Language Standards 9-12 L

~~Vocabulary Acquisition and Use (continued)~~

Grades 9-10 Students:	Grades 11-12 Students:
~~L.9-10.5~~ ~~Demonstrate understanding of figurative language,~~ Determine how words and phrases provide meaning ~~relationships,~~ and nuance to texts.~~s in word meanings.~~ ~~a.~~ Interpret figurative~~es~~ language ~~of speech~~ (e.g., hyperbole, paradox ~~euphemism, oxymoron~~) in context and analyze their role in ~~the~~ texts (e.g., The Party's embrace of the slogans "War is Peace" and "Freedom is Slavery" in Orwell's 1984). ~~b.~~ Analyze nuances in the meaning of words with similar denotations (e.g., shred, clever, cunning, brainy).	~~L.11-12.5~~ ~~Demonstrate understanding of figurative language, word relationships,~~Determine haw words and phrases provide meaning ~~-~~and nuances to texts. ~~in word meanings.~~ ~~a. Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text.~~ ~~b.~~ Analyze nuances in the meaning of words with similar denotations (aggressive, assertive, forceful, domineering). ~~.~~
~~L.9-10.6~~ Acquire and use accurately general academic and ~~domain~~content-specific words and phrases *occurring in grade-level reading and content~~, sufficient for reading, writing, speaking, and listening at the college and career readiness level~~*; demonstrate independence when~~in~~ gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these words in discussions and writing.	~~L.11-12.6~~ Acquire and use accurately general academic and content~~domain~~-specific words and phrases occurring in grade-level reading and content, ~~sufficient for reading, writing, speaking, and listening at the college and career readiness level;~~ demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these words inwriting and discussion.

Language Progressive Skills, by Grade

The following skills, marked with an asterisk (*) in Language standards 1-3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standards	Grades
L.3.1.f Ensure subject-verb and pronoun-antecedent agreement.	3-12
L.3.3.a Choose words and phrases for effect.	3-12
L.4.1.f Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.	4-12
L.4.1.g Correctly use frequently confused words (e.g., to, too, two; there, their).	4-12
L.4.3.a Choose words and phrases to convey ideas precisely.*	4-6
L.4.3.b Choose punctuation for effect.	4-12
L.5.1.d Recognize and correct inappropriate shifts in verb tense.	5-12
L.5.2.a Use punctuation to separate items in a series.†	5-8
L.6.1.c Recognize and correct inappropriate shifts in pronoun number and person.	6-12
L.6.1.d Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).	6-12
L.6.1.e Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.	6-12
L.6.2.a Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.	6-12
L.6.3.a Vary sentence patterns for meaning, reader/listener interest, and style.‡	6-10
L.6.3.b Maintain consistency in style and tone.	6-12
L.7.1.c Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.	7-12
L.7.3.a Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.	7-12
L.8.1.d Recognize and correct inappropriate shifts in verb voice and mood.	8-12
L.9-10.1.a Use parallel structure.	9-12

*Subsumed by L.7.3.a
†Subsumed by L.9-10.1.a
‡Subsumed by L.11-12.3.a

Standard 10: Range, Quality, and Complexity of Student Reading 6-12

Measuring Text Complexity: Three Factors

Qualitative ev **of meaning, structure, language conventionality and clarity, and knowledge de**

Quantitative e **lability measures and other scores of text complexity**

Matching reac **r variables (such as motivation, knowledge, and experiences) and task variables (such plexity generated by the task assigned and the questions posed)**

Note: **More de t complexity and how it is measured is contained in Appendix A.**



Range of Text Types for 6-12

Students in 6-12 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature

- Stories: ***Includes the subgenres of adventure stories, historical fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels***
- Dramas: ***Includes one-act and multi-act plays, both in written form and on film***
- Poetry: ***Includes the subgenres of narrative poems, lyrical poems, free verse poems, sonnets, odes, ballads, and epics***

Informational Text

- Literary Nonfiction and Historical, Scientific, and Technical Texts: ***Includes the subgenres of exposition, argument, and functional text in the form of personal essays, speeches, opinion pieces, essays about art or literature, biographies, memoirs, journalism, and historical, scientific, technical, or economic accounts (including digital sources) written for a broad audience***

Texts Illustrating the Complexity, Quality, and Range of Student Reading 6-12

Grade Level	Literature: Stories, Drama, Poetry	Informational Texts: Literary Nonfiction and Historical, Scientific, and Technical
6-8	***Little Women*** **by Louisa May Alcott (1869)** ***The Adventures of Tom Sawyer*** **by Mark Twain (1876) "The Road Not Taken" by Robert Frost (1915)** ***The Dark Is Rising*** **by Susan Cooper (1973)** ***Dragonwings*** **by Laurence Yep (1975)** ***Roll of Thunder, Hear My Cry*** **by Mildred Taylor (1976)**	**"Letter on Thomas Jefferson" by John Adams(1776)** ***Narrative of the Life of Frederick Douglass, an American Slave*** **by Frederick Douglass (1845)** **"Blood, Toil, Tears and Sweat: Address to Parliament on May 13th, 1940" by Winston Churchill (1940)** ***Harriet Tubman: Conductor on the Underground Railroad*** **by Ann Petry (1955)** ***Travels with Charley: In Search of America*** **by John Steinbeck (1962)**
9-10	***The Tragedy of Macbeth*** **by William Shakespeare (1592) "Ozymandias" by Percy Bysshe Shelley (1817)** **"The Raven" by Edgar Allan Poe (1845) "The Gift of the Magi" by O. Henry (1906)** ***The Grapes of Wrath*** **by John Steinbeck (1939)** ***Fahrenheit 451*** **by Ray Bradbury (1953)** ***The Killer Angels*** **by Michael Shaara (1975)**	**"Speech to the Second Virginia Convention" by Patrick Henry (1775) "Farewell Address" by George Washington (1796)** **"Gettysburg Address" by Abraham Lincoln (1863)** **"State of the Union Address" by Franklin Delano Roosevelt (1941) "Letter from Birmingham Jail" by Martin Luther King, Jr. (1964) "Hope, Despair and Memory" by Elie Wiesel (1997)**
11-CCR	**"Ode on a Grecian Urn" by John Keats (1820)** ***Jane Eyre*** **by Charlotte Brontë (1848)** **"Because I Could Not Stop for Death" by Emily Dickinson (1890)** ***The Great Gatsby*** **by F. Scott Fitzgerald (1925)** ***Their Eyes Were Watching God*** **by Zora Neale Hurston (1937)** ***A Raisin in the Sun*** **by Lorraine Hansberry (1959)** ***The Namesake*** **by Jhumpa Lahiri (2003)**	***Common Sense*** **by Thomas Paine (1776)** ***Walden*** **by Henry David Thoreau (1854)** **"Society and Solitude" by Ralph Waldo Emerson (1857) "The Fallacy of Success" by G. K. Chesterton (1909)** ***Black Boy*** **by Richard Wright (1945)** **"Politics and the English Language" by George Orwell (1946)** **"Take the Tortillas Out of Your Poetry" by Rudolfo Anaya (1995)**

Note: **Given space limitations, the illustrative texts listed above are *meant only to show individual titles that are representative of a wide range of topics and genres.* (See Appendix B for excerpts of these and other texts illustrative of 6-12 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth.**

~~Idaho Content Standards~~

~~Literacy in History/Social Studies, Science, and Technical Subjects:~~

~~6-12 Section~~

College and Career Readiness Anchor Standards for Reading

The grades 6-12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

CCRA.R.1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

CCRA.R.2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

CCRA.R.3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure

CCRA.R.4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

CCRA.R.5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

CCRA.R.6 Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

CCRA.R.7 Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.*

CCRA.R.8 Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

CCRA.R.9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

CCRA.R.10 Read and comprehend complex literary and informational texts

~~independently and proficiently.~~

~~*Please see "Research to Build and Present Knowledge" in Writing and "Comprehension and Collaboration" in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.~~

~~Note on range and content of student reading~~

~~Reading is critical to building knowledge in history/social studies as well as in science and technical subjects. College and career ready reading in these fields requires an appreciation of the norms and conventions of each discipline, such as the kinds of evidence used in history and science; an understanding of domain-specific words and phrases; an attention to precise details; and the capacity to evaluate intricate arguments, synthesize complex information, and follow detailed descriptions of events and concepts. In history/social studies, for example, students need to be able to analyze, evaluate, and differentiate primary and secondary sources. When reading scientific and technical texts, students need to be able to gain knowledge from challenging texts that often make extensive use of elaborate diagrams and data to convey information and illustrate concepts. Students must be able to read complex informational texts in these fields with independence and confidence because the vast majority of reading in college and workforce training programs will be sophisticated nonfiction. It is important to note that these Reading standards are meant to complement the specific content demands of the disciplines, not replace them.~~

Reading Standards for Literacy in History/Social Studies 6-12 RH

The standards below begin at grade 6; standards for K-5 reading in history/social studies, science, and technical subjects are integrated into the K-5 Reading standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Key Ideas and Details

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources.	RH.9-10.1 Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.	RH.11-12.1 Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
RH.6-8.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.	RH.9-10.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.	RH.11-12.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
RH.6-8.3 Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).	RH.9-10.3 Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.	RH.11-12.3 Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

Craft and Structure

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.	RH.9-10.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social studies.	RH.11-12.4 Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines faction in Federalist No. 10).
RH.6-8.5 Describe how a text presents information (e.g., sequentially, comparatively, causally).	RH.9-10.5 Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.	RH.11-12.5 Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
RH.6-8.6 Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).	RH.9-10.6 Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.	RH.11-12.6 Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.

Integration of Knowledge and Ideas

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.	RH.9-10.7 Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.	RH.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to

Reading Standards for Literacy in History/Social Studies 6-12		RH
RH.6-8.8 Distinguish among fact, opinion, and reasoned judgment in a text.	RH.9-10.8 Assess the extent to which the reasoning and evidence in a text support the author's claims.	RH.11-12.8 Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
RH.6-8.9 Analyze the relationship between a primary and secondary source on the same topic.	RH.9-10.9 Compare and contrast treatments of the same topic in several primary and secondary sources.	RH.11-12.9 Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

Reading Standards for Literacy in History/Social Studies 6-12 RH

~~Range of Reading and Level of Text Complexity~~

~~Grades 6-8 Students:~~	~~Grades 9-10 Students:~~	~~Grades 11-12 Students:~~
~~RH.6-8.10 **By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.**~~	~~RH.9-10.10 **By the end of grade 10, read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently.**~~	~~RH.11-12.10 **By the end of grade 12, read and comprehend history/social studies texts in the grades 11-CCR text complexity band independently and proficiently.**~~

Reading Standards for Literacy in Science and Technical Subjects 6-12 RST

Key Ideas and Details

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.	RST.9-10.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	RST.9-10.2 Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.	RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.	RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

Craft and Structure

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.	RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.	RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics.
RST.6-8.5 Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.	RST.9-10.5 Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).	RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
RST.6-8.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	RST.9-10.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.	RST.11-12.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

Integration of Knowledge and Ideas

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.	RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

Reading Standards for Literacy in Science and Technical Subjects 6-12 RST

RST.6-8.8 **Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.**	RST.9-10.8 **Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.**	RST.11-12.8 **Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.**
RST.6-8.9 **Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.**	RST.9-10.9 **Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.**	RST.11-12.9 **Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.**

Reading Standards for Literacy in Science and Technical Subjects 6-12 RST

~~Range of Reading and Level of Text Complexity~~

~~Grades 6-8 Students:~~	~~Grades 9-10 Students:~~	~~Grades 11-12 Students:~~
~~RST.6-8.10 **By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.**~~	~~RST.9-10.10 **By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.**~~	~~RST.11-12.10 **By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.**~~

College and Career Readiness Anchor Standards for Writing

The grades 6-12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) Anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

CCRA.W.1 **Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.**

CCRA.W.2 **Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.**

CCRA.W.3 **Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.**

Production and Distribution of Writing

CCRA.W.4 **Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.**

CCRA.W.5 **Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.**

CCRA.W.6 **Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.**

Research to Build and Present Knowledge

CCRA.W.7 **Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.**

CCRA.W.8 **Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.**

CCRA.W.9 **Draw evidence from literary or informational texts to support analysis, reflection, and research.**

analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline and the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and long time frames throughout the year.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college and career ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to be able to use technology strategically when creating, refining, and collaborating on writing.

They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and

Range of Writing

CCRA.W.10 **Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.**

**These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.*

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-12 WHST

The standards below begin at grade 6; standards for K-5 writing in history/social studies, science, and technical subjects are integrated into the K-5 Writing standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Text Types and Purposes

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
WHST.6-8.1 **Write arguments focused on discipline-specific content.** a. **Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.** b. **Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.** c. **Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.** d. **Use precise language and domain-specific vocabulary to support the argument.** e. **Establish and maintain a formal style.** f. **Provide a concluding statement or section that follows from and supports the argument presented.**	WHST.9-10.1 **Write arguments focused on discipline-specific content.** a. **Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.** b. **Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.** c. **Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.** d. **Use precise language and domain-specific vocabulary to manage the complexity of the argument and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.** e. **Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.** f. **Provide a concluding statement or section that follows from or supports the argument presented.**	WHST.11-12.1 **Write arguments focused on discipline-specific content.** a. **Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.** b. **Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.** c. **Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.** d. **Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the argument; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.** e. **Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.** f. **Provide a concluding statement or section that follows from or supports the argument presented.**

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-12 WHST

Text Types and Purposes (continued)

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
WHST.6-8.2 **Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.** a. **Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.** b. **Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.** c. **Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.** d. **Use precise language and domain-specific vocabulary to inform about or explain the topic.** e. **Establish and maintain a formal style and objective tone.** f. **Provide a concluding statement or section that follows from and supports the information or explanation presented.**	WHST.9-10.2 **Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.** a. **Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.** b. **Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.** c. **Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.** d. **Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.** e. **Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.** f. **Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).**	WHST.11-12.2 **Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.** a. **Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.** b. **Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.** c. **Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.** d. **Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.** e. **Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).**
WHST.6-8.3 **(See note; not applicable as a separate requirement)**	WHST.9-10.3 **(See note; not applicable as a separate requirement)**	WHST.11-12.3 **(See note; not applicable as a separate requirement)**

Note: **Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/ explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results.**

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-12 WHST

Production and Distribution of Writing

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
WHST.6-8.4 **Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.**	WHST.9-10.4 **Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.**	WHST.11-12.4 **Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.**
WHST.6-8.5 **With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.**	WHST.9-10.5 **Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.**	WHST.11-12.5 **Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.**
WHST.6-8.6 **Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.**	WHST.9-10.6 Use **technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.**	WHST.11-12.6 **Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.**

Research to Build and Present Knowledge

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:
WHST.6-8.7 **Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.**	WHST.9-10.7 **Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.**	WHST.11-12.7 **Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.**
WHST.6-8.8 **Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.**	WHST.9-10.8 **Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.**	WHST.11-12.8 **Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.**
WHST.6-8.9 **Draw evidence from informational texts to support analysis, reflection, and research.**	WHST.9-10.9 **Draw evidence from informational texts to support analysis, reflection, and research.**	WHST.11-12.9 **Draw evidence from informational texts to support analysis, reflection, and research.**

Range of Writing

Grades 6-8 Students:	Grades 9-10 Students:	Grades 11-12 Students:

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6-12 WHST

WHST.6-8.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	WHST.9-10.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	WHST.11-12.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

PRPOSED DRAFT 7/13/2021

Idaho Content Standards
English Language Arts/Literacy

IDAHO STATE DEPARTMENT OF EDUCATION
CONTENT AND CURRICULUM | ENGLISH LANGUAGE ARTS/LITERACY

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Introduction

Idaho's education system should ensure that students are fully prepared for college and a career in the 21st century upon graduation. Idaho's education system should also ensure that students are prepared to be civically engaged and knowledgeable adults who make positive contributions to their communities. Nothing could be more vital for our state's future.

To reach this goal, Idaho has revised its former English language arts standards. Throughout this year-long process of reviewing, rethinking, and ultimately rewriting our standards, the Idaho Department of Education engaged numerous stakeholders in a multi-layered process. In recent years Idaho teachers, schools, and districts have worked together to improve English language arts education throughout the state. Revisions in this document respond to the practical wisdom gleaned from their efforts and the interests of parents who have a legitimate say in what their children learn.

High-quality academic standards are the foundation of a well-functioning educational system – driving both the instructional materials used in our schools and the assessments we ask students to take. With these new and improved standards, Idaho builds on its past strengths and also learns from a body of experience with college and career-ready standards within Idaho and around the country. We have sought to make our standards the best in the nation and lay the foundation for higher quality textbooks, more streamlined tests, and—ultimately—generations of high school graduates fully capable of discharging the responsibilities associated with United States citizenship.

Idaho's Standards for English Language Arts are built on the following premises:

- Standards should be understandable to all stakeholders, free of jargon and "how to," with wording focused on the learning goal.
- Standards should reflect the fact that English Language Arts is not merely a collection of discrete skills and strategies but a powerful discipline with consequential content to teach and learn.
- Standards in the distinct strands should not serve as isolated areas of instruction; they are designed to be joined purposely for deep and relevant learning.

Idaho's Standards for English Language Arts prioritize the following content:

Foundational Reading Skills

Idaho's standards emphasize explicit, systematic approaches to teaching phonemic awareness, phonics, and fluency as the foundation of literacy in the early grades. Decoding and fluency are essential to creating proficient readers. Findings in multiple studies reinforce the centrality of solid foundational reading skills to students' reading comprehension and broader literacy abilities. The seminal National Reading Panel's review two decades ago is chief among the works testifying to the strength of the evidence for specific early reading practices. When decoding words becomes rapid, automatic, and effortless, a reader's working memory is freed to focus on the meaning of the reading and growing knowledge. The most frequent performance breakdowns for students struggling with reading generally stem from inadequate practice with foundational reading skills or scarce opportunities to gain fluency with grade-level texts – both relatively straightforward to reinforce. Idaho's standards do this by requiring fluency practice through grade 12.

Building Knowledge

Idaho's standards place a premium on students gathering, evaluating, and synthesizing information and data to build their knowledge of the world. Research is emphatic that reading ability and knowledge about the world (and the words used to describe it) are tightly connected. More than a quarter-century of research supports the

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importance of general knowledge to reading comprehension. Knowledge of the topic has been shown to have a more significant impact on reading comprehension than students' generalized reading ability (Recht & Leslie 1988). We cannot think deeply, productively, or critically about a matter if we have little foundational knowledge of it. Thus, the key to developing critical thinking skills in our students is to increase their knowledge about a breadth of subjects by reading rich and related texts on various topics. In addition to a research standard, and in response to the substantial research base on the importance of knowledge to students' ability to read well and at high levels, there are two standards—one resides in the Reading Comprehension strand and the other in the Research strand— dedicated to students reading a volume of texts on conceptually related topics. Reading comprehension develops as students engage with resonant and rewarding literary and nonfiction text selections where knowledge acquisition is the primary rationale for reading, starting at the earliest grades to allow knowledge to build upon knowledge.

Comprehending Grade-Level Complex Texts

Idaho's standards are specific about the complexity of texts students ought to be reading. Why do college- and career-ready standards include definitions of text complexity? Students encountering appropriately complex texts at each grade level develop the mature language skills and the conceptual knowledge they need for success in school and life. Research shows that rather than the skills or strategies captured in the verbs used in standards, the complexity of the text is the element that most differentiates performance on reading tests (ACT 2006). Therefore, the standards include a definition of quantitative bands of complexity so that teachers and students have clarity about what level of texts students should regularly read in class—that is, which literary and nonfiction texts qualify as "grade-level."

Valuing Text Evidence

Idaho's standards accurately reflect the demand that students draw evidence from texts to support their claims and conclusions – both orally and in writing – about the texts they are reading and what is happening in them. Research shows that reading "thoughtfully and critically and produc[ing] evidence" is one of the most effective ways to lead students to "make connections to related topics" and "synthesize information" (ICAS, 2002, p. 16). Thus, for students to grow their knowledge from what they read and research, text evidence has a central and recurring presence in the standards. Whatever they are reading, students must be able to show a steadily growing ability to discern more from and make fuller use of text. Students must be able to make an increasing number of connections among ideas and between texts, consider a wider range of textual evidence, and become more sensitive to inconsistencies, ambiguities, and flawed reasoning in texts.

Organization and Substance of Key Aspects of the Standards

Idaho's standards are organized into seven strands and written so that reading, writing, and oral communications standards progress together. Students are expected to use the texts they read in their writing and discussions. The strands are:

- Foundational Reading Skills
- Reading Comprehension
- Vocabulary Development
- Research
- Writing
- Oral and Digital Communications
- Grammar and Conventions

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Standards under the *Foundational Reading Skills Strand* describe how students become competent readers who can comprehend texts across a wide range of disciplines they will encounter in school and throughout their lives. Each aspect of foundational skills names a slice of the skills and knowledge students need to acquire and are organized under the sub-strands of Print Concepts, Phonemic Awareness, Phonics, and Decoding. Together they constitute what the brain needs to learn and do in order to read proficiently. The standards aim to ensure every Idaho student has an understanding and working knowledge of how spoken English is translated into print. Mastery of these components will culminate in students becoming fluent readers. The standards constitute a research- and evidence-based scope and sequence for phonological awareness and phonics development, and a grounding in print and alphabet awareness, that should guide the development or adoption of an effective reading curriculum.

Standards under the *Reading Comprehension Strand* emphasize the sophistication of what students read and the skill with which they extract and wield evidence from texts. There are four overarching sub-strands—Text Complexity, Volume of Reading, Text Evidence, and Fluency—that work together with the grade-specific standards for Literature and Nonfiction Texts (the other two sub-strands) to promote reading comprehension. The standards for Text Complexity outline a grade-by-grade sequence on increasing text complexity, from grade 2 to the college and career readiness level. The sub-strand of Volume of Reading focuses on growing students' trove of knowledge of the world from reading (or being read to) a volume of texts at a range of complexity levels. The sub-strand for Textual Evidence conveys the belief that students should show a growing ability to discern more from and make fuller use of the ideas and concepts within texts. Whether done aloud or silently, fluent reading is another crucial component of students' reading comprehension and thus constitutes another sub-strand. Because texts increase in complexity across grades and genre, being fluent in one grade does not guarantee fluency in succeeding grades. Thus, as noted above, fluency practice is required through grade 12.

The standards in the *Vocabulary Development Strand* reflect the fact that researchers have closely tied vocabulary to reading comprehension for nearly a century. As Marilyn Adams says, "Words are not just words. They are the nexus—the interface—between communication and thought. When we read, it is through words that we build, refine, and modify our knowledge. What makes vocabulary valuable and important is not the words themselves so much as the understandings they afford" (2009, p. 180). Strong vocabularies allow students to engage and participate in career, civic, and life pursuits more fully. To use language with precision requires, at the most fundamental level, a command of words. The sub-strand of Word Building asks students not merely to master the use of words in context but to familiarize themselves with how word meaning is constructed from roots and affixes. From using resources to research the multiple meanings of words to exploring nuances and shades of meaning, the standards guide students in developing their understanding and skill at deploying the right word to fit the right instance. The other sub-strand, Academic Vocabulary, expects students to grow and expand their vocabulary to incorporate both general academic and content-specific words so they can read with increasing confidence and write and speak with greater force and clarity.

Under the *Research Strand*, students conduct simple research to build their knowledge of the world and communicate their discoveries. The sub-strand of Inquiry Process asks students to generate questions on topics of importance or interest. They gather, evaluate, and synthesize information and data from various sources and communicate that research to suit different audiences and purposes. Within a grade level, the sub-strand of Deep Reading argues that there should be an adequate number of titles on a given topic to allow students to study topics deeply for a sustained period. The knowledge children learn in earlier grade levels should then be expanded and developed in subsequent grade levels. That way, students grow their academic vocabulary and cultivate knowledge over time and with growing maturity levels about the natural and social world. Children in the early grades (particularly K–2) will benefit from participating in rich, structured conversations in response to texts teachers read aloud. Together they can orally compare, contrast, and synthesize information in the manner called for by the standards. Children in the upper elementary grades and beyond will generally be expected to read texts independently and reflect on them in writing.

The standards under the *Writing Strand* and sub-strand of Range of Writing, are designed to ensure students develop the flexibility to write for multiple purposes and audiences. All students can learn how to marshal textual evidence in the service of a skilled interpretation of what a text says directly or inferentially, and learning to do so is essential to students' futures. Researchers note that the task most associated with college-level work across the disciplines is "reading-to-write" (Flower et al., 1990, p. 4). College instructors are unanimous in citing the ability to identify, evaluate, and use evidence to support or challenge a thesis as one of the essential skills expected of incoming college students (Graham & Hebert, 2010; ICAS, 2002). The types of writing described in the standards are versatile and worth learning; mature writing often blends elements of more than one type. For example, an argument may include a reflection, an exposition might consist of a critique, or a short story may explain an idea. In addition, each type of writing is itself a broad category encompassing a balance of genres. For example, narrative writing could include narrative poems, short stories, and memoirs. Since research shows that writing about text(s) is one of the most powerful ways students can improve their reading comprehension and knowledge, writing to sources is a priority. Across all types of writing, students need to be able to reshape and polish pieces of writing and be facile with printing, cursive, and keyboarding, which constitutes the other sub-strand (Handwriting and Keyboarding).

The standards under the *Oral and Digital Communications Strand* include two sub-strands: Oral Communications and Digital Communications. The standards under those two sub-strands reflect the importance of verbal and visual communications in today's society. They illustrate the priority given to working collaboratively in diverse groups and organizational settings and the need to be able to decipher oral and digital communications for their explicit and implicit messages. New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have elevated the role of digital communications. To fully participate in civic life in our technological society, students need the ability to gather, comprehend, and evaluate information and ideas delivered through oral and digital media. The Oral and Digital Communications standards lay out a progression of competencies in which students develop the ability to listen carefully and express ideas; integrate information from oral, visual, quantitative, and digital sources; and critically evaluate what they hear and see to become more informed, reflective, and engaged participants in society.

The standards under the *Grammar and Conventions Strand* not only identify a steady progression toward student mastery of the rules and conventions of English grammar, but they also communicate that language is a matter of craft and informed choice among alternatives. To convey meaning effectively and build a foundation for writing with precision and clarity, students must learn about the mechanics of the English language and standard expectations for usage. Understanding conventions and grammar is not unimportant for reading; learning how to navigate poetry or prose on the page requires a grasp of how words are strung together and assembled into meaningful sentences. The competent and skillful use of conventions even impacts speaking and listening. They are the mark of an adept user of language. Students should also have a well-developed sense of when discourse calls for standard conventions and when other, more informal modes of communication may be more appropriate.

Coding Scheme

Foundational Reading Skills: FR Print Concepts: PC Phonemic Awareness: PA Phonics and Decoding: PH	**Writing Strand: W** Range of Writing: RW Handwriting and Keyboarding: HWK
Reading Comprehension: RC Text Complexity: TC Volume of Reading to Build Knowledge: V	**Oral and Digital Communications Strand: ODC** Oral Communications : OC Digital Communications : DC

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Foundational Reading Skills: FR Print Concepts: PC Phonemic Awareness: PA Phonics and Decoding: PH	**Writing Strand: W** Range of Writing: RW Handwriting and Keyboarding: HWK
Textual Evidence: TE Reading Fluency: RF Literature: L Nonfiction Text: NF	
Vocabulary Development Strand: VD Word Building: WB Academic Vocabulary: AV	**Grammar and Conventions Strand: GC** Grammar and Usage: GU Mechanics: M
Research Strand: RS Inquiry Process to Build, Present, and Use Knowledge: IP Deep Reading on Topics to Build Knowledge: DR	

We express our sincere thanks to all educators and members of the public who contributed to this vital effort. In particular, we thank the many individuals who served on the standards review committees to represent Idaho's teachers and students.

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Kindergarten

Foundational Reading Skills Strand

K.FR-

Print Concepts (PC)

1. Demonstrate understanding of the basic features of print.

1a. Locate a printed word on a page.

1b. Recognize that spoken words are represented in written language by specific sequences of letters.

1c. Know that print (not pictures) is what we read, and text holds meaning.

1d. Follow words from left to right with return sweep at the end of each line.

1e. Read left to right, top to bottom, and page by page.

1f. Understand that words are separated by spaces in print.

1g. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).

1h. Identify and name all upper- and lowercase letters of the alphabet.

Phonemic Awareness (PA)

2. Demonstrate understanding of spoken words, syllables, and sounds.

2a. Identify and produce rhyming words.

2b. Count, pronounce, blend, delete and segment syllables in spoken words.

2c. Blend and segment onsets and rimes of single-syllable spoken words.

2d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in spoken three-phoneme (consonant-vowel-consonant, or CVC) words and say the resulting word (Note: This does not include CVCs ending with /l/, /r/, or /x/.)

2e. Add, substitute, and delete individual sounds (phonemes) in simple, one-syllable words to make new words.

Phonics and Decoding (PH)

3. Use knowledge of grade-level phonics and word analysis skills in decoding words.

3a. Demonstrate knowledge of one-to-one letter-sound correspondences by producing the most frequent sound for each consonant letter.

3b. Associate the long and short sounds for the five major vowel letters.

3c. Read common high-frequency words with automaticity by sight (e.g., *the, of, to, you, she, my, is, are, do, does*).

3d. Distinguish between similarly spelled CVC words by identifying the sounds of the letters that differ.

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Reading Comprehension Strand

K.RC-

Text Complexity (TC)

1. *(Text Complexity begins in grade 2.)*

Volume of Reading to Build Knowledge (V)

2. Regularly engage in listening to a series of texts related to the topics and themes being studied to build knowledge and vocabulary.

Textual Evidence (TE)

3. Ask and answer questions about key details in texts heard.

Reading Fluency (RF)

4. Read emergent-reader texts (e.g., rhymes, songs, simple poems) with purpose and understanding.

Literature (L)

5. With support, use evidence from literature read aloud to demonstrate understanding of grade-level texts.

- 5a. Retell key details of familiar stories, poems, and nursery rhymes heard.
- 5b. Describe the connection between characters, settings and major events in stories heard.
- 5c. Identify the front cover, back cover, and title page of stories.
- 5d. Define the roles of authors and illustrators in presenting the ideas or information in stories.
- 5e. Compare and contrast the adventures or experiences of characters in familiar stories heard.

Nonfiction Text (NF)

6. With support, use evidence from nonfiction works read aloud to demonstrate of grade-level texts.

- 6a. Retell key details of texts heard.
- 6b. Describe the connection between two individuals, events, ideas, or pieces of information in texts heard.
- 6c. Identify the front cover, back cover, and title page of nonfiction texts.
- 6d. Identify the reasons authors give to support points in texts heard.
- 6e. Identify basic similarities in and differences between two texts heard on the same topic.

Vocabulary Development Strand

K.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content.

- 1a. Ask and answer questions about unknown words in a text.

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1b. Identify new meanings for familiar words and apply them accurately (e.g., discovering the verb roll is also a noun).

2. With support, explore word relationships and nuances in word meanings.

2a. Sort common objects into categories (e.g., foods, size) to gain a sense of the concepts the categories represent.

2b. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their synonyms and antonyms.

2c. Distinguish shades of meaning among verbs describing the general action (e.g., *walk, march, strut, prance*).

2d. Identify real-life connections between words and their use (e.g., note places at home that are cozy).

Academic Vocabulary (AV)

3. With support, use words and phrases acquired through conversations, reading, and listening to texts.

Research Strand

K.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. *(Inquiry process begins in grade 1.)*

Deep Reading on Topics to Build Knowledge (DR)

2. Listen to a series of texts organized around a variety of conceptually-related topics to build knowledge about the world.

Writing Strand

K.W-

Range of Writing (RW)

1. Routinely write or dictate writing for a range of tasks, purposes, and audiences.

Handwriting and Keyboarding (HWK)

2. Print all uppercase and lowercase letters of the alphabet. Write left to right and top to bottom with appropriate spaces between letters.

3. *(Keyboarding skills begin in grade 3.)*

Oral and Digital Communications Strand

K.ODC-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by following agreed-upon rules for discussions; listening to others and taking turns speaking through at least two exchanges.
2. With support, confirm understanding of a text read aloud or information presented orally by asking and answering questions.
3. With support, ask and answer questions to seek help, get information, or clarify something that is not understood.
4. Describe familiar people, places, things, and events with support.

Digital Communications (DC)

5. *(Digital Communications begin in grade 3.)*

Grammar and Conventions Strand

K.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

   1a. Form regular plural nouns orally by adding 's' or 'es' sound.

   1b. Use interrogatives to ask questions in full sentences (e.g., *who, what, where, when, why, how*).

   1c. Use frequently occurring prepositions (e.g., *to, from, in, out, on, off, for, of, by, with*).

   1d. Produce and expand complete sentences in shared language activities.

Mechanics (M)

2. Recognize and name end punctuation.

3. Spell words phonetically, drawing on knowledge of sound-letter relationships.

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Grade 1

**Note: Print concepts, standard 1, is found only in kindergarten. Fluency standards run K-12 and are contained within standard 4, Reading Comprehension.*

Foundational Reading Skills Strand

1.FR-

Phonemic Awareness (PA)

2. Demonstrate understanding of spoken words, syllables, and sounds.

2a. Distinguish long from short vowel sounds in spoken single-syllable words.

2b. Orally produce single-syllable words by blending sounds, including consonant blends.

2c. Isolate and pronounce initial, medial vowel, and final sounds in spoken single-syllable words.

2d. Delete initial and final sounds in spoken single syllable words and say the resulting word.

2e. Segment and blend sequences of individual sounds in spoken single-syllable words.

Phonics and Decoding (PH)

3. Use knowledge of grade-level phonics and word analysis skills in decoding words.

3a. Know the spelling-sound correspondences for common consonant digraphs.

3b. Decode regularly spelled one-syllable words.

3c. Know final -e and common vowel team conventions for representing long vowel sounds (e.g., ai, ay, ee, ea, oa and oe).

3d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.

3e. Learn all the r-controlled vowel patterns (-ar, -er, -ir, -or, -ur) and recognize how they change short vowel recognition and pronunciation.

3f. Decode two-syllable words following basic patterns by breaking the words into syllables.

3g. Decode frequently encountered words with inflectional endings (e.g., -s, ed, -est).

3h. Recognize and read grade-appropriate irregularly spelled words (e.g., *what, said, have*).

Reading Comprehension Strand

1.RC-

Text Complexity (TC)

1. *(Text complexity begins in grade 2.)*

Volume of Reading to Build Knowledge (V)

2. Regularly engage in reading and listening to a series of texts related to the topics and themes being studied to build knowledge and vocabulary.

Textual Evidence (TE)

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3. Ask and answer questions about key details in texts heard or read.

Reading Fluency (RF)

4. Read grade-level text with accuracy, appropriate rate, and expression to support comprehension in successive readings (see the 2017 Hasbrouck and Tindal norms listed in the Resource Reference).

Literature (L)

5. Use evidence from literature to demonstrate understanding of grade-level texts.

5a. Retell the beginning, middle and end of familiar stories (including fables, and fairy tales) with key details heard or read, demonstrating understanding of their central messages or morals.

5b. Describe the connection between characters, settings, and major events in stories heard, using key details.

5c. Describe major differences between books that tell stories and books that give information.

5d. Describe who is telling stories heard or read at various points in texts.

5e. Compare and contrast the adventures or experiences of characters in stories heard.

Nonfiction Text (NF)

6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts.

6a. Retell key details of texts that demonstrate understanding of the main topics of texts heard or read.

6b. Describe the connection between two individuals, events, ideas, or pieces of information in texts heard or read.

6c. Know and use various text features (e.g., table of contents, headings, glossaries, icons, index) to locate information in a text.

6d. Identify the reasons authors give to support points in texts heard or read.

6e. Identify basic similarities in and differences between two texts heard or read on the same topic.

Vocabulary Development Strand

1.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level reading and content*, choosing flexibly from an array of strategies:

1a. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.

1b. Use sentence-level context as a clue to the meaning of a word or phrase.

1c. Use frequently occurring affixes (e.g., re-, un- pre-, -ful, -less) as clues to the nuance they add to known words.

1d. Recognize and read frequently encountered words with inflectional endings (e.g., -d, -ed, -s, -es).

1e. Identify frequently encountered root words (e.g., *help*) and use the roots as clues to the meaning of the full word (e.g., *helper, helpful*).

1f. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *playpen, penpal*).

2. With support, explore word relationships and nuances in word meanings.

2a. Sort words into categories (e.g., *tools, pets*) and define those words by one or more key attributes (e.g., a *saw* is a tool that cuts; *a goldfish* is a pet that lives in water).

2b. Demonstrate understanding of frequently occurring grade-level verbs and adjectives by relating them to their synonyms and antonyms.

2c. Distinguish shades of meaning among verbs describing the same general action (e.g., *walk, stroll, strut, prance*) by acting out the meanings.

2d. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.

Academic Vocabulary (AV)

3. With support as needed, acquire, and use general academic and content-specific words gained through conversations, reading, and listening to texts.

Research Strand

1.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. With support, conduct simple research tasks to take some action or make informal presentations by identifying information from classroom experiences or provided sources (including read alouds) and organizing information, recorded in words or pictures, using graphic organizers or other aids.

Deep Reading on Topics to Build Knowledge (DR)

2. Read or listen to a series of texts organized around a variety of conceptually-related topics to build knowledge about the world.

Writing Strand

1.W-

Range of Writing (RW)

1. Routinely write or dictate writing for a range of tasks, purposes, and audiences (e.g., expressing a view or preference, supplying some information about the topic, stories that recount an event or tell a story).

Handwriting and Keyboarding (HWK)

2. Print legibly and space words appropriately when writing a complete sentence.

3. *(Keyboarding skills begin in grade 3.)*

Oral and Digital Communications Strand

1.ODC-

Oral Communications (OC)

1. Engage in collaborative Engage in collaborative discussions about *grade-level topics and texts* with peers by listening to others closely, taking turns speaking through multiple exchanges, and asking questions to clear up any confusions.

2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

3. Ask and answer questions about what a speaker says to gather additional information or clarify something that is not understood.

4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

Digital Communications (DC)

5. *(Digital communications begins in grade 3.)*

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

1.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions English grammar and usage when writing and/or speaking.

1a. Use subject-verb agreement in simple sentences.

1b. Match single and plural nouns with matching verbs in simple sentences. (e.g., *He hops; We hop*).

1c. Form and use the simple verb tenses (past, present, and future) for regular verbs.

1d. Use personal, possessive, and indefinite pronouns (e.g., *I, me, my; they, them, their, anyone, everything*).

1e. Use frequently occurring adjectives.

1f. Use frequently occurring conjunctions to signal simple relationships (e.g., *and, but, or, so, because*).

1g. Use frequently occurring prepositions (e.g., *to, during, under, in, with, at*).

1h. Produce and expand complete sentences in response to prompts.

Mechanics (M)

2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.

2a. Distinguish among declarative, exclamatory, and interrogative sentences, and use periods, exclamation marks, or question marks at the end of sentences when writing and reading text aloud.

2b. Use commas in dates and to separate single words in a series.

2c. Capitalize the first word in a sentence, the first letter of student's name, and the pronoun I.

3. Use knowledge of spelling in writing.

3a. Use conventional spelling for words with common, taught spelling patterns and frequently occurring irregular words.

3b. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.

DRAFT

Grade 2

**Note: Print concepts, standard 1, is found only in kindergarten. Fluency standards run K-12 and are contained within standard 4, Reading Comprehension.*

Foundational Reading Skills Strand

2.FR-

Phonemic Awareness (PA)

2. Demonstrate understanding of spoken words, syllables, and sounds.

2a. Reverse phonemes in spoken one syllable words (e.g., reverse initial and final consonants in the word "pat" and say the resulting word).

2b. Demonstrate automaticity in the deletion and substitution of phonemes in multi-syllable spoken words and naming of resulting words.

Phonics and Decoding (PH)

3. Use knowledge of grade-level phonics and word analysis skills in decoding words.

3a. Know spelling-sound correspondences for common short and long vowel teams (e.g., head, hook, boat, weigh) including diphthongs (e.g., toil, cloud).

3b. Decode regularly spelled two-syllable words with long and short vowels.

3c. Decode words with common prefixes and suffixes (e.g., *un-, dis-, -ful, -less*).

3d. Identify words with inconsistent but common spelling-sound correspondences.

3e. Recognize and read grade-appropriate irregularly spelled words (e.g., *was, again, been*), including silent letter combinations.

Reading Comprehension Strand

2.RC-

Text Complexity (TC)

1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives, that exhibit complexity at the lower end of the grades 2-3 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)

Volume of Reading to Build Knowledge (V)

2. Regularly engage in reading and listening to a series of texts, independently, with peers, or with modest support related to the topics and themes being studied to build knowledge and vocabulary.

Textual Evidence (TE)

3. Ask and answer such questions as *who, what, where, when, why,* and *how* to demonstrate understanding of key details in grade-level texts heard or read.

Reading Fluency (RF)

DRAFT

4. Read grade-level text with accuracy, appropriate rate, and expression to support comprehension in successive readings (see the 2017 Hasbrouck and Tindal norms listed in the Resource Reference).

Literature (L)

5. Use evidence from literature to demonstrate understanding grade-level texts.

5a. Identify the central message, lesson or moral of stories (including fables and folktales) from diverse cultures heard or read.

5b. Describe how characters in stories heard or read respond to major events and challenges.

5c. Describe the overall structure of stories heard or read, including identifying how the beginning introduces the story and the ending concludes the action.

5d. Identify different perspectives of characters in stories heard or read.

5e. Compare and contrast two or more versions of the same story (heard or read) by different authors or from different cultures.

Nonfiction Text (NF)

6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts.

6a. Identify the central idea of texts heard or read.

6b. Describe the connection between a series of historical events, scientific concepts, or steps in technical procedures in texts.

6c. Describe the overall structure of nonfiction texts heard or read, including identifying how the beginning introduces information and the ending sums up the information.

6d. Describe how authors use facts and reasons to support specific points in texts.

6e. Compare and contrast the most important points presented in two texts on the same topic.

Vocabulary Development Strand

2.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content, choosing flexibly from an array of strategies.

1a. Use sentence-level context as clues to the meaning of words or phrases.

1b. Determine the meaning of new words formed when known prefixes (e.g., *safe/unsafe, like/dislike*) and suffixes (e.g., *beauty/beautiful, light/lightness*) are added to a known word.

1c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *pain/painful, help/helpless*).

1d. Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *backpack, backyard; flashlight, lighthouse*).

1e. Use glossaries and beginning dictionaries, print or digital, to clarify the meaning of words and phrases.

2. Determine how words and phrases provide meaning and nuance to texts.

2a. Identify real-life connections between words and use (e.g., describe weather that is *freezing* or *windy*).

2b. Distinguish shades of meaning among closely related verbs (e.g., *toss, throw, hurl*) and closely related adjectives (e.g., *hot, sizzling, blazing*).

2c. Describe how words and phrases (e.g., rhymes, alliteration) supply rhythm and meaning in a story, poem, or song.

Academic Vocabulary (AV)

3. Acquire and use general academic and content-specific words gained through conversations, and reading and listening to texts, including using adjectives and adverbs to describe situations with specificity (e.g., *When other kids are acting silly, that makes me feel giddy*). Use these words in discussions and writing.

Research Strand

2.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. With support as needed, conduct short research tasks to take some action or make informal presentations by gathering information from experiences and provided sources (including read alouds); and, organizing information using graphic organizers or other aids.

Deep Reading on Topics to Build Knowledge (DR)

2. Read or listen to a series of texts organized around a variety of conceptually-related topics to build knowledge about the world. (These texts should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)

Writing Strand

2.W-

Range of Writing (RW)

1. Develop flexibility in writing by routinely engaging in the production of writing shorter and longer pieces for a range of tasks, purposes, and audiences. This could include reflections, descriptions, letters, and poetry, etc.

2. Write arguments that express an opinion supported by details and reasons and provide a concluding sentence.

3. Write informational texts that state a focus and support the focus with facts and details and provide a concluding sentence.

4. Write personal or fictional stories that recount a short sequence of events, include details to develop the characters or experiences, and provide sense of closure.

5. *(Employing clear and coherent organizational structures begins in grade 3.)*

6. With support from adults and peers, strengthen writing as needed by revising and editing.

Handwriting and Keyboarding (HWK)

7. Form letters correctly with functional speed. Space words and sentences properly so that writing can be read easily by another person.

8. With support, use keyboarding skills to produce and publish writing.

Oral and Digital Communications Strand

2.ODC-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by gaining the floor in respectful ways, listening to others closely and building on others' ideas, and asking for clarification and further explanation to ensure understanding.

2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

3. Ask and answer questions about what a speaker says to clarify by gathering additional information or deepen understanding of a topic or issue.

4. Tell a story or retell an experience with relevant facts and descriptive details, speaking audibly in coherent sentences.

Digital Communications (DC)

5. *(Digital Communications begins in grade 3.)*

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

2.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

   1a. Form and use the past tense of frequently occurring irregular verbs (e.g., *felt, told, went*).

   1b. Use adjectives and adverbs and choose between them depending on what is to be modified.

   1c. Form and use regular and frequently occurring irregular plural nouns (e.g., *men, teeth, fish*).

   1d. Recognize that the names of things can also be the names of actions *(fish, dream, run).*

   1e. Use reflexive pronouns (e.g., *yourself, herself*).

   1f. Distinguish between complete and incomplete sentences and recognize and use correct word order in written sentences.

   1g. Produce and expand, complete simple and compound sentences.

Mechanics (M)

2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.

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2a. Commas in greetings and closing of letters.

2b. Apostrophes to form contractions and frequently occurring possessives.

2c. Capitalize holidays, names, and places.

3. Use knowledge of spelling in writing.

3a. Generalize learned spelling patterns when writing words (e.g., *cage → badge; boy → boil*).

3b. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.

DRAFT

Grade 3

**Note: Print concepts (standard 1) is found only in kindergarten; phonological awareness (standard 2) is found only in kindergarten, grade 1, and grade 2. Fluency standards run K-12 and are contained within standard 4, Reading Comprehension.*

Foundational Reading Skills Strand

3.RF-

Phonics and Decoding (PH)

3. Use knowledge of grade-level phonics and word analysis skills to decode words.

3a. Decode words when known affixes are added to a known word (e.g., *visit/revisit, appear/disappear, lead/mislead, care/careful).*

3b. Decode words with common Greek and Latin roots (e.g., *trans, port, bio*).

3c. Decode multisyllable words.

3d. Read grade-appropriate irregularly spelled words (e.g., *come, friend, today*).

Reading Comprehension Strand

3.RC-

Text Complexity (TC)

1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the higher end of the grades 2-3 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)

Volume of Reading to Build Knowledge (V)

2. Regularly engage in a volume of reading (independently, with peers, or with modest support) related to the topics and themes being studied to build knowledge and vocabulary.

Textual Evidence (TE)

3. Ask and answer questions to demonstrate understanding of grade-level texts, referring explicitly to textual evidence as the basis for the answers.

Reading Fluency (RF)

4. Read grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support comprehension (see the 2017 Hasbrouck and Tindal norms listed in the Resource Reference).

Literature (L)

5. Use evidence from literature to demonstrate understanding of grade-level texts.

5a. Describe key details from stories (including folktales, fables, and tall tales) from diverse cultures and explain how they support the central lesson, moral, or theme.

5b. Explain how characters develop (e.g., their traits, motivations, or feelings) throughout the text.

5c. Explain major structural differences between poems, plays, and prose.

5d. Explain the difference between a narrator's point of view and various characters' perspectives in stories.

5e. Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters.

Nonfiction Text (NF)

6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts.

6a. Describe key details from texts and explain how they support the central idea.

6b. Describe the relationship between a series of events, concepts, steps, or procedures in historical, scientific, or technical texts, using words that pertains to comparison, sequence, or cause/effect.

6c. Describe major structural differences between the organization of different informational texts (e.g., description, sequence, comparison, problem-solution, cause-effect).

6d. Explain the logical connection between particular facts and reasons in texts.

6e. Compare and contrast important points and key supporting details presented in two texts on the same topic.

Vocabulary Development Strand

3.VB-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on *grade-level reading and content*, choosing flexibly from a range of strategies.

1a. Use sentence-level context as clues to the meaning of words or phrases.

1b. Determine the meaning of new words formed when known affixes are added to a known word (e.g., *expensive/ inexpensive, lock/unlock, help/helpless, care/ careless*).

1c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *transport, portable*).

1d. Use glossaries or beginning dictionaries, print or digital, to clarify the precise meaning of key words and phrases.

2. Determine how words and phrases provide meaning and nuance to grade-level texts.

2a. Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., *take steps*).

2b. Distinguish shades of meaning among grade-appropriate, related words that describe states of mind or degrees of certainty (e.g., *knew, believed, suspected, heard, wondered*).

Academic Vocabulary (AV)

3. Acquire and use general academic, and content-specific words and phrases occurring in grade-level reading and content, including those that signal spatial and temporal relationships (e.g., *She stood behind the door before she entered the room*). Use these words in discussions and writing.

Research Strand

3.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. Conduct short research tasks to take some action or share findings orally or in writing by gathering and recording information on a specific topic from reference texts or through interviews, and using text features and search tools (e.g., *key words, sidebars, hyperlinks*) to locate information efficiently.

Deep Reading on Topics to Build Knowledge (DR)

2. Read a series of texts organized around a variety of conceptually-related topics to build knowledge about the world. (These texts should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)

Writing Strand

3.W-

Range of Writing (R)

1. Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, letters, and poetry, etc.

2. Write arguments that introduce the topic, express an opinion supported with facts, details, and reasons, and provide a concluding statement.

3. Write informational texts that introduce the topic, develop the focus with facts and details, and provide a concluding statement.

4. Write personal or fictional stories that recount an event or experience, include details to develop the characters or event(s), and provide a sense of closure.

5. Group related information within a paragraph, using common linking words and phrases to connect ideas and information.

6. With support from adults and peers, develop and strengthen writing as needed by planning, revising, and editing. (Editing should demonstrate command of grade-level Grammar and Conventions.)

Handwriting and Keyboarding (HWK)

7. Write legibly in cursive leaving space between letters in a word, in a sentence, and at the edges of the paper.
8. Use keyboarding skills to produce and publish writing.

Oral and Digital Communications Strand

3.OD-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by staying on topic; linking comments to the remarks of others; asking questions to check understanding of information being discussed; and, reviewing ideas expressed.

DRAFT

2. Determine the main ideas and supporting details of a text read aloud or information presented in a variety of media (audio, visual and quantitative).

3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

4. Report orally on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

Digital Communication (DC)

5. With support, evaluate whether a digital source is factual or not by considering its use of evidence.

6. Use information gained digitally to determine where, when, why, and how key events occur.

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

3.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

   1a. Form and use the progressive and perfect verb tenses.

   1b. Form and use comparative and superlative adjectives and adverbs.

   1c. Use collective nouns (e.g., *family, crew, assembly*) matched to plural verb forms.

   1d. Form and use regular and irregular plural nouns (e.g., *fish*, *teeth*).

   1e. Use common, proper, and possessive nouns.

   1f. Use coordinating and subordinating conjunctions.

   1g. Produce, expand, and rearrange simple and compound sentences.

   1h. Speak in complete sentences when appropriate to task and situation to provide requested detail or clarification.

Mechanics (M)

2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.

   2a. Commas in addresses and dates.

   2b. Commas and quotation marks in dialogue.

   2c. Forming and using possessives.

   2d. Capitalize appropriate words in titles.

3. Use knowledge of spelling in writing.

   3a. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words.

DRAFT

3b. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) when pronouncing and writing words.

3c. Spell high-frequency irregular words correctly (e.g., *who, what, why*).

3d. Consult reference materials to check and correct spelling.

DRAFT

Grade 4

**Note: Print concepts (standard 1) is found only in kindergarten; phonological awareness (standard 2) is found only in kindergarten, grade 1, and grade 2. Fluency standards run K-12 and are contained within standard 4, Reading Comprehension.*

Foundational Reading Skills Strand

4.FR-

Phonics and Decoding (PH)

3. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (roots and affixes) to read accurately unfamiliar grade-appropriate multisyllabic words (e.g., *depart, beneficial, recycle)* in context and out of context.

Reading Comprehension Strand

4.RC-

Text Complexity (TC)

1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the lower end of the grades 4-5 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)

Volume of Reading to Build Knowledge (V)

2. Regularly engage in a volume of reading, independently, with peers, or with modest support related to the topics and themes being studied to build knowledge and vocabulary.

Textual Evidence (TE)

3. Refer to details and examples in grade-level texts when explaining what texts say explicitly and when drawing inferences from texts.

Reading Fluency (RF)

4. Read grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).

Literature (L)

5. Use evidence from literature to demonstrate understanding of grade-level texts.

5a. Determine the central themes in stories (including myths and legends), poems and plays and explain how they are supported by key details.

5b. Describe a character, setting, or event in depth in stories and plays, drawing on specific details in the texts (e.g., a character's thoughts, words, or actions).

5c. Explain the overall structures of stories, plays, and poems and how each successive part builds on earlier sections.

5d. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

5e. Compare and contrast the treatment of similar themes and patterns of events in stories, myths, and traditional literature from different cultures.

Nonfiction Text (NF)

6. Use evidence from nonfiction works to demonstrate of grade-level texts.

6a. Determine the central ideas of texts and explain how they are supported by key details; summarize texts.

6b. Explain events, procedures, steps, ideas, or concepts found in historical, scientific, or technical texts, including what happened and why.

6c. Explain the overall structure of informational texts (e.g., description, sequence, comparison, problem-solution, cause-effect) and how each successive part builds on earlier sections.

6d. Explain how authors use evidence and reasons to support specific points in texts.

6e. Combine information from two texts on the same topic, noting important similarities and differences in focus and the information provided.

Vocabulary Development Strand

4.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level content*, choosing flexibly from a range of strategies:

1a. Use context (e.g., definitions, examples, or restatements in text) as clues to the meaning of words or phrases.

1b. Use common Greek and Latin affixes and roots as clues to the meaning of words (e.g., *thermometer, thermos, thermostat*).

1c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), print or digital, to find the pronunciation and clarify the precise meaning of key words and phrases.

2. Determine how words and phrases provide meaning and nuance to grade-level texts:

2a. Recognize and explain the meaning of idioms, adages, and proverbs in context.

2b. Distinguish shades of meaning among related words that describe subtle differences (e.g., *shook, trembled, wavered, quivered*).

Academic Vocabulary (AV)

3. Acquire and use accurately general academic and content-specific words and phrases *occurring in grade-level* reading and content, including those that signal precise actions or states of being (e.g., *frustrated, puzzled, stammered*) and vocabulary essential to a particular topic (e.g., *heroes, villains, quest, fate* when discussing myths). Use these words in discussions and writing.

DRAFT

Research Strand

4.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. Conduct short research tasks to take some action or share findings orally or in writing by identifying what information is needed to answer a research question, using text features and search tools to gather relevant information efficiently; and taking notes, categorizing that information, and providing a list of sources.

Deep Reading on Topics to Build Knowledge (DR)

2. Read a series of texts organized around a variety of conceptually-related topics to build knowledge about the world. (These texts should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)

Writing Strand

4.W-

Range of Writing (RW)

1. Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, letters, and poetry, etc.

2. Write arguments that introduce the topic; express a clear opinion supported with facts, details and reasons; and provide a concluding statement or section.

3. Write informational texts that introduce the topic; develop the focus with facts, details or other information; and provide a concluding statement or section.

4. Write personal or fictional narratives that organize the writing around a central problem, conflict, or experience; use descriptions or dialogue to develop the characters or event(s); and provide a sense of closure.

5. Organize related information together in paragraphs using precise language and linking words and phrases to connect details and ideas.

6. With support from adults and peers, develop and strengthen writing as needed by planning, revising, and editing. (Editing should demonstrate command of grade-level Grammar and Conventions.)

Handwriting and Keyboarding (HW)

7. Write legibly and fluently in cursive by hand, forming letters and words that can be easily read by others.

8. Use technology to produce and publish writing, demonstrating sufficient command of keyboarding skills.

Oral and Digital Communications Strand

4.0DC-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by carrying out assigned roles; making comments that build on and link to others' remarks; clarifying or following-up on information; and reviewing key ideas expressed and explaining one's understanding.

DRAFT

2. Paraphrase portions of a text read aloud, or information presented in diverse media (audio, visual and quantitative).

3. Identify the reasons and evidence a speaker provides to support particular points being made.

4. Report orally on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes, speaking clearly at an understandable pace.

Digital Communication (DC)

5. Evaluate whether a digital source is factual or opinion-based by considering its use of evidence and whose point-of-view is represented or missing.

6. Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, timelines, or interactive elements) on Web pages.

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

4.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

1b. Recognize subject-predicate relationship in sentences.

1c. Use principal modals to convey various conditions (e.g., *can, may, must*).

1d. Order adjectives within sentences according to conventional patterns.

1e. Use relative pronouns and relative adverbs.

1f. Form and use prepositional phrases.

1g. Correctly use frequently confused common words (e.g., *to/too/two*).

1h. Ensure subject-verb agreement.

1i. Produce complete sentences; recognize and correct inappropriate fragments and run-ons.

1j. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.

Mechanics (M)

2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.

2a. Commas in a series.

2b. Quotation marks to mark direct speech and quotations from a text.

2c. Use correct capitalization.

3. Spell grade level words correctly, including commonly confused words (e.g., there/their/they're).

Grade 5

**Note: Print concepts (standard 1) is found only in kindergarten; phonological awareness (standard 2) is found only in kindergarten, grade 1, and grade 2. Fluency standards run K-12 and are contained within standard 4, Reading Comprehension.*

Foundational Reading Skills Strand

5.FR-

Phonics and Decoding (PH)

3. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (roots and affixes) to read accurately unfamiliar grade-level multisyllabic words (e.g., *disallow, misinform, transaction) in* context and out of context.

Reading Comprehension Strand

5.RC-

Text Complexity (TC)

1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the higher end of the grades 4-5 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)

Volume of Reading to Build Knowledge (V)

2. Regularly engage in a volume of reading, independently, with peers, or with modest support related to the topics and themes being studied to build knowledge and vocabulary.

Textual Evidence (TE)

3. Draw evidence from grade-level texts to explain what is said explicitly and when drawing inferences, including quoting from texts accurately.

Reading Fluency (FR)

4. Read grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).

Literature (L)

5. Use evidence from literature to demonstrate understanding of grade-level texts.

5a. Summarize a text and determine the central themes of stories, plays, or poems, including how they are developed using details.

5b. Compare and contrast two or more characters, settings, or events in stories and plays, drawing on specific details in the texts.

5c. Explain how chapters, scenes, or stanzas work together to provide the overall structure of a literary text.

5d. Explain how a narrator's or speaker's point of view influence how events are described in stories, plays, or poems.

5e. Compare and contrast stories in the same genre on their approaches to similar themes.

Nonfiction Text (NF)

6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts.

6a. Explain the central ideas of texts, including how they are developed using details; summarize texts.

6b. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in historical, scientific, or technical texts.

6c. Explain how series of chapters or sections fit together to provide the overall structure of informational texts (e.g., description, sequence, comparison, problem-solution, cause-effect).

6d. Explain how authors use evidence and reasons to support specific claims in texts, identifying which reasons and evidence support which claims.

6e. Integrate information from several texts on the same event or topic to demonstrate a coherent understanding of the information.

Vocabulary Development Strand

5.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level content*, choosing flexibly from a range of strategies.

1a. Use context (e.g., definitions, examples, or restatements in text) as clues to the meaning of words or phrase.

1b. Use common Greek and Latin affixes and roots as clues to the meaning of words (e.g., *biography, biology, biohazard*).

1c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), print or digital, to find the pronunciation and clarify the precise meaning of key words and phrases.

2. Determine how words and phrases provide meaning and nuance to grade-level texts.

2a. Recognize and explain the meaning of figurative language such as metaphors and similes, in context.

2b. Distinguish shades of meaning among related words that describe different states or subtleties (e.g., *sang, trilled, chirped chorused*).

Academic Vocabulary (AV)

3. Acquire and use accurately general academic and content-specific words and phrases *occurring in grade-level reading and content*, including those that signal contrast, addition, connection, and other logical relationships (e.g., *therefore, for example, meanwhile, on the other hand*). Use these words in discussions and writing.

Research Strand

5.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. Conduct short research tasks to take some action or share findings orally or in writing by formulating research questions; gathering relevant and reliable information from both primary and secondary sources as

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appropriate; paraphrasing and quoting ideas and information; and respecting copyright guidelines for use of that information and any images.

Deep Reading on Topics to Build Knowledge (DR)

2. Read a series of texts organized around a variety of conceptually-related topics to build knowledge about the world. (These texts should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)

Writing Strand

5.W-

Range of Writing (RW)

1. Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc.

2. Write arguments that introduce the topic clearly; express a distinct opinion supported with adequate facts, ideas, and reasons that are logically grouped and provide a concluding section.

3. Write informational texts that introduce the topic; develop the focus with relevant facts, details, and examples from multiple sources that are logically grouped, including headings to support the purpose; and provide a concluding section.

4. Write personal or fictional narratives that establish a situation and narrator; organize around a central problem, conflict, or experience using descriptions, dialogue or pacing to develop the characters, event(s), or experience(s); and provide a conclusion that follows from the narrated events.

5. Produce clear and coherent organizational structures of multiple paragraphs in which facts and details are logically grouped and linking words and phrases connect details and ideas.

6. With support from adults and peers, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing should demonstrate command of grade-level Grammar and Conventions.)

Handwriting and Keyboarding (HWK)

7. Write in cursive legibly and fluently by hand with a consistent form and recognizable signature.

8. Use technology to produce and publish writing demonstrating sufficient command of keyboarding skills.

Oral and Digital Communications Strand

5.ODC-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by carrying out assigned roles; making comments and posing and responding to questions that contribute to the discussion and elaborate on others' remarks; and reviewing key ideas expressed and drawing conclusions considering the discussion.

2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

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3. Summarize the major points a speaker makes and explain how each is supported by reasons and evidence.

4. Report orally on a topic or text or present an argument, sequencing ideas logically and using appropriate facts and relevant descriptive details to support main ideas or themes and speaking clearly at an understandable pace.

Digital Communication (DC)

5. Consider the source of information gathered digitally through such means as domains (e.g., .gov; .edu vs. .com or .tv).

6. Use information from multiple digital sources, demonstrating the ability to locate an answer to a question or to solve a problem efficiently.

7. Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text presented digitally.

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

5.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

1a. Form and use irregular verbs (e.g., *lie/lay, sit/set, rise/raise*) correctly in sentences.

1b. Recognize and correct inappropriate shifts in verb tense and number.

1c. Use nouns, pronouns, verbs, adjectives, adverbs, conjunctions, prepositions, and interjections appropriate to function.

1d. Ensure subject-verb and pronoun-antecedent agreement.

1e. Use coordinating (e.g., *and, but*), subordinating (e.g., *although, because*), and correlative (e.g., *either/or*) conjunctions to join words and phrases in a sentence.

1f. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.

1g. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.

Mechanics (M)

2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.

2a. Commas before a coordinating conjunction.

2b. Commas to separate an introductory element from the rest of the sentence (e.g., *Yes, thank you, It's true, isn't it?).*

2c. Underlining, quotation marks, or italics to indicate titles of works.

3. Spell grade level words correctly, including commonly confused words (e.g., *its/it's, affect/effect*).

Grade 6

Reading Comprehension Strand	6.RC-
Text Complexity (TC)	
1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the lower end of the grades 6-8 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)	
Volume of Reading to Build Knowledge (V)	
2. Regularly engage in a volume of reading, independently, with peers, or with modest support related to the topics and themes being studied to build knowledge and vocabulary.	
Textual Evidence (TE)	
3. Draw several pieces of evidence from grade-level texts to support claims and inferences, including quoting and paraphrasing from texts accurately.	
Reading Fluency (RF)	
4. Read grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).	
Literature (L)	
5. Use evidence from literature to demonstrate understanding of grade-level texts. 5a. Explain stated or implied themes of texts, including how they are developed using specific details from the texts. 5b. Describe how characters respond or change as the plot moves toward a resolution. 5c. Describe how a particular sentence, chapter, scene, or stanza fits into the overall structure of texts and contributes to the development of the theme, setting, or plot. 5d. Explain how authors develop the point of view of the narrator or speaker in texts. 5e. Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.	
Nonfiction Text (NF)	
6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts. 6a. Explain stated or implied central ideas from texts, including how they are developed using specific details from the texts; provide a summary of texts distinct from personal opinions. 6b. Explain in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in texts through examples or anecdotes. 6c. Explain how a specific sentence, paragraph, chapter, or section fits into the overall structure of texts and contributes to the development of the ideas.	

6d. Trace the argument and specific claims in texts, distinguishing claims that are supported by evidence and reasons from claims that are not.

6e. Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).

Vocabulary Development Strand

6.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level content*, choosing flexibly from a range of strategies.

1a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

1b. Use common Greek or Latin affixes and roots as clues to the meaning of a word (e.g., in readings on pioneers of space, determine the meanings of the words *astronaut* and *nautical*).

1c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), print or digital, to find the pronunciation of a word and determine and clarify its precise meaning and its part of speech.

1d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

2. Determine how words and phrases provide meaning and nuance to grade-level texts.

2a. Interpret figurative language (e.g., personification, idioms) in context.

2b. Use the relationship between particular words (e.g., *cause/effect, part/whole, item/category)* to better understand each of the words.

2c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *house* versus *home*, *cheap* versus *affordable*).

2d. Analyze the impact of a specific word choice on meaning, tone (author's attitude toward the subject), or mood (emotional atmosphere).

Academic Vocabulary (AV)

3. Acquire and use accurately general academic and content-specific words and phrases *occurring in grade-level reading and content*; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these words in discussions and writing.

Research Strand

6.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. Conduct brief as well as multi-day research tasks to take some action or share findings orally or in writing by formulating research questions and refocusing the inquiry when appropriate; gathering and assessing the relevance and usefulness of information from multiple reliable sources; and, paraphrasing or quoting the data

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and conclusions of others, providing basic bibliographic information for sources, and respecting copyright guidelines for use of images.

Deep Reading on Topics to Build Knowledge (DR)

2. Read a series of texts organized around a variety of conceptually-related topics to build knowledge about the world. (These texts should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)

Writing Strand

6.W-

Range of Writing (RW)

1. Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc.

2. Write arguments that introduce and support a distinct point of view with relevant claims, evidence and reasoning; demonstrate an understanding of the topic; and provide a concluding section that follows from the argument presented.

3. Write informational texts that introduce the topic, develop the focus with relevant facts, definitions, concrete details, quotations, and examples from multiple sources using appropriate strategies, such as description, comparison, and/or cause-effect; and provide a concluding section that follows from the information presented.

4. Write personal or fictional narratives that establish a situation and narrator; engage and orient the reader to the context; use narrative techniques such as description, dialogue, pacing, concrete words and sensory details to develop the characters, event(s), or experience(s); and provide a conclusion that follows from the narrated event(s).

5. Produce clear and coherent organizational structures of multiple paragraphs in which facts and ideas are logically grouped; headings, as applicable are included to support the purpose; and words, phrases, and clauses clarify the relationships between and among ideas and concepts.

6. With support from adults and peers, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach appropriate to audience and purpose. (Editing should demonstrate command of grade-level Grammar and Conventions.)

Handwriting and Keyboarding (HWK)

7. Write by hand or with technology to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

Oral and Digital Communications Strand

6.ODC-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by following agreed-upon rules for collegial discussions, setting specific goals, and carrying out assigned roles; making comments and

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posing and responding to specific questions with elaboration and detail; and demonstrating understanding of various perspectives through reflection and paraphrasing.

2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

3. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.

4. Report orally on a topic or text or present an argument, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use adequate volume and clear pronunciation.

Digital Communication (DC)

5. Consider the source of information gathered digitally through such means as domains (e.g., .gov; .edu vs. .com or .tv) and the quality of evidence presented.

6. Follow safety practices and ethical guidelines when gathering, sharing, and using information.

7. Compare and contrast a written story to a digital version, contrasting what is "seen and "heard" when reading the text to what is perceived when listened to or watched.

8. Include digital components (e.g., graphics, images, music, sound) in presentations to clarify information.

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

6.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

1a. Identify the eight basic parts of speech *(noun, pronoun, verb, adverb, adjective, conjunction, preposition, interjection).*

1b. Recognize that a word performs different functions according to its position in the sentence.

1c. Use pronouns correctly regarding case, number, and person, including intensive pronouns (e.g., *myself, ourselves*).

1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).

1e. Recognize and correct inappropriate shifts in pronoun number and person.

1f. Expand, combine, or reduce sentences (e.g., adding or deleting modifiers, combining, or breaking up sentences) for meaning, reader/listener interest, and style.

1g. Recognize variations from standard English in their own and others' writing and speaking and identify and use strategies to improve expression in conventional language.

Mechanics (M)

2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.

2a. Commas, parentheses, and dashes to set off nonrestrictive or parenthetical elements.

2b. Colons to separate hours and minutes and to introduce a list.

3. Spell derivatives correctly by applying knowledge of bases and affixes.

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Grade 7

Reading Comprehension Strand	7.RC-
Text Complexity (TC)	
1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the midrange of the grades 6-8 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)	
Volume of Reading to Build Knowledge (V)	
2. Regularly engage in a volume of reading, independently, with peers, or with modest support related to the topics and themes being studied to build knowledge and vocabulary.	
Textual Evidence (TE)	
3. Draw several pieces of evidence from grade-level texts to support claims and inferences, including quoting or paraphrasing from texts accurately and tracing where in texts relevant evidence is located.	
Reading Fluency (RF)	
4. Read grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).	
Literature (L)	
5. Use evidence from literature to demonstrate understanding of grade-level texts. **5a.** Explain stated or implied themes, analyzing their development over the course of texts; provide objective summaries of literary texts. **5b.** Explain how particular elements of stories or dramas interact including how setting shapes the characters or plot. **5c.** Compare and contrast the structure of two or more stories, poems, and plays and analyze how the differing structure of each literary text contributes to its meaning and style. **5d.** Explain how authors develop and contrast the point of view of different characters or narrators in texts. **5e.** Compare and contrast fictional portrayals of a time, place, or character and historical accounts of the same period as a means of understanding how authors of fiction use or alter history.	
Nonfiction Text (NF)	
6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts. **6a.** Explain stated or implied central ideas of texts, analyzing their development over the course of texts; provide objective summaries of texts. **6b.** Analyze the relationships or interactions between individuals, events, and ideas in texts (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).	

6c. Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and development of ideas.

6d. Trace the argument and specific claims in texts and assess whether the evidence is sufficient to support the claims.

6e. Compare and contrast how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.

Vocabulary Development Strand

7.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level content*, choosing flexibly from a range of strategies.

1a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

1b. Use common Greek or Latin affixes and roots as clues to the meaning of a word (e.g., in readings about earth sciences, determine the meanings of the words *geologist* and *geophysics*).

1c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), print or digital, to find the pronunciation of a grade-level word and determine or clarify its precise meaning and its part of speech.

1d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

2. Determine how words and phrases provide meaning and nuance to grade-level texts.

2a. Interpret figurative language (e.g., *euphemism, oxymoron*) in context.

2b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words.

2c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *curious* versus *nosy*, *assertive* versus *pushy*).

2d. Analyze the impact of a specific word choice on meaning, tone, or mood, including the impact of repeated use of certain images.

Academic Vocabulary (AV)

3. Acquire and use accurately general academic and content-specific words and phrases *occurring in grade-level reading and content*; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these words in discussions and writing.

Research Strand

7.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. Conduct brief as well as multi-day research tasks to take some action or share findings orally or in writing by formulating research questions and generating additional questions for further research; gathering and assessing the relevance and usefulness of information from multiple reliable sources; and, summarizing, paraphrasing, or quoting the data and conclusions of others, avoiding plagiarism, and providing basic bibliographic information for sources.

Deep Reading on Topics to Build Knowledge (DR)

2. Read a series of texts organized around a variety of conceptually-related topics to build knowledge about the world. (These texts should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)

Writing Strand

7.W-

Range of Writing (RW)

1. Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc.

2. Write arguments that introduce and support a well-defined point of view with appropriate claims, relevant evidence and clear reasoning, demonstrate a keen understanding of the topic or text, and provide a concluding section that follows from the argument presented.

3. Write informational texts that introduce the topic clearly; develop the focus with relevant facts, definitions, concrete details, quotations, or other information and examples from multiple sources using strategies such as description, enumeration, classification, comparison, problem-solution, and/or cause-effect; and provide a concluding section that follows from the information presented.

4. Write personal or fictional narratives that establish a situation and narrator; engage and orient the reader to the context and point of view; use narrative techniques such as description, dialogue, pacing and a variety of precise words and transitional words and phrases to develop the characters, convey sequence, and signal shifts from one timeframe or setting to another; and provide a conclusion that follows from the narrated event(s).

5. Produce clear and coherent organizational structures in which ideas and other information are logically grouped; headings and other formatting support the purpose; and precise language, content-specific vocabulary, and appropriate transitions create cohesion and clarify the relationships among ideas and concepts.

6. With support from adults and peers, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing should demonstrate command of grade-level Grammar and Conventions.)

Handwriting and Keyboarding (HWK)

7. Write by hand or with technology to produce and publish writing and link to and cite sources as well as to interact and collaborate with others.

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Oral and Digital Communications Strand

7.ODC-

Oral Communication (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* by following rules for collegial discussions, defining individual roles, and setting specific goals; posing questions that elicit elaboration and responding to others with relevant observations; and, acknowledging new information expressed by others and, when warranted, modifying their own views.

2. Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.

3. Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.

4. Report orally on a topic or text or present an argument, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate vocabulary volume, and clear pronunciation.

Digital Communication (DC)

5. Engage in positive, safe, legal, and ethical behavior when using information and communication technologies, including social interactions online or when using networked devices.

6. Consider the reliability of websites and blog posts through such means as determining if they are run by established institutions, have named expertise, link to other reputable websites, and are current.

7. Compare and contrast a text to an audio, video, or digital version of the text, analyzing each medium's portrayal of the subject.

8. Include digital components in presentations to clarify claims and findings and emphasize salient points.

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

7.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

   1a. Identify the eight basic parts of speech *(noun, pronoun, verb, adverb, adjective, conjunction, preposition, interjection).*

   1b. Explain the function of phrases and clauses in general and their function in specific sentences.

   1c. Place phrases and clauses correctly within a sentence, recognizing and correcting misplaced and dangling modifiers.

   1d. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.

   1e. Expand, combine, or reduce sentences (e.g., adding or deleting modifiers, combining, or breaking up sentences) for meaning, reader/listener interest, and style.

1f. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
Mechanics (M)
2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning. 2a. Use commas, parentheses, dashes) set off nonrestrictive/parenthetical elements. 2b. Use commas to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie).* 3. Spell derivatives correctly by applying knowledge of bases and affixes.

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Grade 8

Reading Comprehension Strand	8.RC-
Text Complexity (TC)	
1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the higher end of the grades 6-8 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)	
Volume of Reading to Build Knowledge (V)	
2. Regularly engage in a volume of reading, independently, with peers, or with modest support related to the topics and themes being studied to build knowledge and vocabulary.	
Textual Evidence (TE)	
3. Draw several pieces of evidence from grade-level texts that strongly supports both what is said explicitly and what is implied, including quoting, and paraphrasing from relevant sections and accurately and citing textual references.	
Reading Fluency (RF)	
4. Read grade-level text with accuracy, automaticity appropriate rate, and expression in successive readings to support comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).	
Literature (L)	
5. Use evidence from literature to demonstrate understanding of grade-level texts. 5a. Explain stated or implied themes, analyzing their development over the course of texts, and the relationship of characters, setting, and plot to those themes. 5b. Analyze how characters are revealed through particular lines of dialogue or events in literary texts. 5c. Analyze how authors structure texts to advance a plot, explaining how each event gives rise to the next or foreshadows a future event. 5d. Analyze how differences in the points of view of the characters and the audience or reader created with dramatic irony result in such effects as suspense or humor. 5e. Relate themes, patterns of events, or character types from myths, traditional stories, or religious works to contemporary stories, poems, or drama.	
Nonfiction Text (NF)	
6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts. 6a. Explain stated or implied central ideas of texts, analyzing their development over the course of the texts, including the relationship of individuals, ideas, or events to the central ideas; provide objective summaries of texts. 6b. Analyze how texts make connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).	

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6c. Analyze the structural elements of a text, including the role of specific sentences, paragraphs, and text features in developing and refining key concepts.

6d. Trace the argument and specific claims in texts and assess whether all the evidence presented is relevant and whether irrelevant evidence was introduced.

6e. Analyze cases in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.

Vocabulary Development Strand

8.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level content*, choosing flexibly from a range of strategies.

1a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

1b. Use common Greek or Latin affixes and roots as clues to the meaning of a word (e.g., in readings about mathematics, determine the meanings of the words *percentile* and *perimeter*).

1c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), print or digital, to find the pronunciation of a grade-level word and determine or clarify its precise meaning or its part of speech.

1d. Verify the preliminary determination of the meaning of a word or phrase by checking the inferred meaning in context or in a dictionary.

2. Determine how words and phrases provide meaning and nuance to texts.

2a. Interpret figurative language (e.g., verbal irony, puns) in context.

2b. Use the relationship between particular words (e.g., homonyms, person to location, object to use) to better understand each of the words.

2c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *crowd* versus *mob*, *fired* versus *laid off*).

2d. Analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.

Academic Vocabulary (AV)

3. Acquire and use accurately general academic and content-specific words and phrases *occurring in grade-level reading and content*; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these words in discussions and writing.

Research Strand

8.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. Conduct brief as well as multi-day research tasks to take some action or share findings orally or in writing by formulating research questions and generating additional questions that allow for multiple avenues of

exploration; gathering and assessing the relevance and credibility of information from multiple sources; and, summarizing, paraphrasing, or quoting the data and conclusions of others while avoiding plagiarism and following a standard format for citations.

Deep Reading on Topics to Build Knowledge (DR)

2. Read a series of texts organized around a variety of conceptually-related topics to build knowledge about the world. (These texts should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)

Writing Strand

8.W-

Range of Writing (RW)

1. Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc.

2. Write arguments or make claims that support well-defined points of view effectively with relevant evidence and clear reasoning in ways that logically advance the claim(s) made; demonstrate a nuanced understanding of the topic; and provide a concluding section that follows from and supports the argument presented.

3. Write informational texts that introduce the topic clearly; preview what is to follow by establishing and maintaining a clear focus with relevant, well-chosen facts, definitions, concrete details, quotations, and examples from multiple sources using appropriate strategies, such as description, enumeration, classification, comparison, problem-solution, and/or cause-effect; and provide a concluding section that follows from the information presented.

4. Write personal or fictional narratives that establish a situation and narrator; engage and orient the reader to the context and one or multiple points of view; use a variety of techniques such as description, dialogue, pacing, and precise words and phrases, sensory language and transition words to develop the characters, capture the action and convey sequence, and signal shifts from one timeframe or setting to another; and provide a conclusion that follows from the narrated event(s).

5. Produce clear and coherent organizational structures in which ideas and other information are logically grouped; headings, other formatting, and graphics (e.g., charts and tables) support the purpose; and precise language, content-specific vocabulary, and varied transitions create cohesion and clarify the relationships between and among ideas and concepts.

6. With support from adults and peers, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing should demonstrate command of grade-level Grammar and Conventions.)

Handwriting and Keyboarding (HWK)

7. Write by hand or with technology to produce and publish writing, link to, and cite sources, present the relationships between information and ideas efficiently, and interact and collaborate with others.

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Oral and Digital Communications Strand

8.ODC-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by following rules for collegial discussions and decision-making, defining individual roles, and tracking progress on specific goals; propelling conversations forward by posing and responding to questions, relating the current discussion to broader themes, and connecting the ideas of several speakers; and, when warranted, qualifying or justifying one's views considering new evidence heard.

2. Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the intent (e.g., social, political commercial) behind its presentation.

3. Analyze a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.

4. Report orally on a topic or text or present an argument, emphasizing salient points in a focused, coherent manner with relevant evidence, and well-chosen details; use appropriate vocabulary, volume, and clear pronunciation.

Digital Communication (DC)

5. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

6. Consider the evidence websites or blog posts use to support their position (e.g., *Are they transparent about their sources? Do they link to peer-reviewed articles?).*

7. Evaluate the advantages and disadvantages of using different mediums—print or digital text—to present a particular topic or idea.

8. Integrate digital displays into presentations to clarify information, strengthen claims and evidence, and add interest.

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

8.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

   1a. Recognize and correct inappropriate shifts in verb voice and mood.

   1b. Form and use verbs in the indicative, imperative, interrogative, and conditional mood.

   1c. Form and use verbs in the active and passive voice to achieve particular effects.

   1d. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.

   1e. Expand, combine, or reduce sentences (e.g., adding or deleting modifiers, combining, or breaking up sentences) for meaning, reader/listener interest, and style.

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1f. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
Mechanics (M)
2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning. 2a. Use commas, ellipsis, dashes when writing and reading aloud to indicate a pause, break, or omission. 3. Spell derivatives correctly by applying knowledge of bases and affixes.

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Grades 9/10

Reading Comprehension Strand	9/10.RC-
Text Complexity (TC)	
1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the higher end of the grades 9-10 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)	
Volume of Reading to Build Knowledge (V)	
2. Regularly engage in a volume of reading related to the topics and themes being studied to build knowledge and vocabulary. (These texts can include a range of genres and should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)	
Textual Evidence (TE)	
3. Draw ample evidence from grade-level texts to support claims and inferences, attending to the precise details of the authors' descriptions or explanations through quoting, paraphrasing, and citing textual references.	
Reading Fluency (RF)	
4. Read grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).	
Literature (L)	
5. Use evidence from literature to demonstrate understanding of grade-level texts. **5a.** Analyze the development of themes over the course of the text, including how themes emerge and are shaped and refined by specific details. **5b.** Analyze how complex characters—those with multiple or conflicting motivations—develop over the course of texts, interact with other characters, and advance the plot. **5c.** Analyze how authors structure specific parts of a text, including the choice of where to begin and end a scene, and explain how they contribute to its overall structure and meaning. **5d.** Analyze points of view or cultural experiences that represent diverse voices and perspectives in works of literature. **5e.** Compare multiple interpretations of texts (including recorded or live production), evaluating how each version interprets the source text.	
Nonfiction Text (NF)	
6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts. **6a.** Analyze the development of central ideas over the course of texts, including how they emerge and are shaped and refined by specific details; provide accurate summaries of how key events or ideas develop.	

6b. Explain how authors unfold an analysis or series of ideas or events, including the order in which points are made, how they are introduced and developed, and the connections that are drawn among them.

6c. Analyze how authors use structure to explain relationships among concepts in a text, including how key sentences, paragraphs, and sections of texts contribute to the whole.

6d. Assess the argument and specific claims in texts, examining whether the reasoning is valid, the evidence is relevant, and whether there are any false or unsupported statements.

6e. Analyze seminal documents of historical and literary significance, including how they address related themes and concepts of liberty, equality, individual responsibility and justice.

Vocabulary Development Strand

9/10.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level content*, choosing flexibly from a range of strategies.

1a. Use context (e.g., the overall meaning of a sentence, paragraph, or portion of text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.

1b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *defend, defense, defendant, defensible*).

1c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), print or digital, to find the pronunciation of a grade-level word and determine or clarify its precise meaning, its part of speech, or its etymology.

1d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

2. Determine how words and phrases provide meaning and nuance to texts.

2a. Use Greek, Latin, and Norse mythology; and other works often alluded to in American and world literature to understand the meaning of words or phrases (e.g., reference to "Achilles's heel" from Greek mythology).

2b. Interpret figurative language (e.g., hyperbole, paradox) in context and analyze its role in texts (e.g., The Party's embrace of the slogans "War is Peace" and "Freedom is Slavery" in Orwell's 1984).

2c. Analyze nuances in the meaning of words with similar denotations (e.g., *shrewd, clever, cunning, brainy*).

2d. Analyze the cumulative impact of specific word choices on meaning and tone (e.g., how Jonathan Swift uses exaggeration to create his satirical essay "A Modest Proposal").

Academic Vocabulary (AV)

3. Acquire and use accurately general academic and content-specific words and phrases *occurring in grade-level reading and content*; demonstrate independence when gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these words in discussions and writing.

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Research Strand

9/10.RS-

Inquiry Process to Build, Present, and Use Knowledge (IP)

1. Conduct brief as well as multi-day research projects to take some action or share findings orally or in writing by formulating a research question and considering alternative avenues of inquiry; gathering relevant information from a variety authoritative sources and assessing which provide the most reliable and useful information; and, following a standard approved format (e.g., APA, MLA, Chicago) for citations and bibliographies.

Deep Reading on Topics to Build Knowledge (DR)

2. Read a series of texts organized around a variety of conceptually-related topics to build knowledge about the world. (These texts should be at a range of complexity levels so students can read the texts independently, with peers, or with modest support.)

**Note: In grades 9/10, the focus is on informational text writing. While all three text types are important, the Idaho standards put particular emphasis on students' ability to convey information accurately in these grade levels. Of course, the standards leave the inclusion of writing arguments and narratives to teacher discretion.*

Writing Strand

9/10.W

Range of Writing (RW)

1. Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc.

2 .*(Argument writing is a priority in grades 11/12; teachers can include argument at their discretion.)*

3. Write informational texts that introduce the topic clearly by providing needed context, presenting well-defined theses, and previewing what is to follow; develop the topic through sustained use of the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples from multiple authoritative sources appropriate to the audience's knowledge of the topic; and provide a concluding section that follows from the information or explanation presented.

4. *(Teachers can include narrative writing at their discretion.)*

5. Produce clear and coherent organizational structures that attend to the norms and conventions of the writing genre and in which ideas, concepts, and other information are logically grouped; include formatting and graphics to support the purpose and create a unified whole; and use precise language, content-specific vocabulary, and varied transitions link major sections of the text, create cohesion and clarify the relationships between and among ideas and concepts.

6. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing should demonstrate command of grade-level Grammar and Conventions.)

Handwriting and Keyboarding (HWK)

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7. Write by hand or with technology to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

Oral and Digital Communications Strand

9/10.ODC-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by setting rules for collegial discussions and decision-making, defining individual roles, tracking progress on specific goals; responding to others' questions and comments and diverse perspectives with precise evidence, relevant observations, and ideas; and making new connections considering the evidence and reasoning presented.

2. Analyze the effect of text and images on the reader's or viewer's emotions in print journalism, and images, sound, and text in electronic journalism, distinguishing techniques used in each to achieve these effects.

3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

4. Report orally on a topic or text or present an argument, emphasizing salient points in a focused, coherent manner with relevant evidence, sound reasoning, and well-chosen details in a style appropriate to purpose, audience, and task.

Digital Communication (DC)

5. Manage personal data to maintain digital privacy and security and be conscious and aware of data-collection technology used to track and exploit navigation online.

6. Integrate multiple sources of information presented in diverse digital media, evaluating the credibility and accuracy of each source.

7. Analyze various accounts of a subject told in different media (e.g., a person's life story in print or digitally) determining which details are emphasized in each account.

8. Make strategic use of digital media presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

9/10.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

   1a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).

   1b. Use parallel structure.

1c. Place modifiers properly.

1d. Use the subjunctive mood accurately.

1e. Avoid run-on sentences, comma splices, and sentence fragments.

1f. Use subordination, coordination, apposition, and other devices to indicate the relationship between ideas clearly.

1g. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) to convey specific meanings and add variety and interest to writing or presentations.

1h. Use various types of clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.

1i. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.

1j. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.

Mechanics (M)

2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.

2a. Use a semicolon (or appropriate conjunctive adverb) to link two or more closely related independent clauses.

2b. Use a colon to introduce a list or quotation.

2c. Observe hyphenation conventions.

3. Spell correctly, consulting reference materials to check as needed.

DRAFT

Grades 11/12

Reading Comprehension Strand	11/12.RC-
Text Complexity (TC)	
1. Independently and proficiently read and comprehend texts representing a balance of genres, cultures, and perspectives that exhibit complexity at the lower end of the grades 11-12 band. (See the Quantitative Analysis Chart for Determining Text Complexity in the Resource Reference.)	
Volume of Reading to Build Knowledge (V)	
2. Regularly engage in a volume of reading, texts independently, with peers, or with modest support related to the topics and themes being studied to build knowledge and vocabulary.	
Textual Evidence (TE)	
3. Draw and cite strong and thorough evidence from grade-level texts to support claims and inferences, attending to important distinctions authors make and how those are supported, as well as any gaps or inconsistencies in accounts offered.	
Reading Fluency (RF)	
4. Read grade-level text with accuracy, automaticity, appropriate rate, and expression in successive readings to support comprehension (see the 2017 Hasbrouck and Tindal norms listed in Resource Reference).	
Literature (L)	
5. Use evidence from literature to demonstrate understanding of grade-level texts. 5a. Compare the development of a universal theme over the course of two texts, including how it emerges and is shaped and refined by specific details in each. 5b. Evaluate the choices authors make regarding how to develop and relate several elements of literary texts , including how the characters are introduced and developed and how the action is ordered. 5c. Evaluate how authors structure texts to distinguish what is directly stated in a text from what is really meant, including satire, sarcasm, irony, and understatement. 5d. Relate literary works and their authors' points of view to the political events and seminal ideas of their eras. 5e. Compare and contrast how works of literary or cultural significance, including myths and traditional stories, draw on similar themes, patterns of events, or character types.	
Nonfiction Text (NF)	
6. Use evidence from nonfiction works to demonstrate understanding of grade-level texts. 6a. Compare texts that express similar central ideas and analyze in detail how their development and treatment of the topic compares over the course of the two texts; provide accurate summaries of how key events or ideas develop.	

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6b. Evaluate various explanations of concepts and ideas and determine which explanation best accords with textual evidence, noting discrepancies among sources.

6c. Evaluate the effectiveness of the structure(s) and rhetorical devices authors use in their exposition or argument, including whether the structure helps makes points clear, convincing, and engaging.

6d. Analyze the hypotheses, data, analysis, and conclusions in an argument, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

6e. Evaluate the premises and purposes in works of public advocacy.

Vocabulary Development Strand

11/12.VD-

Word Building (WB)

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade-level content*, choosing flexibly from a range of strategies.

1a. Use context (e.g., the overall meaning of a sentence, paragraph, or portion of text; a word's position or function in a sentence or a sentence within a paragraph) as a clue to the meaning of a word or phrase.

1b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *symbol, symbolism, symbolic, symbolize*).

1c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), print or digital, to find the pronunciation of a grade-level word and determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.

1d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

2. Determine how words and phrases provide meaning and nuance to texts.

2a. Use Greek, Latin, and Norse mythology; and other works often alluded to in American and world literature to understand the meaning of words or phrases (e.g., "narcissistic" from the myth of Narcissus and Echo).

2b. Analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how FDR explored different ideas regarding freedom in his "Four Freedoms" speech).

2c. Analyze nuances in the meaning of words with similar denotations (e.g., *aggressive, assertive, forceful, domineering).*

2d. Analyze the impact of specific word choices on the effectiveness of the message meaning and the tone of the text.

Academic Vocabulary (AV)

3. Acquire and use accurately general academic and content-specific words and phrases *occurring in grade-level reading and content*; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. Use these words in discussions and writing.

Research Strand	11/12.RS-
Inquiry Process to Build, Present, and Use Knowledge (IP)	
1. Conduct brief as well as multi-day research projects to take some action or share findings orally or in writing by formulating multiple interlocking research questions that span the field of inquiry in time and scope; gathering relevant information efficiently from a variety of authoritative sources, as well as from direct observation, interviews, and surveys; making distinctions about the strengths and limitations of each source in terms of the task, purpose, and audience, noting any discrepancies among the data; and, following a standard approved format (e.g., APA, MLA, Chicago) for citations and bibliographies.	
Deep Reading on Topics to Build Knowledge (DR)	
2. Read a series of texts, independently, with peers, or with modest support, organized around a variety of conceptually-related topics to build knowledge about the world.	

**Note: In grades 11/12, the focus is on writing arguments. While all three text types are important, the Idaho standards put particular emphasis on students' ability to write sound arguments on substantive topics, as this ability is critical to college and career readiness. Of course, the standards leave the inclusion of writing informational texts and narratives to teacher discretion.*

Writing Strand	11/12.W-
Range of Writing (RW)	
1. Develop flexibility in writing by routinely engaging in the production of shorter and longer pieces for a range of tasks, purposes, and audiences. This could include among others, summaries, reflections, descriptions, critiques, letters, and poetry, etc. 2. Write arguments that support well-defined points of view that establish the significance of the claim(s) and distinguish those claim(s) from alternate or opposing claims with persuasive evidence and clear reasoning; point out the strengths and limitations of each claim in a manner that anticipates the audience's knowledge level, concerns, and values; and provide a concluding section that articulates the implications, or the significance of the argument presented. 3&4. *(Teachers can include informational and narrative writing at their discretion.)* 5. Produce clear and coherent organizational structures that attend to the norms and conventions of the writing genre, and in which ideas, concepts, and other information build on one another; include formatting and graphics to support the purpose, aid in comprehension, and create a unified whole; and use precise language, content-specific vocabulary, and varied transitions to link major sections of the text, create cohesion and clarify the relationships between and among ideas and concepts. 6. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on reframing points to address specific purposes or needs of the audience. (Editing should demonstrate command of grade-level Grammar and Conventions.)	
Handwriting and Keyboarding (HWK)	
7. Write by hand or with technology to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.	

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Oral and Digital Communications Strand

11/12.ODC-

Oral Communications (OC)

1. Engage in collaborative discussions about *grade-level topics and texts* with peers by promoting civil, democratic discussions and decision-making, establishing individual roles, and tracking progress on specific goals; propelling conversations forward by synthesizing comments and ideas of several speakers and responding to diverse perspectives with relevant observations and ideas, resolving contradictions when possible; and, determining what additional information is required to deepen the investigation or complete the task.

2. Analyze how visual and sound techniques or design (such as special effects, camera angles, and music) carry or influence messages in various media.

3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.

4. Present information, findings, and supporting evidence orally, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning; ensure alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

Digital Communication (DC)

5. Demonstrate the responsible and ethical use of information and communication technologies by distinguishing between kinds of information that should and should not be publicly shared and describing the consequences of a poor decision.

6. Integrate multiple sources of information presented in diverse digital media to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

7. Analyze multiple interpretations of a text (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text.

8. Make strategic use of digital media in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

**Note: Students advancing through the grades are expected to meet each year's grade-specific Grammar and Conventions standards and retain or further develop skills and understandings mastered in preceding grades.*

Grammar and Conventions Strand

11/12.GC-

Grammar and Usage (GU)

1. Demonstrate command of the conventions of English grammar and usage when writing or speaking.

   1a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested, consulting references (e.g., *Merriam-Webster's Dictionary of English Usage, Garner's Modern American Usage)* as needed.

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1b. Use a variety of sentence structures, including compound and compound-complex sentences with effective coordination and subordination of ideas and parallel, repetitive, and analogous sentence structures.

1c. Write and edit work so that it conforms to the guidelines in a style manual (e.g., *MLA Handbook*, Turabian's *Manual for Writers*) appropriate for the writing type.

1d. Vary syntax for effect, consulting references (e.g., Tufte's *Artful Sentences*) for guidance as needed.

1e. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation and situations where informal discourse is more appropriate.

Mechanics (M)

2. Demonstrate command of the conventions of English punctuation and capitalization when writing and reading aloud to create meaning.

2a. Reflect appropriate manuscript requirements in writing, including correct use of seriation (headings and subheadings).

3. Spell correctly, consulting reference materials to check as needed.

References

ACT. Reading Between the Lines: What the ACT Reveals About College Readiness in Reading. Iowa City, IA, 2006.

Adams, M. J. (2009). The challenge of advanced texts: The interdependence of reading and learning. In E. H. Hiebert (Ed.), *Reading more, reading better: Are American students reading enough of the right stuff*? (pp. 163–189). New York, NY: Guilford.

Flower, L., Stein, V., Ackerman, J., Kantz, M. J., McCormick, K., & Peck, W. C. (1990). *Reading to write: Exploring a cognitive & social process*. New York: Oxford University Press.

Graham, S., & Hebert, M. (2010). Writing to Read: Evidence for How Writing Can Improve Reading. *Carnegie Corporation Time to Act Report. Washington, DC: Alliance for Excellent Education.* https://www.carnegie.org/publications/writing-to-read-evidence-for-how-writing-can-improve-reading/

Intersegmental Committee of the Academic Senates (ICAS) of the California Community Colleges, the California State University, and the University of California. (2002). *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities*. Sacramento, CA: ICAS. http://icas-ca.org/Websites/icasca/images/Competency/AcademicLiteracy2002.pdf.

National Reading Panel (US), National Institute of Child Health, & Human Development (US). (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups*. National Institute of Child Health and Human Development, National Institutes of Health.

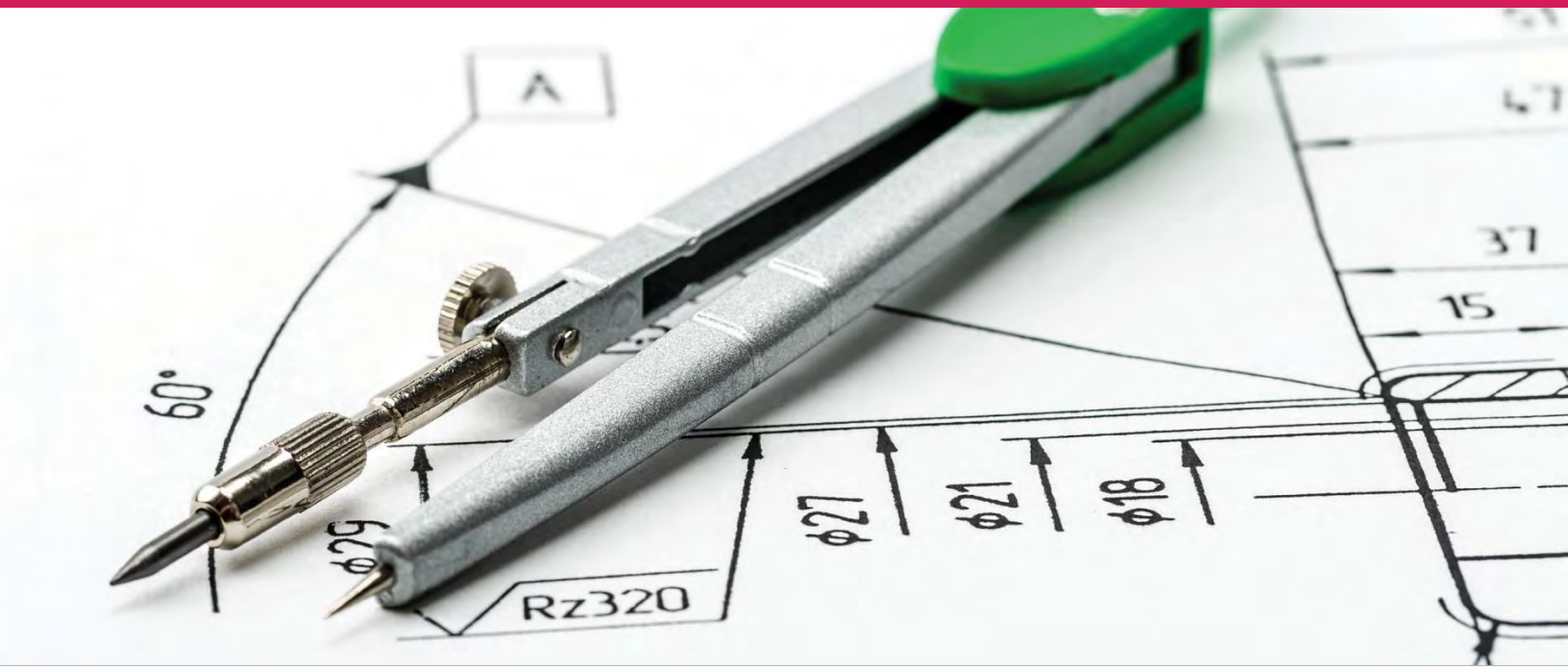
Recht, D. R., & Leslie, L. (1988). Effect of prior knowledge on good and poor readers' memory of text. *Journal of Educational Psychology*, *80*(1), 16.

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IDAHO CONTENT STANDARDS

MATHEMATICS

2017 to 2021 Revisions with Tracked Changes



STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
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In March of 2020, the Idaho Legislature directed the State Board of Education to replace the present Idaho Content Standards in Mathematics. They wanted standards which work for students, parents, and educators. Specifically, the legislators asked that new standards address the following issues in mathematics:

a. Explicitly state grade levels at which students should demonstrate mastery of addition, subtraction, multiplication, and division facts. Integrate these basics with critical thinking and real-life problem solving throughout the standards to ensure more connections to science, business, and other related disciplines.
b. Reduce the number of standards, use less complex verbiage, and prioritize the more important concepts without marginalizing the accuracy of the standards.
c. Ensure the standards are age and grade level-appropriate especially in the early grades, emphasizing the concrete nature of young minds.
d. Make certain that standards requiring problem solving are age appropriate and do not exceed the knowledge standards accepted for each grade level.

The Superintendent's Office of Public Instruction worked with a variety of stakeholders to accept nominations for working group members. The working group was comprised of twenty-four members representing a cross-section of grade levels and roles. These committees included community members, mathematics consultants, and mathematics educators across all grade levels from Kindergarten to four-year colleges. The time and effort they put into this revision was invaluable. Throughout the process of the revision of the standards, the working group received public comments that the revision committees took into consideration. The working group appreciates those who took time to share their thoughts on the revisions. We hope that the changes to these standards allow them to be useful for all stakeholders, including educators, families, students, and community members. We hope that they bring Idaho into a new chapter of statewide success in mathematics.

Respectfully Submitted by,
The Mathematics Standards Working Group Members

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Corey Friis, Teacher
Jordan Hagen, Teacher
Kacey Diemert, Higher Education
Melanie Blad, Teacher
Sen. David Lent, Legislator
Brandi Griggs, Community Member
Erin Corwine, Teacher
Justin Pickens, Teacher
Kelli Rich, Teacher
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Introduction

Toward greater focus and coherence

> *Mathematics experiences in early childhood settings should concentrate on (1) number (which includes whole number, operations, and relations) and (2) geometry, spatial relations, and measurement, with more mathematics learning time devoted to number than to other topics. Mathematical process goals should be integrated in these content areas.*
>
> — Mathematics Learning in Early Childhood, National Research Council, 2009

> *The composite standards [of Hong Kong, Korea and Singapore] have a number of features that can inform an international benchmarking process for the development of K–6 mathematics standards in the U.S. First, the composite standards concentrate the early learning of mathematics on the number, measurement, and geometry strands with less emphasis on data analysis and little exposure to algebra. The Hong Kong standards for grades 1–3 devote approximately half the targeted time to numbers and almost all the time remaining to geometry and measurement.*
>
> — Ginsburg, Leinwand and Decker, 2009

> *Because the mathematics concepts in [U.S.] textbooks are often weak, the presentation becomes more mechanical than is ideal. We looked at both traditional and non-traditional textbooks used in the US and found this conceptual weakness in both.*
>
> — Ginsburg et al., 2005

> *There are many ways to organize curricula. The challenge, now rarely met, is to avoid those that distort mathematics and turn off students.*
>
> — Steen, 2007

For over a decade, research studies of mathematics education in high-performing countries have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on the promise of common standards, the standards must address the problem of a curriculum that is "a mile wide and an inch deep." These Standards are a substantial answer to that challenge.

It is important to recognize that "fewer standards" are no substitute for focused standards. Achieving "fewer standards" would be easy to do by resorting to broad, general statements. Instead, these Standards aim for clarity and specificity.

Assessing the coherence of a set of standards is more difficult than assessing their focus. William Schmidt and Richard Houang (2002) have said that content standards and curricula are coherent if they are:

> *articulated over time as a sequence of topics and performances that are logical and reflect, where appropriate, the sequential or hierarchical nature of the disciplinary content from which the subject matter derives. That is, what and how students are taught should reflect not only the topics that fall within a certain academic discipline, but also the key ideas that determine how knowledge is organized and generated within that discipline. This implies*

> *that to be coherent, a set of content standards must evolve from particulars (e.g., the meaning and operations of whole numbers, including simple math facts and routine computational procedures associated with whole numbers and fractions) to deeper structures inherent in the discipline. These deeper structures then serve as a means for connecting the particulars (such as an understanding of the rational number system and its properties).* (emphasis added)

These Standards endeavor to follow such a design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the properties of operations to structure those ideas.

In addition, the "sequence of topics and performances" that is outlined in a body of mathematics standards must also respect what is known about how students learn. As Confrey (2007) points out, developing "sequenced obstacles and challenges for students…absent the insights about meaning that derive from careful study of learning, would be unfortunate and unwise." In recognition of this, the development of these Standards began with research-based learning progressions detailing what is known today about how students' mathematical knowledge, skill, and understanding develop over time.

Understanding mathematics

These Standards define what students should understand and be able to do in their study of mathematics. Asking a student to understand something means asking a teacher to assess whether the student has understood it. But what does mathematical understanding look like? One hallmark of mathematical understanding is the ability to justify, in a way appropriate to the student's mathematical maturity, *why* a particular mathematical statement is true or where a mathematical rule comes from. There is a world of difference between a student who can summon a mnemonic device to expand a product such as $(a + b)(x + y)$ and a student who can explain where the mnemonic comes from. The student who can explain the rule understands the mathematics, and may have a better chance to succeed at a less familiar task such as expanding $(a + b + c)(x + y)$. Mathematical understanding and procedural skill are equally important, and both are assessable using mathematical tasks of sufficient richness.

The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The Standards should be read as allowing for the widest possible range of students to participate fully from the outset, along with appropriate accommodations to ensure maximum participaton of students with special education needs. For example, for students with disabilities reading should allow for use of Braille, screen reader technology, or other assistive devices, while writing should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, speaking and listening should be interpreted broadly to include sign language. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.

~~The Standards begin on page 6 with eight Standards for Mathematical Practice.~~

PREAMBLE

Focus

In the past, mathematics standards and curricula were often criticized for covering too much content in each grade level. This created a "shallow" understanding of important math concepts as students moved through the grade levels. The Idaho Content Standards for Mathematics address this by concentrating on major and age-appropriate topics in each grade to allow students to focus their learning at a greater depth.

Coherence

Explicit connections of mathematics topics within each grade level and across grade levels results in coherence. Most of these connections happen across grade level, as the standards support a progression of increasing knowledge and skills.

Thinking across grades: The design of the Idaho Content Standards for Mathematics allows administrators and teachers to connect learning within and across grades. For example, the standards develop fractions and multiplication across elementary grade levels, so that students can build new understanding on foundations that were established in previous years. These topics directly connect to learning in the middle and high school grades as students deepen their knowledge of rational numbers and algebra concepts. Therefore, each standard builds on previous learning and is not a completely new topic.

Linking to major topics: Topics within a grade level are identified as major, additional, or supporting. This can be seen in each grade level overview. This identification allows for teachers to make connections between the additional and supporting topics and the major topics. For example, in grade three, bar graphs are not taught in isolation from other topics. Rather, students use information presented in bar graphs to solve problems using the four operations of arithmetic. Each grade level overview shows the major, supporting, and additional topics.

Rigor

Rigorous teaching in mathematics is more than increasing the difficulty or complexity of tasks. Incorporating rigor into classroom instruction and student learning means exploring at a greater depth the standards and ideas with which students are grappling. There are three components of rigor and each is equally important to student mastery: Conceptual Understanding, Procedural Skill and Fluency, and Application.

Conceptual Understanding refers to understanding mathematical concepts, operations, and relations. It is more than knowing isolated facts and methods. Students should be able to understand why a mathematical idea is important and the contexts in which it is useful. Conceptual understanding allows students to connect prior knowledge to new ideas and concepts.

Procedural Skill and Fluency is the ability to apply procedures accurately, efficiently, and flexibly while giving students opportunities to practice basic skills. Students' ability to solve more complex application tasks is dependent on procedural skill and fluency.

Application provides valuable context for learning and the opportunity to solve problems in a relevant and a meaningful way. Through real-world application, students learn to select an efficient method to find a solution, determine whether the solution makes sense by reasoning, and develop critical thinking skills. This may take the form of a word problem or other contextually related problem.

A Special Note about Procedural Skill and Fluency

Number sense is a fundamental bridge to algebraic thinking for middle and high school mathematics. As students increase their number sense, they see relationships between numbers, think flexibly, and recognize emerging patterns. They make reasonable estimates, compute fluently, and use visual models to apply procedures for solving problems based on the particular numbers involved. In short, "number sense reflects a deep understanding of mathematics, but it comes about through a mathematical mindset that is focused on making sense of numbers and quantities" (Boaler, 2016, p. 36). While speed is a component of fluency, it is not the only indicator that a student is fluent; rather, fluency can be observed by watching how the student engages with a particular problem. Furthermore, fluency does not require the most efficient strategy. The standards specify grade-level appropriate strategies or types of strategies with which students should demonstrate fluency (e.g., 1.OA.C.6 allows for students to use counting on, making ten, creating equivalent but easier or known sums, etc.). It should also be noted that teachers should expect some procedures to take longer than others (e.g., fluency with the standard algorithm for division, 6.NS.B.2, as compared to

fluently adding and subtracting within 10, 1.OA.C.6). Students with a strong number sense develop foundational skills which transfer to nearly all mathematical domains, from measurement and geometry to data and equations. Students continue to strengthen their number sense when they communicate ideas, explain their reasoning, and discuss the thinking of others. Discussing mathematical thinking with peers gives each student the opportunity to internalize a cohesive structure for numbers.

What the Idaho Content Standards in Mathematics Do

The standards define what all students are expected to know and be able to do, not how teachers should teach. While the standards focus on what is most essential, they do not describe all that can or should be taught. A great deal is left to the discretion of local school districts, teachers, and curriculum developers. No set of grade-level standards can reflect the great variety of abilities, needs, learning rates, and achievement levels in any given classroom. The standards define neither the support materials that some students may need, nor the advanced materials that others may need access to. It is also beyond the scope of the standards to define the full range of support appropriate for English learners and for students with disabilities. All students must have the opportunity to learn rigorous grade level standards if they are to access the knowledge and skills that will be necessary in their post-high-school lives.

Standards vs. Curriculum

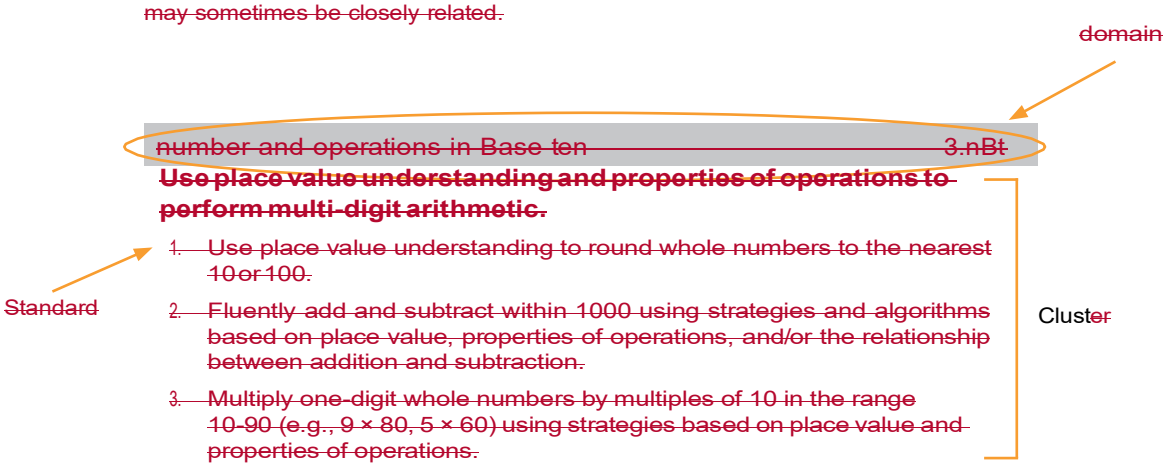
No specific curriculum or strategies are required by the State of Idaho to be used to teach the Idaho Content Standards in Mathematics. Local schools and districts make decisions about what resources will be used to teach the standards.

How to read the grade level standards

Standards define what students should understand and be able to do.

Clusters are groups of related standards. Note that standards from different clusters may sometimes be closely related, because mathematics is a connected subject.

domains are larger groups of related standards. Standards from different domains may sometimes be closely related.



These Standards do not dictate curriculum or teaching methods. For example, just because topic A appears before topic B in the standards for a given grade, it does not necessarily mean that topic A must be taught before topic B. A teacher might prefer to teach topic B before topic A, or might choose to highlight connections by teaching topic A and topic B at the same time. Or, a teacher might prefer to teach a topic of his or her own choosing that leads, as a byproduct, to students reaching the standards for topics A and B.

What students can learn at any particular grade level depends upon what they have learned before. Ideally then, each standard in this document might have been phrased in the form, "Students who already know ... should next come to learn ...." But at present this approach is unrealistic—not least because existing education research cannot specify all such learning pathways. Of necessity therefore, grade placements for specific topics have been made on the basis of state and international comparisons and the collective experience and collective professional judgment of educators, researchers and mathematicians. One promise of common state standards is that over time they will allow research on learning progressions to inform and improve the design of standards to a much greater extent than is possible today. Learning opportunities will continue to vary across schools and school systems, and educators should make every effort to meet the needs of individual students based on their current understanding.

These Standards are not intended to be new names for old ways of doing business. They are a call to take the next step. It is time for states to work together to build on lessons learned from two decades of standards based reforms. It is time to recognize that standards are not just promises to our children, but promises we intend to keep.

ORGANIZATION OF THE KINDERGARTEN TO GRADE 8 CONTENT STANDARDS

The Kindergarten through grade 8 content standards in this Framework are organized by **grade level**. Within each grade level, standards are grouped first by **domain**. Each domain is further subdivided into **clusters** of related standards.

- **Standards** define what students should understand and be able to do.
- **Clusters** are groups of related standards. Note that standards from different clusters may sometimes be closely related, because mathematics is a connected subject.
- **Domains** are larger groups of related standards. Standards from different domains may sometimes be closely related.

The table below shows which domains are addressed at each grade level:

Progression of K–8 Domains

Domain	Grade Level								
	K	1	2	3	4	5	6	7	8
Counting and Cardinality									
Operations and Algebraic Thinking									
Number and Operations in Base Ten									
Number and Operations – Fractions									
The Number System									
Ratios and Proportional Relationships									
Expressions and Equations									
Functions									
Measurement and Data									
Geometry									
Statistics and Probability									

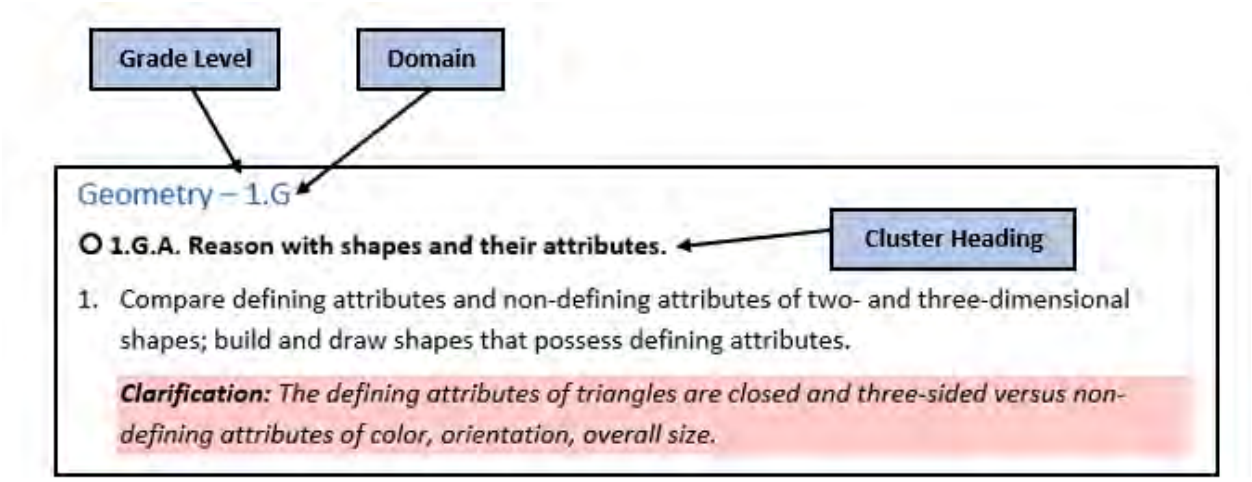
Format for Each Grade Level

Each grade level is presented in the same format:

- An introduction and description of the focus areas for learning at that grade.
- An overview of that grade's domains and clusters.
- The grade-level Standards for Mathematical Practice.
- The content standards for that grade (presented by domain, cluster heading, and individual standard).

Standards Identifiers/Coding

Each standard has a unique identifier that consists of the grade level (K, 1, 2, 3, 4, 5, 6, 7, or 8), the domain code, cluster code, and the standard number, as shown in the example below. The cluster heading also includes a shape (○) to describe its focus in relation to the other clusters within the grade level.



The standard highlighted above is identified as 1.G.A.1, identifying it as a grade 1 (1.) standard in the Geometry domain (G.), and as the first standard in that cluster (A.1). All of the standards use a common coding system.

THIS SECTION WAS REWRITTEN FOR EACH GRADE LEVEL TO SHOW SPECIFICALLY WHAT THE MATHEMATICAL PRACTICES LOOK LIKE AT THAT GRADE LEVEL.

Mathematics|Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).

1 **Make sense of problems and persevere in solving them.**
Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

2 **Reason abstractly and quantitatively.**
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

3 Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions,communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

4 Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

5 Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

6 Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use

clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitionsLook for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

7 **Look for and express regularity in repeated reasoning.**

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction.

The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices.

In this respect, those content standards which set an expectation of understanding are potential "points of intersection" between the Standards for Mathematical

~~Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.~~

~~Mathematics |~~Kindergarten

In Kindergarten, instruction~~al time~~ should focus on the following ~~two critical areas:~~ (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as 5 + 2 = 7 and 7 – 2 = 5. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

~~Grade~~ Kindergarten Overview

Counting and Cardinality

- ☐ A. Know number names and the count sequence.
- ☐ B. Count to tell the number of objects.
- ☐ C. Compare numbers.

Operations and Algebraic Thinking

- ☐ A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Number and Operations in Base Ten

- ☐ A. Work with numbers 11–19 to gain foundations for place value.

Measurement and Data

- ○ A Describe and compare measurable attributes.
- ☐ B. Classify objects and count the number of objects in categories.

Geometry

- ○ A Identify and describe shapes.

△ B. Analyze, compare, create, and compose shapes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Kindergarten Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.

In kindergarten, students begin to build the understanding that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Real-life experiences should be used to support students' ability to connect mathematics to the world. To help students connect the language of mathematics to everyday life, ask students questions such as "How many students are absent?" or have them gather enough blocks for the students at their table. Younger students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" or they may try another strategy.

MP.2 Reason abstractly and quantitatively.

Younger students begin to recognize that a number represents a specific quantity. Then, they connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities. For example, a student may write the numeral 11 to represent an amount of objects counted, select the correct number card 17 to follow 16 on a calendar, or build two piles of counters to compare the numbers 5 and 8. In addition, kindergarten students begin to draw pictures, manipulate objects, or use diagrams or charts to express quantitative ideas. Students need to be encouraged to answer questions such as "How do you know?", which reinforces their reasoning and understanding and helps student develop mathematical language.

MP.3 Construct viable arguments and critique the reasoning of others.

Younger students construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They also begin to develop their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?" They explain their thinking to others and respond to others' thinking. They begin to develop the ability to reason and analyze situations as they consider questions such as "Are you sure that ?", "Do you think that would happen all the time?", and "I wonder why ?"

MP.4 Model with mathematics.

In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. For example, a student may use cubes or tiles to show the different number pairs for 5, or place three objects on a 10-frame and then determine how many more are needed to "make a ten." Students rely on manipulatives (or other visual and concrete representations) while solving tasks and record an answer with a drawing or equation.

MP.5 Use appropriate tools strategically.

Younger students begin to consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, kindergarteners may decide that it might be advantageous to use linking cubes to represent two quantities and then compare the two representations side-by-side or later, make math drawings of the quantities. Students decide which tools may be helpful to use depending on the problem or task and explain why they use particular mathematical tools.

MP.6 Attend to precision.

Kindergarten students begin to develop precise communication skills, calculations, and measurements. Students describe their own actions, strategies, and reasoning using grade level appropriate vocabulary. Opportunities to work with pictorial representations and concrete objects can help students develop understanding and descriptive vocabulary. For example, students describe and compare two- and three-dimensional shapes and sort objects based on appearance. While measuring objects iteratively (repetitively), students check to make sure that there are no gaps or overlaps. During tasks involving number sense, students check their work to ensure the accuracy and reasonableness of solutions. Students should be encouraged to answer questions such as, "How do you know your answer is reasonable?"

MP.7 Look for and make use of structure.

Younger students begin to discern a pattern or structure in the number system. For instance, students recognize that $3 + 2 = 5$ and $2 + 3 = 5$. Students use counting strategies, such as counting on, counting all, or taking away, to build fluency with facts to 5. Students notice the written pattern in the "teen" numbers—that the numbers start with 1 (representing 1 ten) and end with the number of additional ones. Teachers might ask, "What do you notice when ?"

MP.8 Look for and express regularity in repeated reasoning.

In the early grades, students notice repetitive actions in counting, computations, and mathematical tasks. For example, the next number in a counting sequence is 1 more

when counting by ones and 10 more when counting by tens (or 1 more group of 10). Students should be encouraged to answer questions such as, "What would happen if ?" and "There are 8 crayons in the box. Some are red and some are blue. How many of each could there be?" Kindergarten students realize 8 crayons could include 4 of each color ($8 = 4 + 4$), 5 of one color and 3 of another ($8 = 5 + 3$), and so on. For each solution, students repeatedly engage in the process of finding two numbers to join together to equal 8.

Counting and Cardinality K.CC

☐ K.CC.A. Know number names and the count sequence.

1. Count to 100 by ones and by tens.
2. Starting at a given number, ~~C~~count forward within 100 and backward within 20. ~~beginning from a given number within the known sequence (instead of having to begin at 1).~~
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

☐ K.CC.B. Count to tell the number of objects.

4. Understand the relationship between numbers and quantities; connect counting to cardinality.
   a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
   b. Understand that the last number name said tells the number of objects counted. The number of objects ~~s~~ is the same regardless of their arrangement or the order in which they were counted.
   c. Understand that each successive number name refers to a quantity that is one larger. Recognize the one more pattern of counting using objects.

~~5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.~~

5. Given a group of up to 20 objects, count the number of objects in that group and state the number of objects in a rearrangement of that group without recounting given a verbal or written number from 0–20, count out that many objects.

Clarification: Objects can be arranged in a line, a rectangular array, or a circle. For as many as 10 objects, they may be arranged in a scattered configuration.

☐ K.CC.C. Compare numbers.

6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups with up to 10 objects. ~~e.g., by using matching and counting strategies~~.[1]
7. Compare two numbers between 1 and 10 presented as written numerals.

Operations and Algebraic Thinking K.OA

☐ K.OA.A Understand addition as putting together and adding to, and under- stand subtraction as taking apart and taking from.

1. Represent addition and subtraction of two whole numbers within 10. Use ~~with~~ objects, fingers, mental images, drawings[2], sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
2. Solve addition and subtraction word problems, and add and subtract within 10, ~~e.g.,~~ by using physical, visual, and symbolic representations. ~~objects or drawings to represent the problem.~~

~~2.~~ ***Clarification:*** *Students are not expected to independently read word problems.*

~~3.~~ 3. Decompose whole numbers from 1 to 10 into pairs in more than

one way by using physical visual or symbolic representations. ~~less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).~~

***Example**: Decomposing* 5 *may include* $5 = 2 + 3$ *and* $5 = 4 + 1$.

~~4.~~ 4. For any given whole number from 1 to 9, find the number that makes 10 when added to the ~~given~~ number, ~~e.g.,~~ by using physical, visual, or symbolic representations~~objects or drawings, and record the answer with a drawing or equation.~~

5. Fluently add and subtract within five, including zero~~5~~.

~~5.~~ ***Clarification:** Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility*

~~[1]Include groups with up to ten objects.~~
~~[2]Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)~~

Number and Operations in Base Ten K.NBT

☐ K.NBT.A. Work with numbers 11–19 to gain foundations for place value.

1. Compose (put together) and decompose (break apart) numbers from 11 to 19 into ten ones and some further ones and record , e.g., by using objects or drawings, and record each composition or decomposition by physical, visual, or symbolic representations a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

***Example**: Recording the decomposition of* 18 *may look like* $18 = 10 + 8$.

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Measurement and Data K.MD

○ K.MD.A. Describe and compare measurable attributes.

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

△ K.MD.B. **Classify objects and count the number of objects in each category.**

3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.[3]

Geometry K.G

○ K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.
2. Correctly name shapes regardless of their orientations or overall size.
3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

△ K.G.B **Analyze, compare, create, and compose shapes.**

4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).

***Examples**:*

1) Number of sides and vertices/ "corners"

4. *2) Having sides of equal length*

5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

Clarification: *Components/materials may include: sticks, clay balls, marshmallows and/or spaghetti.*

6. Compose simple shapes to form larger two-dimensional shapes.

~~6.~~ *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*

[3] ~~Limit category counts to be less than or equal to 10.~~

~~Mathematics | Grade 1~~FIRST GRADE

In first grade~~Grade 1~~, instruction~~al time~~ should focus on the following ~~four critical areas:~~ (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

(1) Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

(2) Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

(3) Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.[1]

(4) Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

[1]Students should apply the principle of transitivity of measurement to make indirect comparisons, but they need not use this technical term.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (☐). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

First Grade~~Grade 1~~ Overview

Operations and Algebraic Thinking

- ☐ A. Represent and solve problems involving addition and subtraction.
- ☐ B. Understand and apply properties of operations and the relationship between addition and subtraction.
- ☐ C. Add and subtract within 20.
- ☐ D. Work with addition and subtraction equations.

Number and Operations in Base Ten

- ☐ A. Extend the counting sequence.
- ☐ B. Understand place value.
- ☐ C. Use place value understanding and properties of operations to add and subtract.

Measurement and Data

☐ A. Measure lengths indirectly and by iterating length units.
○ B. Tell and write time.
△ C. Represent and interpret data.
△ D. Work with money.

Geometry

- ○ A. Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For first grade this standard is:

- 1.OA.C.6 Demonstrate fluency for addition and subtraction within 10, use strategies to add and subtract within 20.

First Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.

In first grade, students realize that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Younger students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They are willing to try other approaches.

MP.2 Reason abstractly and quantitatively.

Younger students recognize that a number represents a specific quantity. They connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities. In first grade students make sense of quantities and relationships while solving tasks. They represent situations by decontextualizing tasks into numbers and symbols. For example, "There are 60 children on the playground and some children go line up. If there are 20 children still playing, how many children lined up?" Students translate the situation into the equation: $60 - 20 = \square$ and then solve the task. Students also contextualize situations during the problem-solving process. For example, students refer to the context of the task to determine they need to subtract 20 from 60 because the total number of children on the playground is the 20 less than the original number of children playing. Students might also reason about ways to partition two-dimensional geometric figures into halves and fourths.

MP.3 Construct viable arguments and critique the reasoning of others.

First graders construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They also practice their mathematical communication skills as they

participate in mathematical discussions involving questions like "How did you get that?", "Explain your thinking.", and "Why is that true?" They not only explain their own thinking, but listen to others' explanations. They decide if the explanations make sense and ask questions. For example, "There are 15 books on the shelf. If you take some books off the shelf and there are now 7 left, how many books did you take off the shelf?" Students might use a variety of strategies to solve the task and then share and discuss their problem-solving strategies with their classmates.

MP.4 Model with mathematics.

In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. First grade students model real-life mathematical situations with a number sentence or an equation and check to make sure equations accurately match the problem context. Students use concrete models and pictorial representations while solving tasks and also write an equation to model problem situations. For example, to solve the problem, "There are 11 bananas on the counter. If you eat 4 bananas, how many are left?" students could write the equation $11 - 4 = 7$. Students also create a story context for an equation such as $13 - 7 = 6$.

MP.5 Use appropriate tools strategically.

In first grade, students begin to consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, first graders decide it might be best to use colored chips to model an addition problem. In first grade students use tools such as counters, place value (base ten) blocks, hundreds number boards, number lines, concrete geometric shapes (e.g., pattern blocks, 3-dimensional solids), and virtual representations to support conceptual understanding and mathematical thinking. Students determine which tools are the most appropriate to use. For example, when solving $12 + 8 = \square$, students explain why place value blocks are more appropriate than counters.

MP.6 Attend to precision.

As young children begin to develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and when they explain their own reasoning. In grade one, students use precise communication, calculation, and measurement skills. Students are able to describe their solution strategies to mathematical tasks using grade-level appropriate vocabulary, precise explanations, and mathematical reasoning. When students measure objects iteratively (repetitively), they check to make sure

there are no gaps or overlaps. Students regularly check their work to ensure the accuracy and reasonableness of solutions.

MP.7 Look for and make use of structure.

First graders begin to discern a pattern or structure. For instance, if students recognize $12 + 3 = 15$, then they also know $3 + 12 = 15$. (Commutative property of addition.) To add $4 + 6 + 4$, the first two numbers can be added to make a ten, so $4 + 6 + 4 = 10 + 4 = 14$. While solving addition problems, students begin to recognize the commutative property, for example $7 + 4 = 11$, and $4 + 7 = 11$. While decomposing two-digit numbers, students realize that any two-digit number can be broken up into tens and ones, e.g. $35 = 30 + 5$, $76 = 70 + 6$. Grade one students make use of structure when they work with subtraction as a missing addend problem, such as $13 - 7 = \square$ can be written as $7 + \square = 13$ and can be thought of as how much more do I need to add to 7 to get to 13?

MP.8 Look for and express regularity in repeated reasoning.

First grade students begin to look for regularity in problem structures when solving mathematical tasks. For example, students add three one-digit numbers by using strategies such as "make a ten" or doubles. Students recognize when and how to use strategies to solve similar problems. For example, when evaluating $8 + 7 + 2$, a student may say, "I know that 8 and 2 equals 10, then I add 7 to get to 17. It helps if I can make a 10 out of two numbers when I start." Students use repeated reasoning while solving a task with multiple correct answers. For example, students might solve the problem, "There are 12 crayons in the box. Some are red and some are blue. How many of each could there be?" Students use repeated reasoning to find pairs of numbers that add up to 12 (e.g., the 12 crayons could include 6 of each color ($6 + 6 = 12$), 7 of one color and 5 of another ($7 + 5 = 12$), etc.)

Operations and Algebraic Thinking 1.OA

☐ 1.OA.A. Represent and solve problems involving addition and subtraction.

1. ~~Solve~~ ~~Use~~ addition and subtraction within 20 ~~to solve word problems~~ involving situations of adding to, taking from, putting together, taking apart,
aand comparing, with unknowns in all positions, ~~e.g.,~~ by using physical, visual, and symbolic representations. ~~objects, drawings, and equations with a symbol for the unknown number to represent the problem.~~[2]

Clarification: *Students are not expected to independently read word problems.*

2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 by using physical, visual, and symbolic representations., ~~e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.~~

~~2.~~ ***Clarification:*** *Students are not expected to independently read word problems.*

☐ 1.OA.B. Understand and apply properties of operations and the relationship between addition and subtraction.

3. Apply properties of operations as strategies to add. ~~and subtract.~~[3] *Examples: 1) If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) 2) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*

~~3.~~ **Clarification:** Students need not use formal terms for these properties.

~~4. Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*~~

4. Restate a subtraction problem as a missing addend problem using the relationship between addition and subtraction.

Example: *The equation* $12 - 7 = ?$ *can be restated as* $7 + ? = 12$ *to determine the difference is* 5.

☐ 1.OA.C. Add and subtract within 20.

5. Relate counting to addition and subtraction ~~(e.g., by counting on 2 to add 2).~~

Example: *When students count on* 3 *from* 4*, they should write this as* $4 + 3 = 7$*. When students count on for subtraction,* 3 *from* 7*, they should connect this to* $7 - 3 = 4$*. Students write "*$7 - 3 = ?$*" and think "I count on* $3 + ? = 7$*."*

~~5.~~

~~6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).~~

6. Demonstrate fluency for addition and subtraction within 10, use strategies to add and subtract within 20.

Clarification: *Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

Students may use mental strategies such as counting on; making 10, decomposing a number leading to a 10, using the relationship between addition and subtraction; and creating equivalent but easier or known sums.

☐ 1.OA.D. **Work with addition and subtraction equations.**

~~7.~~1. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*

2. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers, with the unknown in any ~~position~~. .
For example, determine the unknown number that makes the equation true in each of the equations 8 +? = 11, 5 = – 3, 6 + 6 = .

Number and Operations in Base Ten 1.NBT

☐ **1.NBT.A. Extend the counting sequence.**

~~1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.~~

1. Starting at a given number, count forward and backwards within 120 by ones. Skip count by twos to 20, by fives to 100, and by tens to 120. In this range, read and write numerals and represent a number of objects with a written numeral.

☐ 1.NBT.B. **Understand place value.**

2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand ~~the following as special cases~~:

   a. 10 can be thought of as a bundle of ten ones — called a “ten.”

   b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

   c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

~~[2] See Glossary, Table 1.~~
~~[3] Students need not use formal terms for these properties.~~

3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

☐ 1.NBT.C. **Use place value understanding and properties of operations to add and subtract.**

4. Add whole numbers within 100 by using physical, visual and symbolic representations, with and emphasis on ~~,~~ ~~including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on~~ place value, properties of operations, and/or the relationship between addition and subtraction;
~~relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.~~
a. Add a two-digit number and a one-digit number.
b. Add a two-digit number and a multiple of 10.
c. Understand that when adding two-digit numbers, combine like base-ten units such as tens and tens, one and ones, and sometimes it is necessary to compose a ten.

5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 ~~(positive or zero differences), using concrete models or drawings and strategies based~~ by using physical, visual, and symbolic representations, with an emphasis, on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Measurement and Data 1.MD

☐ **1.MD.A Measure lengths indirectly and by iterating length units.**

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.

2. Express the length of an object as a whole number of length units~~,~~ by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. ~~*Limit to*~~

Clarification: *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. Include use of standard units such as inch-tiles or centimeter tiles.*

○ 1.MD.B. **Tell and write time.**

3. Tell and write time in hours and half-hours using analog and digital clocks.

△ 1.MD.C. **Represent and interpret data.**

4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

△ **1.MD.D. Work with money.**

5. Identify quarters, dimes, and nickels and relate their values to pennies. Find equivalent values (e.g., a nickel is equivalent to five pennies).

~~4.~~

Geometry	1.G

1.G.A. Reason with shapes and their attributes.

1. ~~Distinguish between~~ Compare defining attributes ~~(e.g., triangles are closed and three-sided) versus~~ and non-defining attributes of two- and three-dimensional shapes; ~~(e.g., color, orientation, overall size~~); build and draw shapes to possess defining attributes.

~~1.~~ ***Clarification:*** *The defining attributes of triangles are closed and three-sided versus non-defining attributes of color, orientation, overall size.*

2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.[4]

Clarification: *Students do not need to learn formal names such as "right rectangular prism."*

3. Partition circles and rectangles into two and four equal shares. ~~,~~ Understand for these examples that decomposing into more equal shares creates smaller shares.

~~3.~~ a~~d~~escribe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*.

~~3.~~ B. Describe the whole as two of, or four of the shares. ~~Understand for these examples that decomposing into more equal shares creates smaller shares.~~ (moved to #3 above)

[4] ~~Students do not need to learn formal names such as "right rectangular prism."~~

~~Mathematics | Grade 2~~ Second Grade

In second g~~G~~rade 2, instruction~~al time~~ should focus on the following: ~~four critical areas:~~ (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

(1) Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).

(2) Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.

(3) Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.

(4) Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Second Grade ~~2~~ Overview

Operations and Algebraic Thinking

- ☐ A. Represent and solve problems involving addition and subtraction.
- ☐ B. Add and subtract within 20.
- △ C. Work with equal groups of objects to gain foundations for multiplication.

Number and Operations in Base Ten

- ☐ A. Understand place value.
- ☐ B. Use place value understanding and properties of operations to add and subtract.

Measurement and Data

- ☐ A. Measure and estimate lengths in standard units.
- ☐ B Relate addition and subtraction to length.
- △ C. Work with time and money.
- △ D. Represent and interpret data.

Geometry

- ○ A. Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For second grade these standards are:

- 2.OA.B.2 Demonstrate fluency for addition and subtraction within 20 using mental strategies. By the end of Grade 2, recall basic facts to add and subtract within 20 with automaticity.

2.NBT.5 Fluently add and subtract whole numbers within 100 using understanding of place value and properties of operations.

Second Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.

In second grade, students realize that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. They may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They make conjectures about the solution and plan out a problem-solving approach. An example for this might be giving a student an equation and having him/her write a story to match.

MP.2 Reason abstractly and quantitatively.

Younger students recognize that a number represents a specific quantity. They connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities. Second graders begin to know and use different properties of operations and relate addition and subtraction to length. In second grade students represent situations by decontextualizing tasks into numbers and symbols. For example, in the task, "There are 25 children in the cafeteria, and they are joined by 17 more children. How many students are in the cafeteria?" Students translate the situation into an equation, such as: $25 + 17 = \square$ and then solve the problem. Students also contextualize situations during the problem-solving process. For example, while solving the task above, students might refer to the context of the task to determine that they need to subtract 19 if 19 children leave.

MP.3 Construct viable arguments and critique the reasoning of others.

Second graders may construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They practice their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?", "Explain your thinking.", and "Why is that true?" They not only explain their own thinking, but listen to others' explanations. They decide if the explanations make sense and ask appropriate questions. Students critique the strategies and reasoning of their classmates. For example, to solve $74 - 18$, students may use a variety of strategies, and after working on the task, they might discuss and critique each other's' reasoning and strategies, citing similarities and differences between various problem-solving approaches.

MP.4 Model with mathematics.

In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. In grade two students model real-life mathematical situations with a number sentence or an equation and check to make sure that their equation accurately matches the problem context. They use concrete manipulatives and pictorial representations to explain the equation. They create an appropriate problem situation from an equation. For example, students create a story problem for the equation $43 + 17 = \square$ such as "There were 43 gumballs in the machine. Tom poured in 17 more gumballs. How many gumballs are now in the machine?"

MP.5 Use appropriate tools strategically.

In second grade, students consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be better suited. For instance, second graders may decide to solve a problem by drawing a picture rather than writing an equation. Students may use tools such as snap cubes, place value (base ten) blocks, hundreds number boards, number lines, rulers, virtual manipulatives, and concrete geometric shapes (e.g., pattern blocks, three-dimensional solids). Students understand which tools are the most appropriate to use. For example, while measuring the length of the hallway, students can explain why a yardstick is more appropriate to use than a ruler.

MP.6 Attend to precision.

As children begin to develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and when they explain their own reasoning. Second grade students communicate clearly, using grade-level appropriate vocabulary accurately and precise explanations and reasoning to explain their process and solutions. For example, while measuring an object, students carefully line up the tool correctly to get an accurate measurement. During tasks involving number sense, students consider if their answer is reasonable and check their work to ensure the accuracy of solutions.

MP.7 Look for and make use of structure.

Second grade students look for patterns and structures in the number system. For example, students notice number patterns within the tens place as they connect skip counting by 10s to corresponding numbers on a 100s chart. Students see structure in the base-ten number system as they understand that 10 ones equal a ten, and 10 tens equal a

hundred. Students adopt mental math strategies based on patterns (making ten, fact families, doubles). They use structure to understand subtraction as missing addend problems (e.g., $50 - 33 = \square$ can be written as $33 + \square = 50$ and can be thought of as "How much more do I need to add to 33 to get to 50?")

MP.8 Look for and express regularity in repeated reasoning.

Second grade students notice repetitive actions in counting and computation (e.g., number patterns to skip count). When children have multiple opportunities to add and subtract, they look for shortcuts, such as using estimation strategies and then adjust the answer to compensate. Students continually check for the reasonableness of their solutions during and after completing a task by asking themselves, "Does this make sense?"

Operations and Algebraic Thinking 2.OA

☐ 2.OA.A. Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions by using physical, visual, and symbolic representations. , e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]

☐ 2.OA.B. Add and subtract within 20.

2. Demonstrate Ffluenctly for addition and subtraction within 20 using mental strategies.[2] By end of Grade 2, recal basic facts to add and subtract within 20 with automaticity. know from memory all sums of two one-digit numbers.

Clarification: *Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

Students may use mental strategies such as counting on; making 10; decomposing a number leading to a 10; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.

2.

△ 2.OA.C. Work with equal groups of objects to gain foundations for multiplication.

3. 3. Determine whether a group of objects (up to 20) has an odd or even number of members and , e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

Clarification: *Students may pair objects or count them by twos.*

3. 4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Example*: The total number of objects arranged in a* 2×5 *rectangular array can be found by adding* $2 + 2 + 2 + 2 + 2$.

4.

Number and Operations in Base Ten 2.NBT

☐ 2.NBT.A Understand place value.

1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. Understand:

1. ; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:

   a. 100 can be thought of as a bundle of ten tens — called a

"hundred."

b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

***Example**: The number* 241 *can be expressed as* 2 *hundreds +* 4 *tens +* 1 *one or as* 24 *tens +* 1 *one or as* 241 *ones.*

2. Count within 1000; skip-count by 5s, 10s, and 100s. Identify patterns in skip counting starting at any number.

~~2.~~

3. ~~3.~~ Read and write numbers to 1000 using standard form, expanded form, and word form. ~~base-ten numerals, number names, and expanded form.~~

***Example**: The number two-hundred forty-one written in standard form is* 241 *and in expanded form is* $200 + 40 + 1$.

4. ~~4.~~ Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, recording the results of comparisons with the symbols ~~using~~ >, =, and < symbols ~~to record the results of comparisons.~~

☐ 2.NBT.B. **Use place value understanding and properties of operations to add and subtract.**

5. Fluently add and subtract whole numbers within 100 using understanding of ~~strategies based on~~ place value and, ~~,~~ properties of operations. ~~,~~

~~and/or the relationship between addition and subtraction.~~

~~5.~~ ***Clarification:** Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

6. Add up to four two-digit numbers using strategies based on place value and properties of operations.

7. Add and subtract whole numbers within 1000, using physical, visual and symbolic representations, which an emphasis ~~concrete models or drawings and strategies based~~ on place value, properties of operations, and/or the relationships between addition and subtraction~~; relate the strategy to a written method~~.
a. Understand that in adding or subtracting three- digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones;
b. Understand that ~~and~~ sometimes it is necessary to compose or decompose tens or hundreds.

~~7.~~

***Example:** Students may use equations to represent their strategies based on place value such as:* $324 + 515 = (300 + 500) + (20 + 10) + (4 + 5) = 839$.

8. Use mental strategies to add or subtract a number that is ten more, ten less, one hundred more and one hundred less than a given three-digit number.

~~8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.~~

~~9.~~ 9. Explain why addition and subtraction strategies work, using place value and the properties of operations.~~[3]~~

~~[1]See Glossary, Table 1.~~
~~[2]See standard 1.OA.6 for a list of mental strategies.~~
~~[3]Explanations may be supported by drawings or objects.~~

Measurement and Data 2.MD

☐ 2.MD.A. Measure and estimate lengths in standard units.

1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
3. Estimate lengths using units of inches, feet, centimeters, and meters.
4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

☐ 2.MD.B. Relate addition and subtraction to length.

5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units. ~~, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.~~

~~5.~~ ***Clarification:*** *Students may use drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.*

6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

△ 2.MD.C. Work with time and money.

7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies (up to $10), , using $ and ¢ symbols appropriately and whole dollar amounts

~~8.~~ ~~.~~*Example: A sample question could be, "If you have 2 dimes and 3 pennies, how many cents do you have? If you have $3 and 4 quarters, how many dollars or cents do you have?"*

△ 2.MD.D Represent and interpret data.

9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. ~~Show the measurements by making~~ Organize and record data on a line plot (dot plot) ~~a line plot,~~ where the horizontal scale is marked off in whole-number units.
10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems[4] using information presented in the ~~a bar~~ graph.

Geometry 2.G

○ 2.G.A. Reason with shapes and their attributes.

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.[5] Identify triangles, squares, rectangles, rhombi, trapezoids, ~~quadrilaterals,~~ pentagons, hexagons, octagons and cubes.
2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
3. Partition circles and rectangles into two, three, or four equal shares. Understand for these examples that decomposing into more or

equal shares creates smaller shares.

a.~~,~~ D~~d~~escribe the shares using the words *halves*, *thirds*, fourths and quarter, and use the phrases *half of*, *a third of*, a fourth of and a quarter of. ~~etc., and~~

b. ~~d~~Describe the whole as two of, three of, or four of the shares. ~~halves, three thirds, four fourths.~~

~~3.~~ c. Recognize that equal shares of identical wholes need not have the same shape.

~~[4]See Glossary, Table 1.~~

~~[5]Sizes are compared directly or visually, not compared by measuring.~~

Third ~~Mathematics |~~ Grade ~~3~~

In third g~~G~~rade ~~3~~, instruction~~al time~~ should focus on the following: ~~four critical areas~~: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

(1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

(2) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, 1/2 of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

(3) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.

(4) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (☐). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Third Grade ~~3~~ Overview

Operations and Algebraic Thinking

- ☐ A. Represent and solve problems involving multiplication and division.
- ☐ B. Understand properties of multiplication and the relationship between multiplication and division.
- ☐ C. Multiply and Divide Within 100.
- ☐ D. Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Number and Operations in Base Ten

- ○ A. Use place value understanding and properties of operations to perform multi-digit arithmetic.

Number and Operations—Fractions

- ☐ A. Develop understanding of fractions as numbers.

Measurement and Data

- ☐ A. Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
- △ B. Represent and Interpret Data.
- ☐ C. Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
- ○ D. Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Geometry

- △ A. Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For third grade these standards are:

- 3.OA.C.7.b Demonstrate fluency for multiplication within 100. Know from memory all products of two single-digit numbers and related division facts.
- 3.NBT.A.2* Fluently add and subtract whole numbers within 1000 using understanding of place value and properties of operations.

**Designated as a mastery standard because students in third grade fluently add and subtract within 1000 using methods based on place value, properties of operations, and/or the relationship between addition and subtraction. They focus on methods that generalize readily to larger numbers so the relationship between addition and subtraction that these methods can be extended to 1,000,000 in fourth grade and fluency can be reached with such larger numbers.*

Third Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.

In third grade, mathematically proficient students know that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Students may use concrete objects, pictures, or drawings to help them conceptualize and solve problems, such as "Jim purchased 5 packages of muffins. Each package contained 3 muffins. How many muffins did Jim purchase?" or "Describe another situation where there would be 5 groups of 3 or 5×3." Students may check their thinking by asking themselves, "Does this make sense?" Students listen to other students' strategies and are able to make connections between various methods for a given problem.

MP.2 Reason abstractly and quantitatively.

Third graders should recognize that a number represents a specific quantity. They connect the quantity to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities. For example: students apply their understanding of the meaning of the equal sign as "the same as" to interpret an equation with an unknown. When given $4 \times \square = 40$, they might think:

- 4 groups of some number is the same as 40
- 4 times some number is the same as 40
- I know that 4 groups of 10 is 40 so the unknown number is 10
- The missing factor is 10 because 4 times 10 equals 40.

Teachers might ask, "How do you know" or "What is the relationship between the quantities?" to reinforce students' reasoning and understanding.

MP.3 Construct viable arguments and critique the reasoning of others.

Students may construct arguments using concrete referents, such as objects, pictures, and drawings. They refine their mathematical communication skills as they participate in mathematical discussions that the teacher facilities by asking questions such as "How did you get that?" and "Why is that true?" Students explain their thinking to others and respond to others' thinking. For example, after investigating patterns on the 100s chart, students might explain why the pattern makes sense.

MP.4 Model with mathematics.

Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Third graders should evaluate their results in the context of the situation and reflect on whether the results make sense. For example, students use various contexts and a variety of models (e.g., circles, squares, rectangles, fraction bars, and number lines) to represent and develop understanding of fractions. Students use models to represent both equations and story problems and can explain their thinking. They evaluate their results in the context of the situation and reflect on whether the results make sense. Students should be encouraged to answer questions, such as "What math drawing or diagram could you make and label to represent the problem?" or "What are some ways to represent the quantities?"

MP.5 Use appropriate tools strategically.

Third graders consider the available tools (including drawings and estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use graph paper to find all the possible rectangles that have a given perimeter. They compile the possibilities into an organized list or a table and determine whether they have all the possible rectangles. Students should be encouraged to answer questions such as, "Why was it helpful to use ?"

MP.6 Attend to precision.

As third graders develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, when figuring out the area of a rectangle they record their answers in square units.

MP.7 Look for and make use of structure.

Students look closely to discover a pattern or structure. For instance, students use properties of operations (e.g., commutative and distributive properties) as strategies to multiply and divide. Teachers might ask, "What do you notice when ?" or "How do you know if something is a pattern?"

MP.8 Look for and express regularity in repeated reasoning.

Students in third grade should notice repetitive actions in computation and look for more shortcut methods. For example, students use the distributive property as a strategy for using products they know to solve products that they do not know. For example, if students are asked to find the product of 7×8, they might decompose 7 into 5 and 2 and then multiply 5×8 and 2×8 to arrive at $40 + 16$ or 56. In addition, third graders continually

evaluate their work by asking themselves, “Does this make sense? Students should be encouraged to answer questions, such as, “What is happening in this situation?” or “What predictions or generalizations can this pattern support?”

Operations and Algebraic Thinking 3.OA

☐ 3.OA.A. Represent and solve problems involving multiplication and division.

1. Interpret products of whole numbers as grouping of sets, , e.g., interpret 5 × 7 ~~as the total number of objects in~~ 5 groups of 7 objects each. ~~*For example, describe a context in which a total number of objects can be expressed as 5 × 7.*~~

~~2.~~ 2. Interpret a quotient of whole numbers as equal sharing, e.g., 56 ÷ 8 as the number in each share when 56 objects are split into 8 equal shares, or as the number of shares when 56 objects are split into equal shares of 8 objects each. ~~whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*~~

~~3.~~ 3. Use multiplication and division within 100 to solve word ~~problems in situations~~ involving equal groups, arrays, and measurements by using visual and symbolic representations ~~quantities, e.g., by using drawings and equations~~ with a symbol for an~~the~~ unknown number. ~~to represent the problem.~~[4]

4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers.

~~4.~~ E~~For e~~*xample, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = □ ÷ 3, 6 × 6 = ?.*

☐ 3.OA.B. Understand properties of multiplication and the relationship between multiplication and division.

5. Apply properties of operations as strategies to multiply and divide.

~~5.~~ ~~[2] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*~~

Clarification: *Students need not use formal terms for these properties (identity, communicative, associative, distributive).*

~~6.~~2. Understand division as determining an unknown-factor in a multiplication problem. ~~*For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*~~

☐ 3.OA.C. Multiply and divide within 100.

~~7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.~~

7. Demonstrate fluency for multiplication within 100.

a. Demonstrate understanding of strategies that make use of the relationship between multiplication and division or properties of operations.

b. Know from memory all products of two single-digit numbers and related division facts.

Clarification: *Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

☐ 3.OA.D. **Solve problems involving the four operations, and identify and explain patterns in arithmetic.**

8. Solve two-step word problems involving whole numbers using the four operations.

a. Represent these problems using equations with a letter standing for the unknown quantity.

~~8.~~ b. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.[3]

9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. ~~*For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*~~

Example*: Arithmetic patterns are patterns that change by the same rate, such as adding the same number the series* 2, 4, 6, 8, 10 *is an arithmetic pattern that increases by* 2 *between each term.*

~~9.~~

~~[1]See Glossary, Table 2.~~
~~[2]Students need not use formal terms for these properties.~~
~~[3]This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).~~

Number and Operations in Base Ten 3.NBT

○ 3.NBT.A. Use place value understanding and properties of operations to perform multi-digit arithmetic.[4]

1. ~~Use place value understanding to round whole numbers to the nearest 10 or 100.~~Round a whole number to the tens or hundreds place, using place value understanding or a visual representation.

2. Fluently add and subtract whole numbers within 1000 ~~using strategies and algorithms based on~~ understanding of place value, properties of operations~~, and/or the relationship between addition and subtraction.~~

Clarification: *Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

~~2.~~

~~3.~~ 3. Multiply one-digit whole numbers by multiples of 10 in the range 10– 90 using understanding ~~(e.g., 9 × 80, 5 × 60) using strategies based on~~ place value and properties of operations.

Number and Operations—Fractions[5] 3.NF

□ 3.NF.A Develop understanding of fractions as numbers.

1. Understand a fraction 1/*b* as the quantity formed by 1 part when a whole (a single unit) is partitioned into *b* equal parts; understand ~~a fraction~~ *a*/*b* as the quantity formed by *a* parts of size 1/*b*.
2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.
   a. Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the fraction 1/b is ~~endpoint of the part based at 0~~ located~~s~~ ~~the number~~ 1/*b* *of a whole unit from 0* on the number line.
   b. Represent a fraction *a*/*b* on a number line diagram by marking off *a* length~~s~~ 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.
3. Explain equivalence of fractions~~, in special cases,~~ and compare fractions by reasoning about their size, in limited cases.
   a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
   b. Recognize and generate simple equivalent fractions, ~~e.g., 1/2 = 2/4, 4/6 = 2/3.~~ and ~~E~~explain why the fractions are equivalent, such as ~~e.g.,~~ by using a visual fraction model.

Example: $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$

~~b.~~

   c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.

c. ~~E~~*Example~~s~~: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*

d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize th~~e~~at comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions~~, e.g., by~~ using ~~a~~ visual representations and/or verbal reasoning ~~fraction model.~~

Measurement and Data	3.MD

☐ 3.MD.A. Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

~~1.~~ Tell and write time to the nearest minute within the same hour and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, ~~e.g., by representing the problem on a number line diagram.~~

1.

Clarification: *Students may use tools such as clocks, number line diagrams, and tables to solve problems involving time intervals.*

2. Identify and use the appropriate tools and units of measurement, both customary and metric, to solve one-step word problems using the four operations involving weight, mass, liquid volume, and capacity (within the same system and unit).

Clarification: *Students may use drawings (such as a beaker with a measurement scale) to represent the problem.*

This standard does not include conversions between units. The focus is on measuring and reasonable estimates, use benchmarks to measure weight, and capacity.

~~[4]A range of algorithms may be used.~~

~~[5]Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.~~

~~2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[6] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[7]~~

△ 3.MD.B. **Represent and interpret data.**

3. Draw a scaled picture graph and ~~a~~ scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.

~~3.~~ *~~For e~~Example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Record and ~~S~~show the data by making a line plot (dot plot), where the horizontal scale is marked off in appropriate units—whole numbers, halves, or fourths~~quarters~~.

☐ 3.MD.C **Geometric measurement: understand concepts of area and relate area to multiplication and to addition.**

5. Recognize area as an attribute of plane figures and understand concepts of area measurement.
   a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
   b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.
6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard ~~improvised~~ units).
7. Relate area to the operations of multiplication and addition.
   a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
   b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
   c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths *a* and *b* + *c* is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

Example: *Using the distributive property, the area of a shape that is* 6 *by* 7 *can be determined by finding the area of the* 6×5 *section and the* 6×2 *section and then adding the two products together.*

   d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

***Example**: A pool is comprised of two non-overlapping rectangles in the shape of an "L". The area for a cover of a pool can be found by adding the areas of the two non-overlapping rectangles.*

~~d.~~

○ 3.MD.D. **Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.**

8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

~~[6]Excludes compound units such as cm³ and finding the geometric volume of a container.~~
~~[7]Excludes multiplicative comparison problems (problems involving notions of "times as much"; see Glossary, Table 2).~~

Geometry	3.G

△ 3.G.A. Reason with shapes and their attributes.

1. Understand that shapes in different categories ~~(e.g., rhombuses, rectangles, and others)~~ may share attributes, ~~(e.g., having four sides),~~ and that the shared attributes can define a larger category. ~~(e.g., quadrilaterals).~~ Recognize rhombi~~uses~~, rectangles, ~~and~~ squares, and trapezoids as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
2. Partition two-diminsional figures ~~shapes into parts with~~ equal areas, and. ~~E~~express the area of each part as a unit fraction of the whole.
3.

2. ~~For e~~*Example: Draw lines to separate ~~, partition~~ a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*

~~Mathematics |~~ Fourth Grade ~~4~~

In ~~fourth grade Grade 4~~, instruction~~al time~~ should focus on the following ~~three critical areas:~~ (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) and understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., 15/9 = 5/3), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to

master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Fourth Grade 4 Overview

Operations and Algebraic Thinking

- ☐ A. Use the four operations with whole numbers to solve problems.
- △ B. Gain familiarity with factors and multiples.
- ○ C. Generate and analyze patterns.

Number and Operations in Base Ten

- ☐ A. Generalize place value understanding for multi- digit whole numbers.
- ☐ B. Use place value understanding and properties of operations to perform multi-digit arithmetic.

Number and Operations—Fractions

- ☐ A. Extend understanding of fraction equivalence and ordering.
- ☐ B. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- ☐ C. Understand decimal notation for fractions, and compare decimal fractions.

Measurement and Data

- △ A. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- △ B. Represent and interpret data.
- ○ C. Geometric measurement: understand concepts of angle and measure angles.

Geometry

- ○ A. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For fourth grade this standard is:

4.NBT.B.4 Fluently use the standard algorithm for multi-digit whole number addition and subtraction.

Fourth Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.

In fourth grade, students know that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Fourth graders may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They listen to the strategies of others and will try different approaches. They often will use another method to check their answers. Students might use an equation strategy to solve the word problem. For example, students could solve the problem "Chris bought clothes for school. She bought 3 shirts for $\$12$ each and a skirt for $\$15$. How much money did Chris spend on her new school clothes?" with the equation $3 \times \$12 + \$15 = a$. Fourth graders may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They listen to the strategies of others and will try different approaches. They often will use another method to check their answers.

MP.2 Reason abstractly and quantitatively.

Fourth graders should recognize that a number represents a specific quantity. They connect the quality to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities. They extend this understanding from whole numbers to their work with fractions and decimals. Students write simple expressions, record calculations with numbers, and represent or round numbers using place value concepts. Students might use base 10 blocks or drawings to demonstrate 154×6, as 154 added six times, and develop an understanding of the distributive property. For example: 154×6

$$= (100 + 50 + 4) \times 6$$

$$= (100 \times 6) + (50 \times 6) + (4 \times 6)$$

$$= 600 + 300 + 24 = 924$$

MP.3 Construct viable arguments and critique the reasoning of others.

In fourth grade, students may construct arguments using concrete referents, such as objects, pictures, and drawings. They explain their thinking and make connections between

models and equations. They refine their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?", "Explain your thinking," and "Why is that true?" They not only explain their own thinking, but listen to others' explanations. Students explain and defend their answers and solution strategies as they answer question that require an explanation. For example, "Vincent cuts 2 meters of string into 4 centimeter pieces for a craft. How many pieces of string does Vincent have? Explain your reasoning." Students ask appropriate questions, and they decide if explanations make sense. Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Fourth graders should evaluate their results in the context of the situation and reflect on whether the results make sense. For example, students may use money (i.e. dollars and coins) or base 10 blocks to solve the following problem: Elsie buys a drink for $1.39 and a granola bar for $0.89. How much change will she receive if she pays with a $5 bill?

MP.5 Use appropriate tools strategically.
Fourth graders consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use graph paper, a number line, or base 10 blocks to represent, compare, add, and subtract decimals to the hundredths. Students in fourth grade use protractors to measure angles. They use other measurement tools to understand the relative size of units within a given system and express measurements given in larger units in terms of smaller units.

MP.6 Attend to precision.
As fourth graders develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning. For instance, they may use graph paper or a number line to represent, compare, add, and subtract decimals to the hundredths. Students in fourth grade use protractors to measure angles. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, they use appropriate labels when creating a line plot.

MP.7 Look for and make use of structure.
In fourth grade, students look closely to discover a pattern or structure. For instance, students use properties of operations to explain calculations (partial products model). They relate representations of counting problems such as arrays and area models to the

multiplication principal of counting. They generate number or shape patterns that follow a given rule using two-column tables.

MP.8 Look for and express regularity in repeated reasoning.

Students in fourth grade should notice repetitive actions in computation to make generalizations. Students use models to explain calculations and understand how algorithms work. They also use models to examine patterns and generate their own algorithms. For example, students use visual fraction models to write equivalent fractions.

Operations and Algebraic Thinking 4.OA

☐ 4.OA.A. Use the four operations with whole numbers to solve problems.

1. Interpret a multiplication equation as a comparison, e.g., ~~interpret~~ 35 = 5 × 7 as ~~a statement that~~ 35 is 5 times as many as ~~7 and 7 times as many as 5.~~ Represent verbal ~~statements of~~ multiplicative comparisons as multiplication equations.

2. Multiply or divide to solve word problems involving multiplicative comparison., ~~e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.~~[4]

***Example**: If the cost of a red hat is three times more than a blue hat that costs* $5 *then a red hat cost* $15.

***Clarification:** Students may use drawings and equations with a symbol for the unknown number to represent the problem.*
Distinguish between multiplicative comparison from additive comparison.

~~2.~~

3. Solve multistep whole number word problems using the ~~posed with whole numbers and having whole-number answers using the~~ four operations, including problems in which remainders must be interpreted.
   a. Represent these problems using equations with a letter standing for the unknown quantity.
   ~~3.~~ b. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

△ 4.OA.B. Gain familiarity with factors and multiples.

4. Find all factor pairs for a whole number in the range 1–100.
   a. Recognize that a whole number is a multiple of each of its factors.
   b. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.
   ~~4.~~ c. Determine whether a given whole number in the range 1–100 is prime or composite.

○ 4.OA.C. Generate and analyze patterns.

5. Generate a number or shape pattern that follows a given rule. Identify and explain ~~apparent~~ features of the pattern that were not explicit in the rule itself.

~~For~~ *Eexample: , gGiven the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

~~5.~~

Number and Operations in Base Ten[2] 4.NBT

☐ 4.NBT.A. Generalize place value understanding for multi-digit whole numbers.

~~1.~~ 1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. ~~*For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*~~

~~2.~~ 2. Read and write multi-digit whole numbers using standard form, ~~base-ten numerals, number names, and~~ expanded form, and word

form. Compare two multi-digit numbers based on meanings of the digits andin each place, recording the results of comparisons with the symbols using >, =, and < symbols to record the results of comparisons.

Example: *the number two hundred seventy-five thousand eight hundred two written in standard form is* 275,802 *and in expanded form is* $200{,}000 + 70{,}000 + 5{,}000 + 800 + 2$ *or* $(2 \times 100{,}000) + (7 \times 10{,}000) + (5 \times 1{,}000) + (8 \times 100) + (2 \times 1)$.

3. 3. Use place value understanding or visual representation to round multi-digit whole numbers to any place.

☐ 4.NBT.B **Use place value understanding and properties of operations to perform multi-digit arithmetic.**

4. Fluently use the standard algorigthm for add and subtract multi-digit whole number addition and subtraction. s using the standard algorithm.

Example: *What is the difference between* 634 *and* 328 *using the standard algorithm?*

$$\begin{array}{r} 6\,{}^{2}\not{3}\,{}^{1}4 \\ -\,3\;2\;8 \\ \hline 3\;0\;6 \end{array}$$

4. ***Clarification****: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers.
a. U, usingse strategies based on place value and the properties of operations.
5. b. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

[1] See Glossary, Table 2.
[2] Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.

6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors

a. , Uuseing strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.

6. b. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Clarification for 4.NBT.B.5 and 4.NBT.B.6: *Students should be familiar with multiple strategies but should be able to select and use the strategy with which they most closely connect and understand, with the ultimate goal of supporting students to use more efficient strategies.*

Number and Operations—Fractions[3]	4.NF

☐ 4.NF.A. Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the numbers and sizes of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions, including fractions greater than 1.

Example*: When a horizontal line is drawn through the center of the model, the number of equal parts doubles and the size of the parts is*

2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2.
   a. Recognize that comparisons are valid only when the two fractions refer to the same whole.
   2. b. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model and/or verbal reasoning.

☐ 4.NF.B. **Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.**

3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.
   a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
   b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify the conclusions by using a vdecompositions, e.g., by using a visual fraction model or verbal reasoning.

*Example**s**: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*

   c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
   d. Solve word problems involving addition and subtraction of fractions, including mixed numbers, with the same denominator referring to the same whole and having like

~~denominators, e.g., by~~Justify the conclusions using visual fraction models and/or verbal reasoning. ~~equations to represent the problem.~~

4. ~~A~~pply and extend previous understandings of multiplication to multiply a fraction by a whole number.

a. Understand a fraction *a*/*b* as a multiple of 1/*b*.

~~a.~~ *E~~For e~~xample~~,~~: use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*

b. Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number.

~~b.~~ *~~For e~~Example~~:~~ use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*

c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and/or equations to represent the problem.

~~c.~~ *~~For e~~Example~~:~~ ~~l~~if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

~~[3]Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.~~

☐ 4.NF.C. **Understand decimal notation for fractions, and compare decimal fractions.**

5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.~~4~~

5. ~~For e~~*Example~~:~~, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*

6. Use decimal notation for fractions with denominators 10 or 100.

6. ~~For e~~*Example~~:~~, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locat~~e~~ 0.62 on a number line diagram.*

7. Compare two decimals to hundredths by reasoning about their size.
a. Recognize that comparisons are valid only when the two decimals refer to the same whole.
b. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, ~~e.g., by~~ using a visual representations and/or verbal reasoning.~~model.~~

Measurement and Data 4.MD

△ **4.MD.A. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.**

1. Know relative sizes of measurement units within one system of units. ~~including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec.~~ a. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.

b. Record measurement equivalents in a two- column table.

1. ~~For e~~*Example: ~~, k~~Know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*

2. Use the four operations to solve word problems involving measurements. ~~distances, intervals of time, liquid volumes, masses of objects, and money,~~
a. i~~I~~nclude~~ing~~ problems involving simple fractions or decimals.
b. Include, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
c. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

***Clarification**: Measurement may include, but not limited to, length, area, volume, capacity, mass, weight, and money.*

~~2.~~

3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

3. ~~For e~~*Example~~:~~ ~~, f~~Find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

Clarification: *Students should express their answers in linear (perimeter) and square (area) units. Students are not expected to use the* $1\ cm^2$ *notation.*

△ 4.MD.B. **Represent and interpret data.**

4. Make a line plot (dot plot) to show ~~display~~ a ~~data~~ set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems ~~involving~~ using addition and subtraction of fractions by using information presented in line plots (dot plots).

4. *E~~For e~~xample~~:~~ from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

○ 4.MD.C. **Geometric measurement: understand concepts of angle and measure angles.**

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

   a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle.

~~a.~~ *Example: An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.*

   b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.

~~[4]Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.~~

6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

7. ~~Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.~~ Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems,
a. ~~e.g., by u~~Us~~e~~ing an equation with a symbol for the unknown angle measure.
b. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.
~~7.~~

Geometry	4.G

4.G.A. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

~~Mathematics |~~ Fifth Grade ~~5~~

In fifth grade~~Grade 5~~, instruction~~al time~~ should focus on the following: ~~ree critical areas:~~ (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of measurement systems and determining volumes to solve problems; and (4) solving problems using the coordinate plane.

~~volume.~~

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit ~~addition, subtraction,~~ multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3) Students convert among different-sized measurement units within a given measurement system allowing for efficient and accurate problem solving with multi-step real-world problems as they progress in their understanding of scientific concepts and calculations. Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

4. Students learn to interpret the components of a rectangular coordinate system as lines and understand the precision of location that these lines require. Students learn to apply their knowledge of number and length to the order and distance relationships of a coordinate grid and to coordinate this across two dimensions. Students solve mathematical and real-world problems using coordinates.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (☐). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Fifth Grade ~~5~~ Overview

Operations and Algebraic Thinking

- ○ A. Write and interpret numerical expressions.
- ○ B. Analyze patterns and relationships.

Number and Operations in Base Ten

- □ A. Understand the place value system.
- □ B. Perform operations with multi-digit whole numbers and with decimals to hundredths.

Number and Operations—Fractions

- □ A. Use equivalent fractions as a strategy to add and subtract fractions.
- □ B. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Measurement and Data

- △ A. Convert like measurement units within a given measurement system.
- △ B Represent and interpret data.
- □ C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Geometry

- ○ A. Graph points on the coordinate plane to solve real-world and mathematical problems.
- ○ B. Classify two-dimensional figures into categories based on their properties.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For fifth grade this standard is:

5.NBT.B.5 Demonstrate fluency for multiplication of multi-digit whole numbers using the standard algorithm. Include two-digit × four-digit numbers and, three-digit × three-digit numbers.

Fifth Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.

Students solve problems by applying their understanding of operations with whole numbers, decimals, and fractions including mixed numbers. They solve problems related to volume and measurement conversions. Students seek the meaning of a problem and look for efficient ways to represent and solve it. For example, Sonia had $2\frac{1}{3}$ candy bars. She promised her brother that she would give him $\frac{1}{2}$ of a candy bar. How much will she have left after she gives her brother the amount she promised? They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?".

MP.2 Reason abstractly and quantitatively.

Fifth graders should recognize that a number represents a specific quantity. They connect quantities to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities. They extend this understanding from whole numbers to their work with fractions and decimals. Students write simple expressions that record calculations with numbers and represent or round numbers using place value concepts. For example, students use abstract and quantitative thinking to recognize that $0.5 \times (300 \div 15)$ is $\frac{1}{2}$ of $(300 \div 15)$ without calculating the quotient.

MP.3 Construct viable arguments and critique the reasoning of others.

In fifth grade, students may construct arguments using concrete referents, such as objects, pictures, and drawings. They explain calculations based upon models and properties of operations and rules that generate patterns. They demonstrate and explain the relationship between volume and multiplication. They refine their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?" They explain their thinking to others and respond to others' thinking. Students use various strategies to solve problems and they defend and justify their work with others. For example, two afterschool clubs are having pizza parties. The teacher will order 3 pizzas for every 5 students in the math club; and 5 pizzas for every 8 students in the student council. If a student is in both groups, decide which party they

should attend. How much pizza will each student get at each party? If a student wants to have the most pizza, which party should they attend?

MP.4 Model with mathematics.

Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Fifth graders should evaluate their results in the context of the situation and whether the results make sense. They also evaluate the utility of models to determine which models are most useful and efficient to solve problems.

MP.5 Use appropriate tools strategically.

Fifth graders consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use unit cubes to fill a rectangular prism and then use a ruler to measure the dimensions. They use graph paper to accurately create graphs and solve problems or make predictions from real-world data.

MP.6 Attend to precision.

Students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students use appropriate terminology when referring to expressions, fractions, geometric figures, and coordinate grids. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, when figuring out the volume of a rectangular prism they record their answers in cubic units.

MP.7 Look for and make use of structure.

In fifth grade, students look closely to discover a pattern or structure. For instance, students use properties of operations as strategies to add, subtract, multiply and divide with whole numbers, fractions, and decimals. They examine numerical patterns and relate them to a rule or a graphical representation.

MP.8 Look for and express regularity in repeated reasoning.

Fifth graders use repeated reasoning to understand algorithms and make generalizations about patterns. Students connect place value and their prior work with operations to understand algorithms to fluently multiply multi-digit numbers and perform all operations with decimals to hundredths. Students explore operations with fractions with visual models and begin to formulate generalizations.

Operations and Algebraic Thinking 5.OA

○ 5.OA.A. Write and interpret numerical expressions.

1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

Example: $4.5 + (3 \times 2)$ *in word form is, four and five tenths plus the quantity* 3 *times* 2.

~~1.~~

2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

~~2.~~ ~~For e~~Example: ~~,~~ Eexpress the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$.

Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.

○ 5.OA.B Analyze patterns and relationships.

3. Generate two numerical patterns using two given rules.
4. a. Identify apparent relationships between corresponding terms.
5. b. Form ordered pairs consisting of corresponding terms from the two patterns
6. c. G~~, and g~~raph the ordered pairs on a coordinate plane.

~~3.~~7. ~~*For e*~~*Example: ~~,~~ given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and Oobserve that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

Number and Operations in Base Ten 5.NBT

☐ 5.NBT.A. Understand the place value system.

1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

Example: *In the number* 55.55, *each digit is* 5, *but the value of the digits is different because of the placement.*

~~1.~~

2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Example: 10^2 *which is* $10 \times 10 = 100$, *and* 10^3 *which is* $10 \times 10 \times 10 = 1{,}000$

~~2.~~

3. Read, write, and compare decimals to thousandths.
   a. Read and write decimals to thousandths using standard form, ~~base-ten numerals, number names, and~~ expanded form, and word form.

~~a.~~ *Example: ~~e.g.,~~ 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).*

b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

4. Use place value understanding to round decimals to any place.

☐ 5.NBT.B. **Perform operations with multi-digit whole numbers and with decimals to hundredths.**

5. Demonstrate fluency for multiplication of ~~Fluently multiply~~ multi-digit whole numbers using the standard algorithm. Include two-digit × four-digit numbers and, three-digit × three-digit numbers.

***Example:** What is the product of 304 and 23 using the standard algorithm?*

$$\begin{array}{r} 3\,{}^{1}0\,4 \\ \times\quad 2\,3 \\ \hline 9\,1\,2 \\ +6\,0\,8\,0 \\ \hline 6\,9\,9\,2 \end{array}$$

***Clarification**: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

~~5.~~

6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.
a. ~~, using~~Use strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.
~~6.~~ b. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

7. Add, subtract, multiply, and divide decimals to hundredths.
a. Use~~, using~~ concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.~~;~~
~~7.~~ b. ~~r~~Relate the strategy to a written method and explain the reasoning used.

***Clarification for 5.NBT.B.6 and 5.NBT.B.7:** Students should be familiar with multiple strategies but should be able to select and use the strategy with which they most closely connect and understand, with the ultimate goal of supporting students to use more efficient strategies.*

Number and Operations—Fractions 5.NF

☐ 5.NF.A. Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in ~~such a way as~~ to produce an equivalent sum or difference of fractions with like denominators.

~~1.~~ *E~~For e~~xample: ~~,~~ 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*

2. Solve word problems involving addition and subtraction of fractions referring to the same whole (the whole can be a set of objects), including cases of unlike denominators,

3.

4. ~~e.g., a.~~ Justify the conclusions by using visual fraction models and/or equations to represent the problem.

~~2~~5. b. ~~Use~~ Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

E~~For e~~xample: ~~,~~ R~~r~~ecognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.

☐ 5.NF.B. **Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**

3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers~~, e.g.,~~ by using visual fraction models and/~~or~~ equations to represent the problem.

~~3.~~ *E~~For e~~xample: ~~, i~~Interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

   a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.

   ~~a.~~ *E~~For e~~xample: ~~,~~ U~~u~~se a visual ~~fraction~~ model and/or area model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)*

   b. Find the area of a rectangle with fractional side lengths.

   i. ~~by t~~Til~~e~~ing it with unit squares of the appropriate unit fraction side lengths

   ~~, and s~~ii. Show that the area is the same as would be found by multiplying the side lengths.

   ~~b.~~ iii. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

5. Interpret multiplication as scaling (resizing), by:

   a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without

performing the indicated multiplication.

b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

~~6.~~ 6. Solve real world problems involving multiplication of fractions and mixed numbers~~, e.g.,~~ by using visual fraction models and/or equations to represent the problem~~.~~

Example: *Evan bought 6 roses for his mother, $\frac{2}{3}$ of them were red. How many red roses were there?*

7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.[1]

a. Interpret division of a unit fraction by a non-zero whole number,

[1] ~~Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.~~

and compute such quotients using a visual fraction model. Use the relationship between multiplication and division to explain that $\frac{1}{b} \div c = \frac{1}{bc}$ because $\frac{1}{bc} \times c = \frac{1}{b}$.

E~~For e~~xample~~:~~, ~~c~~Create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient.

~~*Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*~~

b. Represent ~~Interpret~~ division of a whole number by a unit fraction, and compute such quotients using. ~~*For example, create a story context for 4 ÷ (1/5), and use*~~ *a visual fraction model* ~~*to show the quotient*~~*. Use the relationship between multiplication and division to explain that* $a \times \frac{1}{b} = ab$ because $ab \times \frac{1}{b} = a$. ~~*4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*~~

***Example:** Create a story context to explain* $4 \div \frac{1}{5}$*, and use a visual fraction model to show the quotient.*

c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions ~~, e.g.,~~ by using visual fraction models and/or equations to represent the problem.

~~b.~~ *E~~For e~~xample~~:~~ *H~~h~~ow much chocolate will each person get if three~~3~~ people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?*

Measurement and Data	5.MD

△ 5.MD.A. Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system. (~~e.g., convert 5 cm to 0.05 m), and use~~ Use ~~these~~ conversions in solving multi-step, real world problems.

~~1.~~ ***Example:** Convert* 5 *cm to* 0.05 *m.*

△ 5.MD.B. **Represent and interpret data.**

2. Collect, represent, and interpret numerical data, including whole numbers, fractional and decimal values.

   a. Interpret numerical data, with whole-number values, represented with tables or line plots.

   b. Use graphic displays of data (line plots (dot plots), tables, etc.) to solve real world problems using fractional data.

~~2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For e~~

2. *Example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

☐ 5.MD.C. **Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.**

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement in terms of cubic units.
   a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
   b. A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units.
4. Use concrete and/or visual models to Measure volume of rectangular prisms in cubic unitss by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvisenonstandardd units.
5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.
   a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base.

Example: To Rrepresent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication , $(l \times w) \times h = l \times (w \times h)$.

   a.
   b. Apply the formulas $V = l \times w \times h$ and $V = Bb \times h$ (where B stands for the area of the base) for rectangular prisms to find volumes of right rectangular prisms with whole- number edge lengths in the context of solving real world and mathematical problems.
   c. Recognize volume as additive.
   c.d. i. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

   ii. Apply this technique to solve real world problems.

Geometry	5.G

O 5.G.A. Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Describe and understand the key attributes of the coordinate plane.

a. Use a pair of perpendicular number lines, ~~called~~ (axes), ~~to define a coordinate system,~~ with the intersection of the lines (the origin (0,0)) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.

~~1.~~ b. Understand that the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin. ~~how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).~~

2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, ~~(~~*x* and *y* both have positive values) and interpret coordinate values of points in the context of the situation.

O 5.G.B. **Classify two-dimensional figures into categories based on their properties.**

3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.

~~3. For~~ *~~e~~Example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*

~~4.~~ Classify two-dimensional figures in a hierarchy based on properties.

***Example:** All rectangles are parallelograms because they are all quadrilaterals with two pairs of opposite sides parallel.*

~~Mathematics |~~ Sixth Grade ~~6~~

In sixth grade, instruction should ~~Grade 6, instructional time should~~ focus on the following ~~four critical~~ areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers;
(3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking~~.~~ (5) reasoning about geometric shapes and their measurements.

(1) Students use reasoning about multiplication and division to solve ratio and rate problems about quantities. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students connect their understanding of multiplication and division with ratios and rates. . As students solve a wide variety of problems involving ratios and rates, they create a foundation for proportional reasoning and future work in Algebra and Geometry.
~~Thus students expand the scope of problems for which they can use multiplication and division to solve problems, and they connect ratios and fractions. Students solve a wide variety of problems involving ratios and rates.~~

~~(2)~~ 2. Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students use these operations to solve problems as well as demonstrating fluency in operations with whole numbers and the ordering of whole numbers to the full system of rational numbers, which . ~~Students extend their previous understandings of number and the ordering of numbers~~
~~(2) to the full system of rational numbers, which~~ includes negative rational numbers, and in particular, negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane.

(3) Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students build on their understanding of an unknown quantity from previous grades to know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of
an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are in equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between

quantities.

(4) Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range~~) or mean absolute deviation~~) can also be useful for summarizing data because two very different sets of data can have the same mean and

median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected.

5) Students in Grade 6 also build on their work with area in elementary school by reasoning about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. They reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths. ~~They prepare for work on scale drawings and constructions in Grade 7 by drawing polygons in the coordinate plane.~~

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (☐). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Sixth Grade ~~6~~ Overview

Ratios and Proportional Relationships

- ☐ A. Understand ratio concepts and use ratio reasoning to solve problems.

The Number System

- ☐ A. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
- ○ B. Compute fluently with multi-digit numbers and find common factors and multiples.
- ☐ C. Apply and extend previous understandings of numbers to the system of rational numbers.

Expressions and Equations

- ☐ A. Apply and extend previous understandings of arithmetic to algebraic expressions.
- ☐ B. Reason about and solve one-variable equations and inequalities.
- ☐ C Represent and analyze quantitative relationships between dependent and independent variables.

Geometry

- △ A. Solve real-world and mathematical problems involving area, surface area, and volume.

Statistics and Probability

- ○ A. Develop understanding of statistical variability.
- ○ B Summarize and describe distributions.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For sixth grade these standards are:

- 6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm.
- 6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

Sixth Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.

In grade 6, students solve problems involving ratios and rates and discuss how they solved them. Students solve real-world problems through the application of algebraic and geometric concepts. Students seek the meaning of a problem and look for efficient ways to represent and solve it. They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?". Students can explain the relationships between equations, verbal descriptions, and tables and graphs. Mathematically proficient students check their answers to problems using a different method.

MP.2 Reason abstractly and quantitatively.

In grade 6, students represent a wide variety of real-world contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities. Students contextualize to understand the meaning of the number or variable as related to the problem and decontextualize to manipulate symbolic representations by applying properties of operations or other meaningful moves. To reinforce students' reasoning and understanding, teachers might ask, "How do you know?" or "What is the relationship of the quantities?".

MP.3 Construct viable arguments and critique the reasoning of others.

In grade 6, students construct arguments using verbal or written explanations accompanied by expressions, equations, inequalities, models, and graphs, tables, and other data displays (i.e. box plots, dot plots, histograms, etc.). They further refine their mathematical communication skills through mathematical discussions in which they critically evaluate their own thinking and the thinking of other students. They pose questions like "How did you get that?", "Why is that true?" and "Does that always work?". They explain their thinking to others and respond to others' thinking.

MP.4 Model with mathematics.

In grade 6, students model problem situations symbolically, graphically, in tables, contextually and visually. Students form expressions, equations, or inequalities from real-world contexts and connect symbolic and graphical representations. Students begin to

represent two quantities simultaneously. Students use number lines to compare numbers and represent inequalities. They use measures of center and variability and data displays (i.e. box plots and histograms) to draw inferences about and make comparisons between data sets. Students need many opportunities to connect and explain the connections between the different representations. They should be able to use all of these representations as appropriate and apply them to a problem context. Students should be encouraged to answer questions such as "What are some ways to represent the quantities?" or "What formula might apply in this situation?"

MP.5 Use appropriate tools strategically.

Students consider available tools (including estimation and technology) when solving a mathematical problem and decide when certain tools might be helpful. For instance, students in grade 6 may decide to represent figures on the coordinate plane to calculate area. Number lines are used to create dot plots, histograms, and box plots to visually compare the center and variability of the data. Visual fraction models can be used to represent situations involving division of fractions. Additionally, students might use physical objects or applets to construct nets and calculate the surface area of three-dimensional figures. Students should be encouraged to answer questions such as "What approach did you try first?" or "Why was it helpful to use?"

MP.6 Attend to precision.

In grade 6, students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students use appropriate terminology when referring to rates, ratios, geometric figures, data displays, and components of expressions, equations, or inequalities. When using ratio reasoning in solving problems, students are careful about specifying units of measure and labeling axes to clarify the correspondence with quantities in a problem. Students also learn to express numerical answers with an appropriate degree of precision when working with rational numbers in a situational problem. Teachers might ask, "What mathematical language, definitions, or properties can you use to explain ?"

MP.7 Look for and make use of structure.

Students routinely seek patterns or structures to model and solve problems. For instance, students recognize patterns that exist in ratio tables recognizing both the additive and multiplicative properties. Students apply properties to generate equivalent expressions (i.e. $6 + 2n = 2(3 + n)$ by distributive property) and solve equations (i.e. $2c + 3 = 15$, $2c = 12$ by subtraction property of equality; $c = 6$ by division property of equality). Students compose and decompose two- and three-dimensional figures to solve real-world problems

involving area and volume. Teachers might ask, “What do you notice when ___?” or “What parts of the problem might you eliminate, simplify, or ___?”

MP.8 Look for and express regularity in repeated reasoning.

In grade 6, students use repeated reasoning to understand algorithms and make generalizations about patterns. During multiple opportunities to solve and model problems, they may notice that $\frac{a}{b} \div \frac{c}{d} = \frac{ad}{bc}$ and construct other examples and models that confirm their generalization. Students connect place value and their prior work with operations to understand algorithms to fluently divide multi-digit numbers and perform all operations with multi-digit decimals. Students informally begin to make connections between rates and representations showing the relationships between quantities. Students should be encouraged to answer questions such as, “How would we prove that ___?” or “How is this situation like and different from other situations?”

Ratios and Proportional Relationships 6.RP

☐ 6.RP.A. Understand ratio concepts and use ratio reasoning to solve problems.

1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.

~~1.~~ *E~~For e~~xample: 1) ~~,~~ "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.*

~~every 2 wings there was 1 beak."~~ 2) ~~"~~For every vote candidate A received, candidate C received nearly three votes.~~"~~

2. Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.

E~~For e~~xample: ~~,~~ "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."~~1~~

3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

   a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

   b. Solve unit rate problems including those involving unit pricing and constant speed.

~~b.~~ *E~~For e~~xample: ~~,~~ ~~I~~if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*

   c. Find a percent of a quantity as a rate per 100 ~~(e.g., 30% of a quantity means 30/100 times the quantity);~~ solve problems involving finding the whole, given a part and the percent.

~~c.~~ *Example: 30% of a quantity means 30/100 times the quantity;*

   d. Use ratio reasoning to convert measurement units within and between measurement systems; ~~,~~ manipulate and transform units appropriately when multiplying or dividing quantities.

Examples:

1) Malik is making a recipe, but he cannot find his measuring cups! He has, however, found a tablespoon. His cookbook says that 1 cup = 16 tablespoons. Explain how he could use the tablespoon to measure out the following ingredients: two cups of flour, $\frac{1}{2}$ cup sunflower seed, and $1\frac{1}{4}$ cup of oatmeal.

~~d.~~ *2) Jessica is building a doghouse out of wooden planks. If the instructions say the house is 30 inches long, how long would the doghouse be using metric measurements (1 in = 2.54 cm)?*

The Number System 6.NS

☐ 6.NS.A. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

E~~For e~~xample~~s~~

1) ~~, c~~Create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient.

2) ~~; u~~Use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.)

3) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally?

4) How many 3/4-cup servings are in 2/3 of a cup of yogurt?

~~1.~~ *5) How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?*

○ 6.NS.B Compute fluently with multi-digit numbers and find common factors and multiples.

2. Fluently divide multi-digit numbers using the standard algorithm.

Example: *What is the quotient of* 657 *and* 3 *using the standard algorithm?*

$$\begin{array}{r} 219 \\ 3\overline{)657} \\ -6 \\ \hline 05 \\ -3 \\ \hline 27 \\ -27 \\ \hline 0 \end{array}$$

~~2.~~

3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

Example: *What is the difference of* 1.82 *and* 0.06 *using the standard algorithm?*

$$\begin{array}{r} 1.\,{}^{7}8\,{}^{1}2 \\ -\,0.\,0\;\;6 \\ \hline 1.\,7\;\;6 \end{array}$$

~~3.~~

4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

~~4. For e~~*Example, express 36 + 8 as 4 (9 + 2).*

~~[1]Expectations for unit rates in this grade are limited to non-complex fractions.~~

☐ 6.NS.C. **Apply and extend previous understandings of numbers to the system of rational numbers.**

5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values~~X (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); u~~Use positive and negative numbers (including fractions and decimals) to represent quantities in real-world contexts, explaining the meaning of zero~~0~~ in each situation.

~~5.~~ ***Examples**: Temperature above/below zero, elevation above/below sea level, credits/debits, and positive/negative electric charge*

6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

   a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite.

   b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

   c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

7. Understand ordering and absolute value of rational numbers.

   a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.

~~a.~~ *E~~For e~~xample~~:~~ i~~I~~nterpret –3 > –7½ as a statement that –3 is located to the right of –7 ½ on a number line oriented from left to right.*

   b. Write, interpret, and explain statements of order for rational numbers in real-world contexts.

~~b.~~ *~~For e~~E~~x~~ample~~:~~ ~~w~~W~~rite –3 ◦C > –7 ◦C to express the fact that –3 ◦C is warmer than –7 ◦C.*

   c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.

~~c.~~ *E~~For e~~xample~~:~~ F~~f~~or an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars.*

   d. Distinguish comparisons of absolute value from statements about order.

~~d.~~ *E~~For e~~xample~~:~~ R~~r~~ecognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.*

8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first

coordinate or the same second coordinate.

~~8.~~ ***Example**: Samuel draws a coordinate plane on a map of his neighborhood. He found that the distance between two consecutive whole number points is one block. His house is located at $(-4, 6)$, and his school is located at $(-4, -3)$. How many blocks are between Samuel's house and school?*

Expressions and Equations	6.EE

☐ 6.EE.A Apply and extend previous understandings of arithmetic to algebraic expressions.

1. Write and evaluate numerical expressions involving whole-number exponents.
2. Write, read, and evaluate expressions in which letters stand for numbers.
   a. Write expressions that record operations with numbers and with letters standing for numbers.
      ~~a.~~ *~~For e~~Example, express the calculation "Subtract y from 5" as 5 – y.*

b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.

b. *E~~For e~~xample: ~~,~~ D~~d~~escribe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.*

c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

E~~For e~~xamples:

1) , U~~u~~se the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.

2) The formula for finding the perimeter of a rectangle is $P = 2l + 2w$. Find the perimeter of a rug that measures 7.5 ft by 9.5 ft.

~~c.~~

3. Apply the properties of operations to generate equivalent expressions.

E~~For e~~xamples:

~~,~~1) ~~A~~apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x;

2) A~~a~~pply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y);

~~6 (4x + 3y);~~ 3) ~~a~~Apply properties of operations to y + y + y to produce the equivalent expression 3y.

4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).

4. *~~For e~~Example: ~~,~~ ~~t~~The expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*

☐ 6.EE.B **Reason about and solve one-variable equations and inequalities.**

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.

8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem.
a. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions;
~~8.~~ b. ~~r~~Represent solutions of such inequalities on number line diagrams.

☐ 6.EE.B **Represent and analyze quantitative relationships between dependent and independent variables.**

9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write ~~an~~ equations to represent ~~express~~ the relationship between the two quantities. ~~one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable.~~ Analyze the relationship ~~between the dependent and independent variables~~ using graphs and tables, and relate these to the equations. Include an understanding of independent and dependent variables.

~~*For example*~~

~~*, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.*~~

Examples:

1) In a problem involving mixing water (W) and orange concentrate (C) to make a consistent flavor of orange juice, list and graph ordered pairs of cups of water and orange concentrate, and write the equations (e.g., $C = \frac{1}{2} \cdot W$ or $W = 2 \cdot C$) to represent the relationship between water (W) and orange concentrate (C).

2) When examining the relationship between time and the growth of a plant. Time tends to be thought of as the independent variable and the height of the plant tends to be thought of as the dependent variable.

Geometry 6.G

△ **6.G.A. Solve real-world and mathematical problems involving area, surface area, and volume.**

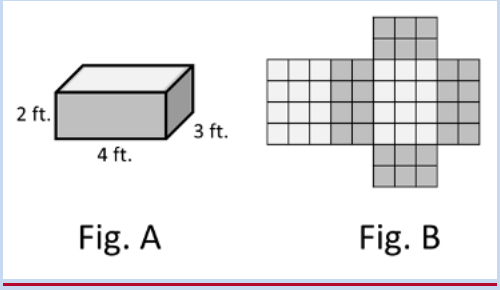
1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l\,w\,h$ and $V = b\,h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side and area by joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Example: *Explain how you could find the surface area of a rectangular prism given a three-dimensional representation (Fig. A) or a net (Fig. B).*



4.

Statistics and Probability 6.SP

O 6.SP.A. Develop understanding of statistical variability.

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.

1. *~~For e~~Example~~;~~ "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*

2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center (median and/or mean), spread, (range, interquartile range, and/or mean absolute deviation), and overall shape. The focus of mean absolute deviation (MAD) is visualizing deviations from the mean as a measure of variability as opposed to a focus on calculating MAD.

2.

~~3.~~2. 3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

O 6.SP.B. Summarize and describe distributions.

~~4.~~ 4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

~~5.~~3. Summarize numerical data sets in relation to their context, such as by:

a. Reporting the number of observations.

b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

c. Giving quantitative measures of center (median and/or mean) and variability (range, interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

~~d.~~ Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

d.

Examples: *Bobbie is a sixth grader who competes in the* 100 *meter hurdles. In eight track meets during the season, she recorded the following times (to the nearest one hundredth of a second).*

18.11, 31.23, 17.99, 18.25, 17.50, 35.55, 17.44, 17.85

Is the mean or the median a better representation of Bobbie's hurdle time? Justify your answer. (From Illustrative Mathematics)

~~Mathematics |~~ Seventh Grade ~~7~~

In seventh ~~G~~grade ~~7~~, instruction~~al time~~ should focus on the following areas ~~four critical~~ areas: (1) developing understanding of and applying proportional relationships;
(2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

(1) Students extend their understanding of ratios and rates and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios, rates and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve
problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line (constant of proportionality)~~, called the slope~~. They distinguish proportional relationships from other relationships.

(2) Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions, ~~and~~ equations, and inequalities in one variable. Students also solve real-world and multistep ~~and use these~~ equations and inequalities ~~to solve problems.~~.

(3) Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.

(4) Students build on their previous work with single data distributions to compare two data distributions and address questions about differences

between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences. In grade 7, the concept of probability is introduced, and it is explored in later grades.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Seventh Grade ~~7~~ Overview

Ratios and Proportional Relationships

- ☐ A. Analyze proportional relationships and use them to solve real-world and mathematical problems.

The Number System

- ☐ A. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Expressions and Equations

- ☐ A. Use properties of operations to generate equivalent expressions.
- ☐ B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Geometry

- ○ A. Draw, construct and describe geometrical figures and describe the relationships between them.
- ○ B. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Statistics and Probability

- △ A. Use random sampling to draw inferences about a population.
- ○ B. Draw informal comparative inferences about two populations.

△ C Investigate chance processes and develop, use, and evaluate probability models.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For seventh grade this standard is:

- 7.NS.A.3 Solve real-world and mathematical problems involving the four operations with integers and other rational numbers.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Seventh Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In seventh grade, students solve problems involving ratios and rates and discuss how they solved them. Students solve real-world problems through the application of algebraic and geometric concepts. Students seek the meaning of a problem and look for efficient ways to represent and solve it. They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?". When students compare arithmetic and algebraic solutions to the same problem, they identify correspondences between different approaches.

MP.2 Reason abstractly and quantitatively.
In seventh grade, students represent a wide variety of real-world contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities. Students contextualize to understand the meaning of the number or variable as related to the problem and decontextualize to manipulate symbolic representations by applying properties of operations.

MP.3 Construct viable arguments and critique the reasoning of others.
In seventh grade, students construct arguments using verbal or written explanations accompanied by expressions, equations, inequalities, models, and graphs, tables, and other data displays (i.e. box plots, dot plots, histograms, etc.). They further refine their mathematical communication skills through mathematical discussions in which they critically evaluate their own thinking and the thinking of other students. For example, as students notice when geometric conditions determine a unique triangle, more than one triangle, or no triangle, they have an opportunity to construct viable arguments and critique the reasoning of others. Students should be encouraged to answer questions such as these: "How did you get that?", "Why is that true?" and "Does that always work?". They explain their thinking to others and respond to others' thinking.

MP.4 Model with mathematics.
In seventh grade, students model problem situations visually, symbolically, graphically, in tables, and contextually. Students form expressions, equations, or inequalities from real-

world contexts and connect symbolic and graphical representations. Students use experiments or simulations to generate data sets and create probability models. Proportional relationships present opportunities for modeling. For example, for modeling purposes, the number of people who live in an apartment building might be taken as proportional to the number of stories in the building. Students should be encouraged to answer questions such as "What are some ways to represent the quantities?" or "How might it help to create a table, chart, or graph?"

MP.5 Use appropriate tools strategically.

Students consider available tools (including estimation and technology) when solving a mathematical problem and decide when certain tools might be helpful. For instance, students in seventh grade may decide to represent similar data sets using dot plots with the same scale to visually compare the center and variability of the data. Students might use physical objects or applets to generate probability data and use graphing calculators or spreadsheets to manage and represent data in different forms. Teachers might ask, "What approach are you considering?" or "Why was it helpful to use ?"

MP.6 Attend to precision.

In seventh grade, students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students define variables, specify units of measure, and label axes accurately. Students use appropriate terminology when referring to rates, ratios, probability models, geometric figures, data displays, and components of expressions, equations, or inequalities. Teachers might ask, "What mathematical language, definitions, or properties can you use to explain ?

MP.7 Look for and make use of structure.

Students routinely seek patterns or structures to model and solve problems. For instance, students recognize patterns that exist in ratio tables making connections between the constant of proportionality in a table with the slope of a graph. Students apply properties to generate equivalent expressions (i.e. $6 + 2n = 2(3 + n)$ by distributive property) and solve equations (i.e. $2c + 3 = 15$, $2c = 12$ by subtraction property of equality; $c = 6$ by division property of equality). Students compose and decompose two- and three-dimensional figures to solve real world problems involving scale drawings, surface area, and volume. Students examine tree diagrams or systematic lists to determine the sample space for compound events and verify that they have listed all possibilities. Solving an equation such as $8 = 4\left(n - \frac{1}{2}\right)$ is easier if students can see and make use of structure, temporarily viewing $\left(n - \frac{1}{2}\right)$ as a single entity.

MP.8 Look for and express regularity in repeated reasoning.

In seventh grade, students use repeated reasoning to understand algorithms and make generalizations about patterns. During multiple opportunities to solve and model problems, they may notice that $\frac{a}{b} = \frac{c}{d}$ if and only if $ad = bc$ and construct other examples and models that confirm their generalization. Students should be encouraged to answer questions such as "How would we prove that ?" or "How is this situation both similar to and different from other situations using these operations?"

Ratios and Proportional Relationships 7.RP

☐ 7.RP.A. Analyze proportional relationships and use them to solve real-world and mathematical problems.

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

   1. ~~For e~~*Example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*

2. Recognize and represent proportional relationships between quantities.

   a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

   b. Identify the constant of proportionality ~~(unit rate)~~ in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. Recognize the constant of proportionality as both the unit rate and as the multiplicative comparison between two quantities.

c. Represent proportional relationships by equations.

   c. ~~For e~~*Example~~:~~ ~~I~~*if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*

d. Explain what a point *(x, y)* on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, *r)* where *r* is the unit rate.

3. Use proportional relationships to solve multistep ratio, rate and percent problems.

   3. *Example~~s~~: simple interest, tax, price increases and discounts ~~markups and markdowns~~, gratuities and commissions, fees, percent increase and decrease, percent error.*

The Number System 7.NS

☐ 7.NS.A Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

   a. Describe situations in which opposite quantities combine to make 0.

   ~~a. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.~~

***Example**: If you open a new bank account with a deposit of* $30.52 *and then withdraw* $30.52*, you are left with a* $0 *balance.*

b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite are additive inverses because they have a sum of 0 (e.g., $12.5 + (-12.5) = 0$). ~~(are additive inverses).~~ Interpret sums of rational numbers by describing real-world contexts.

c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

d. Apply properties of operations as strategies to add and subtract rational numbers.[4]

Example: $\frac{1}{4} - 5 + \frac{3}{4} + 7 = \left(\frac{1}{4} + \frac{3}{4}\right) + \left((-5) + 5\right) + 2$

~~d.~~

2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide integers and other rational numbers.

a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $\left(-\frac{1}{2}\right)(-1) = \frac{1}{2}$ ~~$(-1)(-1) = 1$~~ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

[4] ~~See Glossary, Table 3~~

b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.

c. Apply properties of operations as strategies to multiply and divide rational numbers.

Example: $-4(0.25 - 1) = \big((-4) \times 0.25\big) + \big((-4) \times (-1)\big) = -1 + 4 = 3$

~~c.~~

d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates ~~in 0s~~ or eventually repeats.

~~3.~~ Solve real-world and mathematical problems involving the four operations with integers and other rational numbers.~~+~~

***Example**: A water well drilling rig has dug to a height of -60 feet after one full day of continuous use. If the rig has been running constantly and is currently at a height of -143.6 feet, for how long has the rig been running? (Modified from Illustrative Mathematics)*

Expressions and Equations 7.EE

☐ 7.EE.A. Use properties of operations to generate equivalent expressions.

1. Apply properties of operations ~~as strategies~~ to add, subtract, factor, and expand linear expressions with rational coefficients.

Example: $4x + 2 = 2(2x + 1)$ *and* $-3\left(x - \frac{5}{3}\right) = -3x + 5$

~~1.~~

2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.

~~For e~~Examples:

1) ~~,~~ $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."

2) A shirt at a clothing store is on sale for 20% off the regular price, p. The discount can be expressed as $0.2p$. The new price for the shirt can be expressed as $p - 0.2p$ or $0.8p$.

☐ 7.EE.B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (integers~~whole numbers~~, fractions, and decimals)~~,~~ ~~using tools strategically.~~ Apply

properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

EFor examples:

1) If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50.

3. *2) If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.

a. *For eExample: , The perimeter of a rectangle is 54 cm. Its widlength is 6 cm. What is its lengwidth?*

b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

For Eexample: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.

b.

$100. Write an inequality for the number of sales you need to make, and describe the solutions.

Geometry	7.G

O 7.G.A. Draw, construct, and describe geometrical figures and describe the relationships between them.

1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

1. ***Example**: Mariko has an $\frac{1}{4}$ inch scale-drawing ($\frac{1}{4}$ inch=1 foot) of the floor plan of her house. On the floor plan, the scaled dimensions of her rectangular living room are $4\frac{1}{2}$ inches by $8\frac{3}{4}$ inches. What is the area of her living room in square feet?*

[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

2. Draw (freehand, with ruler and protractor, and with technology) two-dimensional geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangles, more than one triangle, or no triangle.

~~2.~~ ***Example**: A triangle with side lengths 3 cm, 4 cm, and 5 cm exists. Use a compass and ruler to draw a triangle with these side lengths. (Modified from Engage NY M6L9)*

3. Describe the two-dimensional figures that results from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

○ 7.G.B. **Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.**

~~4. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.~~

4. Understand the attributes and measurements of circles.

   a. Know that a circle is a two-dimensional shape created by connecting all of the points equidistant from a fixed point called the center of the circle.

   b. Develop an understanding of circle attributes including radius, diameter, circumference, and area and investigate the relationships between each.

   c. Informally derive and know the formulas for the area and circumference of a circle and use them to solve problems.

5. Use facts about supplementary, complementary, vertical, and adjacent angles ~~in a multi-step problem~~ to write equations and use them to and solve ~~simple equations~~ for an unknown angle in a figure.

***Example**: The ratio of the measurement of an angle to its complement is 1: 2. Create and solve an equation to find the measurement of the angle and its complement. (Modified from Engage NY M5L1)*

~~5.~~

5. ~~Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms~~. Generalize strategies for finding area, volume, and surface areas of two- and three-dimensional objects composed of triangles, quadrilateral, polygons, cubes, and right prims. Solve real-world and mathematical problems in each of these areas.

***Example**: A playground is being updated. Sand underneath a swing needs be at least 15 inches deep. The sand under the swings is currently only 12 inches deep. The rectangular area under the swing set measures 9 feet by 12 feet. How much additional sand will be needed to meet the requirement? (Modified from Illustrative Mathematics)*

~~6.~~

Statistics and Probability 7.SP

△ **7.SP.A. Use random sampling to draw inferences about a population.**

1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
2. Use data from a random sample about an unknown characteristic of a population~~to draw inferences about a population with an unknown characteristic of interest.~~ Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. , i.e., generate a sampling distribution.

~~2.~~ *E~~For e~~xample: , ~~e~~Estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*

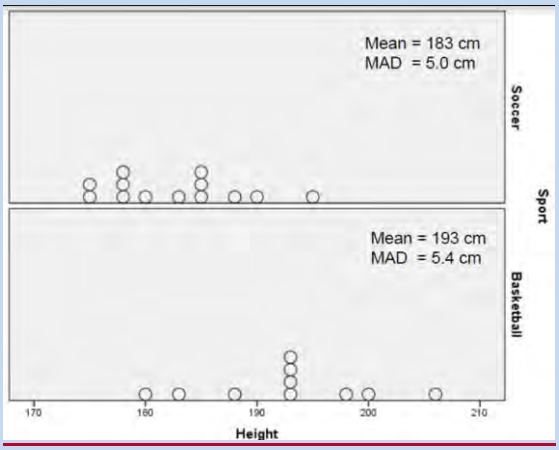
○ 7.SP.B. **Draw informal comparative inferences about two populations.**

3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.

~~3. For eExample: , the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on~~

~~4. a dot plot, the separation between the two distributions of heights is noticeable.~~

***Example**: The difference in the mean height between players on the basketball team versus the soccer team is* 10 *cm. This difference in the means -* 10 *cm - is about twice the variability (mean absolute deviation) on either team (i.e., mean divided by the MAD). On a dot plot, the separation between the two distributions of heights is noticeable.*



4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.

5. ~~For e~~*Example: , decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

△ 7.SP.C. **Investigate chance processes and develop, use, and evaluate probability models.**

6. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. ~~Larger numbers indicate greater likelihood.~~ A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

***Example**: The likelihood of drawing a heart from a deck of cards is* 0.25*. The likelihood of flipping a coin and landing on heads is* 0.5*. It is more likely that a flipped coin will land on heads than it is to choose a heart from a deck of cards. (*0.5 *is greater than* 0.25*).*

6. Approximate the (theoretical) probability of a chance event by collecting data ~~on the chance process that produces it~~ and observing its long-run relative frequency (experiemental probability), ~~and P~~predict the approximate relative frequency given the probability.

E~~For e~~xample~~s~~:

1) 1) When drawing chips out of a bag containing an unknown number of red and white chips, estimate the probability of selecting a particular chip color given 50 draws.

~~7.~~ *2) , W~~w~~hen rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*

~~8.~~7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.

a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.

~~a.~~ *~~For e~~Example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*

b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.

~~b.~~ *E~~For e~~xample~~: , f~~F*ind the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*

~~9.~~ 8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.

b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.

c. Design and use a simulation to generate frequencies for compound events.

~~c.~~ *~~For e~~Example~~: , u~~Use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

~~Mathematics |~~ Eighth Grade ~~8~~

In eighth g~~G~~rade ~~8~~, instruction~~al time~~ should focus on the following ~~three critical~~ areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem and (4) defining the properties of integer exponents and irrational numbers.~~.~~

(1) Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \cdot A$. Students also use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom). At this grade, fitting the model, and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question and to interpret components of the relationship (such as slope and y-intercept) in terms of the situation.

2) Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.

~~(2)~~ 3) Students are introduced to ~~grasp~~ the concept of a function as a rule that assigns to each input exactly one output. They understand that functions describe situations where one quantity determines another. Students can define, evaluate, and compare functions in multiple forms (pictures, tables, graphs, equations, etc.). ~~They can translate among representations and partial representations of functions (noting that tabular and graphical representations may be partial representations), and they describe how aspects of the function are reflected in the different representations.~~

~~(3)~~ 4) Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem holds, for example, by decomposing a

square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

5) Students use their understanding of multiplication and apply properties to develop an understanding of radicals and integer exponents. Students use and perform operations with numbers expressed in scientific notation. They use their knowledge of rational numbers to develop an understanding of irrational numbers.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (☐). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Eighth Grade ~~8~~ Overview

The Number System

- △ A. Know that there are numbers that are not rational, and approximate them by rational numbers.

Expressions and Equations

- ☐ A. Work with radicals and integer exponents.
- ☐ B. Understand the connections between proportional relationships, lines, and linear equations.
- ☐ C. Analyze and solve linear equations and pairs of simultaneous linear equations.

Functions

- ☐ A. Define, evaluate, and compare functions.
- ☐ B. Use functions to model relationships between quantities.

Geometry

- ☐ A. Understand congruence and similarity using physical models, transparencies, or geometry software.
- ☐ B. Understand and apply the Pythagorean theorem.
- ○ C. Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

Statistics and Probability

- △ A. Investigate patterns of association in bivariate data.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Eighth Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In eighth grade, students solve real-world problems through the application of algebraic and geometric concepts. Students seek the meaning of a problem and look for efficient ways to represent and solve it. They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?"

MP.2 Reason abstractly and quantitatively.
In eighth grade, students represent a wide variety of real-world contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities. They examine patterns in data and assess the degree of linearity of functions. Students contextualize to understand the meaning of the number(s) or variable(s) as related to the problem and decontextualize to manipulate symbolic representations by applying properties of operations.

MP.3 Construct viable arguments and critique the reasoning of others.
In eighth grade, students construct arguments using verbal or written explanations accompanied by expressions, equations, inequalities, models, and graphs, tables, and other data displays (i.e. box plots, dot plots, histograms, etc.). They further refine their mathematical communication skills through mathematical discussions in which they critically evaluate their own thinking and the thinking of other students. They pose questions like "How did you get that?", "Why is that true?" and "Does that always work?". They explain their thinking to others and respond to others' thinking.

MP.4 Model with mathematics.
In eighth grade, students model problem situations symbolically, graphically, in tables, and contextually. Working with the new concept of a function, students learn that relationships between variable quantities in the real-world often satisfy a dependent relationship, in that one quantity determines the value of another. Students form expressions, equations, or inequalities from real-world contexts and connect symbolic and graphical representations. Students use scatterplots to represent data and describe

associations between variables. Students need many opportunities to explain the connections between the different representations. They should be able to use all of these representations as appropriate to a problem context. Students should be encouraged to answer questions such as "What are some ways to represent the quantities?" or "How might it help to create a table, chart, graph, or ?"

MP.5 Use appropriate tools strategically.

Students consider available tools (including estimation and technology) when solving a mathematical problem and decide when certain tools might be helpful. For instance, students in grade 8 may translate a set of data given in tabular form to a graphical representation to compare it to another data set. Students might draw pictures, use applets, or write equations to show the relationship between the angles created by a transversal that intersects parallel lines. Teachers might ask, "What approach are you considering?" or "Why was it helpful to use ?"

MP.6 Attend to precision.

In eighth grade, students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students use appropriate terminology when referring to the number system, functions, geometric figures, and data displays. Teachers might ask, "What mathematical language, definitions, or properties can you use to explain ?"

MP.7 Look for and make use of structure.

Students routinely seek patterns or structures to model and solve problems. In eighth grade, students apply properties to generate equivalent expressions and solve equations. Students examine patterns in tables and graphs to generate equations and describe relationships. Additionally, students experimentally verify the effects of transformations and describe them in terms of congruence and similarity.

MP.8 Look for and express regularity in repeated reasoning.

In grade eight, students use repeated reasoning to understand the slope formula and to make sense of rational and irrational numbers. Through multiple opportunities to model linear relationships, they notice that the slope of the graph of the linear relationship and the rate of change of the associated function are the same. For example, as students repeatedly check whether points are on the line with a slope of 3 that goes through the point $(1, 2)$, they might abstract the equation of the line in the form $\frac{y-2}{x-1} = 3$. Students should be encouraged to answer questions such as "How would we prove that ?" or "How is this situation like and different from other situations using these operations?"

The Number System 8.NS

△ 8.NS.A. Know that there are numbers that are not rational, and approximate them by rational numbers.

1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions ~~(e.g., π^2).~~

E~~For e~~xample~~s~~:,

1) Estimate the value of $\sqrt{2}$.

~~2.~~ *2) B~~b~~y truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

Expressions and Equations 8.EE

☐ 8.EE.A. Work with radicals and integer exponents.

1. Know and apply the properties of integer exponents to generate equivalent numerical expressions.

~~1.~~ *E~~For e~~xample~~:~~ $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.*

2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.

3. Use numbers expressed in the form of a single digit multiplied by ~~times~~ an integer power of 10 (scientific notation) to estimate very large or very small quantities, and ~~to~~ express how many times as much one is than the other.

~~3.~~ *E~~For e~~xample~~:~~ *E~~e~~stimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.*

4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities ~~(e.g., use millimeters per year for seafloor spreading).~~ Interpret scientific notation that has been generated by technology.

~~4.~~ *Example: M~~(e.g., use m~~illimeters per year for seafloor spreading~~).~~*

☐ 8.EE.B. Understand the connections between proportional relationships, lines, and linear equations.

5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

~~5.~~ *E~~For e~~xample~~:~~ *compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.*

6. Use similar triangles to explain why the slope *m* is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at *b*.

☐ 8.EE.C. **Analyze and solve linear equations and pairs of simultaneous linear equations.**

7. Solve linear equations in one variable.

   a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ *(1 solution)*, $a = a$ *(infinitely many solutions)*, or $a = b$ *(no solution)* results (where *a* and *b* are different numbers).

Example: $-3x - 2 = 7x + 2 - 10x$ *has no solution because the equation simplifies to* $-2 = 2$ *which is false for any value of* x.

   b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

8. Analyze and solve pairs of simultaneous linear equations.

   a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.

   b. Solve systems of two linear equations in two variables algebraically, (including but not limited to using substitution and elimination strategies), and estimate solutions by graphing the equations. Solve simple cases by inspection.

~~b.~~ *E~~For e~~xample~~:~~ 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.*

   c. Solve real-world and mathematical problems leading to two linear equations in two variables.

E~~For e~~xample:

1) ~~g~~Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.

~~c.~~ *2) Your family decided to rent a snowmobile at Island Park. Company A charges* $125 *for the first hour plus* $37.50 *for each additional hour. Company B charges a* $50 *one-time rental fee plus* $45 *per hour. Which company would cost less for you to rent for* 3 *hours?* 5 *hours?* 8 *hours?*

Functions 8.F

☐ 8.F.A. Define, evaluate, and compare functions.

1. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.[4]

2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).
   ~~2.~~ *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*

3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.

~~3.~~ *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*

☐ 8.F.B. Use functions to model relationships between quantities.

4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.

5. Describe qualitatively the functional relationship between two quantities by analyzing and sketching a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
   ~~5.~~

Geometry	8.G

☐ 8.G.A. Understand congruence and similarity using physical models, transparencies, or geometry software.

1. Verify experimentally the properties of rotations, reflections, and translations:
   a. Lines are transformed ~~aken~~ to lines, and line segments to line segments of the same length.
   b. Angles are transformed ~~aken~~ to angles of the same measure.
   c. Parallel lines are transformed ~~aken~~ to parallel lines.
2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations;

Example: given two congruent figures, describe a sequence that exhibits the congruence between them~~.~~

~~2.~~

~~[1]Function notation is not required in Grade 8.~~

3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

~~3.~~ ***Example**: The image of Triangle ABC with $A = (-3, 0)$, $B = (-3, -2)$ and $C = (4, -2)$ would have coordinates $A' = (-3 - 3, 0 + 2) = (-6, 2)$, $B' = (-3 - 3, -2 + 2) = (-6, 0)$, and $C' = (4 - 3, -2 + 2) = (1, 0)$ following a translation 3 units to the left and 2 units up.*

4. Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations;

~~4.~~ *Example: given two similar two- dimensional figures, describe a sequence that exhibits the similarity between them.*

5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

~~5.~~ *~~For e~~Example~~:~~, A~~a~~rrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*

☐ 8.G.B. **Understand and apply the Pythagorean Theorem.**

6. Explain and justify ~~a proof of~~ the Pythagorean Theorem and its converse using pictures, diagrams, narratives, or models.

7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.

8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

○ 8.G.C. **Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.**

9. Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

Statistics and Probability 8.SP

△ **8.SP.A. Investigate patterns of association in bivariate data.**

1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.

2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.

3. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *E~~For e~~xample, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*

4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.

4. ~~E~~For example:~~,~~ Collect data from students in your grade level (sixth, seventh, and eighth) ~~on class on~~ whether or not ~~they have a curfew on school nights and whether or not~~ they have assigned chores at home. Is there evidence that a particular grade level tends to have chores? ~~those who have a curfew also tend to have chores?~~(In this example, the two variables are grade level and chores.)

~~Mathematics Standards for High School~~

~~The high school standards specify the mathematics that all students should study in order to be college and career ready. Additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics is indicated by (+), as in this example:~~

> ~~(+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers).~~

~~All standards without a (+) symbol should be in the common mathematics curriculum for all college and career ready students. Standards with a (+) symbol may also appear in courses intended for all students.~~

~~The high school standards are listed in conceptual categories:~~

- ~~Number and Quantity~~
- ~~Algebra~~
- ~~Functions~~
- ~~Modeling~~
- ~~Geometry~~
- ~~Statistics and Probability~~

~~Conceptual categories portray a coherent view of high school mathematics; a student's work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus.~~

~~Modeling is best interpreted not as a collection of isolated topics but in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (~~*~~). The star symbol sometimes appears on the heading for a group of standards; in that case, it should be understood to apply to all standards in that group.~~

GRADES 9-12 – CONTENT STANDARDS BY CONCEPTUAL CATEGORIES

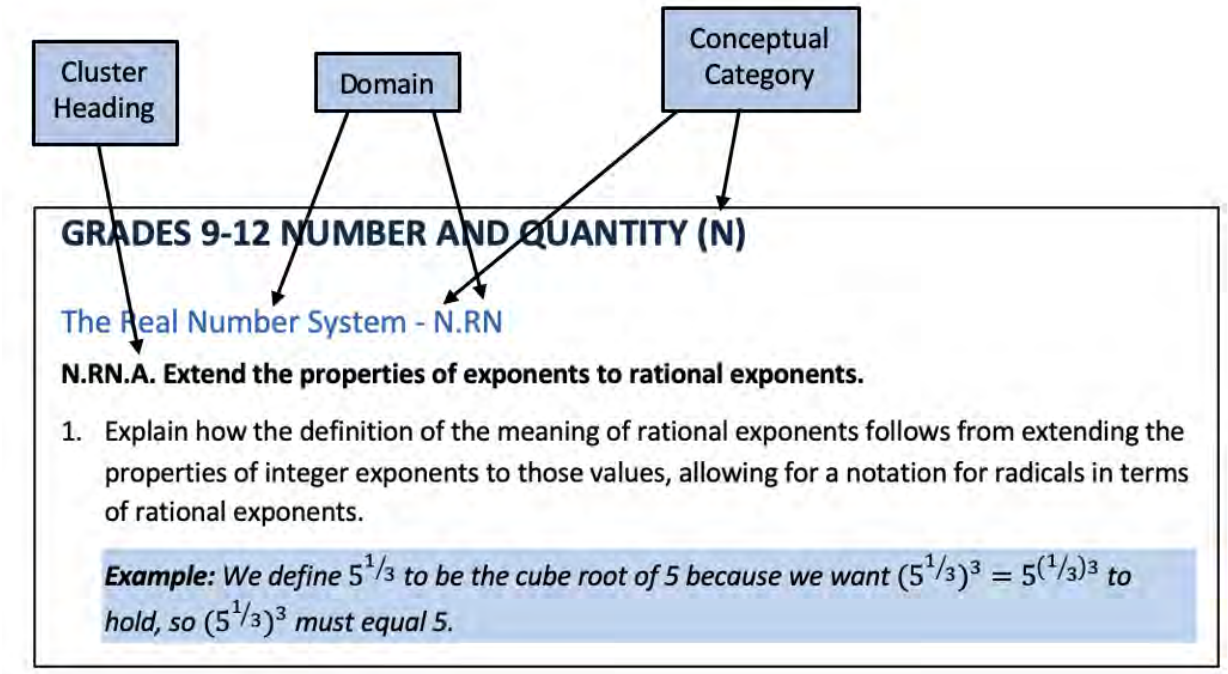
Content Standards by Conceptual Category Identifiers/Coding

The content standards presented by conceptual categories are built on mathematical learning progressions informed by research on cognitive development and by the logical structure of mathematics. These progressions provide the foundation for the grades 9–12 content standards. In this section, the standards are organized by conceptual categories.

The Conceptual Categories are:

- **Number and Quantity (N)**
- **Algebra (A)**
- **Functions (F)**
- **Modeling (★)**
- **Geometry (G)**
- **Statistics and Probability (S)**

The code for each grade 9-12 conceptual category standard begins with the identifier for the conceptual category code (N, A, F, G, S), followed by the domain code, and the standard number, as shown below.



The standard highlighted above is identified as N.RN.A.1, identifying it as a standard in the Number and Quantity conceptual category (N.) within that category's Real Number System domain (RN.), and as the first standard in that domain and in that cluster (A.1). All of the standards in this Framework use a common coding system.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

9-12 Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
Grades 9-12 students should work to understand what a problem is asking, choose a strategy to find a solution, and check the answer to make sure it makes sense. When unable to immediately identify a strategy that will work or when their selected strategy does not work as intended, they must learn to persist in trying a range of potential approaches, looking for how the current problem may relate to previous work they have done. Solving problems is the essence of mathematical work.

MP.2 Reason abstractly and quantitatively.
Grades 9-12 students need to be able to abstract a given situation and represent it symbolically. Students should also make sense of quantities and their relationships in problem situations. Particular attention to units associated with quantities is essential to understanding how the quantities are related. For example, a linear function relating the distance traveled to time needs to specify the units, such as feet and seconds. The slope of that function then gives the rate of change (velocity) given in feet per second. Students should consistently consider the reasonableness of their answer within the context of the problem.

MP.3 Construct viable arguments and critique the reasoning of others.
Grades 9-12 students are increasingly expected to make formal mathematical arguments based on stated assumptions or proper ties, well-defined definitions, and previously established results. Students should be expected to make formal and informal arguments as they progress through the grades 9-12. Students should listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. Moreover, experience with critiquing the arguments produced by classmates is essential to their mathematical development. Reasoning undergirds deep conceptual understanding.

MP.4 Model with mathematics.
Grades 9-12 students need to learn to use mathematics to address problems in everyday life, society, and the workplace. This should occur at a range of levels, from more specific application of mathematical ideas to full-scale mathematical modeling. Routinely interpret

their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

MP.5 Use appropriate tools strategically.

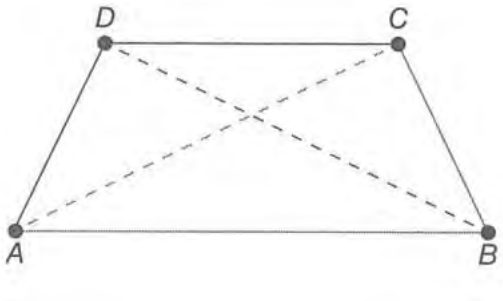
Grades 9-12 students need to be comfortable in using applicable tools when solving a mathematics problem. A range of technological tools should be available, including graphing calculators and software, computer algebra systems, spreadsheets, dynamic geometry software, and statistical software. Physical manipulatives, such as algebra tiles and geometric models, are useful for students and should be incorporated into the 9-12 classroom. Students should be comfortable using paper-and-pencil representations, such as tables, graphs, and other visual representations.

MP.6 Attend to precision.

Grades 9-12 students need to learn to communicate effectively with others, using precise vocabulary. They should use symbols to represent their thinking, clearly describing the meaning of those symbols. By the time students reach grades 9-12 they have learned to examine claims and make explicit use of definitions. They also need to be able to express the precision of the answers they give in real-world contexts, based on the accuracy of the given information.

MP.7 Look for and make use of structure.

Grades 9-12 students examine mathematical situations in order to detect a pattern or structure that may provide further insight. Students use patterns and structure to create equivalent expressions, factor and solve equations, compose functions, and transform figures. For example, drawing an auxiliary line in a geometric figure may help them to better understand the structure behind a situation. Drawing in the diagonals of an isosceles trapezoid creates two overlapping triangles ΔABC and ΔBCA as shown in the following figure; if we can demonstrate their congruence, other properties of the figure will become apparent.



MP.8 Look for and express regularity in repeated reasoning.

Grades 9-12 students notice patterns in calculations that are performed in order to form generalizations and efficient strategies for calculation. For example, grades 9-12 students may expand on their understanding of right triangles to explore the relationship between the legs and hypotenuse of a 45-45-90 triangle to discover that the hypotenuse is $\sqrt{2}$ times the leg.

~~Mathematics | High School~~Grades 9-12 - Number and Quantity (N)

Introduction

Numbers and Number Systems. During the years from kindergarten to eighth grade, students must repeatedly extend their conception of number. At first, "number" means "counting number": 1, 2, 3... Soon after that, 0 is used to represent "none" and the whole numbers are formed by the counting numbers together with zero. The next extension is fractions. At first, fractions are barely numbers and tied strongly to pictorial representations. Yet by the time students understand division of fractions, they have a strong concept of fractions as numbers and have connected them, via their decimal representations, with the base-ten system used to represent the whole numbers. During middle school, fractions are augmented by negative fractions to form the rational numbers. In ~~eighth G~~grade ~~8~~, students extend this system once more, augmenting the rational numbers with the irrational numbers
to form the real numbers. In high school, students will be exposed to yet another extension of number, when the real numbers are augmented by the imaginary numbers to form the complex numbers.

With each extension of number, the meanings of addition, subtraction, multiplication, and division are extended. In each new number system—integers, rational numbers, real numbers, and complex numbers—the four operations stay the same in two important ways: They have the commutative, associative, and distributive properties and their new meanings are consistent with their previous meanings.

Extending the properties of whole-number exponents leads to new and productive notation. For example, properties of whole-number exponents suggest that $(5^{1/3})^3$ should be $5^{(1/3)3} = 5^1 = 5$ and that $5^{1/3}$ should be the cube root of 5.

Calculators, spreadsheets, and computer algebra systems can provide ways for students to become better acquainted with these new number systems and their notation. They can be used to generate data for numerical experiments, to help understand the workings of matrix, vector, and complex number algebra, and to experiment with non-integer exponents.

Quantities. In real world problems, the answers are usually not numbers but quantities: numbers with units, which involves measurement. In their work in measurement up through Grade 8, students primarily measure commonly used attributes such as length, area, and volume. In high school, students encounter a wider variety of units in modeling, e.g., acceleration, currency conversions, derived quantities such as person-hours and heating degree days, social science rates such as per-capita income, and rates in everyday life such as points scored per game or batting averages. They also encounter novel situations in which they themselves must conceive the attributes of interest. For example, to find a good measure of overall highway safety, they might propose measures such as fatalities per year, fatalities per year per driver, or fatalities per vehicle-mile traveled. Such a conceptual process is sometimes called quantification. Quantification is important for science, as when surface area suddenly "stands out" as an important variable in evaporation. Quantification is also important for companies, which must conceptualize relevant attributes and create or choose suitable measures for them.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Number and Quantity Overview

The Real Number System

- A. Extend the properties of exponents to rational exponents
- B. Use properties of rational and irrational numbers.

Quantities

- A. Reason quantitatively and use units to solve problems

The Complex Number System

- A. Perform arithmetic operations with complex numbers
- B. Represent complex numbers and their operations on the complex plane
- C. Use complex numbers in polynomial identities and equations

Vector and Matrix Quantities

- A. Represent and model with vector quantities.
- B. Perform operations on vectors.
- C. Perform operations on matrices and use matrices in applications.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The Real Number System N-RN

N.RN.A. Extend the properties of exponents to rational exponents.

1. Explain how the definition of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. ~~For eE~~*xample: ~~,~~ W~~w~~e define 51/3 to be the cube root of 5 because we want (51/3)3 = 5(1/3)3 to hold, so (51/3)3 must equal 5.*

2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

~~2.~~ ***Example**: Solving the volume of a cube formula, $V = s^3$, for s would involve rewriting the solution as either $s = \sqrt[3]{V}$ or $s = V^{1/3}$.*

N.RN.B. Use properties of rational and irrational numbers.

3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

Quantities★ N-Q

N.Q.A Reason quantitatively and use units to solve problems.

1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. ★

2. Define appropriate quantities for the purpose of descriptive modeling. ★

3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. ★

The Complex Number System N-CN

N.CN.A. Perform arithmetic operations with complex numbers.

1. Know there is a complex number *i* such that $i^2 = -1$, and every complex number has the form *a* + *bi* with *a* and *b* real.

~~1.~~ ***Example**: Express the radical, $\pm\sqrt{-24}$, using the imaginary unit, i, in simplified form. Expressing the radical using i in simplified form results in the expression $\pm 2i\sqrt{6}$.*

2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.

3. (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.

N.CN.B. Represent complex numbers and their operations on the complex plane.

4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.

5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation.

5. ~~E~~*~~For e~~xample~~:~~ $(1 + i\sqrt{3})^3 = 8$ because (–1 + √3 i)^3 = 8 ~~because (–1 + √3 i)~~ has a radius of ~~modulus~~ 2 and argument 120°.*

6. (+) Calculate the distance between numbers in the complex plane as the absolute value ~~modulus~~ of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

N.CN.C. Use complex numbers in polynomial identities and equations.

7. Solve quadratic equations with real coefficients that have complex solutions.

7. ~~—~~***Example**: Find the complex solutions of the quadratic equation* $5x^2 + 3x + 1 = 0$*, with the solutions of* $x = \frac{3}{10} + \frac{3}{5}i$ *and* $x = \frac{3}{10} - \frac{3}{5}i$.

8. (+) Extend polynomial identities to the complex numbers.

8. ~~For e~~E*xample~~:~~ rewrite x2 + 4 as (x + 2i)(x – 2i).*

9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

Vector and Matrix Quantities N-VM

N.VM.A. Represent and model with vector quantities.

1. (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., ***v***, |***v***|, ||***v***||, *v*).
2. (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
3. (+) Solve problems involving velocity and other quantities that can be represented by vectors.

N.VM.B Perform operations on vectors.

4. (+) Add and subtract vectors.
   a. (+) Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.
   b. (+) Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.
   c. (+) Demonstrate ~~U~~understanding of vector subtraction $\boldsymbol{v} - \boldsymbol{w}$ as $\boldsymbol{v} + (-\boldsymbol{w})$, where $-\boldsymbol{w}$ is the additive inverse of $\boldsymbol{w}$, with the same magnitude as $\boldsymbol{w}$ and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.
5. (+) Multiply a vector by a scalar.
   a. (+) Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as ~~$c(v_x, v_y) = (cv_x, cv_y)$~~ $c(vx, vy) = (cvx, cvy)$.
   b. (+) Compute the magnitude of a scalar multiple $c\boldsymbol{v}$ using $||c\boldsymbol{v}|| = |c|v$. Compute the direction of $c\boldsymbol{v}$ knowing that when $|c|v \neq 0$, the direction of $c\boldsymbol{v}$ is either along $\boldsymbol{v}$ (for $c > 0$) or against $\boldsymbol{v}$ (for $c < 0$).

N.VM.C. Perform operations on matrices and use matrices in applications.

6. (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
7. (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.
8. (+) Add, subtract, and multiply matrices of appropriate dimensions.
9. (+) Demonstrate ~~U~~understanding that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.
10. (+) Demonstrate ~~U~~understanding that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.
11. (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.
12. (+) Work with 2 × 2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.

~~Mathematics | High School~~Grades 9-12 - Algebra (A)

Introduction

Expressions. An expression is a record of a computation with numbers, symbols that represent numbers, arithmetic operations, exponentiation, and, at more advanced levels, the operation of evaluating a function. Conventions about the use of parentheses and the order of operations assure that each expression is unambiguous. Creating an expression that describes a computation involving a general quantity requires the ability to express the computation in general terms, abstracting from specific instances.

Reading an expression with comprehension involves analysis of its underlying structure. This may suggest a different but equivalent way of writing the expression that exhibits some different aspect of its meaning. For example, $p + 0.05p$ can be interpreted as the addition of a 5% tax to a price p. Rewriting $p + 0.05p$ as $1.05p$ shows that adding a tax is the same as multiplying the price by a constant factor.

Algebraic manipulations are governed by the properties of operations and exponents, and the conventions of algebraic notation. At times, an expression is the result of applying operations to simpler expressions. For example, $p + 0.05p$ is the sum of the simpler expressions p and $0.05p$. Viewing an expression as the result of operation on simpler expressions can sometimes clarify its underlying structure.

A spreadsheet or a computer algebra system (CAS) can be used to experiment with algebraic expressions, perform complicated algebraic manipulations, and understand how algebraic manipulations behave.

Equations and inequalities. An equation is a statement of equality between two expressions, often viewed as a question asking for which values of the variables the expressions on either side are in fact equal. These values are the solutions to the equation. An identity, in contrast, is true for all values of the variables; identities are often developed by rewriting an expression in an equivalent form.

The solutions of an equation in one variable form a set of numbers; the solutions of an equation in two variables form a set of ordered pairs of numbers, which can be plotted in the coordinate plane. Two or more equations and/or inequalities form a system. A solution for such a system must satisfy every equation and inequality in the system.

An equation can often be solved by successively deducing from it one or more simpler equations. For example, one can add the same constant to both sides without changing the solutions, but squaring both sides might lead to extraneous solutions. Strategic competence in solving includes looking ahead for productive manipulations and anticipating the nature and number of solutions.

Some equations have no solutions in a given number system, but have a solution in a larger system. For example, the solution of $x + 1 = 0$ is an integer, not a whole number; the solution of $2x + 1 = 0$ is a rational number, not an integer; the solutions of $x^2 – 2 = 0$ are real numbers, not rational numbers; and the solutions of $x^2 + 2 = 0$ are complex numbers, not real numbers.

The same solution techniques used to solve equations can be used to rearrange formulas. For example, the formula for the area of a trapezoid, $A = ((b_1+b_2)/2)h$, can be solved for h using the same deductive process.

Inequalities can be solved by reasoning about the properties of inequality. Many, but not all, of the properties of equality continue to hold for inequalities and can be useful in solving them.

Connections to Functions and Modeling. Expressions can define functions, and equivalent expressions define the same function. Asking when two functions have the same value for the same input leads to an equation; graphing the two functions allows for finding approximate solutions of the equation. Converting a verbal description to an equation, inequality, or system of these is an essential skill in modeling.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Algebra Overview

Seeing Structure in Expressions

- A. Interpret the structure of expressions
- B. Write expressions in equivalent forms to solve problems

Arithmetic with Polynomials and Rational Expressions

- A. Perform arithmetic operations on polynomials
- B. Understand the relationship between zeros and factors of polynomials
- C. Use polynomial identities to solve problems
- D. Rewriterationalexpressions

Creating Equations

- A. Create equations that describe numbers or relationships

Reasoning with Equations and Inequalities

- A. Understand solving equations as a process of reasoning and explain the reasoning
- B. Solve equations and inequalities in one variable
- C. Solve systems of equations
- D. Represent and solve equations and inequalities graphically

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Seeing Structure in Expressions A-SSE

A.SSE.A. Interpret the structure of linear, quadratic, exponential, polynomial, and rational expressions.

1. Interpret expressions that represent a quantity in terms of its context.★
   a. Interpret parts of an expression, such as terms, factors, and coefficients.
   b. Interpret complicated expressions by viewing one or more of their parts as a single entity.

~~b.~~ *E~~For e~~xample~~:~~ ~~l~~interpret P(1+r)n as the product of P and a factor not depending on P.*

2. Use the structure of an expression to identify ways to rewrite it.

2. *Example: ~~For example, s~~See $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.*

A.SSE.B. Write expressions in equivalent forms to solve problems.

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★
   a. Factor a quadratic expression to reveal the zeros of the function it defines.
   b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

~~b.~~ ***Example**: A high school player punts a football, and the function $h(t) = -16t^2 + 64t + 2$ represents the height h, in feet, of the football at time t seconds after it is punted. Complete the square in the quadratic expression to find the maximum height of the football.*

   c. Use the properties of exponents to transform expressions for exponential functions.

~~c.~~ *E~~For e~~xample~~:~~ ~~T~~the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*

4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. ★

E~~For e~~xample~~:~~ calculate mortgage payments.~~★~~

Arithmetic with Polynomials and Rational Expressions A-APR

A.APR.A. Perform arithmetic operations on polynomials.

1. Demonstrate ~~U~~understanding that polynomials form a system analogous to the integers, namely, they are closed under certain ~~the~~ operations.

   a. Perform operations on polynomial expressions (~~of~~ addition, subtraction, ~~and~~ multiplication, division) and compare the system of polynomials to the system of integers when performing operations. ~~; add, subtract, and multiply polynomials.~~

   ~~1.~~ b. Factor and/or expand polynomial expressions, identify and combine like terms, and apply the Distributive property.

A.APR.B. **Understand the relationship between zeros and factors of polynomials.**

2. Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.

3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

A.APR.C. **Use polynomial identities to solve problems**

4. Prove polynomial identities and use them to describe numerical relationships.

4. *E~~For e~~xample: ~~,~~ T~~t~~he polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.*

5. (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.[1]

[1] ~~The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.~~

A.APR.D. **Rewrite rational expressions.**

6. Rewrite simple rational expressions in different forms~~; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$,~~ using inspection, long division, or, for the more complicated examples, a computer algebra system.

~~6.~~ *Example: Write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$.*

7. (+) Demonstrate ~~U~~understanding that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.

~~7.~~

Creating Equations★ A-CED

A.CED.A. Create equations that describe numbers or relationships

1. Create one variable equations and inequalities to solve problems; ~~in one variable and use them to solve problems. *Include equations arising from including linear, and quadratic, functions, and simple rational and exponential functions.*~~ ★

~~1.~~ ***Example**: Four people may be seated at one rectangular table. If two rectangular tables are placed together end-to-end, 6 people may be seated at the table. If 10 tables are placed together end-to-end, how many people can be seated? How many tables are needed for n people?*

2. Interpret the relationship between two or more quantities. ★
~~2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.~~

a. Define variables to represent the quantities and write equations to show the relationship. ★

***Example**: The cost of parking in the parking garage is $2.00 for the first hour and $1.00 for every hour after that. Write an equation in terms of x and y that shows the total cost for parking, y, for x hours. Use the equation to calculate the cost for parking in the garage for 5 hours.*

b. Use graphs to show a visual representation of the relationship while adhering to appropriate labels and scales. ★

***Example**: Using the equation from A-CED.2a, show how the graph of the equation can be used to predict the cost for a specified amount of time.*

3. Represent constraints using~~by~~ equations or inequalities~~, and by systems of equations and/or inequalities,~~ and interpret solutions as viable or non- viable options in a modeling context. ★
~~3. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*~~

4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. ★

*E~~For e~~xample~~:~~ ~~,~~ r*Rearrange Ohm's law $V = IR$ to highlight resistance R.*

~~4.~~

Reasoning with Equations and Inequalities A-REI

A.REI.A. Understand solving equations as a process of reasoning and explain the reasoning.

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify or refute a solution method.
2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

A.REI.B. Solve equations and inequalities in one variable.

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

~~3.~~ a. Solve linear equations and inequalities in one variable involving absolute value.

4. Solve quadratic equations in one variable.
   a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.
   b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.

A.REI.C. Solve systems of equations

5. Verify~~Prove~~ that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

~~6.~~ ***Example**: A school club is selling hats and t-shirts for a fundraiser. The group expects to sell a total of 50 items. They make a profit of 15 dollars for each t-shirt sold and 5 dollars for each hat sold. How many hats and t-shirts will the school club need to sell to make a profit of $300?*

7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.

~~7.~~ *~~For e~~Example~~; f~~Find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.*

8. (+) Represent a system of linear equations as a single matrix equation in a vector variable.

9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3 × 3 or greater).

A.REI.D. **Represent and solve equations and inequalities graphically.**

10. Demonstrate ~~U~~understanding that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, ~~often forming a curve (which could be a line).~~ Show that any point on the graph of an equation in two variables is a solution to the equation.

11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, ~~e.g., using technology to graph the functions, make tables of values, or find successive approximations.~~ Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★

~~11.~~ *Example: ~~e.g., using~~ technology to graph the functions, make tables of values, or find successive approximations.*

12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

~~Mathematics | High School - –~~ Grades 9 – 12 Functions (F)

Introduction

Functions describe situations where one quantity determines another. For example, the return on $10,000 invested at an annualized percentage rate of 4.25% is a function of the length of time the money is invested. Because we continually make theories about dependencies between quantities in nature and society, functions are important tools in the construction of mathematical models.

In 9-12 ~~school~~ mathematics, functions usually have numerical inputs and outputs and are often defined by an algebraic expression. For example, the time in hours it takes for a car to drive 100 miles is a function of the car's speed in miles per hour, v; the rule $T(v) = 100/v$ expresses this relationship algebraically and defines a function whose name is T.

The set of inputs to a function is called its domain. We often infer the domain to be all inputs for which the expression defining a function has a value, or for which the function makes sense in a given context.

A function can be described in various ways, such as by a graph (e.g., the trace of a seismograph); by a verbal rule, as in, "I'll give you a state, you give me the capital city;" by an algebraic expression like $f(x) = a + bx$; or by a recursive rule. The graph of a function is often a useful way of visualizing the relationship of the function models, and manipulating a mathematical expression for a function can throw light on the function's properties.

Functions presented as expressions can model many important phenomena. Two important families of functions characterized by laws of growth are linear functions, which grow at a constant rate, and exponential functions, which grow at a constant percent rate. Linear functions with a constant term of zero describe proportional relationships.

A graphing utility or a computer algebra system can be used to experiment with properties of these functions and their graphs and to build computational models of functions, including recursively defined functions.

Connections to Expressions, Equations, Modeling, and Coordinates.

Determining an output value for a particular input involves evaluating an expression; finding inputs that yield a given output involves solving an equation. Questions about when two functions have the same value for the same input lead to equations, whose solutions can be visualized from the intersection of their graphs. Because functions describe relationships between quantities, they are frequently used in modeling. Sometimes functions are defined by a recursive process, which can be displayed effectively using a spreadsheet or other technology.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Functions Overview

Interpreting Functions

- A. Understand the concept of a function and use function notation
- B. Interpret functions that arise in applications in terms of the context
- C. Analyze functions using different representations

Building Functions

- A. Build a function that models a relationship between two quantities
- B. Build new functions from existing functions

Linear, Quadratic, and Exponential Models

- A. Construct and compare linear, quadratic, and exponential models and solve problems
- B. Interpret expressions for functions in terms of the situation they model

Trigonometric Functions

- A. Extend the domain of trigonometric functions using the unit circle
- B. Model periodic phenomena with trigonometric functions
- C. Prove and apply trigonometric identities

- Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

Interpreting Functions F-IF

F.IF.A Understand the concept of a function and use function notation

1. Demonstrate u~~U~~nderstand that a function is a correspondence from one set (called the domain) to another set (called the range) that assigns to each element of the domain exactly one element of the range~~:~~. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.

2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

***Example**: Given a function representing a car loan, determine the balance of the loan at different points in time.*

~~2.~~

3. Demonstrate ~~Recognize~~ that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

~~3.~~ *Example: ~~For example, t~~The Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for n ≥ 1.*

F.IF.B Interpret functions that arise in applications in terms of the context. Include linear, quadratic, exponential, rational, polynomial, square root and cube root, trigonometric, and logarithmic functions.

4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★

***Example**: Given a context or verbal description of a relationship, sketch a graph that models the context or description and shows its key features.*

5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. ★

~~5.~~ *E~~For e~~xample~~:~~ ~~I~~if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.~~* ★

6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★

F.IF.C. Analyze functions using different representations.

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★

   a. Graph linear and quadratic functions and show intercepts, maxima, and minima. ★

   b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. ★

   c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. ★

   d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. ★

e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude. ★

8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

a. Use the process of factoring and/or completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

~~a.~~ ***Example**: Suppose $h(t) = -5t^2 + 10t + 3$ represents the height of a diver above the water (in meters), t seconds after the diver leaves the springboard. What is the maximum height above the water the diver reaches? After how many seconds, t, does the diver hit the water?*

b. Use the properties of exponents to interpret expressions for exponential functions. Apply to financial situations such as identifying appreciation and depreciation rate for the value of a house or car sometime after its initial purchase.

***Example**: The equation for radioactive decay is, $A = A_0\left(\frac{1}{2}\right)^{t/h}$. When A_0 is the original amount of a radioactive substance, A is the final amount, h is the half-life of the substance, and t is time. Hagerman, Idaho is a hotbed of fossil hunting. The half-life of Carbon-14 is about 5730 years. If a fossil that was found in Hagerman contains 54 grams of Carbon-14 at time $t = 0$, how much Carbon-14 remains at time $t = 17190$ years?*

~~b. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.~~

9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

E~~For e~~xample~~:~~ ~~,~~ gGiven a graph of one polynomial ~~quadratic~~ function and an algebraic expression for another, say which has the larger/smaller relative maximum and/or minimum.

10. Given algebraic, numeric and/or graphical representations of functions, recognize the function as polynomial, rational, logarithmic, exponential, or trigonometric.

~~9.~~

Building Functions F-BF

F.BF.A. Build a function that models a relationship between two quantities.

1. Write a function that describes a relationship between two quantities. Functions could include linear, exponential, quadratic, simple rational, radical, logarithmic, and trigonometric. ★★

a. Determine an explicit expression, a recursive process, or steps for calculation from a context. ★

b. Combine standard function types using arithmetic operations. ★

~~b.~~ *E~~For e~~xample: , B~~b~~uild a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*

c. (+) Compose functions. ★

~~c.~~ *For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time.*

2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★

~~2.~~ ***Example**: If the U.S. Census Bureau wrote the following recursive equation to represent how they estimate Idaho's population will grow each year after 2019: $P(n) = 1.023 \cdot P(n-1)$, $P(0) = 1{,}787{,}000$. $P(n)$ represents Idaho's population at the end of the n^{th} year in terms of Idaho's population at the end of the $(n-1)^{th}$ year, $P(n-1)$. Predict Idaho's population in 2040.*

F.BF.B Build new functions from existing functions

3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Include, linear, quadratic, exponential, absolute value, simple rational and radical, logarithmic, and trigonometric functions. Utilize using technology to ~~E~~experiment with cases and illustrate an explanation of the effects on the graph. ~~using technology.~~ *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*

4. Find inverse functions algebraically and graphically.

a. Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. Include linear and simple polynomial, rational, and exponential functions.

~~a.~~ ~~For e~~*Example~~:~~ $f(x) = 2x^3$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$.*

b. (+) Verify by composition that one function is the inverse of another.

c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.

d. (+) Produce an invertible function from a non-invertible function by restricting the domain.

5. (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.

Linear, Quadratic, and Exponential Models★ F-LE

F.LE.A. Construct and compare linear, quadratic, and exponential models and solve problems.

1. Distinguish between situations that can be modeled with linear functions and with exponential functions. ★

   a. Demonstrate~~Prove~~ that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. ★

   b. Identify ~~Recognize~~ situations in which one quantity changes at a constant rate per unit interval relative to another. ★

   c. Identify ~~Recognize~~ situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. ★

2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). ★

3. ~~Observe using~~ Use graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. ★

~~3.~~ ***Example**: Becca's parents are saving for her college education by putting* $3,000*/year in a safe deposit box. Becca's grandpa is also saving for her college education by putting* $2,000*/year in an IDeal (Idaho college savings) account with an APR of* 6.17%*. Build tables to show which account has the most money after* 10 *years, and how much more? How many years will it take for the total in her grandpa's account to exceed the total in her parents' safe deposit box?*

4. For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology. ★

~~4.~~ ***Example**: Mr. Rico has a savings account that has an interest rate of* 7% *compounded continuously. The amount in the account is calculated using* $A = Pe^{rt}$*. If Mr. Rico invested* $30,000 *on January 1, 2020, when will he have* $100,000 *in the account?*

F.LE.B. **Interpret expressions for functions in terms of the situation they model.**

5. Interpret the parameters in a linear or exponential function in terms of a context. ★

Trigonometric Functions F-TF

T.TF.A. Extend the domain of trigonometric functions using the unit circle.

1. Demonstrate ~~Understand~~ radian measure ~~as the ratio of an angle as the length~~ of the arc ~~length on the unit circle~~ subtended by a central ~~the~~ angle to the length of the radius of the unit circle.

   a. Use radian measure to solve problems.

~~1.~~ ***Example**: You live in New Meadows, Idaho, which is located on the* 45th *parallel (*45° *North latitude). Approximately how far will you drive, in miles, to attend the Calgary Stampede? Calgary is located at* 51°*N latitude, almost due North of New Meadows. (Use* $r = 3960$ *miles for the radius of the Earth.)*

2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.

3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for π/3, π/4 and π/6, and use the unit circle to express the values of sine, cosine, and tangent for π–x, π+x, and 2π–x in terms of their values for x, where x is any real number.

4. (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

T.TF.B. **Model periodic phenomena with trigonometric functions.**

5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.★

***Example**:* This *past summer you and your friends decided to ride the Ferris wheel at the Idaho State Fair. You wondered how high the highest point on the Ferris wheel was. You asked the operator, and he didn't know, but he told you that the height of the chair was* 5 *ft off the ground when you got on and the center of the Ferris wheel is* 30 *ft above that. You checked your phone when you got on and figured out that it took you* 12 *mins to make one full revolution. Create a model to show your height from the platform at any given time on the Ferris wheel.*

~~5.~~

6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.

7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.★

T.TF.C. **Prove and apply trigonometric identities.**

8. Relate ~~Prove~~ the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use the Pythagorean identity it to find the value of a trigonometric function $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given on trigonometric function $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.

~~8.~~ ***Example**: Suppose that $\cos(\theta) = \frac{2}{5}$ and that θ is in the 4th quadrant. Find the exact value of $\sin(\theta)$ and $\tan(\theta)$.*

9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

~~Mathematics | High School~~ Grades 9-12 – Modeling (M)

Introduction

Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. Modeling is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. Quantities and their relationships in physical, economic, public policy, social, and everyday situations can be modeled using mathematical and statistical methods. When making mathematical models, technology is valuable for varying assumptions, exploring consequences, and comparing predictions with data.

A model can be very simple, such as writing total cost as a product of unit price and number bought, or using a geometric shape to describe a physical object like a coin. Even such simple models involve making choices. It is up to us whether to model a coin as a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. Other situations—modeling a delivery route, a production schedule, or a comparison of loan amortizations—need more elaborate models that use other tools from the mathematical sciences. Real-world situations are not organized and labeled for analysis; formulating tractable models, representing such models, and analyzing them is appropriately a creative process. Like every such process, this depends on acquired expertise as well as creativity.

Some examples of such situations might include:

- Estimating how much water and food is needed for emergency relief in a devastated city of 3 million people, and how it might be distributed.
- Planning a table tennis tournament for 7 players at a club with 4 tables, where each player plays against each other player.
- Designing the layout of the stalls in a school fair so as to raise as much money as possible.
- Analyzing stopping distance for a car.
- Modeling savings account balance, bacterial colony growth, or investment growth.
- Engaging in critical path analysis, e.g., applied to turnaround of an aircraft at an airport.
- Analyzing risk in situations such as extreme sports, pandemics, and terrorism.
- Relating population statistics to individual predictions.

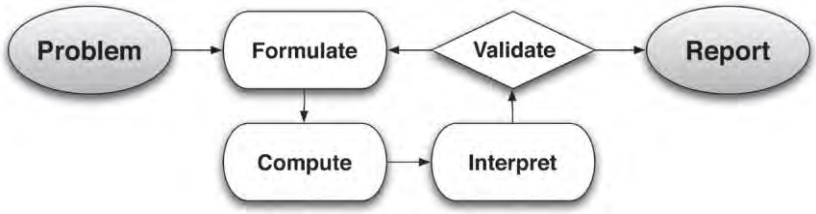
In situations like these, the models devised depend on a number of factors: How precise an answer do we want or need? What aspects of the situation do we most need to understand, control, or optimize? What resources of time and tools do we have? The range of models that we can create and analyze is also constrained by the limitations of our mathematical, statistical, and technical skills, and our ability to recognize significant variables and relationships among them. Diagrams of various kinds, spreadsheets and other technology, and algebra are powerful tools for understanding and solving problems drawn from different types of real-world situations.

One of the insights provided by mathematical modeling is that essentially the same mathematical or statistical structure can sometimes model seemingly different situations. Models can also shed light on

the mathematical structures themselves, for example, as when a model of bacterial growth makes more vivid the explosive growth of the exponential function.

The basic modeling cycle is summarized in the diagram below. It involves: (1) identifying variables in the situation and selecting those that represent essential features, (2) formulating a model by creating and selecting geometric, graphical, tabular, algebraic, or statistical representations that describe

relationships between the variables, (3) analyzing and performing operations on these relationships to draw conclusions, (4) interpreting the results of the mathematics in terms of the original situation, (5) validating the conclusions by comparing them with the situation, and then either improving the model or, (6) if it is acceptable, reporting on the conclusions and the reasoning behind them. Choices, assumptions, and approximations are present throughout this cycle



In descriptive modeling, a model simply describes the phenomena or summarizes them in a compact form. Graphs of observations are a familiar descriptive model—for example, graphs of global temperature and atmospheric CO_2 over time.

Analytic modeling seeks to explain data on the basis of deeper theoretical ideas, albeit with parameters that are empirically based; for example, exponential growth of bacterial colonies (until cut-off mechanisms such as pollution or starvation intervene) follows from a constant reproduction rate. Functions are an important tool for analyzing such problems.

Graphing utilities, spreadsheets, computer algebra systems, and dynamic geometry software are powerful tools that can be used to model purely mathematical phenomena (e.g., the behavior of polynomials) as well as physical phenomena.

Mmodeling Standards

Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (★).

~~Mathematics | High School –~~ Grades 9-12 Geometry (G)

Introduction

An understanding of the attributes and relationships of geometric objects can be applied in diverse contexts—interpreting a schematic drawing, estimating the amount of wood needed to frame a sloping roof, rendering computer graphics, or designing a sewing pattern for the most efficient use of material.

Although there are many types of geometry, school mathematics is devoted primarily to plane Euclidean geometry, studied both synthetically (without coordinates) and analytically (with coordinates). Euclidean geometry is characterized most importantly by the Parallel Postulate, that through a point not on a given line there is exactly one parallel line. (Spherical geometry, in contrast, has no parallel lines.)

During high school, students begin to formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs. Later in college some students develop Euclidean and other geometries carefully from a small set of axioms.

The concepts of congruence, similarity, and symmetry can be understood from the perspective of geometric transformation. Fundamental are the rigid motions: translations, rotations, reflections, and combinations of these, all of which are here assumed to preserve distance and angles (and therefore shapes generally). Reflections and rotations each explain a particular type of symmetry, and the symmetries of an object offer insight into its attributes—as when the reflective symmetry of an isosceles triangle assures that its base angles are congruent.

In the approach taken here, two geometric figures are defined to be congruent if there is a sequence of rigid motions that carries one onto the other. This is the principle of superposition. For triangles, congruence means the equality of all corresponding pairs of sides and all corresponding pairs of angles. During the middle grades, through experiences drawing triangles from given conditions, students notice ways to specify enough measures in a triangle to ensure that all triangles drawn with those measures are congruent. Once these triangle congruence criteria (ASA, SAS, and SSS) are established using rigid motions, they can be used to prove theorems about triangles, quadrilaterals, and other geometric figures.

Similarity transformations (rigid motions followed by dilations) define similarity in the same way that rigid motions define congruence, thereby formalizing the similarity ideas of "same shape" and "scale factor" developed in the middle grades. These transformations lead to the criterion for triangle similarity that two pairs of corresponding angles are congruent.

The definitions of sine, cosine, and tangent for acute angles are founded on right triangles and similarity, and, with the Pythagorean Theorem, are fundamental in many real-world and theoretical situations. The Pythagorean Theorem is generalized to non-right triangles by the Law of Cosines. Together, the Laws of Sines and Cosines embody the triangle congruence criteria for the cases where three pieces of information suffice to completely solve a triangle. Furthermore, these laws yield two possible solutions in the ambiguous case, illustrating that Side-Side-Angle is not a congruence criterion.

Analytic geometry connects algebra and geometry, resulting in powerful methods of analysis and problem solving. Just as the number line associates numbers with locations in one dimension, a pair of perpendicular axes associates pairs of numbers with locations in two dimensions. This correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof. Geometric transformations of the graphs of equations correspond to algebraic changes in their equations.

Dynamic geometry environments provide students with experimental and modeling tools that allow them to investigate geometric phenomena in much the same way as computer algebra systems allow them to experiment with algebraic phenomena.

Connections to Equations. The correspondence between numerical coordinates

and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics, or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Geometry Overview

Congruence

- A. Experiment with transformations in the plane
- B. Understand congruence in terms of rigid motions
- C. Prove geometric theorems
- D. Make geometric constructions

Similarity, Right Triangles, and Trigonometry

- A. Understand similarity in terms of similarity transformations
- B. Prove theorems involving similarity
- C. Define trigonometric ratios and solve problems involving right triangles
- D. Apply trigonometry to general triangles

Circles

- A. Understand and apply theorems about circles
- B. Find arc lengths and areas of sectors of circles

Expressing Geometric Properties with Equations

- A. Translate between the geometric description and the equation for a conic section
- B. Use coordinates to prove simple geometric theorems algebraically

Geometric Measurement and Dimension

- A. Explain volume formulas and use them to solve problems
- B. Visualize relationships between two-dimensional and three-dimensional objects

Modeling with Geometry

- A. Aapply geometric concepts in modeling situations

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Congruence G-CO

G.CO.A. Experiment with transformations in the plane

1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

2. Represent transformations in the plane using~~, e.g., transparencies and geometry software;~~ and describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not.
~~2.~~ Example: ~~(e.g., T~~translation versus horizontal stretch~~).~~

3. Describe the rotations and reflections that carry a ~~G~~given figure (~~a~~ rectangle, parallelogram, trapezoid, or regular polygon)~~, describe the rotations and reflections that carry it~~ onto itself.

4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.

5. Draw the transformation (rotation, reflection, or translation) for a given geometric figure.
~~Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software.~~

Example: *Given quadrilateral $TMEJ$ with vertices $T(0,-1)$, $M(3,-2)$, $E(-1,-5)$, and $J(-3,-2)$, reflect the shape across the x-axis.*

~~5.~~6. Specify a sequence of transformations that will carry a given figure onto another.

G.CO.B. Understand congruence in terms of rigid motions.

~~6.~~7. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.

~~7.~~8. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.

9. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

Example: *In ΔABC and ΔABD (with shared side $\overline{AB}$), we are given that $\angle BAC \cong \angle BAD$ and $\angle ABC \cong \angle ABD$. What pair(s) of corresponding parts is needed to ensure the triangles are congruent by either ASA, SAS, or SSS? What rigid motion would show the triangles are congruent?*

~~8.~~

G.CO.C. Prove geometric theorems and, when appropriate, the converse of theorems.

~~9.~~10. Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; and conversely prove lines are parallel; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*

~~10.~~11. Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; and conversely prove a triangle is isosceles; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*

~~11.~~ 12. Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*

a. Prove theorems about polygons. Theorems include the measures of interior and exterior angles. Apply properties of polygons to the solutions of mathematical and contextual problems.

G.CO.D. **Make geometric constructions**

~~12.~~13. Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Constructions include: *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*

~~13.~~14. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Similarity, Right Triangles, and Trigonometry G-SRT

G.SRT.A. Understand similarity in terms of similarity transformations

1. Verify experimentally the properties of dilations given by a center and a scale factor:
   a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.
   b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
2. ~~Given two figures~~, Uuse the definition of similarity ~~in terms of similarity transformations~~ to decide if two given figures ~~they~~ are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

~~3.~~ ***Example:*** *Given* ΔABC *and* ΔDEF, $\angle A \cong \angle D$, *and* $\angle B \cong \angle E$, *show that* $\Delta ABC \sim \Delta DEF$ *using a sequence of translations, rotations, reflections, and/or dilations.*

G.SRT.B. Prove theorems involving similarity

4. Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
5. ~~5.~~ Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Example: *A high school student visits a giant cedar tree near the town of Elk River, Idaho and the end of his shadow lines up with the end of the tree's shadow. The student is* 6 *feet tall and his shadow is* 8 *feet long. The cedar tree's shadow is* 228 *feet long. How tall is the cedar tree?*

G.SRT.C. Define trigonometric ratios and solve problems involving right triangles

~~6.~~ 6. Demonstrate ~~U~~understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

~~7.~~ 7. Explain and use the relationship between the sine and cosine of complementary angles.

8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★

~~8.~~ ***Example:*** *Mark and Ruth are rock climbing in the Snake River Canyon. Mark is anchoring the rope for Ruth. If the length of the rope from Mark to Ruth is* 60 *ft, with an angle of elevation of* 23°, *how far is Mark from the base of the cliff?*

G.SRT.D. Apply trigonometry to general triangles

9. (+) Derive the formula $A = 1/2\ ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.
10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.

11. (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).

Circles	G-C

G.C.A. Understand and apply theorems about circles

1. Prove that all circles are similar.
2. Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*
3. Prove properties of angles for a quadrilateral and other polygon inscribed in a circle, by constructing ~~Construct~~ the inscribed and circumscribed circles of a triangle., ~~and prove properties of angles for a quadrilateral inscribed in a circle.~~
4. (+) Construct a tangent line to a circle from a point outside the~~a~~ given circle. ~~to the circle~~.

G.C.B. **Find arc lengths and areas of sectors of circles**

5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.

Expressing Geometric Properties with Equations G-GPE

G.GPE.A. Translate between the geometric description and the equation for a conic section

1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
2. Derive the equation of a parabola given a focus and directrix.
3. (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

~~3.~~ a. (+) Use equations and graphs of conic sections to model real-world problems.★

G.GPE.B. **Use coordinates to prove simple geometric theorems algebraically**

4. Use coordinates to prove simple geometric theorems algebraically including the distance formula and its relationship to the Pythagorean Theorem. ~~.~~

~~4.~~ *E~~For e~~xample~~;~~ p*Prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).

5. Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems

~~5.~~ *Example: ~~(e.g., f~~Find the equation of a line parallel or perpendicular to a given line that passes through a given point).*

6. Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
7. Use coordinates to compute perimeters of polygons and areas of triangles (~~,~~ e.g., using the distance formula).★

Geometric Measurement and Dimension G-GMD

G.GMD.A. Explain volume formulas and use them to solve problems

1. Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
2. (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.★

~~3.~~ ***Example**: The tank at the top of the Meridian Water Tower is roughly spherical. If the diameter of the sphere is* 50.35 *feet, approximately how much water can the tank hold?*

G.GMD.B. **Visualize relationships between two-dimensional and three-dimensional objects**

4. Identify the shapes of two-dimensional cross-sections of three-

dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

Modeling with Geometry	G-MG

G.MG.A. Apply geometric concepts in modeling situations

1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).★
2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).★
3. ~~3.~~ Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★

4. Use dimensional analysis for unit conversions to confirm that expressions and equations make sense.★

~~Mathematics | High School~~Grades 9-12 - Statistics and Probability(S)★

Introduction

Decisions or predictions are often based on data—numbers in context. These decisions or predictions would be easy if the data always sent a clear message, but the message is often obscured by variability. Statistics provides tools for describing variability in data and for making informed decisions that take it into account.

Data are gathered, displayed, summarized, examined, and interpreted to discover patterns and deviations from patterns. Quantitative data can be described in terms of key characteristics: measures of shape, center, and spread. The shape of a data distribution might be described as symmetric, skewed, flat, or bell shaped, and it might be summarized by a statistic measuring center (such as mean or median) and a statistic measuring spread (such as standard deviation or interquartile range). Different distributions can be compared numerically using these statistics or compared visually using plots. Knowledge of center and spread are not enough to describe a distribution. Which statistics to compare, which plots to use, and what the results of a comparison might mean, depend on the question to be investigated and the real-life actions to be taken.

Randomization has two important uses in drawing statistical conclusions. First, collecting data from a random sample of a population makes it possible to draw valid conclusions about the whole population, taking variability into account. Second, randomly assigning individuals to different treatments allows a fair comparison of the effectiveness of those treatments. A statistically significant outcome is one that is unlikely to be due to chance alone, and this can be evaluated only under the condition of randomness. The conditions under which data are collected are important in drawing conclusions from the data; in critically reviewing uses of statistics in public media and other reports, it is important to consider the study design, how the data were gathered, and the analyses employed as well as the data summaries and the conclusions drawn.

Random processes can be described mathematically by using a probability model: a list or description of the possible outcomes (the sample space), each of which is assigned a probability. In situations such as flipping a coin, rolling a number cube, or drawing a card, it might be reasonable to assume various outcomes are equally likely. In a probability model, sample points represent outcomes and combine to make up events; probabilities of events can be computed by applying the Addition and Multiplication Rules. Interpreting these probabilities relies on an understanding of independence and conditional probability, which can be approached through the analysis of two-way tables.

Technology plays an important role in statistics and probability by making it possible to generate plots, regression functions, and correlation coefficients, and to simulate many possible outcomes in a short amount of time.

Connections to Functions and Modeling.

Functions may be used to describe data; if the data suggest a linear relationship, the relationship can be modeled with a regression line, and its strength and direction can be expressed through a correlation coefficient.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Statistics and Probability Overview

Interpreting Categorical and Quantitative Data

- A. Summarize, represent, and interpret data on a single count or measurement variable
- B. Summarize, represent, and interpret data on two categorical and quantitative variables
- C. Interpret linear models

Making Inferences and Justifying Conclusions

- A. Understand and evaluate random processes underlying statistical experiments
- B. Make inferences and justify conclusions from sample surveys, experiments and observational studies

Conditional Probability and the Rules of Probability

- A. Understand independence and conditional probability and use them to interpret data
- B. Use the rules of probability to compute probabilities of compound events in a uniform probability model

Using Probability to Make Decisions

- A. Calculate expected values and use them to solve problems
- B. Use probability to evaluate outcomes of decisions

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Interpreting Categorical and Quantitative Data	S-ID

S.ID.A. Summarize, represent, and interpret data on a single count or measurement variable. Use calculators, spreadsheets, and other technology as appropriate.

1. Differentiate between count data and measurement variable.★

2. Represent measurement data with plots on the real number line (dot plots, histograms, and box plots). ★

~~1.~~ ***Example:*** *Construct a histogram of the current population size in each of Idaho's counties.*

3. ~~Use statistics appropriate to the shape of the data distribution to c~~Compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different variables, Use statistics appropriate to the shape of the distribution for measurement variable. ~~data sets.~~ ★

~~2.~~ ***Example:*** *Compare the histograms of the annual potato yields over the last* 25 *years for Idaho and Maine using the correct measures of center and spread for the shape of the histograms.*

4. Interpret differences in shape, center, and spread in the context of the variables ~~data sets,~~ accounting for possible effects of extreme data points (outliers) for measurement variables. ★

~~3.~~ ***Example:*** *Describe differences in distributions of annual precipitation over the last* 100 *years between Boise and Seattle using shape, center, spread and outliers.*

~~4.~~ 5. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. ★

Example: *Estimate the percentage of all Idaho elk hunters who successfully filled their tag last year, using the results from Washington County hunters.*

S.ID.B. Summarize, represent, and interpret data on two categorical and quantitative variables

6. Represent ~~Summarize categorical~~ data on two categorical variables on a clustered bar chart and describe how the variables are related. Summarize categorical data for for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. ★

~~5.~~ ***Example:*** *Represent the relationship between student effort (on a scale of 1 – 5) and letter grade in a math class with a clustered bar chart and describe the relationship using a relative frequency table.*

~~6.~~7. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. ★

a. ~~Use data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.*~~Fit a linear function ~~where~~for a scatter plot ~~that~~ suggests a linear relationship and use the fitted function to solve problems in the context of the data. ~~association.~~ ★

b. Use functions fitted to data, focusing on quadratic and exponential models, or choose a function suggested by the context. Utilize technology where appropriate.★

Example: *Use technology to fit a function of the relationship between the board-feet (measured in volume) of trees and the diameter of the trunks of the trees.*

~~a. Fit a function to the data; use functions fitted to~~

~~b.~~ c. Informally assess the fit of a function by plotting and analyzing residuals.

~~c. Fit a linear function for a scatter plot that suggests a linear association.~~

S.ID.C. **Interpret linear models**

8. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. ★

Example: *Explain why the y-intercept of a linear model relating the volume production of sugar beets to size of farm has no meaning whereas the y-intercept of a linear model relating the volume production of sugar beets related to minimum temperature does have meaning.*

~~7.~~ 9. Compute (using technology) and interpret the correlation coefficient. ★ ~~of a linear fit.~~

Example: *Find the correlation coefficient between the number of hours firefighters sleep each night and the length of fireline they construct each day. Use the correlation coefficient to explain whether sleep is important.*

10. Distinguish between correlation and causation. ★

~~8.~~

Making Inferences and Justifying Conclusions S-IC

S.IC.A. Understand and evaluate random processes underlying statistical experiment. . Use calculators, spreadsheets, and other technology as appropriate.~~s~~

1. Understand statistics as a process for making inferences about population parameters based on a random sample from that population. ★
2. Decide if a specified model is consistent with results from a given data-generating process~~, (~~e.g., using simulation or validation with given data)~~.~~ ★

~~2.~~ *E~~For e~~xample~~:, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*

S.IC.B. **Make inferences and justify conclusions from sample surveys, experiments, and observational studies**

3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. ★

4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. ★

5. Use data from a randomized and controlled experiment to compare two treatments; use margins of error to ~~simulations to~~ decide if differences between ~~parameters~~ treatments are significant. ★

6. Evaluate reports of statistical information based on data. ★

~~6.~~ ***Example**: Students may analyze and critique different reports from media, business, and government sources.*

Conditional Probability and the Rules of Probability S-CP

S.CP.A. Understand independence and conditional probability and use them to interpret data from simulations or experiments.

1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not"). ★

2. Demonstrate ~~U~~understanding that two events *A* and *B* are independent if the probability of *A* and *B* occurring together is the product of their probabilities, and use this characterization to determine if they are independent. ★

3. Understand the conditional probability of *A* given *B* as $\frac{P(A \cap B)}{P(B)}$, ~~*P(A and B)/P(B),*~~ and interpret independence of *A* and *B* as saying that the conditional probability of *A* given *B* is the same as the probability of *A*, and the conditional probability of *B* given *A* is the same as the probability of *B*. ★

4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. ★

~~4.~~ ~~*For e*~~Example~~:~~ ~~, c~~Collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that

the student is in tenth grade. Do the same for other subjects and compare the results.

5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. ★

~~5.~~ ~~*For e*~~*Example~~:~~ ~~, c~~Compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*

S.CP.B. Use the rules of probability to compute probabilities of compound events in a uniform probability model.

6. Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A*, and interpret the answer in terms of the model. ★

7. Apply the Addition Rule, ~~P(A or B) = P(A) + P(B) – P(A and B),~~ $P(A \cup B) = P(A) + P(B) - P(A \cap B)$, and interpret the answer in terms of the model. ★

8. (+) Apply the general Multiplication Rule in a uniform probability model, ~~P(A and B) = P(A)P(B|A) = P(B)P(A|B),~~ $P(A \cap B) = P(A)P(B|A) = P(B)P(A|B)$, and interpret the answer in terms of the model. ★

9. (+) Use permutations and combinations to compute probabilities of

compound events and solve problems. ★

Using Probability to Make Decisions S-MD

S.MD.A. Calculate expected values and use them to solve problems

1. (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions. ★
2. (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution of the variable. ★

3. (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. ★

~~E~~For example~~:~~ ~~f~~Find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.

4. (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. ★

4. *~~E~~For example~~:~~ ~~f~~Find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?*

S.MD.B. **Use probability to evaluate outcomes of decisions**

5. (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values. ★

a. Find the expected payoff for a game of chance. ★

~~a.~~ *~~E~~For example~~:~~ ~~f~~Find the expected winnings from a state lottery ticket or a game at a fast- food restaurant.*

b. Evaluate and compare strategies on the basis of expected values. ★

~~E~~For example~~:~~ ~~c~~Compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.

6. ~~6.~~ (+) Use probabilities to make objective ~~fair~~ decisions. ★ ~~(e.g., drawing by lots, using a random number generator).~~

***Example**: The Idaho Department of Transportation classifies highways for overweight loads based on the probability of bridges on a highway failing under given vehicle weights.*

7. (+) Analyze decisions and strategies using probability concepts. ★

7. *~~(~~Example: ~~e.g., p~~Product testing, medical testing, or pulling a hockey goalie at the end of a game and replacing goalie with an extra player~~)~~.*

REFERENCES

The works below were used to guide the creation of this document:

Boaler, J. (2016) Mathematical Mindsets. San Francisco, CA: Jossey-Bass.

California Department of Education. (2021). California Math Framework Draft. Sacramento, CA: California Department of Education.

Massachusetts Department of Elementary and Secondary Education. (2017). Massachusetts Curriculum Framework Mathematics. Malden, MA: Massachusetts Department of Elementary and Secondary Education.

Nebraska Department of Education. (2015). Nebraska's College and Career Ready Standards for Mathematics. Lincoln, NE: Nebraska Department of Education.

Florida Department of Education. (2020). Florida B.E.S.T. Standards: Mathematics. Tallahassee, FL: Florida Department of Education.

Student Achievement Partners. (2013). Achieve the Core Mathematics: Focus by Grade Level Documents. Retrieved from https://achievethecore.org/category/774/mathematics-focus-by-grade-level

Texas Education Agency. (2012). Texas Essential Knowledge and Skills for Mathematics. Austin, TX: Texas Education Agency.

Note on Courses and Transitions

The high school portion of the Standards for Mathematical Content specifies the mathematics all students should study for college and career readiness. These standards do not mandate the sequence of high school courses. However, the organization of high school courses is a critical component to implementation of the standards. To that end, sample high school pathways for mathematics – in both a traditional course sequence (Algebra I, Geometry, and Algebra II) as well as an integrated course sequence (Mathematics 1, Mathematics 2, Mathematics 3) – will be made available shortly after the release of the final Common Core State Standards. It is expected that additional model pathways based on these standards will become available as well.

The standards themselves do not dictate curriculum, pedagogy, or delivery of content. In particular, states may handle the transition to high school in different ways. For example, many students in the U.S. today take Algebra I in the 8th grade, and in some states this is a requirement. The K-7 standards contain the prerequisites to prepare students for Algebra I by 8th grade, and the standards are designed to permit states to continue existing policies concerning Algebra I in 8th grade.

A second major transition is the transition from high school to post-secondary education for college and careers. The evidence concerning college and career readiness shows clearly that the knowledge, skills, and practices important for readiness include a great deal of mathematics prior to the boundary defined by (+) symbols in these standards. Indeed, some of the highest priority content for college and career readiness comes from Grades 6-8. This body of material includes powerfully useful proficiencies such as applying ratio reasoning in real-world and mathematical problems, computing fluently with positive and negative fractions and decimals, and solving real-world and mathematical problems involving angle measure, area, surface area, and volume. Because important standards for college and career readiness are distributed across grades and courses, systems for evaluating college and career readiness should reach as far back in the standards as Grades 6-8. It is important to note as well that cut scores or other information generated by assessment systems for college and career readiness should be developed in collaboration with representatives from higher education and workforce development programs, and should be validated by subsequent performance of students in college and the workforce.

Glossary

Addition and subtraction within 5, 10, 20, 100, or 1000. Addition or subtraction of two whole numbers with whole number answers, and with sum or minuend in the range 0-5, 0-10, 0-20, or 0-100, respectively. Example: 8 + 2 = 10 is an addition within 10, 14 – 5 = 9 is a subtraction within 20, and 55 – 18 = 37 is a subtraction within 100.

Additive inverses. Two numbers whose sum is 0 are additive inverses of one another. Example: $3/4$ and $-3/4$ are additive inverses of one another because $3/4 + (-3/4) = (-3/4) + 3/4 = 0$.

Associative property of addition. See Table 3 in this Glossary.

Associative property of multiplication. See Table 3 in this Glossary.

Bivariate data. Pairs of linked numerical observations. Example: a list of heights and weights for each player on a football team.

Box plot. A method of visually displaying a distribution of data values by using the median, quartiles, and extremes of the data set. A box shows the middle 50% of the data.[1]

Commutative property. See Table 3 in this Glossary.

Complex fraction. A fraction A/B where A and/or B are fractions (B nonzero).

Computation algorithm. A set of predefined steps applicable to a class of problems that gives the correct result in every case when the steps are carried out correctly. *See also:* computation strategy.

Computation strategy. Purposeful manipulations that may be chosen for specific problems, may not have a fixed order, and may be aimed at converting one problem into another. *See also:* computation algorithm.

Congruent. Two plane or solid figures are congruent if one can be obtained from the other by rigid motion (a sequence of rotations, reflections, and translations).

Counting on. A strategy for finding the number of objects in a group without having to count every member of the group. For example, if a stack of books is known to have 8 books and 3 more books are added to the top, it is not necessary to count the stack all over again. One can find the total by *counting on*—pointing to the top book and saying "eight," following this with "nine, ten, eleven. There are eleven books now."

Dot plot. *See:* line plot.

Dilation. A transformation that moves each point along the ray through the point emanating from a fixed center, and multiplies distances from the center by a common scale factor.

Expanded form. A multi-digit number is expressed in expanded form when it is written as a sum of single-digit multiples of powers of ten. For example, 643 = 600 + 40 + 3.

Expected value. For a random variable, the weighted average of its possible values, with weights given by their respective probabilities.

First quartile. For a data set with median M, the first quartile is the median of the data values less than M. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the first quartile is 6.[2] *See also:* median, third quartile, interquartile range.

Fraction. A number expressible in the form a/b where a is a whole number and b is a positive whole number. (The word *fraction* in these standards always refers to a non-negative number.) *See also:* rational number.

Identity property of 0. See Table 3 in this Glossary.

Independently combined probability models. Two probability models are said to be combined independently if the probability of each ordered pair in the combined model equals the product of the original probabilities of the two individual outcomes in the ordered pair.

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[1] Adapted from Wisconsin Department of Public Instruction, http://dpi.wi.gov/standards/mathglos.html, accessed March 2, 2010.

[2] Many different methods for computing quartiles are in use. The method defined here is sometimes called the Moore and McCabe method. See Langford, E., "Quartiles in Elementary Statistics," *Journal of Statistics Education* Volume 14, Number 3 (2006).

Integer. A number expressible in the form *a* or *–a* for some whole number *a*.

Interquartile Range. A measure of variation in a set of numerical data, the interquartile range is the distance between the first and third quartiles of the data set. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the interquartile range is 15 – 6 = 9. *See also:* first quartile, third quartile.

Line plot. A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. Also known as a dot plot.[3]

Mean. A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.[4] Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean is 21.

Mean absolute deviation. A measure of variation in a set of numerical data, computed by adding the distances between each data value and the mean, then dividing by the number of data values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean absolute deviation is 20.

Median. A measure of center in a set of numerical data. The median of a list of values is the value appearing at the center of a sorted version of the list—or the mean of the two central values, if the list contains an even number of values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 90}, the median is 11.

Midline. In the graph of a trigonometric function, the horizontal line halfway between its maximum and minimum values.

Multiplication and division within 100. Multiplication or division of two whole numbers with whole number answers, and with product or dividend in the range 0-100. Example: 72 ÷ 8 = 9.

Multiplicative inverses. Two numbers whose product is 1 are multiplicative inverses of one another. Example: 3/4 and 4/3 are multiplicative inverses of one another because 3/4 × 4/3 = 4/3 × 3/4 = 1.

Number line diagram. A diagram of the number line used to represent numbers and support reasoning about them. In a number line diagram for measurement quantities, the interval from 0 to 1 on the diagram represents the unit of measure for the quantity.

Percent rate of change. A rate of change expressed as a percent. Example: if a population grows from 50 to 55 in a year, it grows by 5/50 = 10% per year.

Probability distribution. The set of possible values of a random variable with a probability assigned to each.

Properties of operations. See Table 3 in this Glossary.

Properties of equality. See Table 4 in this Glossary.

Properties of inequality. See Table 5 in this Glossary.

Properties of operations. See Table 3 in this Glossary.

Probability. A number between 0 and 1 used to quantify likelihood for processes that have uncertain outcomes (such as tossing a coin, selecting a person at random from a group of people, tossing a ball at a target, or testing for a medical condition).

Probability model. A probability model is used to assign probabilities to outcomes of a chance process by examining the nature of the process. The set of all outcomes is called the sample space, and their probabilities sum to 1. *See also:* uniform probability model.

Random variable. An assignment of a numerical value to each outcome in a sample space.

Rational expression. A quotient of two polynomials with a non-zero denominator.

Rational number. A number expressible in the form a/b or $-a/b$ for some fraction a/b. The rational numbers include the integers.

Rectilinear figure. A polygon all angles of which are right angles.

Rigid motion. A transformation of points in space consisting of a sequence of

[3] Adapted from Wisconsin Department of Public Instruction, *op. cit.*
[4] To be more precise, this defines the *arithmetic mean*.

one or more translations, reflections, and/or rotations. Rigid motions are here assumed to preserve distances and angle measures.

Repeating decimal. The decimal form of a rational number. *See also:* terminating decimal.

Sample space. In a probability model for a random process, a list of the individual outcomes that are to be considered.

Scatter plot. A graph in the coordinate plane representing a set of bivariate data. For example, the heights and weights of a group of people could be displayed on a scatter plot.[5]

Similarity transformation. A rigid motion followed by a dilation.

Tape diagram. A drawing that looks like a segment of tape, used to illustrate number relationships. Also known as a strip diagram, bar model, fraction strip, or length model.

Terminating decimal. A decimal is called terminating if its repeating digit is 0.

Third quartile. For a data set with median *M*, the third quartile is the median of the data values greater than *M*. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the third quartile is 15. *See also:* median, first quartile, interquartile range.

Transitivity principle for indirect measurement. If the length of object A is greater than the length of object B, and the length of object B is greater than the length of object C, then the length of object A is greater than the length of object C. This principle applies to measurement of other quantities as well.

Uniform probability model. A probability model which assigns equal probability to all outcomes. *See also:* probability model.

Vector. A quantity with magnitude and direction in the plane or in space, defined by an ordered pair or triple of real numbers.

Visual fraction model. A tape diagram, number line diagram, or area model.

Whole numbers. The numbers 0, 1, 2, 3, ….

[5]Adapted from Wisconsin Department of Public Instruction, *op. cit.*

Table 1. Common addition and subtraction situations.[6]

	Result Unknown	Change Unknown	Start Unknown
Add to	Two bunnies sat on the grass. Three more bunnies hopped there. How many bunnies are on the grass now? 2 + 3 = ?	Two bunnies were sitting on the grass. Some more bunnies hopped there. Then there were five bunnies. How many bunnies hopped over to the first two? 2 + ? = 5	Some bunnies were sitting on the grass. Three more bunnies hopped there. Then there were five bunnies. How many bunnies were on the grass before? ? + 3 = 5
Take from	Five apples were on the table. I ate two apples. How many apples are on the table now? 5 – 2 = ?	Five apples were on the table. I ate some apples. Then there were three apples. How many apples did I eat? 5 – ? = 3	Some apples were on the table. I ate two apples. Then there were three apples. How many apples were on the table before? ? – 2 = 3
	Total Unknown	Addend Unknown	Both Addends Unknown[4]
Put together/ take apart[5]	Three red apples and two green apples are on the table. How many apples are on the table? 3 + 2 = ?	Five apples are on the table. Three are red and the rest are green. How many apples are green? 3 + ? = 5, 5 – 3 = ?	Grandma has five flowers. How many can she put in her red vase and how many in her blue vase? 5 = 0 + 5, 5 = 5 + 0 5 = 1 + 4, 5 = 4 + 1 5 = 2 + 3, 5 = 3 + 2
	Difference Unknown	Bigger Unknown	Smaller Unknown
Compare[6]	(“How many more?” version): Lucy has two apples. Julie has five apples. How many more apples does Julie have than Lucy? (“How many fewer?” version): Lucy has two apples. Julie has five apples. How many fewer apples does Lucy have than Julie? 2 + ? = 5, 5 – 2 = ?	(Version with “more”): Julie has three more apples than Lucy. Lucy has two apples. How many apples does Julie have? (Version with “fewer”): Lucy has 3 fewer apples than Julie. Lucy has two apples. How many apples does Julie have? 2 + 3 = ?, 3 + 2 = ?	(Version with “more”): Julie has three more apples than Lucy. Julie has five apples. How many apples does Lucy have? (Version with “fewer”): Lucy has 3 fewer apples than Julie. Julie has five apples. How many apples does Lucy have? 5 – 3 = ?, ? + 3 = 5

[4]These take apart situations can be used to show all the decompositions of a given number. The associated equations, which have the total on the left of the equal sign, help children understand that the = sign does not always mean makes or results in but always does mean is the same number as.
[5]Either addend can be unknown, so there are three variations of these problem situations. Both Addends Unknown is a productive extension of this basic situation, especially for small numbers less than or equal to 10.
[6]For the Bigger Unknown or Smaller Unknown situations, one version directs the correct operation (the version using more for the bigger unknown and using less for the smaller unknown). The other versions are more difficult.

[6]Adapted from Box 2-4 of Mathematics Learning in Early Childhood, National Research Council (2009, pp. 32, 33).

Table 2. Common multiplication and division situations.[7]

	Unknown Product	Group Size Unknown ("How many in each group?" Division)	Number of Groups Unknown ("How many groups?" Division)
	$3 \times 6 = ?$	$3 \times ? = 18$, and $18 \div 3 = ?$	$? \times 6 = 18$, and $18 \div 6 = ?$
Equal Groups	There are 3 bags with 6 plums in each bag. How many plums are there in all? *Measurement example*. You need 3 lengths of string, each 6 inches long. How much string will you need altogether?	If 18 plums are shared equally into 3 bags, then how many plums will be in each bag? *Measurement example*. You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?	If 18 plums are to be packed 6 to a bag, then how many bags are needed? *Measurement example*. You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?
Arrays,[4] Area[5]	There are 3 rows of apples with 6 apples in each row. How many apples are there? *Area example*. What is the area of a 3 cm by 6 cm rectangle?	If 18 apples are arranged into 3 equal rows, how many apples will be in each row? *Area example*. A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?	If 18 apples are arranged into equal rows of 6 apples, how many rows will there be? *Area example*. A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?
Compare	A blue hat costs $6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost? *Measurement example*. A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?	A red hat costs $18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost? *Measurement example*. A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?	A red hat costs $18 and a blue hat costs $6. How many times as much does the red hat cost as the blue hat? *Measurement example*. A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?
General	$a \times b = ?$	$a \times ? = p$, and $p \div a = ?$	$? \times b = p$, and $p \div b = ?$

[4]The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.

[5]Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

[7]The first examples in each cell are examples of discrete things. These are easier for students and should be given

~~before the measurement examples.~~

Table 3. The properties of operations. Here a, b and c stand for arbitrary numbers in a given number system. The properties of operations apply to the rational number system, the real number system, and the complex number system.

Associative property of addition	$(a + b) + c = a + (b + c)$
Commutative property of addition	$a + b = b + a$
Additive identity property of 0	$a + 0 = 0 + a = a$
Existence of additive inverses	For every a there exists $-a$ so that $a + (-a) = (-a) + a = 0$.
Associative property of multiplication	$(a \times b) \times c = a \times (b \times c)$
Commutative property of multiplication	$a \times b = b \times a$
Multiplicative identity property of 1	$a \times 1 = 1 \times a = a$
Existence of multiplicative inverses	For every $a \neq 0$ there exists $\frac{1}{a}$ so that $a \times \frac{1}{a} = \frac{1}{a} \times a = 1$.
Distributive property of multiplication over addition	$a \times (b + c) = a \times b + a \times c$

Table 4. The properties of equality. Here a, b and c stand for arbitrary numbers in the rational, real, or complex number systems.

Reflexive property of equality	$a = a$
Symmetric property of equality	If $a = b$, then $b = a$.
Transitive property of equality	If $a = b$ and $b = c$, then $a = c$.
Addition property of equality	If $a = b$, then $a + c = b + c$.
Subtraction property of equality	If $a = b$, then $a - c = b - c$.
Multiplication property of equality	If $a = b$, then $a \times c = b \times c$.
Division property of equality	If $a = b$ and $c \neq 0$, then $a \div c = b \div c$.
Substitution property of equality	If $a = b$, then b may be substituted for a in any expression containing a.

Table 5. The properties of inequality. Here a, b and c stand for arbitrary numbers in the rational or real number systems.

Exactly one of the following is true: $a < b$, $a = b$, $a > b$.
If $a > b$ and $b > c$ then $a > c$.
If $a > b$, then $b < a$. If $a > b$, then $-a < -b$.
If $a > b$, then $a \pm c > b \pm c$.
If $a > b$ and $c > 0$, then $a \times c > b \times c$. If $a > b$ and $c < 0$, then $a \times c < b \times c$. If $a > b$ and $c > 0$, then $a \div c > b \div c$. If $a > b$ and $c < 0$, then $a \div c < b \div c$.

Sample of Works Consulted

Existing state standards documents.

Research summaries and briefs provided to the Working Group by researchers.

National Assessment Governing Board, *Mathematics Framework for the 2009 National Assessment of Educational Progress*. U.S. Department of Education, 2008.

NAEP Validity Studies Panel, Validity Study of the NAEP Mathematics Assessment: Grades 4 and 8. Daro et al., 2007.

Mathematics documents from: Alberta, Canada; Belgium; China; Chinese Taipei; Denmark; England; Finland; Hong Kong; India; Ireland; Japan; Korea; New Zealand; Singapore; Victoria (British Columbia).

Adding it Up: Helping Children Learn Mathematics. National Research Council, Mathematics Learning Study Committee, 2001.

Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education. National Governors Association, Council of Chief State School Officers, and Achieve, Inc., 2008.

Crossroads in Mathematics (1995) and

Beyond Crossroads (2006).

American Mathematical Association of Two-Year Colleges (AMATYC).

Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence. National Council of Teachers of Mathematics, 2006.

Focus in High School Mathematics: Reasoning and Sense Making. National Council of Teachers of Mathematics. Reston, VA: NCTM.

Foundations for Success: The Final Report of the National Mathematics Advisory Panel. U.S. Department of Education: Washington, DC, 2008.

Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report: A PreK-12 Curriculum Framework.

How People Learn: Brain, Mind, Experience, and School. Bransford, J.D., Brown, A.L., and Cocking, R.R., eds. Committee on Developments in the Science of Learning, Commission on Behavioral and Social Sciences and Education, National Research Council, 1999.

Mathematics and Democracy, The Case for Quantitative Literacy, Steen, L.A. (ed.). National Council on Education and the Disciplines, 2001.

Mathematics Learning in Early Childhood: Paths Toward Excellence and

Equity. Cross, C.T., Woods, T.A., and Schweingruber, S., eds. Committee on Early Childhood Mathematics, National Research Council, 2009.

The Opportunity Equation: Transforming Mathematics and Science Education for Citizenship and the Global Economy. The Carnegie Corporation of New

York and the Institute for Advanced Study, 2009. Online: http://www.opportunityequation.org/

Principles and Standards for School Mathematics. National Council of Teachers of Mathematics, 2000.

The Proficiency Illusion. Cronin, J., Dahlin, M., Adkins, D., and Kingsbury, G.G., foreword by C.E. Finn, Jr., and M. J. Petrilli. Thomas B. Fordham Institute, 2007.

Ready or Not: Creating a High School Diploma That Counts. American Diploma Project, 2004.

A Research Companion to Principles and Standards for School Mathematics. National Council of Teachers of Mathematics, 2003.

Sizing Up State Standards 2008. American Federation of Teachers, 2008.

A Splintered Vision: An Investigation of U.S. Science and Mathematics

Education. Schmidt, W.H., McKnight, C.C., Raizen, S.A., et al. U.S. National Research Center for the Third International Mathematics and Science Study, Michigan State University, 1997.

Stars By Which to Navigate? Scanning National and International Education Standards in 2009. Carmichael, S.B., Wilson. W.S, Finn, Jr., C.E., Winkler, A.M., and Palmieri, S. Thomas B. Fordham Institute, 2009.

Askey, R., "Knowing and Teaching Elementary Mathematics," *American Educator*, Fall 1999.

Aydogan, C., Plummer, C., Kang, S. J., Bilbrey, C., Farran, D. C., & Lipsey,

M. W. (2005). An investigation of prekindergarten curricula: Influences on classroom characteristics and child

engagement. Paper presented at the NAEYC.

Blum, W., Galbraith, P. L., Henn, H-W. and Niss, M. (Eds) *Applications and Modeling in Mathematics Education*, ICMI Study 14. Amsterdam: Springer.

Brosterman, N. (1997). *Inventing kindergarten*. New York: Harry N. Abrams.

Clements, D. H., & Sarama, J. (2009). *Learning and teaching early math: The learning trajectories approach*. New York: Routledge.

Clements, D. H., Sarama, J., & DiBiase, A.-

M. (2004). Clements, D. H., Sarama, J., & DiBiase, A. M. (2004). *Engaging young children in mathematics: Standards for early childhood mathematics education*. Mahwah, NJ: Lawrence Erlbaum Associates.

Cobb and Moore, "Mathematics, Statistics, and Teaching," *Amer. Math. Monthly* 104(9), pp. 801-823, 1997.

Confrey, J., "Tracing the Evolution of Mathematics Content Standards in the United States: Looking Back and Projecting Forward." K12 Mathematics Curriculum Standards conference proceedings, February 5-6, 2007.

Conley, D.T. *Knowledge and Skills for University Success*, 2008.

Conley, D.T. *Toward a More Comprehensive Conception of College Readiness*, 2007.

Cuoco, A., Goldenberg, E. P., and Mark, J., "Habits of Mind: An Organizing

Principle for a Mathematics Curriculum," *Journal of Mathematical Behavior*, 15(4), 375-402, 1996.

Carpenter, T. P., Fennema, E., Franke, M. L., Levi, L., & Empson, S. B. (1999). *Children's Mathematics: Cognitively Guided Instruction*. Portsmouth, NH: Heinemann.

Van de Walle, J. A., Karp, K., & Bay-Williams, J. M. (2010). *Elementary and Middle School Mathematics: Teaching Developmentally* (Seventh ed.). Boston: Allyn and Bacon.

Ginsburg, A., Leinwand, S., and Decker, K., "Informing Grades 1-6 Standards Development: What Can Be Learned from High-Performing Hong Kong, Korea, and Singapore?" American Institutes for Research, 2009.

Ginsburg et al., "What the United States Can Learn From Singapore's World- Class Mathematics System (and what Singapore can learn from the United States)," American Institutes for Research, 2005.

Ginsburg et al., "Reassessing U.S. International Mathematics Performance: New Findings from the 2003 TIMMS and PISA," American Institutes for Research, 2005.

Ginsburg, H. P., Lee, J. S., & Stevenson-Boyd, J. (2008). Mathematics education for young children: What it is and how to promote it. *Social Policy Report*, 22(1), 1-24.

Harel, G., "What is Mathematics? A Pedagogical Answer to a Philosophical Question," in R. B. Gold and R. Simons (eds.), *Current Issues in the Philosophy of Mathematics from the Perspective of Mathematicians*. Mathematical Association of America, 2008.

Henry, V. J., & Brown, R. S. (2008). First-grade basic facts: An investigation into teaching and learning of an accelerated, high-demand memorization standard. *Journal for Research in Mathematics Education*, 39, 153-183.

Howe, R., "From Arithmetic to Algebra." Howe, R., "Starting Off Right in

Arithmetic," http://math.arizona.

edu/~ime/2008-09/MIME/BegArith.pdf.

Jordan, N. C., Kaplan, D., Ramineni, C., and Locuniak, M. N., "Early math matters: kindergarten number competence and later mathematics outcomes," *Dev. Psychol.* 45, 850–867, 2009.

Kader, G., "Means and MADS," *Mathematics Teaching in the Middle School*, 4(6), 1999, pp. 398-403.

Kilpatrick, J., Mesa, V., and Sloane, F., "U.S. Algebra Performance in an International Context," in Loveless (ed.), *Lessons Learned: What International Assessments Tell Us About Math Achievement*. Washington, D.C.: Brookings Institution Press, 2007.

Leinwand, S., and Ginsburg, A., "Measuring Up: How the Highest Performing State (Massachusetts) Compares to the Highest Performing Country (Hong Kong) in Grade 3 Mathematics," American Institutes for Research, 2009.

Niss, M., "Quantitative Literacy and Mathematical Competencies," in *Quantitative Literacy: Why Numeracy Matters for Schools and Colleges*, Madison, B. L., and Steen, L.A. (eds.), National Council on Education and the Disciplines. Proceedings of the National Forum on Quantitative Literacy held at the National Academy of Sciences in Washington, D.C., December 1-2, 2001.

Pratt, C. (1948). I learn from children. New York: Simon and Schuster.

Reys, B. (ed.), *The Intended Mathematics Curriculum as Represented in State-Level Curriculum Standards: Consensus or Confusion?* IAP-Information Age Publishing, 2006.

Sarama, J., & Clements, D. H. (2009). *Early childhood mathematics education research: Learning trajectories for young children*. New York: Routledge.

Schmidt, W., Houang, R., and Cogan, L., "A Coherent Curriculum: The Case of Mathematics," *American Educator*, Summer 2002, p. 4.

Schmidt, W.H., and Houang, R.T., "Lack

of Focus in the Intended Mathematics Curriculum: Symptom or Cause?" in Loveless (ed.), *Lessons Learned: What International Assessments Tell Us About Math Achievement*. Washington, D.C.: Brookings Institution Press, 2007.

Steen, L.A., "Facing Facts: Achieving Balance in High School Mathematics." *Mathematics Teacher*, Vol. 100. Special Issue.

Wu, H., "Fractions, decimals, and rational numbers," 2007, http://math.berkeley.

edu/~wu/ (March 19, 2008).

Wu, H., "Lecture Notes for the 2009 Pre-Algebra Institute," September 15, 2009.

Wu, H., "Preservice professional development of mathematics teachers," http://math.berkeley.edu/~wu/pspd2.pdf.

Massachusetts Department of Education.

Progress Report of the Mathematics Curriculum Framework Revision Panel, Massachusetts Department of Elementary and Secondary Education, 2009.

www.doe.mass.edu/boe/docs/0509/item5_report.pdf.

ACT College Readiness Benchmarks™ ACT College Readiness Standards™ ACT National Curriculum Survey™

Adelman, C., *The Toolbox Revisited: Paths to Degree Completion From High School Through College*, 2006.

Advanced Placement Calculus, Statistics and Computer Science Course Descriptions. May 2009, May 2010.

College Board, 2008.

Aligning Postsecondary Expectations and High School Practice: The Gap Defined (ACT: Policy Implications of the ACT National Curriculum Survey Results 2005-2006).

Condition of Education, 2004: Indicator 30, Top 30 Postsecondary Courses, U.S. Department of Education, 2004.

Condition of Education, 2007: High School Course-Taking. U.S. Department of Education, 2007.

Crisis at the Core: Preparing All Students for College and Work, ACT.

Achieve, Inc., Florida Postsecondary Survey, 2008.

Golfin, Peggy, et al. CNA Corporation.

Strengthening Mathematics at the Postsecondary Level: Literature Review and Analysis, 2005.

Camara, W.J., Shaw, E., and Patterson,

B. (June 13, 2009). First Year English and Math College Coursework. College Board: New York, NY (Available from authors).

CLEP Precalculus Curriculum Survey: Summary of Results. The College Board, 2005.

College Board Standards for College Success: Mathematics and Statistics. College Board, 2006.

Miller, G.E., Twing, J., and Meyers,

J. "Higher Education Readiness Component (HERC) Correlation Study." Austin, TX: Pearson.

On Course for Success: A Close Look at Selected High School Courses That Prepare All Students for College and Work, ACT.

Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up. Achieve, 2008.

Ready for College and Ready for Work: Same or Different? ACT.

Rigor at Risk: Reaffirming Quality in the High School Core Curriculum, ACT.

The Forgotten Middle: Ensuring that All Students Are on Target for College and Career Readiness before High School, ACT.

Achieve, Inc., Virginia Postsecondary Survey, 2004.

ACT Job Skill Comparison Charts. Achieve, Mathematics at Work, 2008.

The American Diploma Project Workplace Study. National Alliance of Business Study, 2002.

Carnevale, Anthony and Desrochers, Donna. *Connecting Education Standards and Employment: Course-taking Patterns of Young Workers,* 2002.

Colorado Business Leaders' Top Skills, 2006.

Hawai'i Career Ready Study: access to living wage careers from high school, 2007.

States' Career Cluster Initiative. *Essential Knowledge and Skill Statements*, 2008.

ACT WorkKeys Occupational Profiles™. Program for International Student

Assessment (PISA), 2006.

Trends in International Mathematics and Science Study (TIMSS), 2007.

International Baccalaureate, Mathematics Standard Level, 2006.

University of Cambridge International Examinations: General Certificate of Secondary Education in Mathematics, 2009.

EdExcel, General Certificate of Secondary Education, Mathematics, 2009.

Blachowicz, Camille, and Fisher, Peter. "Vocabulary Instruction." In *Handbook of Reading Research*, Volume III, edited by Michael Kamil, Peter Mosenthal,
P. David Pearson, and Rebecca Barr,
pp. 503-523. Mahwah, NJ: Lawrence Erlbaum Associates, 2000.

Gándara, Patricia, and Contreras, Frances.
The Latino Education Crisis: The Consequences of Failed Social Policies. Cambridge, Ma: Harvard University Press, 2009.

Moschkovich, Judit N. "Supporting the Participation of English Language Learners in Mathematical Discussions." *For the Learning of Mathematics* 19 (March 1999): 11-19.

Moschkovich, J. N. (in press). Language, culture, and equity in secondary mathematics classrooms. To appear in F. Lester & J. Lobato (ed.), Teaching
and Learning Mathematics: Translating Research to the Secondary Classroom, Reston, VA: NCTM.

Moschkovich, Judit N. "Examining Mathematical Discourse Practices," *For the Learning of Mathematics* 27 (March 2007): 24-30.

Moschkovich, Judit N. "Using Two Languages when Learning Mathematics: How Can Research Help Us Understand Mathematics Learners Who Use Two Languages?" *Research Brief and*
Clip, National Council of Teachers of
Mathematics, 2009 http://www.nctm. org/uploadedFiles/Research_News_ and_Advocacy/Research/Clips_and_Briefs/Research_brief_12_Using_2.pdf. (accessed November 25, 2009).

Moschkovich, J.N. (2007) Bilingual Mathematics Learners: How views of language, bilingual learners, and
mathematical communication impact
instruction. In Nasir, N. and Cobb, P. (eds.), *Diversity, Equity, and Access to Mathematical Ideas*. New York: Teachers College Press, 89-104.

Schleppegrell, M.J. (2007). The linguistic challenges of mathematics teaching and learning: A research review. *Reading & Writing Quarterly,* 23:139-159.

Individuals with Disabilities Education Act (IDEA), 34 CFR §300.34 (a). (2004).

Individuals with Disabilities Education Act (IDEA), 34 CFR §300.39 (b)(3). (2004).

Office of Special Education Programs,
U.S. Department of Education. "IDEA Regulations: Identification of Students with Specific Learning Disabilities," 2006.

Thompson, S. J., Morse, A.B., Sharpe, M., and Hall, S., "Accommodations Manual: How to Select, Administer and Evaluate Use of Accommodations and Assessment for Students with Disabilities," 2nd Edition. Council of Chief State School Officers, 2005.

INITIAL DRAFT 06/23/2021

Idaho Content Standards – Mathematics

DRAFT

IDAHO STATE DEPARTMENT OF EDUCATION
CONTENT AND CURRICULUM| MATHEMATICS

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CREATED 06/23/2021

In March of 2020, the Idaho Legislature directed the State Board of Education to replace the present Idaho Content Standards in Mathematics. They wanted standards which work for students, parents, and educators. Specifically, the legislators asked that new standards address the following issues in mathematics:

a. Explicitly state grade levels at which students should demonstrate mastery of addition, subtraction, multiplication, and division facts. Integrate these basics with critical thinking and real-life problem solving throughout the standards to ensure more connections to science, business, and other related disciplines.
b. Reduce the number of standards, use less complex verbiage, and prioritize the more important concepts without marginalizing the accuracy of the standards.
c. Ensure the standards are age and grade level-appropriate especially in the early grades, emphasizing the concrete nature of young minds.
d. Make certain that standards requiring problem solving are age appropriate and do not exceed the knowledge standards accepted for each grade level.

The Superintendent's Office of Public Instruction worked with a variety of stakeholders to accept nominations for working group members. The working group was comprised of twenty-four members representing a cross-section of grade levels and roles. These committees included community members, mathematics consultants, and mathematics educators across all grade levels from Kindergarten to four-year colleges. The time and effort they put into this revision was invaluable. Throughout the process of the revision of the standards, the working group received public comments that the revision committees took into consideration. The working group appreciates those who took time to share their thoughts on the revisions. We hope that the changes to these standards allow them to be useful for all stakeholders, including educators, families, students, and community members. We hope that they bring Idaho into a new chapter of statewide success in mathematics.

Respectfully Submitted by,

The Mathematics Standards Working Group Members

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PREAMBLE

Focus

In the past, mathematics standards and curricula were often criticized for covering too much content in each grade level. This created a "shallow" understanding of important math concepts as students moved through the grade levels. The Idaho Content Standards for Mathematics address this by concentrating on major and age-appropriate topics in each grade to allow students to focus their learning at a greater depth.

Coherence

Explicit connections of mathematics topics within each grade level and across grade levels results in coherence. Most of these connections happen across grade level, as the standards support a progression of increasing knowledge and skills.

Thinking across grades: The design of the Idaho Content Standards for Mathematics allows administrators and teachers to connect learning within and across grades. For example, the standards develop fractions and multiplication across elementary grade levels, so that students can build new understanding on foundations that were established in previous years. These topics directly connect to learning in the middle and high school grades as students deepen their knowledge of rational numbers and algebra concepts. Therefore, each standard builds on previous learning and is not a completely new topic.

Linking to major topics: Topics within a grade level are identified as major, additional, or supporting. This can be seen in each grade level overview. This identification allows for teachers to make connections between the additional and supporting topics and the major topics. For example, in grade three, bar graphs are not taught in isolation from other topics. Rather, students use information presented in bar graphs to solve problems using the four operations of arithmetic. Each grade level overview shows the major, supporting, and additional topics.

Rigor

Rigorous teaching in mathematics is more than increasing the difficulty or complexity of tasks. Incorporating rigor into classroom instruction and student learning means exploring at a greater depth the standards and ideas with which students are grappling. There are three components of rigor and each is equally important to student mastery: Conceptual Understanding, Procedural Skill and Fluency, and Application.

Conceptual Understanding refers to understanding mathematical concepts, operations, and relations. It is more than knowing isolated facts and methods. Students should be able to understand why a mathematical idea is important and the contexts in which it is useful. Conceptual understanding allows students to connect prior knowledge to new ideas and concepts.

Procedural Skill and Fluency is the ability to apply procedures accurately, efficiently, and flexibly while giving students opportunities to practice basic skills. Students' ability to solve more complex application tasks is dependent on procedural skill and fluency.

Application provides valuable context for learning and the opportunity to solve problems in a relevant and a meaningful way. Through real-world application, students learn to select an efficient method to find a solution, determine whether the solution makes sense by reasoning, and develop critical thinking skills. This may take the form of a word problem or other contextually related problem.

A Special Note about Procedural Skill and Fluency

Number sense is a fundamental bridge to algebraic thinking for middle and high school mathematics. As students increase their number sense, they see relationships between numbers, think flexibly, and recognize emerging patterns. They make reasonable estimates, compute fluently, and use visual models to apply procedures for solving problems based on the particular numbers involved. In short, "number sense reflects a deep understanding of mathematics, but it comes about through a mathematical mindset that is focused on making sense of numbers and quantities" (Boaler, 2016, p. 36). While speed is a component of fluency, it is not the only indicator that a student is fluent; rather, fluency can be observed by watching how the student engages with a particular problem. Furthermore, fluency does not require the most efficient strategy. The standards specify grade-level appropriate strategies or types of strategies with which students should demonstrate fluency (e.g., 1.OA.C.6 allows for students to use counting on, making ten, creating equivalent but easier or known sums, etc.). It should also be noted that teachers should expect some procedures to take longer than others (e.g., fluency with the standard algorithm for division, 6.NS.B.2, as compared to fluently adding and subtracting within 10, 1.OA.C.6). Students with a strong number sense develop foundational skills which transfer to nearly all mathematical domains, from measurement and geometry to data and equations. Students continue to strengthen their number sense when they communicate ideas, explain their reasoning, and discuss the thinking of others. Discussing mathematical thinking with peers gives each student the opportunity to internalize a cohesive structure for numbers.

What the Idaho Content Standards in Mathematics Do

The standards define what all students are expected to know and be able to do, not how teachers should teach. While the standards focus on what is most essential, they do not describe all that can or should be taught. A great deal is left to the discretion of local school districts, teachers, and curriculum developers. No set of grade-level standards can reflect the great variety of abilities, needs, learning rates, and achievement levels in any given classroom. The standards define neither the support materials that some students may need, nor the advanced materials that others may need access to. It is also beyond the scope of the standards to define the full range of support appropriate for English learners and for students with disabilities. All students must have the opportunity to learn rigorous grade level standards if they are to access the knowledge and skills that will be necessary in their post-high-school lives.

Standards vs. Curriculum

No specific curriculum or strategies are required by the State of Idaho to be used to teach the Idaho Content Standards in Mathematics. Local schools and districts make decisions about what resources will be used to teach the standards.

ORGANIZATION OF THE KINDERGARTEN TO GRADE 8 CONTENT STANDARDS

The Kindergarten through grade 8 content standards in this Framework are organized by **grade level**. Within each grade level, standards are grouped first by **domain**. Each domain is further subdivided into **clusters** of related standards.

- **Standards** define what students should understand and be able to do.
- **Clusters** are groups of related standards. Note that standards from different clusters may sometimes be closely related, because mathematics is a connected subject.
- **Domains** are larger groups of related standards. Standards from different domains may sometimes be closely related.

The table below shows which domains are addressed at each grade level:

Progression of K–8 Domains									
Domain	**Grade Level**								
	K	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Counting and Cardinality	■								
Operations and Algebraic Thinking	■	■	■	■	■	■			
Number and Operations in Base Ten	■	■	■	■	■	■			
Number and Operations – Fractions				■	■	■			
The Number System							■	■	■
Ratios and Proportional Relationships							■	■	
Expressions and Equations							■	■	■
Functions									■
Measurement and Data	■	■	■	■	■	■			
Geometry	■	■	■	■	■	■	■	■	■
Statistics and Probability							■	■	■

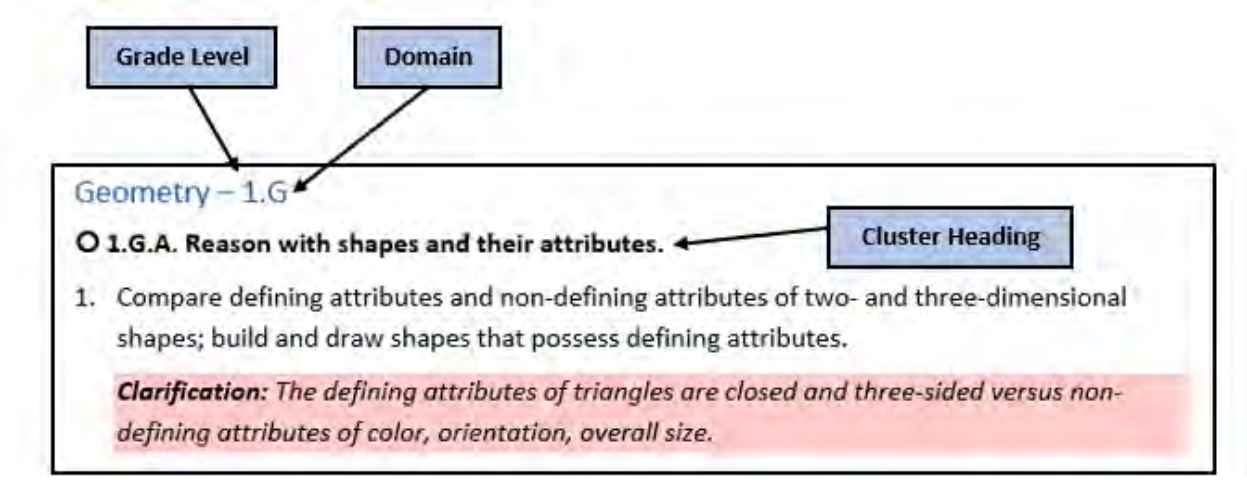
Format for Each Grade Level

Each grade level is presented in the same format:

- An introduction and description of the focus areas for learning at that grade.
- An overview of that grade's domains and clusters.
- The grade-level Standards for Mathematical Practice.
- The content standards for that grade (presented by domain, cluster heading, and individual standard).

Standards Identifiers/Coding

Each standard has a unique identifier that consists of the grade level (K, 1, 2, 3, 4, 5, 6, 7, or 8), the domain code, cluster code, and the standard number, as shown in the example below. The cluster heading also includes a shape (○) to describe its focus in relation to the other clusters within the grade level.



The standard highlighted above is identified as 1.G.A.1, identifying it as a grade 1 (1.) standard in the Geometry domain (G.), and as the first standard in that cluster (A.1). All of the standards use a common coding system.

KINDERGARTEN

Introduction

In kindergarten, instruction should focus on the following: (1) representing, relating, and operating on whole numbers, initially with sets of objects; and (2) describing shapes and space. More learning time in kindergarten should be devoted to number than to other topics.

1. Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as $5 + 2 = 7$ and $7 - 2 = 5$. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting, and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.
2. Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Kindergarten Overview

Counting and Cardinality

☐ A. Know number names and the count sequence.
☐ B. Count to tell the number of objects.
☐ C. Compare numbers.

Operations and Algebraic Thinking

☐ A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Number and Operations in Base 10

☐ A. Work with numbers 11-19 to gain foundations for place value.

Measurement and Data

○ A. Describe and compare measurable attributes.
△ B. Classify objects and count the number of objects in each category.

Geometry

○ A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
△ B. Analyze, compare, create, and compose shapes.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For kindergarten this standard is:

- K.OA.A.5 Fluently add and subtract within five, including zero.

Kindergarten Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In kindergarten, students begin to build the understanding that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Real-life experiences should be used to support students' ability to connect mathematics to the world. To help students connect the language of mathematics to everyday life, ask students questions such as "How many students are absent?" or have them gather enough blocks for the students at their table. Younger students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" or they may try another strategy.

MP.2 Reason abstractly and quantitatively.
Younger students begin to recognize that a number represents a specific quantity. Then, they connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities. For example, a student may write the numeral 11 to represent an amount of objects counted, select the correct number card 17 to follow 16 on a calendar, or build two piles of counters to compare the numbers 5 and 8. In addition, kindergarten students begin to draw pictures, manipulate objects, or use diagrams or charts to express quantitative ideas. Students need to be encouraged to answer questions such as "How do you know?", which reinforces their reasoning and understanding and helps student develop mathematical language.

MP.3 Construct viable arguments and critique the reasoning of others.
Younger students construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They also begin to develop their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?" They explain their thinking to others and respond to others' thinking. They begin to develop the ability to reason and analyze situations as they consider questions such as "Are you sure that ___?", "Do you think that would happen all the time?", and "I wonder why ___?"

MP.4 Model with mathematics.

In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. For example, a student may use cubes or tiles to show the different number pairs for 5, or place three objects on a 10-frame and then determine how many more are needed to "make a ten." Students rely on manipulatives (or other visual and concrete representations) while solving tasks and record an answer with a drawing or equation.

MP.5 Use appropriate tools strategically.
Younger students begin to consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, kindergarteners may decide that it might be advantageous to use linking cubes to represent two quantities and then compare the two representations side-by-side or later, make math drawings of the quantities. Students decide which tools may be helpful to use depending on the problem or task and explain why they use particular mathematical tools.

MP.6 Attend to precision.
Kindergarten students begin to develop precise communication skills, calculations, and measurements. Students describe their own actions, strategies, and reasoning using grade level appropriate vocabulary. Opportunities to work with pictorial representations and concrete objects can help students develop understanding and descriptive vocabulary. For example, students describe and compare two- and three-dimensional shapes and sort objects based on appearance. While measuring objects iteratively (repetitively), students check to make sure that there are no gaps or overlaps. During tasks involving number sense, students check their work to ensure the accuracy and reasonableness of solutions. Students should be encouraged to answer questions such as, "How do you know your answer is reasonable?"

MP.7 Look for and make use of structure.
Younger students begin to discern a pattern or structure in the number system. For instance, students recognize that $3 + 2 = 5$ and $2 + 3 = 5$. Students use counting strategies, such as counting on, counting all, or taking away, to build fluency with facts to 5. Students notice the written pattern in the "teen" numbers—that the numbers start with 1 (representing 1 ten) and end with the number of additional ones. Teachers might ask, "What do you notice when ___?"

MP.8 Look for and express regularity in repeated reasoning.
In the early grades, students notice repetitive actions in counting, computations, and mathematical tasks. For example, the next number in a counting sequence is 1 more when counting by ones and 10 more when counting by tens (or 1 more group of 10). Students

should be encouraged to answer questions such as, “What would happen if ___?” and “There are 8 crayons in the box. Some are red and some are blue. How many of each could there be?” Kindergarten students realize 8 crayons could include 4 of each color ($8 = 4 + 4$), 5 of one color and 3 of another ($8 = 5 + 3$), and so on. For each solution, students repeatedly engage in the process of finding two numbers to join together to equal 8.

Counting and Cardinality – K.CC

☐ **K.CC.A. Know number names and the count sequence.**

1. Count to 100 by ones and by tens.
2. Starting at a given number, count forward within 100 and backward within 20.
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).

☐ **K.CC.B. Count to tell the number of objects.**

4. Understand the relationship between numbers and quantities; connect counting to cardinality.
    a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
    b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
    c. Understand that each successive number name refers to a quantity that is one larger. Recognize the one more pattern of counting using objects.
5. Given a group of up to 20 objects, count the number of objects in that group and state the number of objects in a rearrangement of that group without recounting given a verbal or written number from 0–20, count out that many objects.

Clarification: *Objects can be arranged in a line, a rectangular array, or a circle. For as many as* 10 *objects, they may be arranged in a scattered configuration.*

☐ **K.CC.C. Compare numbers.**

6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups with up to 10 objects.
7. Compare two numbers between 1 and 10 presented as written numerals.

Operations and Algebraic Thinking – K.OA

☐ **K.OA.A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**

1. Represent addition and subtraction of two whole numbers within 10. Use objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
2. Solve addition and subtraction word problems within 10 by using physical, visual, and symbolic representations.

Clarification: *Students are not expected to independently read word problems.*

3. Decompose whole numbers from 1 to 10 into pairs in more than one way by using physical, visual, or symbolic representations.

Example*: Decomposing* 5 *may include* $5 = 2 + 3$ *and* $5 = 4 + 1$.

4. For a given whole number from 1 to 9, find the number that makes 10 when added to the number by using physical, visual, or symbolic representations.
5. Fluently add and subtract within five, including zero.

Clarification: *Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

Number and Operations in Base 10 – K.NBT

☐ **K.NBT.A. Work with numbers 11-19 to gain foundations for place value.**

1. Compose (put together) and decompose (break apart) numbers from 11 to 19 into ten ones and some further ones, and record each composition or decomposition by using physical, visual, or symbolic representations; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Example*: Recording the decomposition of* 18 *may look like* $18 = 10 + 8$.

Measurement and Data – K.MD

○ **K.MD.A. Describe and compare measurable attributes.**

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/ “less of” the attribute, and describe the difference.

Example*: Directly compare the heights of two children and describe one child as taller/shorter.*

△ **K.MD.B. Classify objects and count the number of objects in each category.**

3. Classify objects into given categories; count the numbers of objects in each category (up to and including 10) and sort the categories by count.

Geometry – K.G

○ K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
2. Correctly name shapes regardless of their orientations or overall size.
3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").

△ K.G.B. Analyze, compare, create, and compose shapes.

4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts, and other attributes.

   ***Examples**:*

   1) Number of sides and vertices/ "corners"

   2) Having sides of equal length

5. Model shapes in the world by building shapes from components/materials and drawing shapes.

   ***Clarification:** Components/materials may include: sticks, clay balls, marshmallows and/or spaghetti.*

6. Compose simple shapes to form larger two-dimensional shapes.

   ***Example:** Can you join these two triangles with full sides touching to make a rectangle?*

FIRST GRADE

Introduction

In first grade, instruction should focus on the following: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

1. Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.
2. Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop an understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.
3. Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.[1]

[1] Students should apply the principle of transitivity of measurement to make indirect comparisons, but they need not use this technical term.

4. Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

First Grade Overview

Operations and Algebraic Thinking

☐ A. Represent and solve problems involving addition and subtraction.
☐ B. Understand and apply properties of operations and the relationship between addition and subtraction.
☐ C. Add and subtract within 20.
☐ D. Work with addition and subtraction equations.

Number and Operations in Base 10

☐ A. Extend the counting sequence.
☐ B. Understand place value.
☐ C. Use place value understanding and properties of operations to add and subtract.

Measurement and Data

☐ A. Measure lengths indirectly and by iterating (repeating) length units.
○ B. Tell and write time.
△ C. Represent and interpret data.
△ D. Work with money.

Geometry

○ A. Reason with shapes and their attributes.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For first grade this standard is:

- 1.OA.C.6 Demonstrate fluency for addition and subtraction within 10, use strategies to add and subtract within 20.

First Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In first grade, students realize that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Younger students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They are willing to try other approaches.

MP.2 Reason abstractly and quantitatively.
Younger students recognize that a number represents a specific quantity. They connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities. In first grade students make sense of quantities and relationships while solving tasks. They represent situations by decontextualizing tasks into numbers and symbols. For example, "There are 60 children on the playground and some children go line up. If there are 20 children still playing, how many children lined up?" Students translate the situation into the equation: $60 - 20 = \square$ and then solve the task. Students also contextualize situations during the problem-solving process. For example, students refer to the context of the task to determine they need to subtract 20 from 60 because the total number of children on the playground is the 20 less than the original number of children playing. Students might also reason about ways to partition two-dimensional geometric figures into halves and fourths.

MP.3 Construct viable arguments and critique the reasoning of others.
First graders construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They also practice their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?", "Explain your thinking.", and "Why is that true?" They not only explain their own thinking, but listen to others' explanations. They decide if the explanations make sense and ask questions. For example, "There are 15 books on the shelf. If you take some books off the shelf and there are now 7 left, how many books did you take off the shelf?" Students might use a variety of strategies to solve the task and then share and discuss their problem-solving strategies with their classmates.

MP.4 Model with mathematics.

In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. First grade students model real-life mathematical situations with a number sentence or an equation and check to make sure equations accurately match the problem context. Students use concrete models and pictorial representations while solving tasks and also write an equation to model problem situations. For example, to solve the problem, "There are 11 bananas on the counter. If you eat 4 bananas, how many are left?" students could write the equation $11 - 4 = 7$. Students also create a story context for an equation such as $13 - 7 = 6$.

MP.5 Use appropriate tools strategically.

In first grade, students begin to consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, first graders decide it might be best to use colored chips to model an addition problem. In first grade students use tools such as counters, place value (base ten) blocks, hundreds number boards, number lines, concrete geometric shapes (e.g., pattern blocks, 3-dimensional solids), and virtual representations to support conceptual understanding and mathematical thinking. Students determine which tools are the most appropriate to use. For example, when solving $12 + 8 = \square$, students explain why place value blocks are more appropriate than counters.

MP.6 Attend to precision.

As young children begin to develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and when they explain their own reasoning. In grade one, students use precise communication, calculation, and measurement skills. Students are able to describe their solution strategies to mathematical tasks using grade-level appropriate vocabulary, precise explanations, and mathematical reasoning. When students measure objects iteratively (repetitively), they check to make sure there are no gaps or overlaps. Students regularly check their work to ensure the accuracy and reasonableness of solutions.

MP.7 Look for and make use of structure.

First graders begin to discern a pattern or structure. For instance, if students recognize $12 + 3 = 15$, then they also know $3 + 12 = 15$. (Commutative property of addition.) To add $4 + 6 + 4$, the first two numbers can be added to make a ten, so $4 + 6 + 4 = 10 + 4 = 14$. While solving addition problems, students begin to recognize the commutative property, for example $7 + 4 = 11$, and $4 + 7 = 11$. While decomposing two-digit numbers, students realize that any two-digit number can be broken up into tens and ones, e.g. $35 = 30 + 5$, $76 = 70 + 6$. Grade

one students make use of structure when they work with subtraction as a missing addend problem, such as $13 - 7 = \square$ can be written as $7 + \square = 13$ and can be thought of as how much more do I need to add to 7 to get to 13?

MP.8 Look for and express regularity in repeated reasoning.

First grade students begin to look for regularity in problem structures when solving mathematical tasks. For example, students add three one-digit numbers by using strategies such as "make a ten" or doubles. Students recognize when and how to use strategies to solve similar problems. For example, when evaluating $8 + 7 + 2$, a student may say, "I know that 8 and 2 equals 10, then I add 7 to get to 17. It helps if I can make a 10 out of two numbers when I start." Students use repeated reasoning while solving a task with multiple correct answers. For example, students might solve the problem, "There are 12 crayons in the box. Some are red and some are blue. How many of each could there be?" Students use repeated reasoning to find pairs of numbers that add up to 12 (e.g., the 12 crayons could include 6 of each color ($6 + 6 = 12$), 7 of one color and 5 of another ($7 + 5 = 12$), etc.)

Operations and Algebraic Thinking – 1.OA

☐ **1.OA.A. Represent and solve problems involving addition and subtraction.**

1. Solve addition and subtraction word problems within 20 involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions by using physical, visual, and symbolic representations.
2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 by using physical, visual, and symbolic representations.

Clarification: *Students are not expected to independently read word problems.*

☐ **1.OA.B. Understand and apply properties of operations and the relationship between addition and subtraction.**

3. Apply properties of operations to add.

Examples*:*

1) *If* $8 + 3 = 11$ *is known, then* $3 + 8 = 11$ *is also known. (commutative property of addition)*

2) To add $2 + 6 + 4$*, the second two numbers can be added to make a ten, so* $2 + 6 + 4 = 2 + 10 = 12$*. (associative property of addition)*

Clarification: *Students need not use formal terms for these properties.*

4. Restate a subtraction problem as a missing addend problem using the relationship between addition and subtraction.

Example: *The equation* $12 - 7 = ?$ *can be restated as* $7 + ? = 12$ *to determine the difference is* 5*.*

☐ **1.OA.C. Add and subtract within 20.**

5. Relate counting to addition and subtraction.

Example: *When students count on* 3 *from* 4*, they should write this as* $4 + 3 = 7$*. When students count on for subtraction,* 3 *from* 7*, they should connect this to* $7 - 3 = 4$*. Students write "*$7 - 3 = ?$*" and think "I count on* $3 + ? = 7$*."*

6. Demonstrate fluency for addition and subtraction within 10, use strategies to add and subtract within 20.

Clarification: *Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

Students may use mental strategies such as counting on; making 10, decomposing a number leading to a 10, using the relationship between addition and subtraction; and creating equivalent but easier or known sums.

☐ **1.OA.D. Work with addition and subtraction equations.**

7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.

   Example: *Which of the following equations are true and which are false?* $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$

8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers, with the unknown in any position.

   Example: *Determine the unknown number that makes the equation true in each of the equations* $8 + ? = 11$, $5 = ? - 3$, $6 + 6 = ?$.

Number and Operations in Base 10 – 1.NBT

☐ **1.NBT.A. Extend the counting sequence.**

1. Starting at a given number, count forward and backwards within 120 by ones. Skip count by twos to 20, by fives to 100, and by tens to 120. In this range, read and write numerals and represent a number of objects with a written numeral.

☐ **1.NBT.B. Understand place value.**

2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand:
   a. 10 can be thought of as a bundle of ten ones — called a "ten."
   b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
   c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

☐ **1.NBT.C. Use place value understanding and properties of operations to add and subtract.**

4. Add whole numbers within 100 by using physical, visual, and symbolic representations, with an emphasis on place value, properties of operations, and/or the relationship between addition and subtraction.
   a. Add a two-digit number and a one-digit number.

b. Add a two-digit number and a multiple of 10.

c. Understand that when adding two-digit numbers, combine like base-ten units such as tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

6. Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 by using physical, visual, and symbolic representations, with an emphasis on place value, properties of operations, and/or the relationships between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

***Example**: $70 - 40$ can be thought of as 7 tens take away 4 tens or can be rewritten as a missing addend problem $40 + ? = 70$.*

Measurement and Data – 1.MD

☐ **1.MD.A. Measure lengths indirectly and by iterating (repeating) length units.**

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.

2. Express the length of an object as a whole number of length units by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.

Clarification: *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. Include use of standard units such as inch-tiles or centimeter tiles.*

○ **1.MD.B. Tell and write time.**

3. Tell and write time in hours and half-hours using analog and digital clocks.

△ **1.MD.C. Represent and interpret data.**

4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

△ **1.MD.D. Work with money.**

5. Identify quarters, dimes, and nickels and relate their values to pennies. Find equivalent values (e.g., a nickel is equivalent to five pennies).

Geometry – 1.G

○ 1.G.A. Reason with shapes and their attributes.

1. Compare defining attributes and non-defining attributes of two- and three-dimensional shapes; build and draw shapes that possess defining attributes.

   Clarification: *The defining attributes of triangles are closed and three-sided versus non-defining attributes of color, orientation, overall size.*

2. Compose two-dimensional (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

   Clarification: *Students do not need to learn formal names such as "right rectangular prism."*

3. Partition circles and rectangles into two and four equal shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

   a. Describe the shares using the words halves, fourths, and quarters and use the phrases half of, fourth of, and quarter of.

   b. Describe the whole as two of, or four of the shares.

SECOND GRADE

Introduction

In second grade, instruction should focus on the following: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

1. Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1,000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).
2. Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1,000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.
3. Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.
4. Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave

gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Second Grade Overview

Operations and Algebraic Thinking

☐ A. Represent and solve problems involving addition and subtraction.
☐ B. Add and subtract within 20.
△ C. Work with equal groups of objects to gain foundations for multiplication.

Number and Operations in Base Ten

☐ A. Understand place value.
☐ B. Use place value understanding and properties of operations to add and subtract.

Measurement and Data

☐ A. Measure and estimate lengths in standard units.
☐ B. Relate addition and subtraction to length.
△ C. Work with time and money.
△ D. Represent and interpret data.

Geometry

○ A. Reason with shapes and their attributes.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For second grade these standards are:

- 2.OA.B.2 Demonstrate fluency for addition and subtraction within 20 using mental strategies. By the end of Grade 2, recall basic facts to add and subtract within 20 with automaticity.
- 2.NBT.5 Fluently add and subtract whole numbers within 100 using understanding of place value and properties of operations.

Second Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In second grade, students realize that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. They may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They make conjectures about the solution and plan out a problem-solving approach. An example for this might be giving a student an equation and having him/her write a story to match.

MP.2 Reason abstractly and quantitatively.
Younger students recognize that a number represents a specific quantity. They connect the quantity to written symbols. Quantitative reasoning entails creating a representation of a problem while attending to the meanings of the quantities. Second graders begin to know and use different properties of operations and relate addition and subtraction to length. In second grade students represent situations by decontextualizing tasks into numbers and symbols. For example, in the task, "There are 25 children in the cafeteria, and they are joined by 17 more children. How many students are in the cafeteria?" Students translate the situation into an equation, such as: $25 + 17 = \square$ and then solve the problem. Students also contextualize situations during the problem-solving process. For example, while solving the task above, students might refer to the context of the task to determine that they need to subtract 19 if 19 children leave.

MP.3 Construct viable arguments and critique the reasoning of others.
Second graders may construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They practice their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?", "Explain your thinking.", and "Why is that true?" They not only explain their own thinking, but listen to others' explanations. They decide if the explanations make sense and ask appropriate questions. Students critique the strategies and reasoning of their classmates. For example, to solve $74 - 18$, students may use a variety of strategies, and after working on the task, they

might discuss and critique each other's' reasoning and strategies, citing similarities and differences between various problem-solving approaches.

MP.4 Model with mathematics.
In early grades, students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. In grade two students model real-life mathematical situations with a number sentence or an equation and check to make sure that their equation accurately matches the problem context. They use concrete manipulatives and pictorial representations to explain the equation. They create an appropriate problem situation from an equation. For example, students create a story problem for the equation $43 + 17 = \square$ such as "There were 43 gumballs in the machine. Tom poured in 17 more gumballs. How many gumballs are now in the machine?"

MP.5 Use appropriate tools strategically.
In second grade, students consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be better suited. For instance, second graders may decide to solve a problem by drawing a picture rather than writing an equation. Students may use tools such as snap cubes, place value (base ten) blocks, hundreds number boards, number lines, rulers, virtual manipulatives, and concrete geometric shapes (e.g., pattern blocks, three-dimensional solids). Students understand which tools are the most appropriate to use. For example, while measuring the length of the hallway, students can explain why a yardstick is more appropriate to use than a ruler.

MP.6 Attend to precision.
As children begin to develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and when they explain their own reasoning. Second grade students communicate clearly, using grade-level appropriate vocabulary accurately and precise explanations and reasoning to explain their process and solutions. For example, while measuring an object, students carefully line up the tool correctly to get an accurate measurement. During tasks involving number sense, students consider if their answer is reasonable and check their work to ensure the accuracy of solutions.

MP.7 Look for and make use of structure.
Second grade students look for patterns and structures in the number system. For example, students notice number patterns within the tens place as they connect skip counting

by 10s to corresponding numbers on a 100s chart. Students see structure in the base-ten number system as they understand that 10 ones equal a ten, and 10 tens equal a hundred. Students adopt mental math strategies based on patterns (making ten, fact families, doubles). They use structure to understand subtraction as missing addend problems (e.g., $50 - 33 = \square$ can be written as $33 + \square = 50$ and can be thought of as "How much more do I need to add to 33 to get to 50?")

MP.8 Look for and express regularity in repeated reasoning.

Second grade students notice repetitive actions in counting and computation (e.g., number patterns to skip count). When children have multiple opportunities to add and subtract, they look for shortcuts, such as using estimation strategies and then adjust the answer to compensate. Students continually check for the reasonableness of their solutions during and after completing a task by asking themselves, "Does this make sense?"

Operations and Algebraic Thinking – 2.OA

☐ **2.OA.A. Represent and solve problems involving addition and subtraction.**

1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions by using physical, visual, and symbolic representations.

☐ **2.OA.B. Add and subtract within 20.**

2. Demonstrate fluency for addition and subtraction within 20 using mental strategies. By the end of Grade 2, recall basic facts to add and subtract within 20 with automaticity.

   Clarification: *Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

   Students may use mental strategies such as counting on; making 10; decomposing a number leading to a 10; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.

△ **2.OA.C. Work with equal groups of objects to gain foundations for multiplication.**

3. Determine whether a group of objects (up to 20) has an odd or even number of members and write an equation to express an even number as a sum of two equal addends.

   Clarification: *Students may pair objects or count them by twos.*

4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

   Example*: The total number of objects arranged in a* 2×5 *rectangular array can be found by adding* $2 + 2 + 2 + 2 + 2$.

Number and Operations in Base Ten – 2.NBT

☐ **2.NBT.A. Understand place value.**

1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. Understand:
   a. 100 can be thought of as a bundle of ten tens—called a “hundred.”
   b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

   Example*: The number* 241 *can be expressed as* $2\ hundreds + 4\ tens + 1\ one$ *or as* $24\ tens + 1\ one$ *or as* $241\ ones$.

2. Count within 1000; skip-count by fives, tens, and 100s. Identify patterns in skip counting starting at any number.
3. Read and write numbers from 0 to 1,000 using standard form, expanded form and word form.

***Example**: The number two-hundred forty-one written in standard form is* 241 *and in expanded form is* $200 + 40 + 1$.

4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

☐ **2.NBT.B. Use place value understanding and properties of operations to add and subtract.**

5. Fluently add and subtract whole numbers within 100 using understanding of place value and properties of operations.

***Clarification:** Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

6. Add up to four two-digit numbers using strategies based on place value and properties of operations.
7. Add and subtract whole numbers within 1000 by using physical, visual, and symbolic representations, with an emphasis on place value, properties of operations, and/or the relationships between addition and subtraction.
    a. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones.
    b. Understand that sometimes it is necessary to compose or decompose tens or hundreds.

***Example:** Students may use equations to represent their strategies based on place value such as:* $324 + 515 = (300 + 500) + (20 + 10) + (4 + 5) = 839$.

8. Use mental strategies to add or subtract a number that is ten more, ten less, one hundred more and one hundred less than a given three-digit number.
9. Explain why addition and subtraction strategies work, using place value and the properties of operations.

Measurement and Data – 2.MD

☐ **2.MD.A. Measure and estimate lengths in standard units.**

1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
3. Estimate lengths using units of inches, feet, centimeters, and meters.
4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

☐ **2.MD.B. Relate addition and subtraction to length.**

5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units.

   Clarification: *Students may use drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.*

6. Represent whole numbers as lengths from zero on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

△ **2.MD.C. Work with time and money.**

7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies (up to $10), using $ and ¢ symbols appropriately and whole dollar amounts.

   Example*: A sample question could be, "If you have 2 dimes and 3 pennies, how many cents do you have? If you have $3 and 4 quarters, how many dollars or cents do you have?"*

△ **2.MD.D. Represent and interpret data.**

9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Organize and record data on a line plot (dot plot) where the horizontal scale is marked off in whole-number units.
10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in the graph.

Geometry – 2.G

○ 2.G.A. Reason with shapes and their attributes.

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, squares, rectangles, rhombi, trapezoids, pentagons, hexagons, octagons, and cubes.
2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
3. Partition circles and rectangles into two, three, or four equal shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
    a. Describe the shares using the words halves, thirds, fourths, and quarter, and use the phrases half of, a third of, a fourth of, and quarter of.
    b. Describe the whole as two of, three of, or four of the shares.
    c. Recognize that equal shares of identical wholes need not have the same shape.

THIRD GRADE

Introduction

In third grade, instruction should focus on the following: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

1. Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.
2. Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, $\frac{1}{2}$ of the paint in a small bucket could be less paint than $\frac{1}{3}$ of the paint in a larger bucket, but $\frac{1}{3}$ of a ribbon is longer than $\frac{1}{5}$ of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.
3. Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps; a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.
4. Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with

definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Third Grade Overview

Operations and Algebraic Thinking

☐ A. Represent and solve problems involving multiplication and division.
☐ B. Understand properties of multiplication and the relationship between multiplication and division.
☐ C. Multiply and divide within 100.
☐ D. Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Number and Operations in Base Ten

○ A. Use place value understanding and properties of operations to perform multi-digit arithmetic.

Number and Operations – Fractions

☐ A. Develop understanding of fractions as numbers.

Measurement and Data

☐ A. Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
△ B. Represent and interpret data.
☐ C. Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
○ D. Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Geometry

△ A. Reason with shapes and their attributes.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For third grade these standards are:

- 3.OA.C.7.b Demonstrate fluency for multiplication within 100. Know from memory all products of two single-digit numbers and related division facts.
- 3.NBT.A.2* Fluently add and subtract whole numbers within 1000 using understanding of place value and properties of operations.

**Designated as a mastery standard because students in third grade fluently add and subtract within 1000 using methods based on place value, properties of operations, and/or the relationship between addition and subtraction. They focus on methods that generalize readily to larger numbers so the relationship between addition and subtraction that these methods can be extended to 1,000,000 in fourth grade and fluency can be reached with such larger numbers.*

Third Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In third grade, mathematically proficient students know that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Students may use concrete objects, pictures, or drawings to help them conceptualize and solve problems, such as "Jim purchased 5 packages of muffins. Each package contained 3 muffins. How many muffins did Jim purchase?" or "Describe another situation where there would be 5 groups of 3 or 5×3." Students may check their thinking by asking themselves, "Does this make sense?" Students listen to other students' strategies and are able to make connections between various methods for a given problem.

MP.2 Reason abstractly and quantitatively.
Third graders should recognize that a number represents a specific quantity. They connect the quantity to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities. For example: students apply their understanding of the meaning of the equal sign as "the same as" to interpret an equation with an unknown. When given $4 \times \square = 40$, they might think:

- 4 groups of some number is the same as 40
- 4 times some number is the same as 40
- I know that 4 groups of 10 is 40 so the unknown number is 10
- The missing factor is 10 because 4 times 10 equals 40.

Teachers might ask, "How do you know" or "What is the relationship between the quantities?" to reinforce students' reasoning and understanding.

MP.3 Construct viable arguments and critique the reasoning of others.
Students may construct arguments using concrete referents, such as objects, pictures, and drawings. They refine their mathematical communication skills as they participate in mathematical discussions that the teacher facilities by asking questions such as "How did you get that?" and "Why is that true?" Students explain their thinking to others and respond to others' thinking. For example, after investigating patterns on the 100s chart, students might explain why the pattern makes sense.

MP.4 Model with mathematics.
Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Third graders should evaluate their results in the context of the situation and reflect on whether the results make sense. For example, students use various contexts and a variety of models (e.g., circles, squares, rectangles, fraction bars, and number lines) to represent and develop understanding of fractions. Students use models to represent both equations and story problems and can explain their thinking. They evaluate their results in the context of the situation and reflect on whether the results make sense. Students should be encouraged to answer questions, such as "What math drawing or diagram could you make and label to represent the problem?" or "What are some ways to represent the quantities?"

MP.5 Use appropriate tools strategically.
Third graders consider the available tools (including drawings and estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use graph paper to find all the possible rectangles that have a given perimeter. They compile the possibilities into an organized list or a table and determine whether they have all the possible rectangles. Students should be encouraged to answer questions such as, "Why was it helpful to use ___?"

MP.6 Attend to precision.
As third graders develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, when figuring out the area of a rectangle they record their answers in square units.

MP.7 Look for and make use of structure.
Students look closely to discover a pattern or structure. For instance, students use properties of operations (e.g., commutative and distributive properties) as strategies to multiply and divide. Teachers might ask, "What do you notice when ___?" or "How do you know if something is a pattern?"

MP.8 Look for and express regularity in repeated reasoning.
Students in third grade should notice repetitive actions in computation and look for more shortcut methods. For example, students use the distributive property as a strategy for using products they know to solve products that they do not know. For example, if students are asked to find the product of 7×8, they might decompose 7 into 5 and 2 and then multiply

5×8 and 2×8 to arrive at $40 + 16$ or 56. In addition, third graders continually evaluate their work by asking themselves, “Does this make sense? Students should be encouraged to answer questions, such as, “What is happening in this situation?” or “What predictions or generalizations can this pattern support?”

Operations and Algebraic Thinking – 3.OA

☐ 3.OA.A. Represent and solve problems involving multiplication and division.

1. Interpret a product of whole numbers as grouping of sets, e.g., 5×7 as five groups of seven objects each.
2. Interpret a quotient of whole numbers as equal sharing, e.g., $56 \div 8$ as the number in each share when 56 objects are split into 8 equal shares, or as the number of shares when 56 objects are split into equal shares of 8 objects each.
3. Use multiplication and division within 100 to solve word problems involving equal groups, arrays, and measurements by using visual and symbolic representations, with a symbol for an unknown number.
4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers.

***Example**: Determine the unknown number that makes the equation true in each of the equations* $8 \times ? = 48$, $5 = ? \div 3$, $6 \times 6 = ?$.

☐ 3.OA.B. Understand properties of multiplication and the relationship between multiplication and division.

5. Apply the properties of operations to multiply and divide.

***Clarification:** Students need not use formal terms for these properties (identity, communicative, associative, distributive).*

6. Understand division as determining an unknown factor in a multiplication problem.

☐ 3.OA.C. Multiply and divide within 100.

7. Demonstrate fluency for multiplication within 100.
    a. Demonstrate understanding of strategies that make use of the relationship between multiplication and division or properties of operations.
    b. Know from memory all products of two single-digit numbers and related division facts.

***Clarification:** Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

☐ 3.OA.D. Solve problems involving the four operations, and identify and explain patterns in arithmetic.

8. Solve two-step word problems involving whole numbers using the four operations.
    a. Represent these problems using equations with a letter standing for the unknown quantity.

b. Assess the reasonableness of answers using mental computation and estimation strategies, including rounding.

9. Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.

***Example**: Arithmetic patterns are patterns that change by the same rate, such as adding the same number the series $2, 4, 6, 8, 10$ is an arithmetic pattern that increases by 2 between each term.*

Number and Operations in Base Ten – 3.NBT

○ 3.NBT.A. Use place value understanding and properties of operations to perform multi-digit arithmetic.

1. Round a whole number to the tens or hundreds place, using place value understanding or a visual representation.
2. Fluently add and subtract whole numbers within 1000 using understanding of place value and properties of operations.

***Clarification:** Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

3. Multiply one-digit whole numbers by multiples of 10 in the range 10– 90 using understanding of place value and properties of operations.

Number and Operations – Fractions – 3.NF

☐ 3.NF.A. Develop understanding of fractions as numbers.

1. Understand a fraction $\frac{1}{b}$ as the quantity formed by one part when a whole (a single unit) is partitioned into b equal parts; understand $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.
2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.

    a. Represent a unit fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $\frac{1}{b}$ and that the fraction $\frac{1}{b}$ is located $\frac{1}{b}$ of a whole unit from 0 on the number line.

b. Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a length $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.

3. Explain equivalence of fractions and compare fractions by reasoning about their size, in limited cases.

   a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

   b. Recognize and generate simple equivalent fractions, and explain why the fractions are equivalent, such as by using a visual fraction model.

Example: $\frac{1}{2} = \frac{2}{4}, \frac{4}{6} = \frac{2}{3}$

   c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.

Example: *Express* 3 *in the form* $3 = \frac{3}{1}$*; recognize that* $\frac{6}{1} = 6$*; locate* $\frac{4}{4}$ *and* 1 *at the same point of a number line diagram.*

   d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize the comparisons are valid only when the two fractions refer to the same whole. Record the results of the comparisons with the symbols $>, =$ and $<$, and justify the conclusion using visual representations and/or verbal reasoning.

Measurement and Data – 3.MD

☐ 3.MD.A. Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

1. Tell and write time to the nearest minute within the same hour and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes.

Clarification: *Students may use tools such as clocks, number line diagrams, and tables to solve problems involving time intervals.*

2. Identify and use the appropriate tools and units of measurement, both customary and metric, to solve one-step word problems using the four operations involving weight, mass, liquid volume, and capacity (within the same system and unit).

Clarification: *Students may use drawings (such as a beaker with a measurement scale) to represent the problem.*

This standard does not include conversions between units. The focus is on measuring and reasonable estimates, use benchmarks to measure weight, and capacity.

△ 3.MD.B. Represent and interpret data.

3. Draw a scaled picture graph and scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.

Example*: Draw a bar graph in which each square in the bar graph might represent 5 pets.*

4. Generate measurement data by measuring lengths of objects using rulers marked with halves and fourths of an inch. Record and show the data by making a line plot (dot plot), where the horizontal scale is marked off in appropriate units— whole numbers, halves, or fourths.

☐ 3.MD.C. Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

5. Recognize area as an attribute of plane figures and understand concepts of area measurement.
    a. A square with side length one unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
    b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.
6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units).
7. Relate area to the operations of multiplication and addition.
    a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
    b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
    c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

Example: *Using the distributive property, the area of a shape that is* 6 *by* 7 *can be determined by finding the area of the* 6×5 *section and the* 6×2 *section and then adding the two products together.*

d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

Example*: A pool is comprised of two non-overlapping rectangles in the shape of an "L". The area for a cover of a pool can be found by adding the areas of the two non-overlapping rectangles.*

○ 3.MD.D. Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Geometry – 3.G

△ 3.G.A. Reason with shapes and their attributes.

1. Understand that shapes in different categories may share attributes, and that the shared attributes can define a larger category. Compare and classify shapes by their sides and angles. Recognize rhombi, rectangles, squares, and trapezoids as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
2. Partition two-dimensional figures into equal areas, and express the area of each part as a unit fraction of the whole.

Example*: Draw lines to separate a shape into* 4 *parts with equal area, and describe the area of each part as* $\frac{1}{4}$ *of the area of the shape.*

FOURTH GRADE

Introduction

In fourth grade, instruction should focus on the following: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) and understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

1. Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.
2. Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., $\frac{15}{9} = \frac{5}{3}$), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.
3. Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Fourth Grade Overview

Operations and Algebraic Thinking

☐ A. Use the four operations with whole numbers to solve problems.
△ B. Gain familiarity with factors and multiples.
○ C. Generate and analyze patterns.

Number and Operations in Base Ten

☐ A. Generalize place value understanding for multi-digit whole numbers, less than or equal to 1,000,000.
☐ B. Use place value understanding and properties of operations to perform multi-digit arithmetic on whole numbers less than or equal to 1,000,000.

Number and Operations – Fractions

☐ A. Extend understanding of fraction equivalence and ordering.
☐ B. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
☐ C. Understand decimal notation for fractions, and compare decimal fractions.

Measurement and Data

△ A. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
△ B. Represent and interpret data.
○ C. Geometric measurement: understand concepts of angle and measure angles.

Geometry

○ A. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For fourth grade this standard is:

- 4.NBT.B.4 Fluently use the standard algorithm for multi-digit whole number addition and subtraction.

Fourth Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In fourth grade, students know that doing mathematics involves solving problems and discussing how they solved them. Students explain to themselves the meaning of a problem and look for ways to solve it. Fourth graders may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They listen to the strategies of others and will try different approaches. They often will use another method to check their answers. Students might use an equation strategy to solve the word problem. For example, students could solve the problem "Chris bought clothes for school. She bought 3 shirts for $\$12$ each and a skirt for $\$15$. How much money did Chris spend on her new school clothes?" with the equation $3 \times \$12 + \$15 = a.$ Fourth graders may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" They listen to the strategies of others and will try different approaches. They often will use another method to check their answers.

MP.2 Reason abstractly and quantitatively.
Fourth graders should recognize that a number represents a specific quantity. They connect the quality to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities. They extend this understanding from whole numbers to their work with fractions and decimals. Students write simple expressions, record calculations with numbers, and represent or round numbers using place value concepts. Students might use base 10 blocks or drawings to demonstrate 154×6, as 154 added six times, and develop an understanding of the distributive property. For example: 154×6

$$= (100 + 50 + 4) \times 6$$

$$= (100 \times 6) + (50 \times 6) + (4 \times 6)$$

$$= 600 + 300 + 24 = 924$$

MP.3 Construct viable arguments and critique the reasoning of others.

In fourth grade, students may construct arguments using concrete referents, such as objects, pictures, and drawings. They explain their thinking and make connections between models and equations. They refine their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?", "Explain your thinking," and "Why is that true?" They not only explain their own thinking, but listen to others' explanations. Students explain and defend their answers and solution strategies as they answer question that require an explanation. For example, "Vincent cuts 2 meters of string into 4 centimeter pieces for a craft. How many pieces of string does Vincent have? Explain your reasoning." Students ask appropriate questions, and they decide if explanations make sense. Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Fourth graders should evaluate their results in the context of the situation and reflect on whether the results make sense. For example, students may use money (i.e. dollars and coins) or base 10 blocks to solve the following problem: Elsie buys a drink for $\$1.39$ and a granola bar for $\$0.89$. How much change will she receive if she pays with a $\$5$ bill?

MP.5 Use appropriate tools strategically.
Fourth graders consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use graph paper, a number line, or base 10 blocks to represent, compare, add, and subtract decimals to the hundredths. Students in fourth grade use protractors to measure angles. They use other measurement tools to understand the relative size of units within a given system and express measurements given in larger units in terms of smaller units.

MP.6 Attend to precision.
As fourth graders develop their mathematical communication skills, they try to use clear and precise language in their discussions with others and in their own reasoning. For instance, they may use graph paper or a number line to represent, compare, add, and subtract decimals to the hundredths. Students in fourth grade use protractors to measure angles. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, they use appropriate labels when creating a line plot.

MP.7 Look for and make use of structure.
In fourth grade, students look closely to discover a pattern or structure. For instance, students use properties of operations to explain calculations (partial products model). They relate representations of counting problems such as arrays and area models to the

multiplication principal of counting. They generate number or shape patterns that follow a given rule using two-column tables.

MP.8 Look for and express regularity in repeated reasoning.
Students in fourth grade should notice repetitive actions in computation to make generalizations. Students use models to explain calculations and understand how algorithms work. They also use models to examine patterns and generate their own algorithms. For example, students use visual fraction models to write equivalent fractions.

Operations and Algebraic Thinking – 4.OA

☐ **4.OA.A. Use the four operations with whole numbers to solve problems**.

1. Interpret a multiplication equation as a comparison, e.g., $35 = 5 \times 7$ as 35 is 5 times as many as 7. Represent verbal multiplicative comparisons as equations.
2. Multiply or divide to solve word problems involving multiplicative comparison.

   ***Example**: If the cost of a red hat is three times more than a blue hat that costs $\$5$ then a red hat cost $\$15$.*

   ***Clarification:** Students may use drawings and equations with a symbol for the unknown number to represent the problem.*
   Distinguish between multiplicative comparison from additive comparison.

3. Solve multistep whole number word problems using the four operations, including problems in which remainders must be interpreted.
   a. Represent these problems using equations with a letter standing for the unknown quantity.
   b. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

△ **4.OA.B. Gain familiarity with factors and multiples.**

4. Find all factor pairs for a whole number in the range 1–100.
   a. Recognize that a whole number is a multiple of each of its factors.
   b. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.
   c. Determine whether a given whole number in the range 1–100 is prime or composite.

○ **4.OA.C. Generate and analyze patterns.**

5. Generate a number or shape pattern that follows a given rule. Identify and explain features of the pattern that were not explicit in the rule itself.

   ***Example**: Given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Number and Operations in Base Ten – 4.NBT

☐ **4.NBT.A. Generalize place value understanding for multi-digit whole numbers, less than or equal to 1,000,000.**

1. Recognize that in a multi-digit whole number, a digit in any place represents ten times as much as it represents in the place to its right.
2. Read and write multi-digit whole numbers using standard form, expanded form, and word form. Compare two multi-digit numbers based on meanings of the digits and each place, recording the results of comparisons with the symbols $>$, $=$, and $<$.

   Example: *the number two hundred seventy-five thousand eight hundred two written in standard form is* $275{,}802$ *and in expanded form is* $200{,}000 + 70{,}000 + 5{,}000 + 800 + 2$ *or* $(2 \times 100{,}000) + (7 \times 10{,}000) + (5 \times 1{,}000) + (8 \times 100) + (2 \times 1)$.
3. Use place value understanding or visual representation to round multi-digit whole numbers to any place.

☐ **4.NBT.B. Use place value understanding and properties of operations to perform multi-digit arithmetic on whole numbers less than or equal to 1,000,000.**

4. Fluently use the standard algorithm for multi-digit whole number addition and subtraction.

   Example: *What is the difference between* 634 *and* 328 *using the standard algorithm?*

$$\begin{array}{r} {}^{5}\cancel{6}\,{}^{1}\cancel{3}\,4 \\ -\,3\;2\;8 \\ \hline 3\;0\;6 \end{array}$$

   Clarification*: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers.
   a. Use strategies based on place value and the properties of operations.
   b. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.
   a. Use strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.

b. Illustrate and explain the calculation by using rectangular arrays, area models, and/or equations.

Clarification for 4.NBT.B.5 and 4.NBT.B.6: *Students should be familiar with multiple strategies but should be able to select and use the strategy with which they most closely connect and understand, with the ultimate goal of supporting students to use more efficient strategies.*

Number and Operations – Fractions – 4.NF

☐ 4.NF.A. Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{n \times a}{n \times b}$ by using visual fraction models, with attention to how the numbers and sizes of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions, including fractions greater than 1.

Example*: When a horizontal line is drawn through the center of the model, the number of equal parts doubles and the size of the parts is halved.*

2. Compare two fractions with different numerators and different denominators, by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$.
    a. Recognize that comparisons are valid only when the two fractions refer to the same whole.
    b. Record the results of comparisons with symbols $>, =$, or $<$, and justify the conclusions, by using a visual fraction model and/or verbal reasoning.

☐ 4.NF.B. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

1. Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$.
    a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
    b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify the conclusions by using a visual fraction model and/or verbal reasoning.

Example: $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$

c. Add and subtract mixed numbers with like denominators by replacing mixed number with an equivalent fraction and/or by using properties of operations and the relationship between addition and subtraction.

d. Solve word problems involving addition and subtraction of fractions, including mixed numbers, with the same denominator. Justify the conclusions using a visual fraction model and/or verbal reasoning.

4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

a. Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$.

Example: *use a visual fraction model to represent* $\frac{5}{4}$ *as the product* $5 \times \frac{1}{4}$*, recording the conclusion by the equation* $\frac{5}{4} = 5 \times \frac{1}{4}$.

b. Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number.

Example: *use a visual fraction model to express* $3 \times \frac{2}{5}$ *as* $6 \times \frac{1}{5}$*, recognizing this product as* $\frac{6}{5}$. *In general,* $n \times \frac{a}{b} = \frac{n \times a}{b}$.

c. Solve word problems involving multiplication of a fraction by a whole number e.g., by using visual fraction models and/or equations to represent the problem.

Example: *If each person at a party will eat* $\frac{3}{8}$ *of a pound of roast beef, and there will be* 5 *people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

☐ **4.NF.C. Understand decimal notation for fractions, and compare decimal fractions.**

5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.

Example: *Express* $\frac{3}{10}$ *as* $\frac{3}{100}$*, and add* $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.

Clarification*: Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.*

6. Use decimal notation to represent fractions with denominators 10 or 100.

Example: *rewrite* 0.62 *as* $\frac{62}{100}$*; describe a length as* 0.62 *meters; locate* 0.62 *on a number line diagram.*

7. Compare two decimals to hundredths by reasoning about their size.
    a. Recognize that comparisons are valid only when the two decimals refer to the same whole.
    b. Record the results of the comparisons with the symbols $>$, $=$, and $<$, and justify the conclusions using visual representations and/or verbal reasoning.

***Clarification**: Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.*

Measurement and Data – 4.MD

△ 4.MD.A. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

1. Know relative sizes of measurement units within any one system of units.
    a. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.
    b. Record measurement equivalents in a two-column table.

***Example**: Know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs $(1, 12)$, $(2, 24)$, $(3, 36)$, ...*

2. Use the four operations to solve word problems involving measurements.
    a. Include problems involving simple fractions or decimals.
    b. Include problems that require expressing measurements given in a larger unit in terms of a smaller unit.
    c. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

***Clarification**: Measurement may include, but not limited to, length, area, volume, capacity, mass, weight, and money.*

3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

***Example:** Find the width of a rectangle room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

Clarification: *Students should express their answers in linear (perimeter) and square (area) units. Students are not expected to use the* $1\ cm^2$ *notation.*

△ **4.MD.B. Represent and interpret data.**

4. Make a line plot (dot plot) to show a set of measurements in fractions of a unit $\left(\frac{1}{2}, \frac{1}{4}, \frac{1}{8}\right)$. Solve problems involving addition and subtraction of fractions by using information presented in line plots (dot plots).

Example: *From a line plot (dot plot) find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

○ **4.MD.C. Geometric measurement: understand concepts of angle and measure angles.**

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.
    a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle.

Example: *An angle that turns through* $\frac{1}{360}$ *of a circle is called a "one-degree angle," and can be used to measure angles.*

    b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

7. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.
    a. Use an equation with a symbol for the unknown angle measure.
    b. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.

Geometry – 4.G

○ **4.G.A. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.**

1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

FIFTH GRADE

Introduction

In fifth grade, instruction should focus on the following: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of measurement systems and determining volumes to solve problems; and (4) solving problems using the coordinate plane.

1. Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)
2. Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.
3. Students convert among different-sized measurement units within a given measurement system allowing for efficient and accurate problem solving with multi-step real-world problems as they progress in their understanding of scientific concepts and calculations. Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They

select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real-world and mathematical problems.

4. Students learn to interpret the components of a rectangular coordinate system as lines and understand the precision of location that these lines require. Students learn to apply their knowledge of number and length to the order and distance relationships of a coordinate grid and to coordinate this across two dimensions. Students solve mathematical and real-world problems using coordinates.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Geometric and Spatial Thinking

Geometric and Spatial Thinking are important in and of themselves, because they connect mathematics with the physical world, and play an important role in modeling occurrences whose origins are not necessarily physical, for example, as networks or graphs. They are also important because they support the development of number and arithmetic concepts and skills. Thus, geometry is essential for all grade levels for many reasons: its mathematical content, its roles in physical sciences, engineering, and many other subjects, and its strong aesthetic connections.

Fifth Grade Overview

Operations and Algebraic Thinking

- ○ A. Write and interpret numerical expressions.
- ○ B. Analyze patterns and relationships.

Number and Operations in Base Ten

- ☐ A. Understand the place value system.
- ☐ B. Perform operations with multi-digit whole numbers and with decimals to hundredths.

Number and Operations – Fractions

- ☐ A. Use equivalent fractions as a strategy to add and subtract fractions.
- ☐ B. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Measurement and Data

- △ A. Convert like measurement units within a given measurement system.
- △ B. Represent and interpret data.
- ☐ C. Geometric measurement: Understand concepts of volume and relate volume to multiplication and to addition.

Geometry

- ○ A. Graph points on the coordinate plane to solve real-world and mathematical problems.
- ○ B. Classify two-dimensional figures into categories based on their properties.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For standards related to knowing single-digit facts from memory, this typically involves generating a response within 3-5 seconds. For fifth grade this standard is:

- 5.NBT.B.5 Demonstrate fluency for multiplication of multi-digit whole numbers using the standard algorithm. Include two-digit × four-digit numbers and, three-digit × three-digit numbers.

Fifth Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
Students solve problems by applying their understanding of operations with whole numbers, decimals, and fractions including mixed numbers. They solve problems related to volume and measurement conversions. Students seek the meaning of a problem and look for efficient ways to represent and solve it. For example, Sonia had $2\frac{1}{3}$ candy bars. She promised her brother that she would give him $\frac{1}{2}$ of a candy bar. How much will she have left after she gives her brother the amount she promised? They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?".

MP.2 Reason abstractly and quantitatively.
Fifth graders should recognize that a number represents a specific quantity. They connect quantities to written symbols and create a logical representation of the problem at hand, considering both the appropriate units involved and the meaning of quantities. They extend this understanding from whole numbers to their work with fractions and decimals. Students write simple expressions that record calculations with numbers and represent or round numbers using place value concepts. For example, students use abstract and quantitative thinking to recognize that $0.5 \times (300 \div 15)$ is $\frac{1}{2}$ of $(300 \div 15)$ without calculating the quotient.

MP.3 Construct viable arguments and critique the reasoning of others.
In fifth grade, students may construct arguments using concrete referents, such as objects, pictures, and drawings. They explain calculations based upon models and properties of operations and rules that generate patterns. They demonstrate and explain the relationship between volume and multiplication. They refine their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?" They explain their thinking to others and respond to others' thinking. Students use various strategies to solve problems and they defend and justify their work with others. For example, two afterschool clubs are having pizza parties. The teacher will order 3 pizzas for every 5 students in the math club; and 5 pizzas for every 8 students in the student council. If a student is in both groups, decide which party they should attend. How

much pizza will each student get at each party? If a student wants to have the most pizza, which party should they attend?

MP.4 Model with mathematics.
Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc. Students need opportunities to connect the different representations and explain the connections. They should be able to use all of these representations as needed. Fifth graders should evaluate their results in the context of the situation and whether the results make sense. They also evaluate the utility of models to determine which models are most useful and efficient to solve problems.

MP.5 Use appropriate tools strategically.
Fifth graders consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful. For instance, they may use unit cubes to fill a rectangular prism and then use a ruler to measure the dimensions. They use graph paper to accurately create graphs and solve problems or make predictions from real-world data.

MP.6 Attend to precision.
Students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students use appropriate terminology when referring to expressions, fractions, geometric figures, and coordinate grids. They are careful about specifying units of measure and state the meaning of the symbols they choose. For instance, when figuring out the volume of a rectangular prism they record their answers in cubic units.

MP.7 Look for and make use of structure.
In fifth grade, students look closely to discover a pattern or structure. For instance, students use properties of operations as strategies to add, subtract, multiply and divide with whole numbers, fractions, and decimals. They examine numerical patterns and relate them to a rule or a graphical representation.

MP.8 Look for and express regularity in repeated reasoning.
Fifth graders use repeated reasoning to understand algorithms and make generalizations about patterns. Students connect place value and their prior work with operations to understand algorithms to fluently multiply multi-digit numbers and perform all operations with decimals to hundredths. Students explore operations with fractions with visual models and begin to formulate generalizations.

Operations and Algebraic Thinking – 5.OA

○ 5.OA.A. Write and interpret numerical expressions.

1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

   Example: *$4.5 + (3 \times 2)$ in word form is, four and five tenths plus the quantity 3 times 2.*

2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

   Example: *Express the calculation "Add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$. Recognize that $12 \times (7 + 91)$ is twelve times as large as $7 + 91$, without having to calculate the indicated sum or product.*

○ 5.OA.B. Analyze patterns and relationships.

3. Generate two numerical patterns using two given rules.
   a. Identify apparent relationships between corresponding terms.
   b. Form ordered pairs consisting of corresponding terms from the two patterns.
   c. Graph the ordered pairs on a coordinate plane.

   Example: *Given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences. Observe that the terms in one sequence are twice the corresponding terms in the other sequence and explain why this is so.*

Number and Operations in Base Ten – 5.NBT

☐ 5.NBT.A. Understand the place value system.

1. Recognize that in a multi-digit number, including decimals, a digit in any place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.

   Example: *In the number 55.55, each digit is 5, but the value of the digits is different because of the placement.*

2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

   Example: *10^2 which is $10 \times 10 = 100$, and 10^3 which is $10 \times 10 \times 10 = 1{,}000$*

3. Read, write, and compare decimals to thousandths.
    a. Read and write decimals to thousandths using standard form, expanded form, and word from.

Example: $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times \frac{1}{10} + 9 \times \frac{1}{100} + 2 \times \frac{1}{1000}$

    b. Compare two decimals to thousandths based on meanings of the digits in each place, and record the results of the comparisons using $>$, $=$, and $<$.
4. Use place value understanding to round decimals to any place.

☐ 5.NBT.B. Perform operations with multi-digit whole numbers and with decimals to hundredths.

5. Demonstrate fluency for multiplication of multi-digit whole numbers using the standard algorithm. Include two-digit × four-digit numbers and, three-digit × three-digit numbers.

Example: *What is the product of* 304 *and* 23 *using the standard algorithm?*

$$\begin{array}{r} {}^{3}{}^{1}0\,4 \\ \times\ 2\,3 \\ \hline 9\,1\,2 \\ +6\,0\,8\,0 \\ \hline 6\,9\,9\,2 \end{array}$$

Clarification*: Fluency is reached when students are proficient, i.e., when they display accuracy, efficiency, and flexibility.*

6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.
    a. Use strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.
    b. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
7. Add, subtract, multiply, and divide decimals to hundredths.
    a. Use concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction and between multiplication and division.
    b. Relate the strategy to a written method and explain the reasoning used.

Clarification for 5.NBT.B.6 and 5.NBT.B.7: *Students should be familiar with multiple strategies but should be able to select and use the strategy with which they most closely*

connect and understand, with the ultimate goal of supporting students to use more efficient strategies.

Number and Operations – Fractions – 5.NF

☐ 5.NF.A. Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions to produce an equivalent sum or difference of fractions with like denominators.

   Example: *$\frac{2}{3}+\frac{5}{4}=\frac{8}{12}+\frac{15}{12}=\frac{23}{12}$ In general, $\frac{a}{b}+\frac{c}{d}=\frac{ad+bc}{bd}$.*

2. Solve word problems involving addition and subtraction of fractions referring to the same whole (the whole can be a set of objects), including cases of unlike denominators.

   a. Justify the conclusions by using visual fraction models and/or equations to represent the problem.

   b. Use benchmark fractions and number sense of fraction to estimate mentally and assess the reasonableness of answers.

   Example: *Recognize an incorrect result $\frac{2}{5}+\frac{1}{2}=\frac{3}{7}$, by observing that $\frac{3}{7}<\frac{1}{2}$.*

☐ 5.NF.B. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

3. Interpret a fraction as division of the numerator by the denominator $\left(\frac{a}{b}=a\div b\right)$. Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers by using visual fraction models and/or equations to represent the problem.

   Example: *Interpret $\frac{3}{4}$ as the result of dividing 3 by 4, noting that $\frac{3}{4}$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $\frac{3}{4}$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

   a. Interpret the product $\left(\frac{a}{b}\right)\times q$ as a parts of a partitions of q into b equal parts, equivalently, as the result of the sequence of operations $a\times q\div b$.

Example: *Use a visual model and/or area model to show* $\left(\frac{2}{3}\right) \times 4 = \frac{8}{3}$*, and create a story context for this equation. Do the same with* $\left(\frac{2}{3}\right) \times \left(\frac{4}{5}\right) = \frac{8}{15}$*. In general,* $\left(\frac{a}{b}\right) \times \left(\frac{c}{d}\right) = \frac{ac}{bd}$*.*

b. Find the area of a rectangle with fractional side lengths.
   i. Tile it with unit squares of the appropriate unit fraction side lengths.
   ii. Show that the area is the same by tiling as would be found by multiplying the side lengths.
   iii. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

5. Interpret multiplication as scaling (resizing), by:

   a. Comparing the size of a fractional product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

Example: *Without multiplying tell which number is greater:* 225 *or* $\frac{3}{4} \times 225$*;* $\frac{11}{50}$ *or* $\frac{3}{2} \times \frac{11}{50}$*?*

   b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number; explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $\frac{a}{b} = \frac{n \times a}{n \times b}$ to effect of multiplying $\frac{a}{b}$ by 1.

6. Solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models and/or equations to represent the problem.

Example: *Evan bought 6 roses for his mother,* $\frac{2}{3}$ *of them were red. How many red roses were there?*

7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

   a. Represent division of a unit fraction by a non-zero whole number and compute such quotients using a visual fraction model. Use the relationship between multiplication and division to explain that $\frac{1}{b} \div c = \frac{1}{bc}$ because $\frac{1}{bc} \times c = \frac{1}{b}$.

Example: *Create a story context to explain* $\frac{1}{3} \div 4$*, and use a visual fraction model to show the quotient.*

   b. Represent division of a whole number by a unit fraction, and compute such quotients using a visual fraction model. Use the relationship between multiplication and division to explain that $a \times \frac{1}{b} = ab$ because $ab \times \frac{1}{b} = a$.

Example: *Create a story context to explain* $4 \div \frac{1}{5}$*, and use a visual fraction model to show the quotient.*

c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions by using visual fraction models and/or equations to represent the problem.

Example: *How much chocolate will each person get if three people share* $\frac{1}{2}$ *lb of chocolate equally? How many* $\frac{1}{3}$ *cup servings are in two cups of raisins?*

Measurement and Data – 5.MD

△ 5.MD.A. Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system. Use conversions in solving multi-step, real world problems.

Example: *Convert* 5 *cm to* 0.05 *m.*

△ 5.MD.B. Represent and interpret data.

2. Collect, represent, and interpret numerical data, including whole numbers, fractional and decimal values.

a. Interpret numerical data, with whole-number values, represented with tables or line plots.

b. Use graphic displays of data (line plots (dot plots), tables, etc.) to solve real world problems using fractional data.

Example: *Given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

☐ 5.MD.C. Geometric measurement: Understand concepts of volume and relate volume to multiplication and to addition.

8. Recognize volume as an attribute of solid figures and understand volume measurement in terms of cubic units.

a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

9. Use concrete and/or visual models to measure the volume of rectangular prisms in cubic units by counting cubic cm, cubic in, cubic ft, and nonstandard units.

10. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

    a. Find the volume of a right rectangular prism with whole-number edge lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base.

Example: *To represent the associative property of multiplication,* $(l \times w) \times h = l \times (w \times h)$.

    b. Apply the formulas $V = l \times w \times h$ and $V = B \times h$ (where B stands for the area of the base) for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

    c. Recognize volume as additive.
        i. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.
        ii. Apply this technique to solve real world problems.

Geometry – 5.G

○ 5.G.A. Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Describe and understand the key attributes of the coordinate plane.

    a. Use a pair of perpendicular number lines (axes) with the intersection of the lines (the origin $(0,0)$) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.

    b. Understand that the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin.

2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, (x and y both have positive values) and interpret coordinate values of points in the context of the situation.

○ 5.G.B. Classify two-dimensional figures into categories based on their properties.

3. Understand that attributes belonging to a category of two-dimensional figures also belong to all of the subcategories of that category.

   Example: *All rectangles have four right angles and squares are rectangles, so all squares have four right angles.*

4. Classify two-dimensional figures in a hierarchy based on properties.

   Example: *All rectangles are parallelograms because they are all quadrilaterals with two pairs of opposite sides parallel.*

SIXTH GRADE

Introduction

In sixth grade, instruction is focused on the following areas: (1) connecting ratio and rate to whole number multiplication and division, and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; (4) developing understanding of statistical thinking; and (5) reasoning about geometric shapes and their measurements.

1. Students use reasoning about multiplication and division to solve ratio and rate problems about quantities. By viewing equivalent ratios and rates as deriving from and extending pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students connect their understanding of multiplication, division, and fractions from previous grades with ratios, rates, and percents. As students solve a wide variety of problems involving ratios and rates, they create a foundation for proportional reasoning and future work in Algebra and Geometry.

2. Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students use these operations to solve problems, as well as demonstrating fluency in operations with whole numbers and decimals. Students extend their previous understandings of number and the ordering of numbers to the full system of rational numbers, which includes negative rational numbers, and in particular, negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane.

3. Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students build on their understanding of an unknown quantity from previous grades to know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables,

such as tables of quantities that are in equivalent ratios, and they use equations (such as $y = 3x$) to describe relationships between quantities.

4. Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range) can also be useful for summarizing data because two very different sets of data can have the same mean and median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected.

5. Students in grade 6 also build on their work with area in elementary school by reasoning about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging, or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. They reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Sixth Grade Overview

Ratios and Proportional Relationships

☐ A. Understand ratio and rate concepts and use ratio and rate reasoning to solve problems.

The Number System

☐ A. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
○ B. Compute fluently with multi-digit numbers and find common factors and multiples.
☐ C. Apply and extend previous understandings of numbers to the system of rational numbers.

Expressions and Equations

☐ A. Apply and extend previous understandings of arithmetic to algebraic expressions.
☐ B. Reason about and solve one-variable equations and inequalities.
☐ C. Represent and analyze quantitative relationships between two variables.

Geometry

△ A. Solve real-world and mathematical problems involving area, surface area, and volume.

Statistics and Probability

○ A. Develop understanding of statistical variability.
○ B. Summarize and describe distributions.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For sixth grade these standards are:

- 6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm.
- 6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

Sixth Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In grade 6, students solve problems involving ratios and rates and discuss how they solved them. Students solve real-world problems through the application of algebraic and geometric concepts. Students seek the meaning of a problem and look for efficient ways to represent and solve it. They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?". Students can explain the relationships between equations, verbal descriptions, and tables and graphs. Mathematically proficient students check their answers to problems using a different method.

MP.2 Reason abstractly and quantitatively.
In grade 6, students represent a wide variety of real-world contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities. Students contextualize to understand the meaning of the number or variable as related to the problem and decontextualize to manipulate symbolic representations by applying properties of operations or other meaningful moves. To reinforce students' reasoning and understanding, teachers might ask, "How do you know?" or "What is the relationship of the quantities?".

MP.3 Construct viable arguments and critique the reasoning of others.
In grade 6, students construct arguments using verbal or written explanations accompanied by expressions, equations, inequalities, models, and graphs, tables, and other data displays (i.e. box plots, dot plots, histograms, etc.). They further refine their mathematical communication skills through mathematical discussions in which they critically evaluate their own thinking and the thinking of other students. They pose questions like "How did you get that?", "Why is that true?" and "Does that always work?". They explain their thinking to others and respond to others' thinking.

MP.4 Model with mathematics.
In grade 6, students model problem situations symbolically, graphically, in tables, contextually and visually. Students form expressions, equations, or inequalities from real-world contexts and connect symbolic and graphical representations. Students begin to represent two

quantities simultaneously. Students use number lines to compare numbers and represent inequalities. They use measures of center and variability and data displays (i.e. box plots and histograms) to draw inferences about and make comparisons between data sets. Students need many opportunities to connect and explain the connections between the different representations. They should be able to use all of these representations as appropriate and apply them to a problem context. Students should be encouraged to answer questions such as "What are some ways to represent the quantities?" or "What formula might apply in this situation?"

MP.5 Use appropriate tools strategically.
Students consider available tools (including estimation and technology) when solving a mathematical problem and decide when certain tools might be helpful. For instance, students in grade 6 may decide to represent figures on the coordinate plane to calculate area. Number lines are used to create dot plots, histograms, and box plots to visually compare the center and variability of the data. Visual fraction models can be used to represent situations involving division of fractions. Additionally, students might use physical objects or applets to construct nets and calculate the surface area of three-dimensional figures. Students should be encouraged to answer questions such as "What approach did you try first?" or "Why was it helpful to use?"

MP.6 Attend to precision.
In grade 6, students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students use appropriate terminology when referring to rates, ratios, geometric figures, data displays, and components of expressions, equations, or inequalities. When using ratio reasoning in solving problems, students are careful about specifying units of measure and labeling axes to clarify the correspondence with quantities in a problem. Students also learn to express numerical answers with an appropriate degree of precision when working with rational numbers in a situational problem. Teachers might ask, "What mathematical language, definitions, or properties can you use to explain ___?"

MP.7 Look for and make use of structure.
Students routinely seek patterns or structures to model and solve problems. For instance, students recognize patterns that exist in ratio tables recognizing both the additive and multiplicative properties. Students apply properties to generate equivalent expressions (i.e. $6 + 2n = 2(3 + n)$ by distributive property) and solve equations (i.e. $2c + 3 = 15$, $2c = 12$ by subtraction property of equality; $c = 6$ by division property of equality). Students compose and decompose two- and three-dimensional figures to solve real-world problems

involving area and volume. Teachers might ask, “What do you notice when ___?” or “What parts of the problem might you eliminate, simplify, or ___?”

MP.8 Look for and express regularity in repeated reasoning.

In grade 6, students use repeated reasoning to understand algorithms and make generalizations about patterns. During multiple opportunities to solve and model problems, they may notice that $\frac{a}{b} \div \frac{c}{d} = \frac{ad}{bc}$ and construct other examples and models that confirm their generalization. Students connect place value and their prior work with operations to understand algorithms to fluently divide multi-digit numbers and perform all operations with multi-digit decimals. Students informally begin to make connections between rates and representations showing the relationships between quantities. Students should be encouraged to answer questions such as, “How would we prove that ___?” or “How is this situation like and different from other situations?”

Ratios and Proportional Relationships – 6.RP

☐ **6.RP.A. Understand ratio and rate concepts and use ratio and rate reasoning to solve problems.**

1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.

   ***Examples**:*

   1) The ratio of wings to beaks in the bird house at the zoo was $2:1$, because for every two wings there was one beak.

   2) For every vote candidate A received, candidate C received nearly three votes, meaning that candidate C received approximately three times the number of votes as candidate A or candidate A received approximately $\frac{1}{3}$ of the number of votes as candidate C.

2. Understand the concept of a unit rate $\frac{a}{b}$ associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.

   ***Example**: This recipe has a ratio of three cups of flour to four cups of sugar, so there is $\frac{3}{4}$ cup of flour for each cup of sugar; We paid $\$75$ for 15 hamburgers, which is a rate of five dollars per hamburger.*

3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

   a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

   b. Solve unit rate problems including those involving unit pricing and constant speed.

   ***Example**: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*

   c. Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percent.

   ***Example**: 30% of a quantity means $\frac{30}{100}$ times the quantity.*

   d. Use ratio reasoning to convert measurement units within and between measurement systems; manipulate and transform units appropriately when multiplying or dividing quantities.

***Examples**:*

1) Malik is making a recipe, but he cannot find his measuring cups! He has, however, found a tablespoon. His cookbook says that 1 *cup =* 16 *tablespoons. Explain how he could use the tablespoon to measure out the following ingredients: two cups of flour,* $\frac{1}{2}$ *cup sunflower seed, and* $1\frac{1}{4}$ *cup of oatmeal.*

2) Jessica is building a doghouse out of wooden planks. If the instructions say the house is 30 inches long, how long would the doghouse be using metric measurements (1 *in =* 2.54 *cm)?*

The Number System – 6.NS

☐ **6.NS.A. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions. e.g., by using visual fraction models and equations to represent the problem.

***Examples**:*

1) Create a story context for $\frac{2}{3} \div \frac{3}{4}$ *and use a visual fraction model to show the quotient.*

2) Use the relationship between multiplication and division to explain that $\frac{2}{3} \div \frac{3}{4} = \frac{8}{9}$ *because* $\frac{3}{4}$ *of* $\frac{8}{9}$ *is* $\frac{2}{3}$*. In general,* $\frac{a}{b} \div \frac{c}{d} = \frac{ad}{bc}$*.*

3) After hiking $6\frac{1}{2}$ *miles along the Salmon River, Fred realized he had traveled* $\frac{3}{4}$ *of the way to his campsite. What is the total distance Fred will end up traveling during his hike?*

4) How many $\frac{3}{4}$ *cup servings are in* $\frac{2}{3}$ *of a cup of yogurt?*

5) How wide is a rectangular strip of land with length $\frac{3}{4}$ *mi and area* $\frac{1}{2}$ *square mi?*

○ **6.NS.B. Compute fluently with multi-digit numbers and find common factors and multiples.**

2. Fluently divide multi-digit numbers using the standard algorithm.

***Example:** What is the quotient of* 657 *and* 3 *using the standard algorithm?*

$$\begin{array}{r} 219 \\ 3\overline{)657} \\ -6 \\ \hline 05 \\ -3 \\ \hline 27 \\ -27 \\ \hline 0 \end{array}$$

3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

Example: *What is the difference of* 1.82 *and* 0.06 *using the standard algorithm?*

$$\begin{array}{r} 1.\,{}^{7}\cancel{8}\,{}^{1}2 \\ -\,0.\,0\;\;6 \\ \hline 1.\,7\;\;6 \end{array}$$

4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

Example: *Express* $36 + 8$ *as* $4(9 + 2)$.

☐ 6.NS.C. Apply and extend previous understandings of numbers to the system of rational numbers.

5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values. Use positive and negative numbers (including fractions and decimals) to represent quantities in real-world contexts, explaining the meaning of zero in each situation.

Examples*: Temperature above/below zero, elevation above/below sea level, credits/debits, and positive/negative electric charge*

6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

    a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.

    b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ

only by signs, the locations of the points are related by reflections across one or both axes.

c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

7. Understand ordering and absolute value of rational numbers.

a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.

***Examples**: Interpret $-3.7 > -7\frac{1}{2}$ as a statement that -3.7 is located to the right of $-7\frac{1}{2}$ on a number line oriented from left to right.*

b. Write, interpret, and explain statements of order for rational numbers in real-world contexts.

***Example**: Write $-3°C > -7°C$ to express the fact that $-3°C$ is warmer than $-7°$ C.*

c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.

***Example**: For an account balance of -30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars.*

d. Distinguish comparisons of absolute value from statements about order.

***Example**: Recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.*

8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

***Examples**: Samuel draws a coordinate plane on a map of his neighborhood. He found that the distance between two consecutive whole number points is one block. His house is located at $(-4, 6)$, and his school is located at $(-4, -3)$. How many blocks are between Samuel's house and school?*

Expressions and Equations – 6.EE

☐ **6.EE.A. Apply and extend previous understandings of arithmetic to algebraic expressions.**

1. Write and evaluate numerical expressions involving whole-number exponents.

2. Write, read, and evaluate expressions in which letters stand for numbers.

    a. Write expressions that record operations with numbers and with letters standing for numbers.

Example: *Express the calculation "Subtract y from 5" as $5 - y$.*

    b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.

Example: *Describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.*

    c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

Examples:

1) Use the formulas $V = s^3$ and $A = 6s^2$ to find the volume (V) and surface area (A) of a cube with sides of length $s = \frac{1}{2}$.

2) The formula for finding the perimeter of a rectangle is $P = 2l + 2w$. Find the perimeter of a rug that measures 7.5 ft by 9.5 ft.

3. Apply the properties of operations to generate equivalent expressions.

Examples:

1) Apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$.

2) Apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$.

3) Apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.

4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).

Example: *The expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of the numeric value of y.*

☐ **6.EE.B. Reason about and solve one-variable equations and inequalities.**

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or depending on the purpose at hand, any number in a specified set.
7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers.
8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem.
    a. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions.
    b. Represent solutions of such inequalities on number line diagrams.

☐ 6.EE.C. Represent and analyze quantitative relationships between two variables.

9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write equations to represent the relationship between the two quantities. Analyze the relationship using graphs and tables and relate these to the equations. Include an understanding of independent and dependent variables.

Examples:

1) In a problem involving mixing water (W) and orange concentrate (C) to make a consistent flavor of orange juice, list and graph ordered pairs of cups of water and orange concentrate, and write the equations (e.g., $C = \frac{1}{2} \cdot W$ or $W = 2 \cdot C$) to represent the relationship between water (W) and orange concentrate (C).

2) When examining the relationship between time and the growth of a plant. Time tends to be thought of as the independent variable and the height of the plant tends to be thought of as the dependent variable.

Geometry – 6.G

△ 6.G.A. Solve real-world and mathematical problems involving area, surface area, and volume.

1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = Bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side and area by joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
4. Represent three-dimensional figures using nets made up of rectangles and triangles and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

***Example:** Explain how you could find the surface area of a rectangular prism given a three-dimensional representation (Fig. A) or a net (Fig. B).*

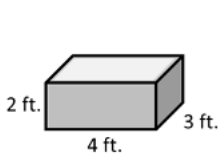


Fig. A

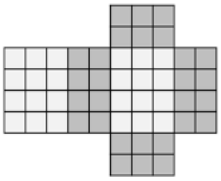


Fig. B

Statistics and Probability – 6.SP

○ 6.SP.A. Develop understanding of statistical variability.

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.

   Example: *"How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*

2. Understand that a set of data collected to answer a statistical question has a distribution, which can be described by its center (median and/or mean), spread (range, interquartile range, and/or mean absolute deviation), and overall shape. The focus of mean absolute deviation (MAD) is visualizing deviations from the mean as a measure of variability as opposed to a focus on calculating MAD.
3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

○ 6.SP.B. Summarize and describe distributions.

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
   a. Reporting the number of observations.
   b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.
   c. Giving quantitative measures of center (median, and/or mean) and variability (range, interquartile range, and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Examples: *Bobbie is a sixth grader who competes in the* 100 *meter hurdles. In eight track meets during the season, she recorded the following times (to the nearest one hundredth of a second).*

$18.11, 31.23, 17.99, 18.25, 17.50, 35.55, 17.44, 17.85$

Is the mean or the median a better representation of Bobbie's hurdle time? Justify your answer. (From Illustrative Mathematics)

SEVENTH GRADE

Introduction

In seventh grade, instruction is focused on the following areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

1. Students extend their understanding of ratios and rates and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios, rates, and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line (constant of proportionality). They distinguish proportional relationships from other relationships.
2. Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions, equations, and inequalities in one variable. Students also solve real-world and multistep equations and inequalities.
3. Students continue their work with area from grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in grade 8, they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and

mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

4. Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences. In grade 7 the concept of probability is introduced, and it is explored in later grades.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Seventh Grade Overview

Ratios and Proportional Relationships

☐ A. Analyze proportional relationships and use them to solve real-world and mathematical problems.

The Number System

☐ A. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Expressions and Equations

☐ A. Use properties of operations to generate equivalent expressions.
☐ B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Geometry

○ A. Draw, construct and describe geometrical figures and describe the relationships between them.
○ B. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Statistics and Probability

△ A. Use random sampling to draw inferences about a population.
○ B. Draw informal comparative inferences about two populations.
△ C. Investigate chance processes and develop, use, and evaluate probability models.

Mastery Standards

Mastery standards describe those standards that ask students to be able to perform mathematical calculations accurately, efficiently, and flexibly. For seventh grade this standard is:

- 7.NS.A.3 Solve real-world and mathematical problems involving the four operations with integers and other rational numbers.

Seventh Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In seventh grade, students solve problems involving ratios and rates and discuss how they solved them. Students solve real-world problems through the application of algebraic and geometric concepts. Students seek the meaning of a problem and look for efficient ways to represent and solve it. They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?". When students compare arithmetic and algebraic solutions to the same problem, they identify correspondences between different approaches.

MP.2 Reason abstractly and quantitatively.
In seventh grade, students represent a wide variety of real-world contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities. Students contextualize to understand the meaning of the number or variable as related to the problem and decontextualize to manipulate symbolic representations by applying properties of operations.

MP.3 Construct viable arguments and critique the reasoning of others.
In seventh grade, students construct arguments using verbal or written explanations accompanied by expressions, equations, inequalities, models, and graphs, tables, and other data displays (i.e. box plots, dot plots, histograms, etc.). They further refine their mathematical communication skills through mathematical discussions in which they critically evaluate their own thinking and the thinking of other students. For example, as students notice when geometric conditions determine a unique triangle, more than one triangle, or no triangle, they have an opportunity to construct viable arguments and critique the reasoning of others. Students should be encouraged to answer questions such as these: "How did you get that?", "Why is that true?" and "Does that always work?". They explain their thinking to others and respond to others' thinking.

MP.4 Model with mathematics.
In seventh grade, students model problem situations visually, symbolically, graphically, in tables, and contextually. Students form expressions, equations, or inequalities from real-world contexts and connect symbolic and graphical representations. Students use experiments or

simulations to generate data sets and create probability models. Proportional relationships present opportunities for modeling. For example, for modeling purposes, the number of people who live in an apartment building might be taken as proportional to the number of stories in the building. Students should be encouraged to answer questions such as "What are some ways to represent the quantities?" or "How might it help to create a table, chart, or graph?"

MP.5 Use appropriate tools strategically.
Students consider available tools (including estimation and technology) when solving a mathematical problem and decide when certain tools might be helpful. For instance, students in seventh grade may decide to represent similar data sets using dot plots with the same scale to visually compare the center and variability of the data. Students might use physical objects or applets to generate probability data and use graphing calculators or spreadsheets to manage and represent data in different forms. Teachers might ask, "What approach are you considering?" or "Why was it helpful to use ___?"

MP.6 Attend to precision.
In seventh grade, students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students define variables, specify units of measure, and label axes accurately. Students use appropriate terminology when referring to rates, ratios, probability models, geometric figures, data displays, and components of expressions, equations, or inequalities. Teachers might ask, "What mathematical language, definitions, or properties can you use to explain ___?

MP.7 Look for and make use of structure.
Students routinely seek patterns or structures to model and solve problems. For instance, students recognize patterns that exist in ratio tables making connections between the constant of proportionality in a table with the slope of a graph. Students apply properties to generate equivalent expressions (i.e. $6 + 2n = 2(3 + n)$ by distributive property) and solve equations (i.e. $2c + 3 = 15$, $2c = 12$ by subtraction property of equality; $c = 6$ by division property of equality). Students compose and decompose two- and three-dimensional figures to solve real world problems involving scale drawings, surface area, and volume. Students examine tree diagrams or systematic lists to determine the sample space for compound events and verify that they have listed all possibilities. Solving an equation such as $8 = 4\left(n - \frac{1}{2}\right)$ is easier if students can see and make use of structure, temporarily viewing $\left(n - \frac{1}{2}\right)$ as a single entity.

MP.8 Look for and express regularity in repeated reasoning.

In seventh grade, students use repeated reasoning to understand algorithms and make generalizations about patterns. During multiple opportunities to solve and model problems, they may notice that $\frac{a}{b} = \frac{c}{d}$ if and only if $ad = bc$ and construct other examples and models that confirm their generalization. Students should be encouraged to answer questions such as “How would we prove that ___?” or “How is this situation both similar to and different from other situations using these operations?”

Ratios and Proportional Relationships – 7.RP

☐ **7.RP.A. Analyze proportional relationships and use them to solve real-world and mathematical problems.**

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

   Example: *For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour.*

2. Recognize and represent proportional relationships between quantities.

   a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

   b. Identify the constant of proportionality in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. Recognize the constant of proportionality as both the unit rate and as the multiplicative comparison between two quantities.

   c. Represent proportional relationships by equations.

   Example*: If total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.*

   d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

3. Use proportional relationships to solve multi-step ratio, rate, and percent problems.

   Example*: Simple interest, tax, price increases and discounts, gratuities and commissions, fees, percent increase and decrease, percent error*

The Number System – 7.NS

☐ **7.NS.A. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.**

1. Apply and extend previous understandings of addition and subtraction to add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

a. Describe situations in which opposite quantities combine to make zero.

***Example**: If you open a new bank account with a deposit of $\$30.52$ and then withdraw $\$30.52$, you are left with a $\$0$ balance.*

b. Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite are additive inverses because they have a sum of 0 (e.g., $12.5 + (-12.5) = 0$). Interpret sums of rational numbers by describing real-world contexts.

c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

d. Apply properties of operations as strategies to add and subtract rational numbers.

***Example**:* $\frac{1}{4} - 5 + \frac{3}{4} + 7 = \left(\frac{1}{4} + \frac{3}{4}\right) + \big((-5) + 5\big) + 2$

2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide integers and other rational numbers.

a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $\left(-\frac{1}{2}\right)(-1) = \frac{1}{2}$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-\left(\frac{p}{q}\right) = \frac{-(p)}{q} = \frac{p}{-(q)}$. Interpret quotients of rational numbers by describing real- world contexts. Interpret quotients of rational numbers by describing real-world contexts.

c. Apply properties of operations as strategies to multiply and divide rational numbers.

***Example**:* $-4(0.25 - 1) = \big((-4) \times 0.25\big) + \big((-4) \times (-1)\big) = -1 + 4 = 3$

d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates or eventually repeats.

3. Solve real-world and mathematical problems involving the four operations with integers and other rational numbers.

***Example**: A water well drilling rig has dug to a height of -60 feet after one full day of continuous use. If the rig has been running constantly and is currently at a height of -143.6 feet, for how long has the rig been running? (Modified from Illustrative Mathematics)*

Expressions and Equations – 7.EE

☐ 7.EE.A. Use properties of operations to generate equivalent expressions.

1. Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients.

***Example**: $4x + 2 = 2(2x + 1)$ and $-3\left(x - \frac{5}{3}\right) = -3x + 5$*

2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.

***Examples**:*

1) $a + 0.05a = 1.05$ means that "increase by 5%" is the same as "multiply by 1.05."

2) A shirt at a clothing store is on sale for 20% off the regular price, p. The discount can be expressed as $0.2p$. The new price for the shirt can be expressed as $p - 0.2p$ or $0.8p$.

☐ 7.EE.B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (integers, fractions, and decimals). Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

***Examples**:*

1) If a woman making $\$25$ per hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or $\$2.50$, for a new salary of $\$27.50$.

2) If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

    a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.

***Example**: The perimeter of a rectangle is 54 cm. Its width is 6 cm. What is its length?*

    b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

***Example**: As a salesperson, you are paid $\$50$ per week plus $\$3$ per sale. This week you want your pay to be at least $\$100$. Write an inequality for the number of sales you need to make, and describe the solutions.*

Geometry – 7.G

○ 7.G.A. Draw, construct, and describe geometrical figures and describe the relationships between them.

1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

***Example**: Mariko has an $\frac{1}{4}$ inch scale-drawing ($\frac{1}{4}$ inch=1 foot) of the floor plan of her house. On the floor plan, the scaled dimensions of her rectangular living room are $4\frac{1}{2}$ inches by $8\frac{3}{4}$ inches. What is the area of her living room in square feet?*

2. Draw (freehand, with ruler and protractor, and with technology) two-dimensional geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine unique triangles, more than one triangle, or no triangle.

***Example**: A triangle with side lengths 3 cm, 4 cm, and 5 cm exists. Use a compass and ruler to draw a triangle with these side lengths. (Modified from Engage NY M6L9)*

3. Describe the shape of the two-dimensional face of the figure that results from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

○ 7.G.B. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

4. Understand the attributes and measurements of circles.
    a. Know that a circle is a two-dimensional shape created by connecting all of the points equidistant from a fixed point called the center of the circle.
    b. Develop an understanding of circle attributes including radius, diameter, circumference, and area and investigate the relationships between each.
    c. Informally derive and know the formulas for the area and circumference of a circle and use them to solve problems.
5. Use facts about supplementary, complementary, vertical, and adjacent angles to write equations and use them to solve for an unknown angle in a figure.

    ***Example**: The ratio of the measurement of an angle to its complement is* $1:2$*. Create and solve an equation to find the measurement of the angle and its complement. (Modified from Engage NY M5L1)*
6. Generalize strategies for finding area, volume, and surface areas of two- and three-dimensional objects composed of triangles, quadrilateral, polygons, cubes, and right prims. Solve real-world and mathematical problems in each of these areas.

    ***Example**: A playground is being updated. Sand underneath a swing needs be at least* 15 *inches deep. The sand under the swings is currently only* 12 *inches deep. The rectangular area under the swing set measures* 9 *feet by* 12 *feet. How much additional sand will be needed to meet the requirement? (Modified from Illustrative Mathematics)*

Statistics and Probability – 7.SP

△ 7.SP.A. Use random sampling to draw inferences about a population.

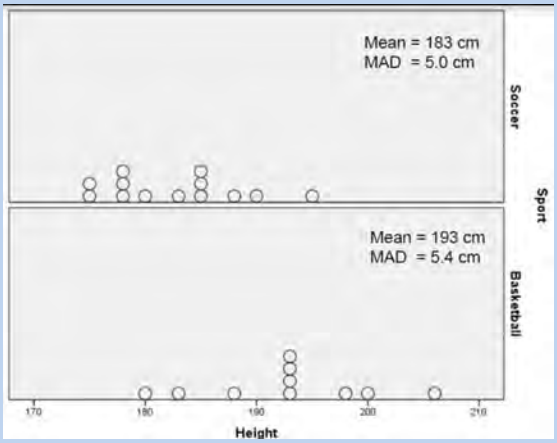
1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
2. Use data from a random sample about an unknown characteristic of a population. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions, i.e., generate a sampling distribution.

    ***Example**: Estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*

○ 7.SP.B. Draw informal comparative inferences about two populations.

3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.

***Example**: The difference in the mean height between players on the basketball team versus the soccer team is* 10 *cm. This difference in the means -* 10 *cm - is about twice the variability (mean absolute deviation) on either team (i.e., mean divided by the MAD). On a dot plot, the separation between the two distributions of heights is noticeable.*



4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.

***Example**: Decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

△ 7.SP.C. Investigate chance processes and develop, use, and evaluate probability models.

5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. A probability near 0 indicates an unlikely event, a probability around $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

***Example**: The likelihood of drawing a heart from a deck of cards is* 0.25*. The likelihood of flipping a coin and landing on heads is* 0.5*. It is more likely that a flipped coin will land on heads than it is to choose a heart from a deck of cards. (*0.5 *is greater than* 0.25*).*

6. Approximate the (theoretical) probability of a chance event by collecting data and observing its long-run relative frequency (experimental probability). Predict the approximate relative frequency given the (theoretical) probability.

***Examples**:*

1) When drawing chips out of a bag containing an unknown number of red and white chips, estimate the probability of selecting a particular chip color given 50 *draws.*

2) When rolling a number cube 600 *times, predict that a* 3 *or* 6 *would be rolled roughly approximately* 200 *times, but probably not exactly* 200 *times.*

7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.

    a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.

Example*: If a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*

    b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.

Example*: Find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*

8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

    a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.

    b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.

    c. Design and use a simulation to generate frequencies for compound events.

Example*: Use random digits as a simulation tool to approximate the answer to the question: If* 40% *of donors have type A blood, what is the probability that it will take at least* 4 *donors to find one with type A blood?*

EIGHTH GRADE

Introduction

In eighth grade, instruction is focused on the following areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem; and (4) defining the properties of integer exponents and irrational numbers.

1. Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($\frac{y}{x} = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \times A$. Students also use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom). At this grade, fitting the model and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question and to interpret components of the relationship (such as slope and y-intercept) in terms of the situation.
2. Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.
3. Students are introduced to the concept of a function as a rule that assigns to each input exactly one output. They understand that functions describe situations where one quantity determines another. Students can define, evaluate, and compare functions in multiple forms (pictures, tables, graphs, equations, etc.).

4. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem holds, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.
5. Students use their understanding of multiplication and apply properties to develop an understanding of radicals and integer exponents. Students use and perform operations with numbers expressed in scientific notation. They use their knowledge of rational numbers to develop an understanding of irrational numbers.

Focus in the Standards

Not all content in a given grade is emphasized equally in the standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Idaho Standards for Mathematical Practice. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. Students should spend the large majority of their time on the major work of the grade (□). Supporting work (△) and, where appropriate, additional work (○) can engage students in the major work of the grade.

Eighth Grade Overview

The Number System

△ A. Know that there are numbers that are not rational, and approximate them by rational numbers.

Expressions and Equations

☐ A. Work with radicals and integer exponents.
☐ B. Understand the connections between proportional relationships, lines, and linear equations.
☐ C. Analyze and solve linear equations and pairs of simultaneous linear equations.

Functions

☐ A. Define, evaluate, and compare functions.
☐ B. Use functions to model relationships between quantities.

Geometry

☐ A. Understand congruence and similarity using physical models, transparencies, or geometry software.
☐ B. Understand and apply the Pythagorean Theorem.
○ C. Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

Statistics and Probability

△ A. Investigate patterns of association in bivariate data.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Eighth Grade Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
In eighth grade, students solve real-world problems through the application of algebraic and geometric concepts. Students seek the meaning of a problem and look for efficient ways to represent and solve it. They may check their thinking by asking themselves, "What is the most efficient way to solve the problem?", "Does this make sense?", and "Can I solve the problem in a different way?"

MP.2 Reason abstractly and quantitatively.
In eighth grade, students represent a wide variety of real-world contexts through the use of real numbers and variables in mathematical expressions, equations, and inequalities. They examine patterns in data and assess the degree of linearity of functions. Students contextualize to understand the meaning of the number(s) or variable(s) as related to the problem and decontextualize to manipulate symbolic representations by applying properties of operations.

MP.3 Construct viable arguments and critique the reasoning of others.
In eighth grade, students construct arguments using verbal or written explanations accompanied by expressions, equations, inequalities, models, and graphs, tables, and other data displays (i.e. box plots, dot plots, histograms, etc.). They further refine their mathematical communication skills through mathematical discussions in which they critically evaluate their own thinking and the thinking of other students. They pose questions like "How did you get that?", "Why is that true?" and "Does that always work?". They explain their thinking to others and respond to others' thinking.

MP.4 Model with mathematics.
In eighth grade, students model problem situations symbolically, graphically, in tables, and contextually. Working with the new concept of a function, students learn that relationships between variable quantities in the real-world often satisfy a dependent relationship, in that one quantity determines the value of another. Students form expressions, equations, or inequalities from real-world contexts and connect symbolic and graphical representations. Students use scatterplots to represent data and describe associations between variables. Students need many opportunities to explain the connections between the

different representations. They should be able to use all of these representations as appropriate to a problem context. Students should be encouraged to answer questions such as "What are some ways to represent the quantities?" or "How might it help to create a table, chart, graph, or ___?"

MP.5 Use appropriate tools strategically.
Students consider available tools (including estimation and technology) when solving a mathematical problem and decide when certain tools might be helpful. For instance, students in grade 8 may translate a set of data given in tabular form to a graphical representation to compare it to another data set. Students might draw pictures, use applets, or write equations to show the relationship between the angles created by a transversal that intersects parallel lines. Teachers might ask, "What approach are you considering?" or "Why was it helpful to use ___?"

MP.6 Attend to precision.
In eighth grade, students continue to refine their mathematical communication skills by using clear and precise language in their discussions with others and in their own reasoning. Students use appropriate terminology when referring to the number system, functions, geometric figures, and data displays. Teachers might ask, "What mathematical language, definitions, or properties can you use to explain ____?"

MP.7 Look for and make use of structure.
Students routinely seek patterns or structures to model and solve problems. In eighth grade, students apply properties to generate equivalent expressions and solve equations. Students examine patterns in tables and graphs to generate equations and describe relationships. Additionally, students experimentally verify the effects of transformations and describe them in terms of congruence and similarity.

MP.8 Look for and express regularity in repeated reasoning.
In grade eight, students use repeated reasoning to understand the slope formula and to make sense of rational and irrational numbers. Through multiple opportunities to model linear relationships, they notice that the slope of the graph of the linear relationship and the rate of change of the associated function are the same. For example, as students repeatedly check whether points are on the line with a slope of 3 that goes through the point $(1, 2)$, they might abstract the equation of the line in the form $\frac{y-2}{x-1} = 3$. Students should be encouraged to answer questions such as "How would we prove that ___?" or "How is this situation like and different from other situations using these operations?"

The Number System – 8.NS

△ 8.NS.A. Know that there are numbers that are not rational, and approximate them by rational numbers.

1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions.

***Examples**:*

1) Estimate the value of $\sqrt{2}$.

2) By truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.

Expressions and Equations – 8.EE

☐ 8.EE.A. Work with radicals and integer exponents.

1. Know and apply the properties of integer exponents to generate equivalent numerical expressions.

***Example**:* $3^2 \times 3^{-5} = 3^{-3} = \left(\frac{1}{3}\right)^3 = \frac{1}{27}$

2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
3. Use numbers expressed in the form of a single digit multiplied by an integer power of 10 (scientific notation) to estimate very large or very small quantities, and express how many times as much one is than the other.

***Example**: Estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.*

4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology.

***Example**: Millimeters per year for seafloor spreading*

☐ **8.EE.B. Understand the connections between proportional relationships, lines, and linear equations.**

5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

***Example**: Compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.*

6. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane. Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.

☐ **8.EE.C. Analyze and solve linear equations and pairs of simultaneous linear equations.**

7. Solve linear equations in one variable.

    a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ (1 solution), $a = a$ (infinitely many solutions), or $a = b$ (no solution) results (where a and b are different numbers).

***Example**: $-3x - 2 = 7x + 2 - 10x$ has no solution because the equation simplifies to $-2 = 2$ which is false for any value of x.*

    b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

8. Analyze and solve pairs of simultaneous linear equations.

    a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs because points of intersection satisfy both equations simultaneously.

    b. Solve systems of two linear equations in two variables algebraically (including but not limited to using substitution and elimination strategies), and estimate solutions by graphing the equations; solve simple cases by inspection.

***Example**: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.*

c. Solve real-world and mathematical problems leading to two linear equations in two variables.

***Examples**:*

1) Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.

2) Your family decided to rent a snowmobile at Island Park. Company A charges $\$125$ *for the first hour plus* $\$37.50$ *for each additional hour. Company B charges a* $\$50$ *one-time rental fee plus* $\$45$ *per hour. Which company would cost less for you to rent for* 3 *hours?* 5 *hours?* 8 *hours?*

Functions – 8.F

☐ **8.F.A. Define, evaluate, and compare functions.**

1. Understand that a function is a rule that assign to each input exactly one output and that the graph of a function is the set of ordered pairs consisting of an input and the corresponding output.
2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

***Example**: Given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*

3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.

***Example**: The function* $A = s^2$ *giving the area of a square as a function of its side length is not linear because its graph contains the points* $(1, 1)$, $(2, 4)$ *and* $(3, 9)$, *which are not on a straight line.*

☐ **8.F.B. Use functions to model relationships between quantities.**

4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
5. Describe qualitatively the functional relationship between two quantities by analyzing and sketching a graph (e.g., where the function is increasing or decreasing, linear or nonlinear).

Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Geometry – 8.G

☐ 8.G.A. Understand congruence and similarity using physical models, transparencies, or geometry software.

1. Verify experimentally the properties of rotations, reflections, and translations:
    a. Lines are transformed to lines, and line segments to line segments of the same length.
    b. Angles are transformed to angles of the same measure.
    c. Parallel lines are transformed to parallel lines.
2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations.

    ***Example**: Given two congruent figures, describe a sequence that exhibits the congruence between them.*

3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

    ***Example**: The image of Triangle ABC with $A = (-3, 0)$, $B = (-3, -2)$ and $C = (4, -2)$ would have coordinates $A' = (-3 - 3, 0 + 2) = (-6, 2)$, $B' = (-3 - 3, -2 + 2) = (-6,0)$, and $C' = (4 - 3, -2 + 2) = (1,0)$ following a translation 3 units to the left and 2 units up.*

4. Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations.

    ***Example**: Given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.*

5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

    ***Example**: Arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*

☐ 8.G.B. Understand and apply the Pythagorean Theorem.

6. Analyze and justify the Pythagorean Theorem and its converse using pictures, diagrams, narratives, or models.

7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

○ 8.G.C. Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

9. Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

Statistics and Probability – 8.SP

△ 8.SP.A. Investigate patterns of association in bivariate data.

1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
3. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.

   ***Example**: In a linear model for a biology experiment, interpret a slope of* 1.5 *cm/hr as meaning that an additional hour of sunlight each day is associated with an additional* 1.5 *cm in mature plant height.*

4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.

   ***Example**: Collect data from students in your school on grade level (sixth, seventh, and eighth) and whether or not they have assigned chores at home (yes, no). Is there evidence that a particular grade level tends to have chores? (In this example the two variables are grade level and chores.)*

GRADES 9-12 – CONTENT STANDARDS BY CONCEPTUAL CATEGORIES

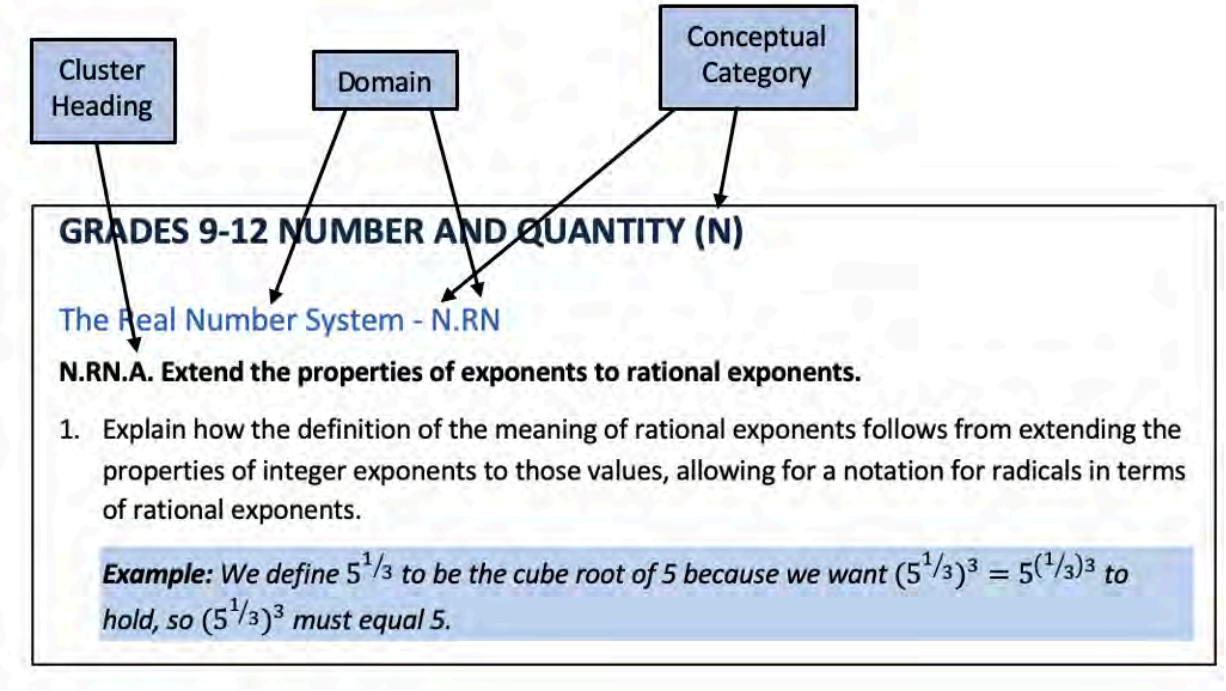
Content Standards by Conceptual Category Identifiers/Coding

The content standards presented by conceptual categories are built on mathematical learning progressions informed by research on cognitive development and by the logical structure of mathematics. These progressions provide the foundation for the grades 9–12 content standards. In this section, the standards are organized by conceptual categories.

The Conceptual Categories are:

- **Number and Quantity (N)**
- **Algebra (A)**
- **Functions (F)**
- **Modeling (★)**
- **Geometry (G)**
- **Statistics and Probability (S)**

The code for each grade 9-12 conceptual category standard begins with the identifier for the conceptual category code (N, A, F, G, S), followed by the domain code, and the standard number, as shown below.



The standard highlighted above is identified as N.RN.A.1, identifying it as a standard in the Number and Quantity conceptual category (N.) within that category's Real Number System

domain (RN.), and as the first standard in that domain and in that cluster (A.1). All of the standards in this Framework use a common coding system.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

9-12 Standards for Mathematical Practice

Mathematical Practices

The Standards for Mathematical Practice complement the content standards so that students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout the K-12 education years.

MP.1 Make sense of problems and persevere in solving them.
Grades 9-12 students should work to understand what a problem is asking, choose a strategy to find a solution, and check the answer to make sure it makes sense. When unable to immediately identify a strategy that will work or when their selected strategy does not work as intended, they must learn to persist in trying a range of potential approaches, looking for how the current problem may relate to previous work they have done. Solving problems is the essence of mathematical work.

MP.2 Reason abstractly and quantitatively.
Grades 9-12 students need to be able to abstract a given situation and represent it symbolically. Students should also make sense of quantities and their relationships in problem situations. Particular attention to units associated with quantities is essential to understanding how the quantities are related. For example, a linear function relating the distance traveled to time needs to specify the units, such as feet and seconds. The slope of that function then gives the rate of change (velocity) given in feet per second. Students should consistently consider the reasonableness of their answer within the context of the problem.

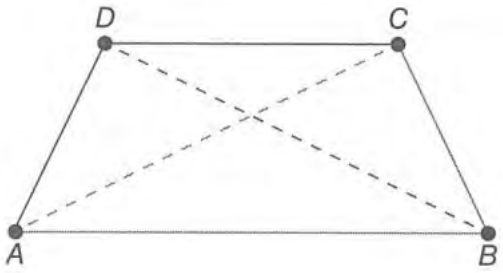
MP.3 Construct viable arguments and critique the reasoning of others.
Grades 9-12 students are increasingly expected to make formal mathematical arguments based on stated assumptions or proper ties, well-defined definitions, and previously established results. Students should be expected to make formal and informal arguments as they progress through the grades 9-12. Students should listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments. Moreover, experience with critiquing the arguments produced by classmates is essential to their mathematical development. Reasoning undergirds deep conceptual understanding.

MP.4 Model with mathematics.
Grades 9-12 students need to learn to use mathematics to address problems in everyday life, society, and the workplace. This should occur at a range of levels, from more specific application of mathematical ideas to full-scale mathematical modeling. Routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

MP.5 Use appropriate tools strategically.
Grades 9-12 students need to be comfortable in using applicable tools when solving a mathematics problem. A range of technological tools should be available, including graphing calculators and software, computer algebra systems, spreadsheets, dynamic geometry software, and statistical software. Physical manipulatives, such as algebra tiles and geometric models, are useful for students and should be incorporated into the 9-12 classroom. Students should be comfortable using paper-and-pencil representations, such as tables, graphs, and other visual representations.

MP.6 Attend to precision.
Grades 9-12 students need to learn to communicate effectively with others, using precise vocabulary. They should use symbols to represent their thinking, clearly describing the meaning of those symbols. By the time students reach grades 9-12 they have learned to examine claims and make explicit use of definitions. They also need to be able to express the precision of the answers they give in real-world contexts, based on the accuracy of the given information.

MP.7 Look for and make use of structure.
Grades 9-12 students examine mathematical situations in order to detect a pattern or structure that may provide further insight. Students use patterns and structure to create equivalent expressions, factor and solve equations, compose functions, and transform figures. For example, drawing an auxiliary line in a geometric figure may help them to better understand the structure behind a situation. Drawing in the diagonals of an isosceles trapezoid creates two overlapping triangles $\Delta ABC$and ΔBCA as shown in the following figure; if we can demonstrate their congruence, other properties of the figure will become apparent.



MP.8 Look for and express regularity in repeated reasoning.
Grades 9-12 students notice patterns in calculations that are performed in order to form generalizations and efficient strategies for calculation. For example, grades 9-12 students may expand on their understanding of right triangles to explore the relationship between the legs and hypotenuse of a 45-45-90 triangle to discover that the hypotenuse is $\sqrt{2}$ times the leg.

GRADES 9-12 NUMBER AND QUANTITY (N)

Introduction

Numbers and Number Systems

During the years from kindergarten to eighth grade, students must repeatedly extend their conception of number. At first, "number" means "counting number": 1, 2, 3…. Soon after that, 0 is used to represent "none" and the whole numbers are formed by the counting numbers together with zero. The next extension is fractions. At first, fractions are barely numbers and tied strongly to pictorial representations. Yet by the time students understand division of fractions, they have a strong concept of fractions as numbers and have connected them, via their decimal representations, with the Base Ten system used to represent the whole numbers. During middle school, fractions are augmented by negative fractions to form the rational numbers. In eighth grade, students extend this system once more, augmenting the rational numbers with the irrational numbers to form the real numbers. In high school, students will be exposed to yet another extension of number, when the real numbers are augmented by the imaginary numbers to form the complex numbers.

With each extension of number, the meanings of addition, subtraction, multiplication, and division are extended. In each new number system—integers, rational numbers, real numbers, and complex numbers—the four operations stay the same in two important ways: They have the Commutative, Associative, and Distributive properties and their new meanings are consistent with their previous meanings.

Extending the properties of whole-number exponents leads to new and productive notation. For example, properties of whole-number exponents suggest that $(5^{1/3})^3$should be $5^{(1/3)3} = 5^1 = 5$ and that $5^{1/3}$ should be the cube root of 5.

Calculators, spreadsheets, and computer algebra systems can provide ways for students to become better acquainted with these new number systems and their notation. They can be used to generate data for numerical experiments, to help understand the workings of matrix, vector, and complex number algebra, and to experiment with non-integer exponents.

Quantities

In real-world problems, the answers are usually not numbers but quantities: numbers with units, which involve measurement. In their work in measurement up through grade 8, students primarily measure commonly used attributes such as length, area, and volume. In high school, students encounter a wider variety of units in modeling, e.g., acceleration, currency conversions, derived quantities such as person-hours and heating degree-days, social science

rates such as per-capita income, and rates in everyday life such as points scored per game or batting averages. They also encounter novel situations in which they themselves must conceive the attributes of interest. For example, to find a good measure of overall highway safety, they might propose measures such as fatalities per year, fatalities per year per driver, or fatalities per vehicle-mile traveled. Such a conceptual process is sometimes called quantification. Quantification is important for science, as when surface area suddenly "stands out" as an important variable in evaporation. Quantification is also important for companies, which must conceptualize relevant attributes and create or choose suitable measures for them.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Number and Quantity Overview

The Real Number System

A. Extend the properties of exponents to rational exponents.

B. Use properties of rational and irrational numbers.

Quantities

A. Reason quantitatively and use units to solve problems.

The Complex Number System

A. Perform arithmetic operations with complex numbers.

B. Represent complex numbers and their operations on the complex plane.

C. Use complex numbers in polynomial identities and equations.

Vector and Matrix Quantities

A. Represent and model with vector quantities.

B. Perform operations on vectors.

C. Perform operations on matrices and use matrices in applications.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The Real Number System - N.RN

N.RN.A. Extend the properties of exponents to rational exponents.

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.

   Example: *We define* $5^{1/3}$ *to be the cube root of 5 because we want* $(5^{1/3})^3 = 5^{(1/3)3}$ *to hold, so* $(5^{1/3})^3$ *must equal 5.*

2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

   Example*: Solving the volume of a cube formula,* $V = s^3$*, for s would involve rewriting the solution as either* $s = \sqrt[3]{V}$ *or* $s = V^{1/3}$ *.*

N.RN.B. Use properties of rational and irrational numbers.

3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

Quantities – N.Q

N.Q.A. Reason quantitatively and use units to solve problems.

1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.★
2. Define appropriate quantities for the purpose of descriptive modeling.★
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.★

The Complex Number System – N.CN

N.CN.A. Perform arithmetic operations with complex numbers.

1. Know there is a complex number i such that $i^2 = -1$, and show that every complex number has the form $a + bi$ with a and b real.

   Example*: Express the radical,* $\pm\sqrt{-24}$ *, using the imaginary unit,* i*, in simplified form. Expressing the radical using* i *in simplified form results in the expression* $\pm 2i\sqrt{6}$ *.*

2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
3. (+) Find the conjugate of a complex number; use conjugates to find absolute value and quotients of complex numbers.

N.CN.B. Represent complex numbers and their operations on the complex plane.

4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.
5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation.

   ***Example**: For example, $(1 + i\sqrt{3})^3 = 8$ because $\left(-1 + i\sqrt{3}\right)$ has a radius of 2 and argument $120°$.*
6. (+) Calculate the distance between numbers in the complex plane as the absolute value of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

N.CN.C. Use complex numbers in polynomial identities and equations.

7. Solve quadratic equations with real coefficients that have complex solutions.

   ***Example**: Find the complex solutions of the quadratic equation $5x^2 + 3x + 1 = 0$, with the solutions of $x = \frac{3}{10} + \frac{3}{5}i$ and $x = \frac{3}{10} - \frac{3}{5}i$.*
8. (+) Extend polynomial identities to the complex numbers.

   ***Example**: Rewrite $x^2 + 4$ as $(x + 2i)\,(x - 2i)$.*
9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

Vector and Matrix Quantities – N.VM

N.VM.A. Represent and model with vector quantities.

1. (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., **v**, |**v**|, ||**v**||, v).
2. (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.

3. (+) Solve problems involving velocity and other quantities that can be represented by vectors.

N.VM.B. Perform operations on vectors.

4. (+) Add and subtract vectors.

    a. (+) Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.

    b. (+) Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.

    c. (+) Demonstrate understanding of vector subtraction **v** – **w** as **v** + (–**w**), where –**w** is the additive inverse of **w**, with the same magnitude as **w** and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.

5. (+) Multiply a vector by a scalar.

    a. (+) Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(vx\,, vy) = (cvx\,, cvy)$.

    b. (+) Compute the magnitude of a scalar multiple c**v** using ||c**v**|| = |c|**v**. Compute the direction of c**v** knowing that when |c|**v** ≠ 0, the direction of c**v** is either along **v** (for $c > 0$) or against **v** (for $c < 0$).

N.VM.C. Perform operations on matrices and use matrices in applications.

6. (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.

7. (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.

8. (+) Add, subtract, and multiply matrices of appropriate dimensions.

9. (+) Demonstrate understanding that, unlike multiplication of numbers, matrix multiplication for square matrices is not a Commutative operation, but still satisfies the Associative and Distributive properties.

10. (+) Demonstrate understanding that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The

determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.

11. (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.
12. (+) Work with 2×2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.

GRADES 9-12 ALGEBRA (A)

Introduction

Expressions

An expression is a record of a computation with numbers, symbols that represent numbers, arithmetic operations, exponentiation, and, at more advanced levels, the operation of evaluating a function. Conventions about the use of parentheses and the Order of Operations assure that each expression is unambiguous. Creating an expression that describes a computation involving a general quantity requires the ability to express the computation in general terms, abstracting from specific instances.

Reading an expression with comprehension involves analysis of its underlying structure. This may suggest a different but equivalent way of writing the expression that exhibits some different aspect of its meaning. For example, $p + 0.05p$ can be interpreted as the addition of a 5% tax to a price p. Rewriting $p + 0.05p$ as $1.05p$ shows that adding a tax is the same as multiplying the price by a constant factor.

Algebraic manipulations are governed by the properties of operations and exponents and the conventions of algebraic notation. At times, an expression is the result of applying operations to simpler expressions. For example, $p + 0.05p$ is the sum of the simpler expressions p and $0.05p$. Viewing an expression as the result of operation on simpler expressions can sometimes clarify its underlying structure. A spreadsheet or a computer algebra system (CAS) can be used to experiment with algebraic expressions, perform complicated algebraic manipulations, and understand how algebraic manipulations behave.

Equations and Inequalities

An equation is a statement of equality between two expressions, often viewed as a question asking for which values of the variables the expressions on either side are in fact equal. These values are the solutions to the equation. An identity, in contrast, is true for all values of the variables; identities are often developed by rewriting an expression in an equivalent form.

The solutions of an equation in one variable form a set of numbers; the solutions of an equation in two variables form a set of ordered pairs of numbers, which can be plotted in the coordinate plane. Two or more equations and/or inequalities form a system. A solution for such a system must satisfy every equation and inequality in the system.

An equation can often be solved by successively deducing from it one or more simpler equations. For example, one can add the same constant to both sides without changing the solutions, but squaring both sides might lead to extraneous solutions. Strategic competence in

solving includes looking ahead for productive manipulations and anticipating the nature and number of solutions.

Some equations have no solutions in a given number system, but have a solution in a larger system. For example, the solution of $x + 1 = 0$ is an integer, not a whole number; the solution of $2x + 1 = 0$ is a rational number, not an integer; the solutions of $x^2 - 2 = 0$ are real numbers, not rational numbers; and the solutions of $x^2 + 2 = 0$ are complex numbers, not real numbers.

The same solution techniques used to solve equations can be used to rearrange formulas. For example, the formula for the area of a trapezoid, $A = \left(\frac{b_1+b_2}{2}\right) h$, can be solved for h using the same deductive process. Inequalities can be solved by reasoning about the properties of inequality. Many, but not all, of the properties of equality continue to hold for inequalities and can be useful in solving them.

Connections to Functions and Modeling

Expressions can define functions, and equivalent expressions define the same function. Asking when two functions have the same value for the same input leads to an equation; graphing the two functions allows for finding approximate solutions of the equation. Converting a verbal description to an equation, inequality, or system of these is an essential skill in modeling.

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Algebra Overview

Seeing Structure in Expressions

A. Interpret the structure of linear, quadratic, exponential, polynomial, and rational expressions.

B. Write expressions in equivalent forms to solve problems.

Arithmetic with Polynomials and Rational Expressions

A. Perform arithmetic operations on polynomials.

B. Understand the relationship between zeros and factors of polynomials.

C. Use polynomial identities to solve problems.

D. Rewrite rational expressions.

Creating Equations

A. Create equations that describe numbers or relationships.

Reasoning with Equations and Inequalities

A. Understand solving equations as a process of reasoning and explain the reasoning.

B. Solve equations and inequalities in one variable.

C. Solve systems of equations.

D. Represent and solve equations and inequalities graphically.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Seeing Structure in Expressions – A.SSE

A.SSE.A. Interpret the structure of linear, quadratic, exponential, polynomial, and rational expressions.

1. Interpret expressions that represent a quantity in terms of its context. ★
    a. Interpret parts of an expression, such as terms, factors, and coefficients.
    b. Interpret complicated expressions by viewing one or more of their parts as a single entity.

Example: *Interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*

2. Use the structure of an expression to identify ways to rewrite it.

Example: *See $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.*

A.SSE.B. Write expressions in equivalent forms to solve problems.

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
    a. Factor a quadratic expression to reveal the zeros of the function it defines.
    b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

Example: *A high school player punts a football, and the function $h(t) = -16t^2 + 64t + 2$ represents the height h, in feet, of the football at time t seconds after it is punted. Complete the square in the quadratic expression to find the maximum height of the football.*

    c. Use the properties of exponents to transform expressions for exponential functions.

Example: *The expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*

4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1) and use the formula to solve problems.★

Example: *Calculate mortgage payments.*

Arithmetic with Polynomials and Rational Expressions – A.APR

A.APR.A. Perform arithmetic operations on polynomials.

1. Demonstrate understanding that polynomials form a system analogous to the integers, namely, they are closed under certain operations.
    a. Perform operations on polynomial expressions (addition, subtraction, multiplication, division) and compare the system of polynomials to the system of integers when performing operations.
    b. Factor and/or expand polynomial expressions, identify and combine like terms, and apply the Distributive property.

A.APR.B. Understand the relationship between zeros and factors of polynomials.

2. Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.
3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

A.APR.C. Use polynomial identities to solve problems.

4. Prove polynomial identities and use them to describe numerical relationships.

    Example: *The polynomial identity* $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ *can be used to generate Pythagorean triples.*

5. (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.

A.APR.D. Rewrite rational expressions.

6. Rewrite simple rational expressions in different forms using inspection, long division, or for the more complicated examples, a computer algebra system.

    Example*: Write* $\frac{a(x)}{b(x)}$ *in the form* $q(x) + \frac{r(x)}{b(x)}$ *where* $a(x), b(x), q(x),$ *and* $r(x)$ *are polynomials with the degree of* $r(x)$ *less than the degree of* $b(x)$.

7. (+) Demonstrate understanding that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression, add, subtract, multiply, and divide rational expressions.

Creating Equations – A.CED

A.CED.A. Create equations that describe numbers or relationships.

1. Create one variable equations and inequalities to solve problems; including linear, quadratic, rational, and exponential functions.★

***Example**: Four people may be seated at one rectangular table. If two rectangular tables are placed together end-to-end, 6 people may be seated at the table. If 10 tables are placed together end-to-end, how many people can be seated? How many tables are needed for n people?*

2. Interpret the relationship between two or more quantities.★

    a. Define variables to represent the quantities and write equations to show the relationship.★

***Example**: The cost of parking in the parking garage is $2.00 for the first hour and $1.00 for every hour after that. Write an equation in terms of x and y that shows the total cost for parking, y, for x hours. Use the equation to calculate the cost for parking in the garage for 5 hours.*

    b. Use graphs to show a visual representation of the relationship while adhering to appropriate labels and scales.★

***Example**: Using the equation from A-CED.2a, show how the graph of the equation can be used to predict the cost for a specified amount of time.*

3. Represent constraints using equations or inequalities and interpret solutions as viable or non-viable options in a modeling context.★

4. Represent constraints using systems of equations and/or inequalities and interpret solutions as viable or non- viable options in a modeling context.★

5. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.★

***Example**:* Rearrange Ohm's law $V = IR$ to highlight resistance R.

Reasoning with Equations and Inequalities – A.REI

A.REI.A. Understand solving equations as a process of reasoning and explain the reasoning.

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify or refute a solution method.

2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

A.REI.B. Solve equations and inequalities in one variable.

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

a. Solve linear equations and inequalities in one variable involving absolute value.

4. Solve quadratic equations in one variable.

   a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x-p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.

   b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.

A.REI.C. Solve systems of equations.

5. Verify that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

   ***Example**: A school club is selling hats and t-shirts for a fundraiser. The group expects to sell a total of 50 items. They make a profit of 15 dollars for each t-shirt sold and 5 dollars for each hat sold. How many hats and t-shirts will the school club need to sell to make a profit of $\$300$?*

7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.

   ***Example**: Find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.*

8. (+) Represent a system of linear equations as a single matrix equation in a vector variable.

9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).

A.REI.D. Represent and solve equations and inequalities graphically.

10. Demonstrate understanding that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane. Show that any point on the graph of an equation in two variables is a solution to the equation.

11. Explain why the *x*-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions

approximately. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★

***Example**: Use technology to graph the functions, make tables of values, or find successive approximations.*

12. Graph the solutions to a linear inequality in two variables as a half- plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

GRADES 9-12 FUNCTIONS (F)

Introduction

Functions describe situations where one quantity determines another. For example, the return on $\$10{,}000$ invested at an annualized percentage rate of 4.25% is a function of the length of time the money is invested. Because we continually make theories about dependencies between quantities in nature and society, functions are important tools in the construction of mathematical models.

In 9-12 mathematics, functions usually have numerical inputs and outputs and are often defined by an algebraic expression. For example, the time in hours it takes for a car to drive 100 miles is a function of the car's speed in miles per hour, v; the rule $T(v) = \frac{100}{v}$ expresses this relationship algebraically and defines a function whose name is T.

The set of inputs to a function is called its domain. We often infer the domain to be all inputs for which the expression defining a function has a value, or for which the function makes sense in a given context.

A function can be described in various ways, such as, by a graph (e.g., the trace of a seismograph); by a verbal rule, as in, "I'll give you a state, you give me the capital city"; by an algebraic expression like $f(x) = a + bx$; or by a recursive rule. The graph of a function is often a useful way of visualizing the relationship of the function models, and manipulating a mathematical expression for a function can throw light on the function's properties.

Functions presented as expressions can model many important phenomena. Two important families of functions characterized by laws of growth are linear functions, which grow at a constant rate, and exponential functions, which grow at a constant percent rate. Linear functions with a constant term of zero describe proportional relationships.

A graphing utility or a computer algebra system can be used to experiment with properties of these functions and their graphs and to build computational models of functions, including recursively defined functions.

Connections to Expressions, Equations, Modeling, and Coordinates

Determining an output value for a particular input involves evaluating an expression; finding inputs that yield a given output involves solving an equation. Questions about when two functions have the same value for the same input lead to equations whose solutions can be visualized from the intersection of their graphs. Because functions describe relationships

between quantities, they are frequently used in modeling. Sometimes functions are defined by a recursive process, which can be displayed effectively using a spreadsheet or other technology.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Functions Overview

Interpreting Functions

A. Understand the concept of a function and use function notation.

B. Interpret functions that arise in applications in terms of the context. Include linear, quadratic, exponential, rational, polynomial, square root and cube root, trigonometric, and logarithmic functions.

C. Analyze functions using different representations.

Building Functions

A. Build a function that models a relationship between two quantities.

B. Build new functions from existing functions.

Linear, Quadratic, and Exponential Models

A. Construct and compare linear, quadratic, and exponential models and solve problems.

B. Interpret expressions for functions in terms of the situation they model.

Trigonometric Functions

A. Extend the domain of trigonometric functions using the unit circle.

B. Model periodic phenomena with trigonometric functions.

C. Prove and apply trigonometric identities.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Interpreting Functions – F.IF

F.IF.A. Understand the concept of a function and use function notation.

1. Demonstrate understanding that a function is a correspondence from one set (called the domain) to another set (called the range) that assigns to each element of the domain exactly one element of the range**:** If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.
2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

   ***Example**: Given a function representing a car loan, determine the balance of the loan at different points in time.*
3. Demonstrate that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

   ***Example**: The Fibonacci sequence is defined recursively by* $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ *for* $n \geq 1$.

F.IF.B. Interpret functions that arise in applications in terms of the context. Include linear, quadratic, exponential, rational, polynomial, square root and cube root, trigonometric, and logarithmic functions.

4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.★

   ***Example**: Given a context or verbal description of a relationship, sketch a graph that models the context or description and shows its key features.*
5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.★

   ***Example**: If the function* $h(n)$ *gives the number of person-hours it takes to assemble* n *engines in a factory, then the positive integers would be an appropriate domain for the function.*
6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.★

F.IF.C. Analyze functions using different representations.

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★

    a. Graph linear and quadratic functions and show intercepts, maxima, and minima.★

    b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.★

    c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.★

    d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.★

    e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.★

8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

    a. Use the process of factoring and/or completing the square in quadratic and polynomial functions, where appropriate, to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

***Example**: Suppose $h(t) = -5t^2 + 10t + 3$ represents the height of a diver above the water (in meters), t seconds after the diver leaves the springboard. What is the maximum height above the water the diver reaches? After how many seconds, t, does the diver hit the water?*

    b. Use the properties of exponents to interpret expressions for exponential functions. Apply to financial situations such as identifying appreciation and depreciation rate for the value of a house or car sometime after its initial purchase.

***Example**: The equation for radioactive decay is, $A = A_0\left(\frac{1}{2}\right)^{t/h}$. When A_0 is the original amount of a radioactive substance, A is the final amount, h is the half-life of the substance, and t is time. Hagerman, Idaho is a hotbed of fossil hunting. The half-life of Carbon-14 is about 5730 years. If a fossil that was found in Hagerman contains 54 grams of Carbon-14 at time $t = 0$, how much Carbon-14 remains at time $t = 17190$ years?*

9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

***Example**: Given a graph of one polynomial function and an algebraic expression for another, say which has the larger/smaller relative maximum and/or minimum.*

10. Given algebraic, numeric and/or graphical representations of functions, recognize the function as polynomial, rational, logarithmic, exponential, or trigonometric.

Building Functions – F.BF

F.BF.A. Build a function that models a relationship between two quantities.

1. Write a function that describes a relationship between two quantities. Functions could include linear, exponential, quadratic, simple rational, radical, logarithmic, and trigonometric.★

    a. Determine an explicit expression, a recursive process, or steps for calculation from a context.★

    b. Combine standard function types using arithmetic operations.★

***Example**: Build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*

    c. (+) Compose functions.★

***Example**: If $T(y)$ is the temperature in the atmosphere as a function of height, and $h(t)$ is the height of a weather balloon as a function of time, then $T(h(t))$ is the temperature at the location of the weather balloon as a function of time.*

2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.★

***Example**: If the U.S. Census Bureau wrote the following recursive equation to represent how they estimate Idaho's population will grow each year after 2019: $P(n) = 1.023 \cdot P(n-1)$, $P(0) = 1{,}787{,}000$. $P(n)$ represents Idaho's population at the end of the n^{th} year in terms of Idaho's population at the end of the $(n-1)^{th}$ year, $P(n-1)$. Predict Idaho's population in 2040.*

F.BF.B. Build new functions from existing functions.

3. Identify the effect on the graph of replacing $f(x)$ by $f(x)+k, kf(x), f(kx)$, and $f(x+k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Include, linear, quadratic, exponential, absolute value, simple rational and radical, logarithmic, and trigonometric functions. Utilize using technology to experiment with cases and illustrate an explanation of the effects on the graph. Include recognizing even and odd functions from their graphs and algebraic expressions for them.

4. Find inverse functions algebraically and graphically.

    a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. Include linear and simple polynomial, rational, and exponential functions.

Example: $f(x) = 2x^3$ *or* $f(x) = \frac{x+1}{x-1}$ *for* $x \neq 1$

    b. (+) Verify by composition that one function is the inverse of another.

    c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.

    d. (+) Produce an invertible function from a non-invertible function by restricting the domain.

5. (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.

Linear, Quadratic, and Exponential Models – F.LE

F.LE.A. Construct and compare linear, quadratic, and exponential models and solve problems.

1. Distinguish between situations that can be modeled with linear functions and with exponential functions.★

    a. Demonstrate that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.★

    b. Identify situations in which one quantity changes at a constant rate per unit interval relative to another.★

    c. Identify situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.★

2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (including reading these from a table).★

3. Use graphs and tables to demonstrate that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.★

Example*: Becca's parents are saving for her college education by putting* $\$3{,}000$*/year in a safe deposit box. Becca's grandpa is also saving for her college education by putting*

$\$2{,}000$/year in an IDeal (Idaho college savings) account with an APR of 6.17%. Build tables to show which account has the most money after 10 years, and how much more? How many years will it take for the total in her grandpa's account to exceed the total in her parents' safe deposit box?

4. For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is $2, 10$, or e; evaluate the logarithm using technology.★

***Example**: Mr. Rico has a savings account that has an interest rate of 7% compounded continuously. The amount in the account is calculated using $A = Pe^{rt}$. If Mr. Rico invested $\$30{,}000$ on January 1, 2020, when will he have $\$100{,}000$ in the account?*

F.LE.B. Interpret expressions for functions in terms of the situation they model.

5. Interpret the parameters in a linear or exponential function (of the form $f(x) = b^x + k$) in terms of a context.★

Trigonometric Functions – F.TF

T.TF.A. Extend the domain of trigonometric functions using the unit circle.

1. Demonstrate radian measure as the ratio of the arc length subtended by a central angle to the length of the radius of the unit circle.

    a. Use radian measure to solve problems.

***Example**: You live in New Meadows, Idaho, which is located on the 45th parallel ($45°$ North latitude). Approximately how far will you drive, in miles, to attend the Calgary Stampede? Calgary is located at $51°$N latitude, almost due North of New Meadows. (Use $r = 3960$ miles for the radius of the Earth.)*

2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.

3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\frac{\pi}{3}$, $\frac{\pi}{4}$, and $\frac{\pi}{6}$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi - x$, $\pi + x$, and $2\pi - x$ in terms of their values for x, where x is any real number.

4. (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

T.TF.B. Model periodic phenomena with trigonometric functions.

5. Model periodic phenomena using trigonometric functions with specified amplitude, frequency, and midline.★

***Example**:* This *past summer you and your friends decided to ride the Ferris wheel at the Idaho State Fair. You wondered how high the highest point on the Ferris wheel was. You asked the operator, and he didn't know, but he told you that the height of the chair was* 5 *ft off the ground when you got on and the center of the Ferris wheel is* 30 *ft above that. You checked your phone when you got on and figured out that it took you* 12 *mins to make one full revolution. Create a model to show your height from the platform at any given time on the Ferris wheel.*

6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.★

T.TF.C. Prove and apply trigonometric identities.

8. Relate the Pythagorean Theorem to the unit circle to discover the Pythagorean identity $sin^2(\theta) + cos^2(\theta) = 1$ and use the Pythagorean identity to find the value of a trigonometric function $(sin(\theta), cos(\theta), or\ tan(\theta))$ given one trigonometric function $(sin(\theta), cos(\theta), or\ tan(\theta))$ and the quadrant of the angle.

***Example**: Suppose that* $\cos(\theta) = \frac{2}{5}$ *and that* θ *is in the* 4^{th} *quadrant. Find the exact value of* $\sin(\theta)$ *and* $\tan(\theta)$.

9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

CONCEPTUAL CATEGORY: MODELING (★)

Introduction

Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. Modeling is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. Quantities and their relationships in physical, economic, public policy, social, and everyday situations can be modeled using mathematical and statistical methods. When making mathematical models, technology is valuable for varying assumptions, exploring consequences, and comparing predictions with data.

A model can be very simple, such as writing total cost as a product of unit price and number bought or using a geometric shape to describe a physical object like a coin. Even such simple models involve making choices. It is up to us whether to model a coin as a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. Other situations—modeling a delivery route, a production schedule, or a comparison of loan amortizations—need more elaborate models that use other tools from the mathematical sciences. Real-world situations are not organized and labeled for analysis; formulating tractable models, representing such models, and analyzing them is appropriately a creative process. Like every such process, this depends on acquired expertise as well as creativity.

Some examples of such situations might include:

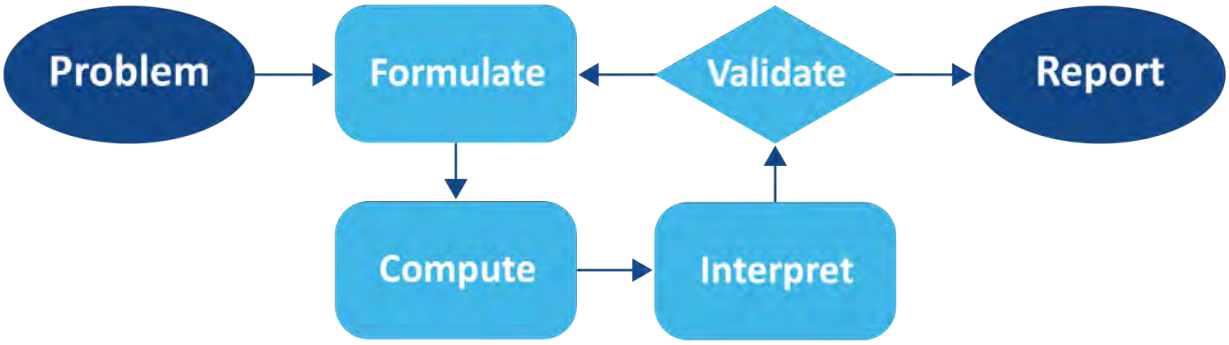
- Estimating how much water and food is needed for emergency relief in a devastated city of three million people, and how it might be distributed.
- Planning a table tennis tournament for seven players at a club with four tables, where each player plays against each other player.
- Designing the layout of the stalls in a school fair so as to raise as much money as possible.
- Analyzing stopping distance for a car.
- Modeling savings account balance, bacterial colony growth, or investment growth.
- Engaging in critical path analysis, e.g., applied to turnaround of an aircraft at an airport.
- Analyzing risk in situations such as extreme sports, pandemics, and terrorism.
- Relating population statistics to individual predictions.

In situations like these, the models devised depend on a number of factors: How precise an answer do we want or need? What aspects of the situation do we most need to understand, control, or optimize? What resources of time and tools do we have? The range of models that we can create and analyze is also constrained by the limitations of our mathematical, statistical,

and technical skills, and our ability to recognize significant variables and relationships among them. Diagrams of various kinds, spreadsheets and other technology, and algebra are powerful tools for understanding and solving problems drawn from different types of real-world situations.

One of the insights provided by mathematical modeling is that essentially the same mathematical or statistical structure can sometimes model seemingly different situations. Models can also shed light on the mathematical structures themselves, for example, as when a model of bacterial growth makes more vivid the explosive growth of the exponential function.

The basic modeling cycle is summarized in the diagram below. It involves: (1) identifying variables in the situation and selecting those that represent essential features; (2) formulating a model by creating and selecting geometric, graphical, tabular, algebraic, or statistical representations that describe relationships between the variables; (3) analyzing and performing operations on these relationships to draw conclusions; (4) interpreting the results of the mathematics in terms of the original situation; (5) validating the conclusions by comparing them with the situation, and then either improving the model or; (6) if it is acceptable, reporting on the conclusions and the reasoning behind them. Choices, assumptions, and approximations are present throughout this cycle.



In descriptive modeling, a model simply describes the phenomena or summarizes them in a compact form. Graphs of observations are a familiar descriptive model—for example, graphs of global temperature and atmospheric CO_2 over time.

Analytic modeling seeks to explain data on the basis of deeper theoretical ideas, albeit with parameters that are empirically based; for example, exponential growth of bacterial colonies (until cut-off mechanisms such as pollution or starvation intervene) follows from a constant reproduction rate. Functions are an important tool for analyzing such problems.

Graphing utilities, spreadsheets, computer algebra systems, and dynamic geometry software are powerful tools that can be used to model purely mathematical phenomena (e.g., the behavior of polynomials) as well as physical phenomena.

Modeling Standards

Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific Modeling standards appear throughout the high school standards indicated by a star symbol (★).

GRADES 9-12 GEOMETRY (G)

Introduction

An understanding of the attributes and relationships of geometric objects can be applied in diverse contexts—interpreting a schematic drawing, estimating the amount of wood needed to frame a sloping roof, rendering computer graphics, or designing a sewing pattern for the most efficient use of material.

Although there are many types of geometry, school mathematics is devoted primarily to plane Euclidean geometry, studied both synthetically (without coordinates) and analytically (with coordinates). Euclidean geometry is characterized most importantly by the Parallel Postulate that through a point not on a given line there is exactly one parallel line. (Spherical geometry, in contrast, has no parallel lines.)

During 9-12 mathematics, students begin to formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs. Later in college, some students develop Euclidean and other geometries carefully from a small set of axioms.

The concepts of congruence, similarity, and symmetry can be understood from the perspective of geometric transformation. Fundamental are the rigid motions: translations, rotations, reflections, and combinations of these, all of which are here assumed to preserve distance and angles (and therefore shapes generally). Reflections and rotations each explain a particular type of symmetry, and the symmetries of an object offer insight into its attributes—as when the reflective symmetry of an isosceles triangle assures that its base angles are congruent.

In the approach taken here, two geometric figures are defined to be congruent if there is a sequence of rigid motions that carries one onto the other. This is the principle of superposition. For triangles, congruence means the equality of all corresponding pairs of sides and all corresponding pairs of angles. During the middle grades, through experiences drawing triangles from given conditions, students notice ways to specify enough measures in a triangle to ensure that all triangles drawn with those measures are congruent. Once these triangle congruence criteria (ASA, SAS, and SSS) are established using rigid motions, they can be used to prove theorems about triangles, quadrilaterals, and other geometric figures.

Similarity transformations (rigid motions followed by dilations) define similarity in the same way that rigid motions define congruence, thereby formalizing the similarity ideas of “same shape” and “scale factor” developed in the middle grades. These transformations lead to the criterion for triangle similarity that two pairs of corresponding angles are congruent.

The definitions of sine, cosine, and tangent for acute angles are founded on right triangles and similarity, and, with the Pythagorean Theorem, are fundamental in many real-world and theoretical situations. The Pythagorean Theorem is generalized to non-right triangles by the Law of Cosines. Together, the Laws of Sines and Cosines embody the triangle congruence criteria for the cases where three pieces of information suffice to completely solve a triangle. Furthermore, these laws yield two possible solutions in the ambiguous case, illustrating that Side-Side-Angle is not a congruence criterion.

Analytic geometry connects algebra and geometry, resulting in powerful methods of analysis and problem solving. Just as the number line associates numbers with locations in one dimension, a pair of perpendicular axes associates pairs of numbers with locations in two dimensions. This correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof. Geometric transformations of the graphs of equations correspond to algebraic changes in their equations.

Dynamic geometry environments provide students with experimental and modeling tools that allow them to investigate geometric phenomena in much the same way as computer algebra systems allow them to experiment with algebraic phenomena.

Connections to Equations

The correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics, or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Geometry Overview

Congruence

A. Experiment with transformations in the plane.

B. Understand congruence in terms of rigid motions.

C. Prove geometric theorems and, when appropriate, the converse of theorems.

D. Make geometric constructions.

Similarity, Right Triangles, and Trigonometry

A. Understand similarity in terms of similarity transformations.

B. Prove theorems involving similarity.

C. Define trigonometric ratios and solve problems involving right triangles.

D. Apply trigonometry to general triangles.

Circles

A. Understand and apply theorems about circles.

B. Find arc lengths and areas of sectors of circles.

Expressing Geometric Properties with Equations

A. Translate between the geometric description and the equation for a conic section.

B. Use coordinates to prove simple geometric theorems algebraically.

Geometric Measurement and Dimension

A. Explain volume formulas and use them to solve problems.

B. Visualize relationships between two-dimensional and three-dimensional objects.

Modeling with Geometry

A. Apply geometric concepts in modeling situations.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Congruence – G.CO

G.CO.A. Experiment with transformations in the plane.

1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
2. Represent transformations in the plane and describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not.

   Example: *Translation versus horizontal stretch*
3. Describe the rotations and reflections that carry a given figure (rectangle, parallelogram, trapezoid, or regular polygon) onto itself.
4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
5. Draw the transformation (rotation, reflection, or translation) for a given geometric figure.

   Example: *Given quadrilateral $TMEJ$ with vertices $T(0,-1)$, $M(3,-2)$, $E(-1,-5)$, and $J(-3,-2)$, reflect the shape across the x-axis.*
6. Specify a sequence of transformations that will carry a given figure onto another.

G.CO.B. Understand congruence in terms of rigid motions.

7. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
8. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
9. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

   Example: *In ΔABC and ΔABD (with shared side $\overline{AB}$), we are given that $\angle BAC \cong \angle BAD$ and $\angle ABC \cong \angle ABD$. What pair(s) of corresponding parts is needed to ensure the triangles are congruent by either ASA, SAS, or SSS? What rigid motion would show the triangles are congruent?*

G.CO.C. Prove geometric theorems and, when appropriate, the converse of theorems.

10. Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; and conversely prove lines are parallel; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.
11. Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to $180°$; base angles of isosceles triangles are congruent; and conversely prove a triangle is isosceles; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.
12. Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.
    a. Prove theorems about polygons. Theorems include the measures of interior and exterior angles. Apply properties of polygons to the solutions of mathematical and contextual problems.

G.CO.D. Make geometric constructions.

13. Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.) Constructions include: copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.
14. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Similarity, Right Triangles, and Trigonometry – G.SRT

G.SRT.A. Understand similarity in terms of similarity transformations.

1. Verify experimentally the properties of dilations given by a center and a scale factor.
    a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.
    b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
2. Use the definition of similarity to decide if two given figures are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

3. Use the properties of similarity transformations to establish the Angle-Angle (AA) criterion for two triangles to be similar.

   Example: *Given ΔABC and ΔDEF, $\angle A \cong \angle D$, and $\angle B \cong \angle E$, show that $\Delta ABC \sim \Delta DEF$ using a sequence of translations, rotations, reflections, and/or dilations.*

G.SRT.B. Prove theorems involving similarity.

4. Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.

5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

   Example: *A high school student visits a giant cedar tree near the town of Elk River, Idaho and the end of his shadow lines up with the end of the tree's shadow. The student is 6 feet tall and his shadow is 8 feet long. The cedar tree's shadow is 228 feet long. How tall is the cedar tree?*

G.SRT.C. Define trigonometric ratios and solve problems involving right triangles.

6. Demonstrate understanding that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

7. Explain and use the relationship between the sine and cosine of complementary angles.

8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★

   Example: *Mark and Ruth are rock climbing in the Snake River Canyon. Mark is anchoring the rope for Ruth. If the length of the rope from Mark to Ruth is 60 ft, with an angle of elevation of $23°$, how far is Mark from the base of the cliff?*

G.SRT.D. Apply trigonometry to general triangles.

9. (+) Derive the formula $A = \frac{1}{2}absin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.

10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.

11. (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., Surveying problems; Resultant forces).

Circles – G.C

G.C.A. Understand and apply theorems about circles.

1. Prove that all circles are similar.
2. Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.
3. Prove properties of angles for a quadrilateral and other polygon inscribed in a circle, by constructing the inscribed and circumscribed circles of a triangle.
4. (+) Construct a tangent line to a circle from a point outside the given circle.

G.C.B. Find arc lengths and areas of sectors of circles.

5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.

Expressing Geometric Properties with Equations – G.GPE

G.GPE.A. Translate between the geometric description and the equation for a conic section.

1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
2. Derive the equation of a parabola given a focus and directrix.
3. (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

    a. (+) Use equations and graphs of conic sections to model real-world problems.★

G.GPE.B. Use coordinates to prove simple geometric theorems algebraically.

4. Use coordinates to prove simple geometric theorems algebraically including the distance formula and its relationship to the Pythagorean Theorem.

    ***Example**: Prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point* $(1, \sqrt{3})$ *lies on the circle centered at the origin and containing the point* $(0,\ 2)$.

5. Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems.

***Example**: Find the equation of a line parallel or perpendicular to a given line that passes through a given point.*

6. Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
7. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles (e.g., using the distance formula).★

Geometric Measurement and Dimension – G.GMD

G.GMD.A. Explain volume formulas and use them to solve problems.

1. Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.
2. (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.★

***Example**: The tank at the top of the Meridian Water Tower is roughly spherical. If the diameter of the sphere is* 50.35 *feet, approximately how much water can the tank hold?*

G.GMD.B. Visualize relationships between two-dimensional and three-dimensional objects.

4. Identify the shapes of two-dimensional cross-sections of three- dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

Modeling with Geometry – G.MG

G.MG.A. Apply geometric concepts in modeling situations.

1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).★
2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).★
3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★
4. Use dimensional analysis for unit conversions to confirm that expressions and equations make sense.★

GRADES 9-12 - STATISTICS AND PROBABILITY (S)

Introduction

Decisions or predictions are often based on data—numbers in context. These decisions or predictions would be easy if the data always sent a clear message, but the message is often obscured by variability. Statistics provides tools for describing variability in data and for making informed decisions that take it into account.

Data are gathered, displayed, summarized, examined, and interpreted to discover patterns and deviations from patterns. Quantitative data can be described in terms of key characteristics: measures of shape, center, and spread. The shape of a data distribution might be described as symmetric, skewed, flat, or bell shaped, and it might be summarized by a statistic measuring center (such as mean or median) and a statistic measuring spread (such as standard deviation or interquartile range). Different distributions can be compared numerically using these statistics or compared visually using plots. Knowledge of center and spread are not enough to describe a distribution. Which statistics to compare, which plots to use, and what the results of a comparison might mean, depend on the question to be investigated and the real-life actions to be taken.

Randomization has two important uses in drawing statistical conclusions. First, collecting data from a random sample of a population makes it possible to draw valid conclusions about the whole population, taking variability into account. Second, randomly assigning individuals to different treatments allows a fair comparison of the effectiveness of those treatments. A statistically significant outcome is one that is unlikely to be due to chance alone, and this can be evaluated only under the condition of randomness. The conditions under which data are collected are important in drawing conclusions from the data. In critically reviewing uses of statistics in public media and other reports, it is important to consider the study design, how the data were gathered, and the analyses employed, as well as the data summaries and the conclusions drawn.

Random processes can be described mathematically by using a probability model: a list or description of the possible outcomes (the sample space), each of which is assigned a probability. In situations such as flipping a coin, rolling a number cube, or drawing a card, it might be reasonable to assume various outcomes are equally likely. In a probability model, sample points represent outcomes and combine to make up events; probabilities of events can be computed by applying the Addition and Multiplication Rules. Interpreting these probabilities relies on an understanding of independence and conditional probability, which can be approached through the analysis of two-way tables.

Technology plays an important role in statistics and probability by making it possible to generate plots, regression functions, and correlation coefficients, and to simulate many possible outcomes in a short amount of time.

Connections to Functions and Modeling

Functions may be used to describe data; if the data suggest a linear relationship, the relationship can be modeled with a regression line, and its strength and direction can be expressed through a correlation coefficient.

Note: Standards with a ★ indicate a modeling standard. Standards with a (+) represent standards for advanced classes such as calculus, advanced statistics or discrete mathematics. Standards without a (+) are the present standards for all college and career ready students.

Statistics and Probability Overview

Interpreting Categorical and Quantitative Data

A. Summarize, represent, and interpret data on a single count or measurement variable. Use calculators, spreadsheets, and other technology as appropriate.

B. Summarize, represent, and interpret data on two categorical and quantitative variables.

C. Interpret linear models.

Making Inferences and Justifying Conclusions

A. Understand and evaluate random processes underlying statistical studies. Use calculators, spreadsheets, and other technology as appropriate.

B. Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

Rules of Probability

A. Understand independence and conditional probability and use them to interpret data from simulations or experiments.

B. Use the rules of probability to compute probabilities of compound events in a uniform probability model.

Using Probability to Make Decisions

A. Calculate expected values and use them to solve problems.

B. Use probability to evaluate outcomes of decisions.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Interpreting Categorical and Quantitative Data – S.ID

S.ID.A. Summarize, represent, and interpret data on a single count or measurement variable. Use calculators, spreadsheets, and other technology as appropriate.

1. Differentiate between count data and measurement variable.★
2. Represent measurement data with plots on the real number line (dot plots, histograms, and box plots).★

   Example: *Construct a histogram of the current population size in each of Idaho's counties.*
3. Compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different variables, using statistics appropriate to the shape of the distribution for measurement variable.★

   Example: *Compare the histograms of the annual potato yields over the last* 25 *years for Idaho and Maine using the correct measures of center and spread for the shape of the histograms.*
4. Interpret differences in shape, center, and spread in the context of the variables accounting for possible effects of extreme data points (outliers) for measurement variables.★

   Example: *Describe differences in distributions of annual precipitation over the last* 100 *years between Boise and Seattle using shape, center, spread and outliers.*
5. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.★

   Example: *Estimate the percentage of all Idaho elk hunters who successfully filled their tag last year, using the results from Washington County hunters.*

S.ID.B. Summarize, represent, and interpret data on two categorical and quantitative variables.

6. Represent data on two categorical variables on a clustered bar chart and describe how the variables are related. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.★

   Example: *Represent the relationship between student effort (on a scale of 1 – 5) and letter grade in a math class with a clustered bar chart and describe the relationship using a relative frequency table.*

7. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.★

    a. Fit a linear function to data where a scatter plot suggests a linear relationship and use the fitted function to solve problems in the context of the data.★

    b. Use functions fitted to data, focusing on quadratic and exponential models, or choose a function suggested by the context. Utilize technology where appropriate.★

Example: *Use technology to fit a function of the relationship between the board-feet (measured in volume) of trees and the diameter of the trunks of the trees.*

    c. Informally assess the fit of a function by plotting and analyzing residuals.★

S.ID.C. Interpret linear models.

8. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.★

Example: *Explain why the y-intercept of a linear model relating the volume production of sugar beets to size of farm has no meaning whereas the y-intercept of a linear model relating the volume production of sugar beets related to minimum temperature does have meaning.*

9. Compute (using technology) and interpret the linear correlation coefficient.★

Example: *Find the correlation coefficient between the number of hours firefighters sleep each night and the length of fireline they construct each day. Use the correlation coefficient to explain whether sleep is important.*

10. Distinguish between (linear) correlation and causation.★

Making Inferences and Justifying Conclusions – S.IC

S.IC.A. Understand and evaluate random processes underlying statistical experiments. Use calculators, spreadsheets, and other technology as appropriate.

1. Understand statistics as a process for making inferences about population parameters based on a random sample from that population.★

2. Decide if a specified model is consistent with results from a given data-generating process (e.g., using simulation or validation with given data).★

Example*: A model says a spinning coin falls heads up with probability* 0.5*. Would a result of* 5 *tails in a row cause you to question the model?*

S.IC.B. Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.★
4. Use data from a sample survey to estimate a population mean or proportion and a margin of error.★
5. Use data from a randomized and controlled experiment to compare two treatments; use margins of error to decide if differences between treatments are significant.★
6. Evaluate reports of statistical information based on data.★

***Example**: Students may analyze and critique different reports from media, business, and government sources.*

Conditional Probability and the Rules of Probability – S.CP

S.CP.A. Understand independence and conditional probability and use them to interpret data from simulations or experiments.

1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").★
2. Demonstrate understanding that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.★
3. Understand the conditional probability of A given B as $\frac{P(A \cap B)}{P(B)}$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.★
4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.★

***Example**: Collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.*

5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.★

***Example**: Compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*

S.CP.B. Use the rules of probability to compute probabilities of compound events in a uniform probability model.

6. Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.★
7. Apply the Addition Rule, $P(A \cup B) = P(A) + P(B) - P(A \cap B)$, and interpret the answer in terms of the model.★
8. (+) Apply the general Multiplication Rule in a uniform probability model $P(A \cap B) = P(A)P(B|A) = P(B)P(A|B)$, and interpret the answer in terms of the model.★
9. (+) Use permutations and combinations to compute probabilities of compound events and solve problems.★

Using Probability to Make Decisions – S.MD

S.MD.A. Calculate expected values and use them to solve problems.

1. (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.★
2. (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution of the variable.★
3. (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value.★

***Example**: Find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*

4. (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value.★

***Example**: Find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in* 100 *randomly selected households?*

S.MD.B. Use probability to evaluate outcomes of decisions.

5. (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.★

    a. Find the expected payoff for a game of chance.★

***Example**: Find the expected winnings from a state lottery ticket or a game at a fast- food restaurant.*

    b. Evaluate and compare strategies on the basis of expected values.★

***Example**: Compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*

6. (+) Use probabilities to make objective decisions.★

***Example**: The Idaho Department of Transportation classifies highways for overweight loads based on the probability of bridges on a highway failing under given vehicle weights.*

7. (+) Analyze decisions and strategies using probability concepts.★

***Example**: Product testing, medical testing, or pulling a hockey or soccer goalie at the end of a game and replacing the goalie with an extra player.*

REFERENCES

The works below were used to guide the creation of this document:

Boaler, J. (2016) Mathematical Mindsets. San Francisco, CA: Jossey-Bass.

California Department of Education. (2021). California Math Framework Draft. Sacramento, CA: California Department of Education.

Massachusetts Department of Elementary and Secondary Education. (2017). Massachusetts Curriculum Framework Mathematics. Malden, MA: Massachusetts Department of Elementary and Secondary Education.

Nebraska Department of Education. (2015). Nebraska's College and Career Ready Standards for Mathematics. Lincoln, NE: Nebraska Department of Education.

Florida Department of Education. (2020). Florida B.E.S.T. Standards: Mathematics. Tallahassee, FL: Florida Department of Education.

Student Achievement Partners. (2013). Achieve the Core Mathematics: Focus by Grade Level Documents. Retrieved from https://achievethecore.org/category/774/mathematics-focus-by-grade-level

Texas Education Agency. (2012). Texas Essential Knowledge and Skills for Mathematics. Austin, TX: Texas Education Agency.

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Science Content Standards

Idaho State Department of Education

INTRODUCTION

The Idaho State Content Standards in Science are essential for developing the science literacy of Idaho students, as it is vital that our students understand the fundamental laws and practices within scientific disciplines. This document provides stakeholders with a set of rigorous and relevant science performance standards that prepare students to be informed, contributing citizens of the 21st-century world. The unifying goal is for Idaho students to practice and perform science and use their working knowledge of science to successfully function in a complex world.

~~The Idaho State Science Standards are essential for developing the science literacy of Idaho students, as it is vital that our students understand the fundamental laws and practices within scientific disciplines. This document provides stakeholders with a set of rigorous and relevant science performance standards that prepare students to be informed, contributing citizens of the 21st century world. The unifying goal is for Idaho students to practice and perform science and use their working knowledge of science to successfully function in a complex world.~~

The Idaho Science standards describe the knowledge and skills that students should learn, but they do not prescribe particular curriculum, lessons, teaching techniques, or activities. Standards describe what students are expected to know and be able to do, while the local curriculum describes how teachers will help students master the standards. A wide variety of instructional resources may be used to meet the state content area standards. Decisions about curriculum and instruction are made locally by individual school districts and classroom teachers. The Idaho State Board of Education does not mandate the curriculum used within local schools. However, these science standards should be taught in a way that allows students to analyze the data and make their own decisions about what it means. Students should also be taught the current models and explanations of the scientific community regarding that data.

Organization and Structure of Science Standards

The Idaho Science Standards are based on *A Framework for K-12 Science Education*[1]. That framework outlines three organizational dimensions for each standard:

- **Science and Engineering Practices**
- **Disciplinary Core Ideas** and **Supporting Content**
- **Crosscutting Concepts**

[1] A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas. Washington, DC: The National Academies Press, 2012.

The **Science and Engineering Practices** are used by students to demonstrate understanding of the disciplinary core ideas and crosscutting concepts. These practices update the scientific method in the classroom and include a wider range of skills for an expanded approach to how scientific investigations are conducted in the real world. Engaging in the practices of science and engineering helps students understand the wide range of approaches used to investigate natural phenomena and develop solutions to challenges. Students are expected to demonstrate grade appropriate proficiency in asking questions and defining problems; developing and using models; planning and carrying out investigations; analyzing and interpreting data; using mathematics and computational thinking; constructing explanations and designing solutions; engaging in argument from evidence; and obtaining, evaluating, and communicating information as they gather, analyze, and communicate scientific information.

The **Disciplinary Core Ideas** and **Supporting Content** are the focused, limited set of science ideas identified in the *Framework* as necessary for ALL students throughout their education and beyond their K-12 school years to achieve scientific literacy. The limited number of disciplinary core ideas allows more time for students and teachers to engage in the science and engineering practices as they deeply explore science ideas. To allow students to continually build on and revise their knowledge and abilities, the disciplinary core ideas are built on developmental learning progressions. In the Idaho State Science Standards, The Disciplinary Core Ideas are incorporated within the Supporting Content for clarity. The Supporting Content defines the minimum boundary of content knowledge needed to fully demonstrate mastery of the standard.

The **Crosscutting Concepts** are used to organize and make sense of disciplinary core ideas. They serve as tools that bridge disciplinary boundaries and deepen understanding of science content. With grade-appropriate proficiency, students are expected to use patterns; cause and effect; scale, proportion, and quantity; systems and system models; energy and matter; structure and function; and stability and change as they gather, analyze, and communicate scientific understanding. These crosscutting concepts provide structure for synthesizing knowledge from various fields into a coherent and scientifically based view of the world.

The K-12 standards are structured to reflect the developmental nature of learning. Within the standards, content is introduced in a spiraled model using connected core ideas that build deepened understanding throughout grade level progressions. The standards increase in complexity and rigor as students move through the grade levels. Curriculums developed by the school districts of Idaho should encompass all three dimensions of each standard.

The following table lists the disciplinary core ideas, crosscutting concepts, and science and engineering practices (more detailed and grade specific descriptions are available in the supplemental support materials):

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
● Asking Questions and Defining Problems ● Developing and Using Models ● Planning and Carrying Out Investigations ● Analyzing and Interpreting Data ● Using Mathematics and Computational Thinking ● Constructing Explanations and Designing Solutions ● Engaging in Argument from Evidence ● Obtaining, Evaluating, and Communicating Information	LS1: From Molecules to Organisms: Structures and Processes LS2: Ecosystems: Interactions, Energy, and Dynamics LS3: Heredity: Inheritance and Variation of Traits LS4: Biological Evolution: Unity and Diversity PS1: Matter and Its Interactions PS2: Motion and Stability: Forces and Interactions PS3: Energy PS4: Waves ESS1: Earth's Place in the Universe ESS2: Earth's Systems ESS3: Earth and Human Activity	● Patterns ● Cause and Effect ● Scale, Proportion, and Quantity ● Systems and System Models ● Energy and Matter ● Structure and Function ● Stability and Change

Instructional Shifts

While each standard incorporates the three dimensions, this alone does not drive student outcomes; ultimately, student learning depends on how the standards are translated to instructional practices. In order for students to attain the maximum benefit from the Idaho Science Standards, districts are encouraged to incorporate problem solving techniques and deep critical thinking exercises into those practices. Effective science teaching and learning integrates the three dimensions by allowing students to explain scientific phenomena, design solutions to real-world challenges, and build a foundation upon which they can continue to learn and to apply science knowledge and skills within and outside the K-12 education arena.

Interdisciplinary Approaches

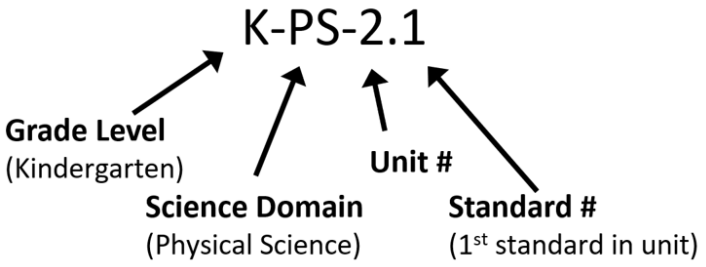
The overlapping skills in the science and engineering practices combined with the intellectual tools developed by the crosscutting concepts, build meaningful and substantive connections to interdisciplinary knowledge and skills in all content areas. Student understanding and retention are increased as connections are made to interdisciplinary learning which affords all students equitable access to learning and ensures all students are prepared for college, career, and citizenship.

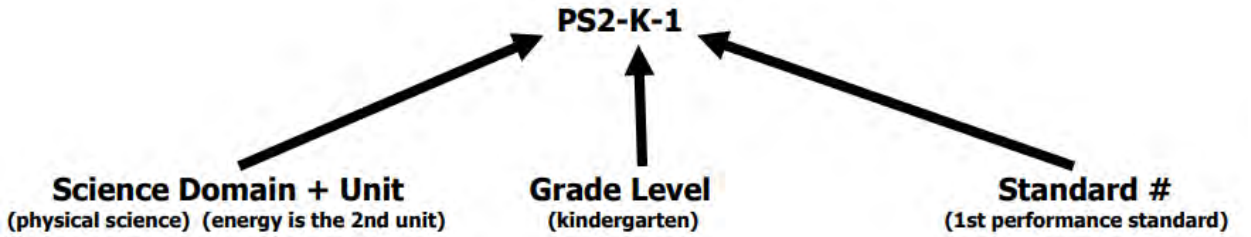
Using this Document

Each standard is followed by the Supporting Content (DCI) in order to add details of what knowledge should be mastered while students are working to achieve each standard. There are often *Further Explanations* and *Assessment Limits* following the content. The *Further Explanations* explain how the concepts embedded within the standard should be emphasized. These often contain examples that are not required, but give guidance about the complexity of ideas to ensure grade appropriate implementation. Assessment limits are similar and do not limit what content is learned about in the classroom, but they do keep assessments from expanding inappropriately outside of the grade-level expectations. These features are included when further clarity is needed.

The coding for each standard labels the grade level, science domain, unit number, and standard number as shown below:

Abbreviations
K – Kindergarten
MS – Middle School
HS – High School
LS – Life Science
ESS – Earth and Space Science
PS – Physical Science
PSC – Physical Science Chemistry
PSP – Physical Science Physics
ETS – Engineering and Technology





~~**Category Headings**~~

~~PS – Performance Standards~~

~~SC – Supporting Content~~

~~**Other Abbreviations**~~

~~ETS - Engineering and Technology~~

~~Standard K - Kindergarten~~

~~MS – Middle School~~

~~HS - High School~~

~~**Science Domains**~~

~~LS – Life Science~~

~~PS – Physical Science~~

~~PSC – Physical Science Chemistry~~

~~PSP – Physical Science Physics~~

~~ESS – Earth and Space Science~~

KINDERGARTEN

Physical Science

K-PS-1 – Motion and Stability: Forces and Interactions

~~ELEMENTARY SCHOOL (KINDERGARTEN)~~

~~PS: Physical Sciences~~

~~PS1.K Motion and Stability: Forces and Interactions~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

K-PS-1.1 ~~PS1-K-1.~~ Students who demonstrate understanding can:

With guidance and support, ~~Plan~~ plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

Supporting Content PS2.A: Forces and Motion

- Pushes and pulls can have different strengths and directions. (K-PS-1.1, K-PS-1.2~~PS1-K-1, PS1-K-2~~)
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS-1.1, K-PS-1.2~~PS1-K-1, PS1-K-2~~)

Supporting Content PS2.B: Types of Interactions

- When objects touch or collide, they push on one another and can change motion. (K-PS-1.1~~PS1-K-1~~)

Supporting Content PS3.C: Relationship Between Energy and Forces

- A bigger push or pull makes things speed up or slow down more quickly. (K-PS-1.1~~PS1-K-1~~)

- **Further Explanation:** Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.
- ~~Content~~ **Assessment Limit:** Assessment is limited to different relative strengths or different directions, but not both at the same time. Assessment does not include non-contact pushes or pulls such as those produced ~~bymagnets~~by magnets.

K-PS-1.2 Students who demonstrate understanding can:

~~PS1-K-2.~~ **With guidance and support, analyze~~Analyze~~ data to determine if a design solution works as intended to change the motion~~speed or direction~~ of an object with a push or a pull.**

Supporting Content PS2.A: Forces and Motion

- Pushes and pulls can have different strengths and directions. (K-PS-1.1, K-PS-1.2)
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS-1.1, K-PS-1.2)

ETS1.A: Defining Engineering Problems

- A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. (**K-PS-1.2**~~PS1-K-2~~)

- **Further Explanation:** Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.
- ~~Content~~ **Assessment Limit:** Assessment does not include friction as a mechanism for change in speed.

~~**Supporting Content**~~

~~**PS2.A: Forces and Motion**~~

- ~~Pushes and pulls can have different strengths and directions. (PS1-K-1, PS1-K-2)~~
- ~~Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (PS1-K-1, PS1-K-2)~~

~~**PS2.B: Types of Interactions**~~

- ~~When objects touch or collide, they push on one another and can change motion. (PS1-K-1)~~

~~**PS3.C: Relationship Between Energy and Forces**~~

- ~~A bigger push or pull makes things speed up or slow down more quickly. (PS1-K-1)~~

~~**ETS1.A: Defining Engineering Problems**~~

- ~~A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. (PS1-K-2)~~

K-PS-2 – Energy

~~PS2-K Energy~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

K-PS-2.1 ~~PS2-K-1.~~Students who demonstrate understanding can:

Make observations to determine the effect of ~~sunlight~~ the sun's energy on the Earth's surface.

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Sunlight warms Earth's surface. (K-PS-2.1, K-PS-2.2~~PS2-K-1, PS2-K-2~~)

- **Further Explanation:** Examples of Earth's surface could include sand, soil, rocks, and water.
- ~~Content~~ **Assessment Limit:** Assessment of temperature is limited to relative measures such as warmer/cooler.

K-PS-2.2 Students who demonstrate understanding can:

~~**PS2-K-2. Use tools and materials to D**~~**design and build a structure that will reduce the warming effect of the sun's energy ~~sunlight~~ on ~~an area.~~a material.**

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Sunlight warms Earth's surface. (K-PS-2.1, K-PS-2.2)

- **Further Explanation:** Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun on Earth's surface.

~~Supporting Content~~

~~**PS3.B: Conservation of Energy and Energy Transfer**~~

- ~~Sunlight warms Earth's surface. (PS2-K-1, PS2-K-2)~~

Life Science

K-LS-1 – Molecules to Organisms: Structure and Processes

~~**LS: Life Sciences**~~

~~**LS1.K Molecules to Organisms: Structure and Processes**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

K-LS-1.1 ~~LS1.K-1.~~Students who demonstrate understanding can:

Use observations to describe ~~patterns of what~~how plants and animals ~~(including humans)~~ **are alike and different in terms of how they live and grow.** ~~need to survive.~~

Supporting Content **LS1.C: Organization for Matter and Energy Flow in Organisms**

All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (**K-LS-1.1**~~LS1.K-1~~)

- **Further Explanation:** Examples of observations~~patterns~~ could include that animals need to take in food but plants produce their own; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.

Prior K-LS-1.2 Moved to 1st Grade 1-LS-1.4

~~**LS1.K-2. Use classification supported by evidence to differentiate between living and non-living items.**~~

~~• Further Explanation: Use chart or Venn diagram to sort objects or pictures into living and not living items.~~

~~**Supporting Content**~~

~~**LS1.C: Organization for Matter and Energy Flow in Organisms**~~

- ~~All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (LS1.K-1)~~
- ~~Living and non-living things have distinct characteristics. (LS1.K-2)~~

Earth and Space Science

K-ESS-1 – Earth's Systems

~~ESS: Earth and Space Sciences~~

~~ESS1-K Earth's Systems~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

K-ESS-1.1 ~~ESS1-K-1.~~ Students who demonstrate understanding can:

Use and share observations of local weather conditions to describe **variations in patterns throughout the year.** ~~patterns over time, which includes the 4 seasons.~~

Supporting Content ESS2.D: Weather and Climate

- Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region, at a particular time. People measure these conditions to describe and record ~~the weather and to notice~~ patterns over time. (**K-ESS-1.1** ~~ESS1-K-1~~)
- The four seasons occur in a specific order due to their weather patterns. (**K-ESS-1.1** ~~ESS1-K-1~~)

Further Explanation: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.

- ~~Content~~ **Assessment Limit**: Assessment of quantitative observations limited to whole numbers and relative measures such as warmer/cooler.

K-ESS-1.2 Students who demonstrate understanding can:

~~**ESS1-K-2.**~~ With guidance and support, use evidence to construct ~~**Construct**~~ **an** explanation~~**argument supported by evidence for**~~ **of how plants and animals** ~~**(including humans)**~~ interact with their ~~**can change the**~~ **environment to meet their needs.**

ESS2.E: Biogeology

- Plants and animals can change their environment. (**K-ESS-1.2** ~~ESS1-K-2~~)

- **Further Explanation:** Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.

Supporting Content

~~**ESS2.D: Weather and Climate**~~

- ~~Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (ESS1-K-1)~~
- ~~The four seasons occur in a specific order due to their weather patterns. (ESS1-K-1)~~

~~**ESS2.E: Biogeology**~~

- ~~Plants and animals can change their environment. (ESS1-K-2)~~

~~**ESS3.C: Human Impacts on Earth Systems**~~

- ~~Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (ESS1-K-2)~~

K-ESS-2 – Weather and Climate

~~ESS2-K Earth and Human Activity~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

K-ESS-2.1 ~~ESS2-K-1.~~ Students who demonstrate understanding can:

Use a model to represent the relationship between the needs of different plants and animals ~~(including humans)~~ and the places they live.

ESS3.A: Natural Resources

- Living things need water, air, and resources from the land, and they live in places that have the things they need. ~~Humans use natural resources for everything they do.~~ (**K-ESS-2.1**~~ESS2-K-1~~)

  - **Further Explanation:** Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.

K-ESS-2.2 Students who demonstrate understanding can:

~~ESS2-K-2.~~ Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, ~~severe~~ local weather.

Supporting Content ESS3.B: Natural Hazards

- Some kinds of ~~severe~~ weather are more likely than others in a given region. Weather scientists forecast ~~severe~~the weather so that ~~the~~local communities can prepare for and respond to these events. (**K-ESS-2.2**~~ESS2-K-2~~)

Supporting Content ETS1.A: Defining and Delimiting an Engineering Problem

- Asking questions, making observations, and gathering information are helpful in thinking about problems. (**K-ESS-2.2**~~ESS2-K-2~~)

Further Explanation: Emphasis is on local forms of ~~severe~~ weather. Examples relating weather forecasting to preparing and responding could include using forecasts to plan for staying indoors during severe weather; going to cooling centers during heat waves; covering windows before storms.

K-ESS-2.3 Students who demonstrate understanding can:

~~**ESS2-K-3.**~~ **Communicate ~~solutions~~ ideas that** would enable ~~**will reduce the impact of**~~ **humans** to interact in a beneficial way with~~on~~ **the land, water, air, and/or other living things in the local environment.**

Supporting Content ESS3.C: Human Influences~~**Impacts on Earth Systems**~~

- Things that people do ~~to live comfortably~~ can affect the world around them. ~~But they~~ People can ~~make choices that~~ reduce their ~~impacts~~ effects on the land, water, air, and other living things. (**K-ESS-2.3**~~ESS2-K-3~~)

Supporting Content ETS1.B: Developing Possible Solutions

- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (**K-ESS-2.3**~~ESS2-K-3~~)

  - **Further Explanation:** Examples of human influence on the land could include planting trees after a burn, protecting farm fields from erosion, or keeping plastic trash out of waterways. ~~Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.~~
  ~~Supporting Content~~

~~**ESS3.A: Natural Resources**~~

- ~~Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. (ESS2-K-1)~~

~~**ESS3.B: Natural Hazards**~~

- ~~Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (ESS2-K-2)~~

~~**ESS3.C: Human Impacts on Earth Systems**~~

- ~~Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (ESS2-K-3)~~

~~**ETS1.A: Defining and Delimiting an Engineering Problem**~~

- ~~Asking questions, making observations, and gathering information are helpful in thinking about problems. (ESS2-K-2)~~

~~**ETS1.B: Developing Possible Solutions**~~

- ~~Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (ESS2-K-3)~~

GRADE 1

Physical Science
1-PS-1 – Waves

~~ELEMENTARY SCHOOL (1ST GRADE)~~

~~PS: Physical Sciences~~

~~PS1-1 Waves~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

1-PS-1.1 ~~PS1-1-1.~~ Students who demonstrate understanding can:

With guidance and support, plan~~Plan~~ **and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.**

Supporting Content PS4.A: Wave Properties

- Sound can make matter vibrate, and vibrating matter can make sound. (**1-PS-1.1**~~PS1-1-1~~)

- **Further Explanation:** Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.

1-PS-1.2 Students who demonstrate understanding can:

With guidance and support, make ~~PS1-1-2. Make~~ **observations to construct an evidence-based** explanation~~account~~ **that objects in darkness can be seen only when illuminated.**

Supporting Content PS4.B: Electromagnetic Radiation (light)

- Objects can be seen if light is available to illuminate them or if they give off their own light. (**1-PS-1.2**~~PS1-1-2~~)

  - **Further Explanation:** Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.

1-PS-1.3 Students who demonstrate understanding can:

With guidance and support, plan ~~**PS1-1-3. Plan**~~ **and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.**

Supporting Content PS4.B: Electromagnetic Radiation (light)

- Some materials allow light to pass through them, others allow only some light through and others block all the light ~~and create~~creating a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.) (**1-PS-1.3**~~PS1-1-3~~)

  - **Further Explanation:** Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror).
  - **Assessment**~~**Content**~~ **Limit:** Assessment does not include the speed of light.

1-PS-1.4 Students who demonstrate understanding can:

~~Use tools and materials to~~ Design ~~**PS1-1-4. Use tools and materials to design**~~ **and build a device that uses light or sound to communicate** ~~**solve the problem of communicating**~~ **over a distance.**

Supporting Content PS4.C: Information Technologies and Instrumentation

- People also use a variety of devices to communicate (send and receive information) over long distances. (**1-PS-1.4**~~PS1-1-4~~)

- **Further Explanation**: Examples of devices could include a light source to send signals, paper cup and string "telephones," and a pattern of drum beats.
- **Assessment ~~Content~~ Limit:** Assessment does not include technological details for how communication devices work.

Supporting Content

~~**PS4.A: Wave Properties**~~

- ~~Sound can make matter vibrate, and vibrating matter can make sound. (PS1-1-1)~~

~~**PS4.B: Electromagnetic Radiation (light)**~~

- ~~Objects can be seen if light is available to illuminate them or if they give off their own light. (PS1-1-2)~~
- ~~Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.) (PS1-1-3)~~

~~**PS4.C: Information Technologies and Instrumentation**~~

- ~~People also use a variety of devices to communicate (send and receive information) over long distances. (PS1-1-4)~~

Life Science

1-LS-1 – Molecules to Organisms: Structure and Processes

~~**LS: Life Sciences**~~

~~**Molecules to Organisms: Structure and Processes**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

1-LS-1.1 ~~LS1-1-1.~~Students who demonstrate understanding can:

Design and build ~~**Use materials to design**~~ **a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.**

Supporting Content LS1.A: Structure and Function

- All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (**1-LS-1.1** ~~LS1-1-1~~)

Supporting Content LS1.D: Information Processing

- Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (**1-LS-1.1** ~~LS1-1-1~~)

- **Further Explanation:** Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.

1-LS-1.2 Students who demonstrate understanding can:

Obtain information to identify ~~**LS1-1-2. Read texts and use media to determine**~~ **patterns** ~~**in**~~ **of behavior** ~~**of**~~ **in parents and offspring that help offspring survive.**

Supporting Content LS1.B: Growth and Development of Organisms

- Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (**1-LS-1.2**~~LS1-1-2~~)

- **Further Explanation**: Information should be obtained from text readings and media provided by the teacher. Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).

Prior 1-LS-1.3 Moved to 3rd Grade 3-LS-1.3

~~**LS1-1-3. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.**~~

- ~~Further Explanation: Changes organisms go through during their life form a pattern.~~

~~**Content Limit: Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.**~~

1-LS-1.3 Students who demonstrate understanding can: *(moved from Kindergarten prior K-LS-1.2)*

Use classification supported by evidence to differentiate between living and non-living items.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Living and non-living things have distinct characteristics. (~~LS1-K-2~~1-LS-1.3)

- Further Explanation: Use chart or Venn diagram to sort objects or pictures into living and not-living items.

Supporting Content

~~**LS1.A: Structure and Function**~~

- ~~All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (LS1-1-1)~~

~~**LS1.B: Growth and Development of Organisms**~~

- ~~Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (LS1-1-2)~~
- ~~Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (LS1-1-3)~~

~~**LS1.D: Information Processing**~~

- ~~Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (LS1-1-1)~~

1-LS-2 – Heredity: Inheritance and Variation of Traits

~~LS2-1 Heredity: Inheritance and Variation of Traits~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

1-LS-2.1~~LS2-1-1.~~ Students who demonstrate understanding can:

Make observations to construct an evidence-based explanation~~account~~ **that** offspring~~young plants and animals~~ **are** similar to~~like~~**, but not** identical to~~exactly like~~**, their parents.**

Supporting Content LS3.A: Inheritance of Traits

- Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. (**1-LS-2.**~~LS2-1-1~~)

Supporting Content LS3.B: Variation of Traits

- Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (**1-LS-2.**~~LS2-1-1~~)

- **Further Explanation:** Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.
- ~~Content~~ **Assessment Limit:** Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.

~~**Supporting Content**~~

~~**LS3.A: Inheritance of Traits**~~

- ~~Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. (LS2-1-1)~~

~~**LS3.B: Variation of Traits**~~

- ~~Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (LS2-1-1)~~

Earth and Space Science

1-ESS-1 – Earth's Place in the Universe

~~ESS: Earth and Space Sciences~~

~~ESS1-1 Earth's Place in the Universe~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

1-ESS-1.1 ~~ESS1-1-1.~~Students who demonstrate understanding can:

Use observations of the sun, moon, and stars to describe patterns that can be predicted.

Supporting Content ESS1.A: The Universe and its Stars

- Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (**1-ESS-1.1**~~ESS1-1-1~~)

- **Further Explanation:** Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.
- **Assessment**~~**Content**~~ **Limit:** Assessment of star patterns is limited to stars being seen at night and not during the day.

1-ESS-1.2 Students who demonstrate understanding can:

~~**ESS1-1-2.**~~ **Make observations at different times of year to relate the amount of daylight to the time of year.**

Supporting Content ESS1.B: Earth and the Solar System

- Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (**1-ESS-1.2**~~ESS1-1-2~~)
- Seasons are created by weather patterns for a particular region and time. Local patterns create 4 distinct seasons. (**1-ESS-1.2**~~ESS1-1-2~~)

- **Further Explanation:** Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.
- **Assessment ~~Content~~ Limit:** Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.

~~Supporting Content~~

~~ESS1.A: The Universe and its Stars~~

- ~~Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (ESS1-1-1)~~

~~ESS1.B: Earth and the Solar System~~

- ~~Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (ESS1-1-2)~~
- ~~Seasons are created by weather patterns for a particular region and time. Local patterns create 4 distinct seasons. (ESS1-1-2)~~

GRADE 2

Physical Science

2-PS-1 – Matter and Its Interactions

~~ELEMENTARY SCHOOL (2ND GRADE)~~

~~PS: Physical Sciences~~

~~PS1-2 Matter and Its Interactions~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

2-PS-1.1 ~~PS1-2-1~~. Students who demonstrate understanding can:

Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

Supporting Content PS1.A: Structure and Properties of Matter

- Different kinds of matter exist and many of them can be solid, liquid, or gas depending on temperature. Matter can be described and classified by its observable properties. (**2-PS-1.1**~~PS1-2-1~~)

  - **Further Explanation:** Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.

2-PS-1.2 Students who demonstrate understanding can:

~~**PS1-2-2.**~~ **Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.**

Supporting Content PS1.A: Structure and Properties of Matter

- Different properties are suited to different purposes. (2-PS-1.2, 2-PS-1.3~~PS1-2-2),(PS1-2-3~~)

- **Further Explanation:** Examples of properties could include, strength, flexibility, hardness, texture, and absorbency.
- **Assessment~~Content~~ Limit:** Assessment of quantitative measurements is limited to length.

2-PS-1.3 Students who demonstrate understanding can:

~~**PS1-2-3.**~~ **Make observations to construct an evidence-based** argument that objects, when disassembled, may be used to create new objects using the same set of components. ~~**account of how an object made of a small set of pieces can be disassembled and made into a new object.**~~

Supporting Content PS1.A: Structure and Properties of Matter

- Different properties are suited to different purposes. (2-PS-1.2, 2-PS-1.3)
- A great variety of objects can be built up from a small set of pieces. (**2-PS-1.3**~~PS1-2-3~~)

Further Explanation: Examples of pieces could include blocks, building bricks, or other assorted small objects.

2-PS-1.4 Students who demonstrate understanding can:

~~**PS1-2-4.**~~ **Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.**

Supporting Content PS1.B: Chemical Reactions

- Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. (**2-PS-1.4**~~PS1-2-4~~)

- **Further Explanation**: Examples of reversible changes could include materials such as water and butter at different temperatures. Examples of irreversible changes could include cooking an egg, freezing a plant leaf, and heating paper.

Supporting Content

~~**PS1.A: Structure and Properties of Matter**~~

- ~~Different kinds of matter exist and many of them can be solid, liquid, or gas depending on temperature. Matter can be described and classified by its observable properties. (PS1-2-1)~~
- ~~Different properties are suited to different purposes. (PS1-2-2),(PS1-2-3)~~
- ~~A great variety of objects can be built up from a small set of pieces. (PS1-2-3)~~

~~**PS1.B: Chemical Reactions**~~

- ~~Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. (PS1-2-4)~~

Life Science
2-LS-1 – Ecosystems: Interactions, Energy, and Dynamics

~~LS: Life Sciences~~

~~LS1-2 Ecosystems: Interactions, Energy, and Dynamics~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

2-LS-1.1 ~~LS1-2-1.~~Students who demonstrate understanding can:

~~———~~Plan and conduct an investigation to determine **the impact of light and water on the growth of plants.**~~if plants need sunlight and water to grow.~~

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Plants depend on water and light to grow. (**2-LS-1.1**~~LS1-2-1~~)

Assessment~~**Content**~~ **Limit:** Assessment is limited to testing one variable at a time.

2-LS-1.2 Students who demonstrate understanding can:

~~**LS1-2-2. ———Develop a simple model that**~~ demonstrates how plants depend on animals for pollination or the dispersal of seeds.~~**mimics the function of an animal in dispersing seeds or pollinating plants.**~~

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Some ~~P~~plants can depend on animals for pollination or to move their seeds around. (**2-LS-1.2**~~LS1-2-2~~)

Supporting Content ETS1.B: Developing Possible Solutions

- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.(**2-LS-1.2**~~LS1-2-2~~)

Further Explanation: Emphasis is on the interaction between animals and plants rather than all forms of pollination and seed dispersal.

~~**Supporting Content**~~

~~**LS2.A: Interdependent Relationships in Ecosystems**~~

- ~~Plants depend on water and light to grow. (LS1-2-1)~~
- ~~Plants depend on animals for pollination or to move their seeds around. (LS1-2-2)~~

~~**ETS1.B: Developing Possible Solutions**~~

- ~~Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.(LS1-2-2)~~
- ~~—~~

2-LS-2 – Biological Adaptation: Unity and Diversity

~~LS2-2 Biological Adaptation: Unity and Diversity~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

2-LS-2.1 ~~LS2-2-1.~~Students who demonstrate understanding can:

Make observations of plants and animals to compare the diversity of life in different habitats.

Supporting Content **LS4.D: Biodiversity** ~~**and Humans**~~

- There are many different kinds of living things in any area, and they exist in different places on land and in water. (**2-LS-2.1**~~LS2-2-1~~)

- **Further Explanation:** Emphasis is on the diversity of living things in each of a variety of different habitats.
- **Assessment~~Content~~ Limit:** Assessment does not include specific animal and plant names in specific habitats.

~~Supporting Content~~

~~LS4.D: Biodiversity and Humans~~

- ~~There are many different kinds of living things in any area, and they exist in different places on land and in water. (LS2-2-1)~~

Earth and Space Science

2-ESS-1 – Earth's Place in the Universe

~~ESS: Earth and Space Sciences~~

~~ESS1-2 Earth's Place in the Universe~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

2-ESS-1.1 ~~ESS1-2-1.~~Students who demonstrate understanding can:

Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

Supporting Content ESS1.C: The History of Planet Earth

- Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. (**2-ESS-1.1**~~ESS1-2-1~~)

- **Further Explanation:** Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.
- **Content Limit:** Assessment does not include quantitative measurements of timescales.

~~Supporting Content~~

~~ESS1.C: The History of Planet Earth~~

- ~~Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. (ESS1-2-1)~~

2-ESS-2 – Earth's Systems

~~ESS2-2 Earth's Systems~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

2-ESS-2.1 ~~ESS2-2-1.~~Students who demonstrate understanding can:

Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

Supporting Content ESS2.A: Earth Materials and Systems

- Wind and water can change the shape of the land. (**2-ESS-2.1**~~ESS2-2-1~~)

Supporting Content ETS1.C: Optimizing the Design Solution

- Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (**2-ESS-2.1**~~ESS2-2-1~~)

- **Further Explanation:** Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land.

2-ESS-2.2 Students who demonstrate understanding can:

~~ESS2-2-2.~~ **Develop a model to represent the shapes and kinds of land and bodies of water in an area.**

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Maps show where things are located. One can map the shapes and kinds of land and water in any area. (**2-ESS-2.2**~~ESS2-2-2~~)

- **Assessment**~~**Content**~~ **Limit:** Assessment does not include quantitative scaling in models.

2-ESS-2.3 Students who demonstrate understanding can:

~~ESS2-2-3.~~ **Obtain information to identify where water is found on Earth and that it can be solid or~~,~~ liquid ~~or gas~~.**

Supporting Content **ESS2.C: The Roles of Water in Earth's Surface Processes**

- Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. (**2-ESS-2.3**~~ESS2-2-3~~)

~~**Supporting Content**~~

~~**ESS2.A: Earth Materials and Systems**~~

- ~~Wind and water can change the shape of the land. (ESS2-2-1)~~

~~**ESS2.B: Plate Tectonics and Large-Scale System Interactions**~~

- ~~Maps show where things are located. One can map the shapes and kinds of land and water in any area. (ESS2-2-2)~~

~~**ESS2.C: The Roles of Water in Earth's Surface Processes**~~

- ~~Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. (ESS2-2-3)~~

~~**ETS1.C: Optimizing the Design Solution**~~

- ~~Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (ESS2-2-1)~~

GRADE 3

Physical Science

3-PS-1 – Motion and Stability: Forces and Interactions

~~**ELEMENTARY SCHOOL (3RD GRADE)**~~

~~**PS: Physical Sciences**~~

~~**PS1-3 Motion and Stability: Forces and Interactions**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

3-PS-1.1 ~~PS1-3-1.~~Students who demonstrate understanding can:

Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

Supporting Content PS2.A: Forces and Motion

- Each force acts on one particular object ~~and has~~with both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative additions of forces are used at this level.) (**3-PS-1.1**~~PS1-3-1~~)

  - **Further Explanation:** Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.
  - **Assessment**~~**Content**~~ **Limit:** Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.

3-PS-1.2 Students who demonstrate understanding can:

~~**PS1-3-2.**~~ **Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.**

Supporting Content PS2.A: Forces and Motion

- Force applied to an object can alter the position and motion of that object: revolve, rotate, float, sink, fall and at rest. (**3-PS-1.2**~~PS1-3-2~~)
- The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (Boundary: Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.) (**3-PS-1.2**~~PS1-3-2~~)

- **Further Explanation:** Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.
- **Assessment**~~**Content**~~ **Limit:** Assessment does not include technical terms such as period and frequency.

3-PS-1.3 Students who demonstrate understanding can:~~PS1-3-3.~~

Ask questions to determine cause and effect relationships of static electricity~~**electric**~~ **or magnetic interactions between two objects not in contact with each other.**

Supporting Content PS2.B: Types of Interactions

- Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart. For forces between two magnets, the size of the force also depends on their orientation relative to each other. (3-PS-1.3, 3-PS-1.4)

- **Further Explanation:** An example of static electricity ~~Examples of an electric~~ force could include the force on hair from an electrically charged balloon. ~~and the electrical forces between a charged rod and pieces of paper; e~~ Examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.
- **Assessment**~~**Content**~~ **Limit**: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.

3-PS-1.4 Students who demonstrate understanding can:

~~**PS1-3-4.**~~ **Define a ~~simple design~~ problem that can be solved by applying scientific ideas about magnets.**

Supporting Content PS2.B: Types of Interactions

- Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart. ~~and, f~~For forces between two magnets, the size of the force also depends on their orientation relative to each other. (3-PS-1.3, 3-PS-1.4)

- **Further Explanation:** Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.

~~**Supporting Content**~~

~~**PS2.A: Forces and Motion**~~

- ~~Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative additions of forces are used at this level.) (PS1-3-1)~~
- ~~Force applied to an object can alter the position and motion of that object: revolve, rotate, float, sink, fall and at rest.(PS1-3-2)~~
- ~~The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (Boundary: Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.) (PS1-3-2)~~

~~**PS2.B: Types of Interactions**~~

Life Science

3-LS-1 – From Molecules to Organisms: Structures and Processes

~~**LS: Life Sciences**~~

~~**LS1-1-3.**~~**3-LS-1.1 Students who demonstrate understanding can: *(moved from 1st Grade prior 1-LS-1.3)***

Develop models to ~~describe~~ demonstrate that ~~organisms~~ living things, although they have unique and diverse life cycles, ~~but~~ all have ~~in common~~ birth, growth, reproduction, and death in common. ~~**Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.**~~

Supporting Content LS1.B: Growth and Development of Organisms

- Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (LS1-1-3)

Further Explanation: Changes organisms go through during their life form a pattern.

Assessment ~~Content~~ Limit: Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.

3-LS-2 – Ecosystems: Interactions, Energy, and Dynamics *(Prior 3-LS-1)*

~~**LS1-3 Ecosystems: Interactions, Energy, and Dynamics**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

3-LS-2.1 ~~LS1-3-1.~~Students who demonstrate understanding can: *(prior 3-LS-1.1)*

Construct an argument that some animals form groups that help members survive

Supporting Content LS2.D: Social Interactions and Group Behavior

- Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size. (**3-LS-2.1**~~LS1-3-1~~)

~~**Supporting Content**~~

~~**LS2.D: Social Interactions and Group Behavior**~~

- ~~Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size. (LS1-3-1)~~

3-LS-3 – Heredity Inheritance and Variation of Traits *(Prior 3-LS-2)*

~~**LS2-3- Heredity: Inheritance and Variation of Traits**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

3-LS-3.1 ~~LS2-3-1.~~Students who demonstrate understanding can:

Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

Supporting Content LS3.A: Inheritance of Traits

- Many characteristics of organisms are inherited from their parents.(**3-LS-3.1**~~LS2-3-1~~)

Supporting Content LS3.B: Variation of Traits

- Different organisms vary in how they look and function because they have different inherited information. (**3-LS-3.1**~~LS2-3-1~~)

- **Further Explanation:** Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on non-human organisms ~~other than humans~~.
- **Assessment**~~**Content**~~ **Limit:** Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.

3-LS-3.2 Students who demonstrate understanding can: *(prior 3-LS-2.2)*

~~**LS2-3-2.**~~ **Use evidence to support the explanation that traits can be influenced by the environment.**

Supporting Content LS3.A: Inheritance of Traits

- Many characteristics involve both inheritance and environment. ~~Other~~ Characteristics result from individuals' interactions with the environment, which can range from diet to learning. ~~Many characteristics involve both inheritance and environment.~~ (**3-LS-3.2** ~~LS2-3-~~2)

Supporting Content LS3.B: Variation of Traits

- The environment also affects the traits that an organism develops. (**3-LS-3.2**~~LS2-3-2~~)

Further Explanation: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.

3-LS-3.3 Students who demonstrate understanding can: *(moved from 5th Grade prior 5-LS-2.3)*

Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Supporting Content LS4.C Adaptation

- For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS-3.3)

Further Explanation: Examples of evidence could include needs, ~~and~~ characteristics of the organisms, and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other

~~**LS2-5-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.**~~

~~Further Explanation: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.~~

~~**Supporting Content**~~

~~**LS3.A: Inheritance of Traits**~~

- ~~Many characteristics of organisms are inherited from their parents.(LS2-3-1)~~
- ~~Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (LS2-3-2)~~
- ~~LS3.B: Variation of Traits~~
- ~~Different organisms vary in how they look and function because they have different inherited information. (LS2-3-1)~~
- ~~The environment also affects the traits that an organism develops. (LS2-3-2)~~

Earth and Space Science

3-ESS-1 – **Earth's S**ystems

~~**ESS: Earth and Space Sciences**~~

~~**ESS1-3 Earth's Systems**~~

~~**Performance Standards**~~

- ~~Students who demonstrate understanding can:~~

3-ESS-1.1 ~~ESS1-3-1.~~Students who demonstrate understanding can:

Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

Supporting Content ESS2.D: Weather and Climate

- Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (**3-ESS-1.1**~~ESS1-3-1~~)

- **Further Explanation:** Examples of data could include average temperature, precipitation, and wind direction.
- **Assessment**~~**Content**~~ **Limit:** Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change.

3-ESS-1.2 Students who demonstrate understanding can:

~~ESS1-3-2.~~ **Obtain and combine information to describe climates in different regions of the world.**

Supporting Content ESS.D: Weather and Climate

- Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. (**3-ESS-1.2**~~ESS1-3-2~~)

~~Supporting Content~~

~~ESS2.D: Weather and Climate~~

- ~~Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (ESS1-3-1)~~
- ~~Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. (ESS1-3-2)~~

3-ESS-2 – Earth and Human Activity

~~ESS2-3 Earth and Human Activity~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

3-ESS-2.1 ~~ESS2-3-1.~~Students who demonstrate understanding can:

Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

Supporting Content **ESS3.B: Natural Hazards**

- A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. (**3-ESS-2.1**~~ESS2-3-1~~)

- **Further Explanation:** Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.

Supporting Content

~~**ESS3.B: Natural Hazards**~~

- ~~A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. (ESS2-3-1)~~

GRADE 4

Physical Science

4-PS-1 - Energy

~~**ELEMENTARY SCHOOL (4TH GRADE)**~~

~~**PS: Physical Sciences**~~

~~**PS1-4 Energy**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

4-PS-1.1 ~~PS1-4-1~~. Students who demonstrate understanding can:

Use evidence to construct an explanation relating the speed of an object to the energy of that object.

Supporting Content PS3.A: Definitions of Energy

- The faster a given object is moving, the more energy it possesses. (**4-PS-1.1**~~PS1-4-1~~)

- **Assessment**~~**Content**~~ **Limit:** Assessment does not include quantitative measures of changes in the speed of an object or on any precise or quantitative definition of energy.

4-PS-1.2 Students who demonstrate understanding can:

~~**PS1-4-2.**~~ **Make observations to provide evidence that energy can be transferred from** ~~**place to place**~~ **by heat, sound, light, heat, and electric currents.**

Supporting Content PS3.A: Definitions of Energy

- Energy can be moved from place to place by moving objects or through heat, sound, light, or electric currents. (PS1-4-2, PS1-4-3)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. (4-PS-1.2, 4-PS-1.3~~PS1-4-2, PS1-4-3~~)
- Light ~~also~~ transfers energy from place to place. (**4-PS-1.2**~~PS1-4-2~~)
- Energy can ~~also~~ be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy. (4-PS-1.2, 4-PS-1.4~~PS1-4-2, PS1-4-4~~)

- **Assessment~~Content~~ Limit:** Assessment does not include quantitative measurements of energy.

4-PS-1.3 Students who demonstrate understanding can:

~~**PS1-4-3.**~~ **Ask questions and predict outcomes about the changes in energy that occur when objects collide.**

Supporting Content PS3.A: Definitions of Energy

- Energy can be moved from place to place by moving objects or through heat, sound, light, or electric currents. (4-PS-1.2, 4-PS-1.3)

Supporting Content PS3.B Conservation of Energy and Energy Transfer

- Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. (4-PS-1.2, 4-PS-1.3)

Supporting Content PS3.C: Relationship Between Energy and Forces

- When objects collide, the contact forces transfer energy so as to change the objects' motions. (**4-PS-1.3**~~PS1-4-3~~)

- **Further Explanation:** Emphasis is on the change in the energy due to the change in speed, not on the forces, as objects interact.
  Assessment ~~Content~~ Limit: Assessment does not include quantitative measurements of energy.
-

4-PS-1.4 Students who demonstrate understanding can:

~~**PS1-4-4.**~~ **Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.**

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced by transforming the energy of motion into electrical energy. (4-PS-1.2, **4-PS-1.4**)

Supporting Content PS3.D: Energy in Chemical Processes and Everyday Life

- The expression “produce energy” typically refers to the conversion of stored energy into a desired form for practical use. (**4-PS-1.4**~~PS1-4-4~~)

Supporting Content **ETS1.A: Defining Engineering Problems**

——Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.(**4-PS-1.4**~~PS1-4-4~~)

- **Further Explanation:** Examples of devices could include electric circuits that convert electrical energy into motion energy of a vehicle, light, or sound; and, a passive solar heater that converts light into heat. Examples of constraints could include the materials, cost, or time to design the device.
- ~~Content~~ **Assessment Limit:** Devices should be limited to those that convert motion energy to electric energy or use stored energy to cause motion or produce light or sound.

Supporting Content

~~**PS3.A: Definitions of Energy**~~

- ~~The faster a given object is moving, the more energy it possesses. (PS1-4-1)~~
- ~~Energy can be moved from place to place by moving objects or through sound, light, or electric currents. (PS1-4-2, PS1-4-3)~~

~~**PS3.B: Conservation of Energy and Energy Transfer**~~

- ~~Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. (PS1-4-2, PS1-4-3)~~
- ~~Light also transfers energy from place to place. (PS1-4-2)~~
- ~~Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy. (PS1-4-2, PS1-4-4)~~

~~**PS3.C: Relationship Between Energy and Forces**~~

- ~~When objects collide, the contact forces transfer energy so as to change the objects' motions. (PS1-4-3)~~

~~**PS3.D: Energy in Chemical Processes and Everyday Life**~~

- ~~The expression "produce energy" typically refers to the conversion of stored energy into a desired form for practical use. (PS1-4-4)~~

~~**ETS1.A: Defining Engineering Problems**~~

- ~~Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.(PS1-4-4)~~

4-PS-2 - Waves

~~**PS2-4 Waves**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

4-PS-2.1 ~~PS2-4-1.~~Students who demonstrate understanding can:

Develop a model of a simple mechanical wave~~waves~~ **to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.**

Supporting Content PS4.A: Wave Properties

- Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets a beach. (**4-PS-2.1**~~PS2-4-1~~)
- Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks). (**4-PS-2.1**~~PS2-4-1~~)

- **Further Explanation:** Examples of models could include diagrams, analogies, and physical models using wire to illustrate wavelength and amplitude of waves.
- **Assessment** ~~**Content**~~ **Limit**: Assessment does not include interference effects, electromagnetic waves, non-periodic waves, or quantitative models of amplitude and wavelength.

4-PS-2.2 Students who demonstrate understanding can:

~~**PS2-4-2.**~~ **Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.**

Supporting Content PS4.B: Electromagnetic Radiation

- An object can be seen when light reflected from its surface enters the eyes. (**4-PS-2.2**~~PS2-4-2~~)

Assessment ~~**Content**~~ **Limit:** Assessment does not include knowledge of specific colors reflected and seen, the cellular mechanisms of vision, or how the retina works.

-

4-PS-2.3 Students who demonstrate understanding can:

~~**PS2-4-3.**~~ **Generate and compare multiple solutions that use patterns to transfer information.**

Supporting Content PS4.C: Information Technologies and Instrumentation

- Digitized information can be transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information—convert it from digitized form to voice—and vice versa. (**4-PS-2.3**~~PS2-4-3~~)

Supporting Content ETS1.C: Optimizing the Design Solution

- Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints. (**4-PS-2.3**~~PS2-4-3~~)

- **Further Explanation:** Examples of solutions could include drums sending coded information through sound waves, using a grid of 1's and 0's representing black and white to send information about a picture, and using Morse code to send text.

~~**Supporting Content**~~

~~**PS4.A: Wave Properties**~~

- ~~Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets a beach. (PS2-4-1)~~
- ~~Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks). (PS2-4-1)~~

~~**PS4.B: Electromagnetic Radiation**~~

- ~~An object can be seen when light reflected from its surface enters the eyes. (PS2-4-2)~~

~~**PS4.C: Information Technologies and Instrumentation**~~

- ~~Digitized information can be transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information—convert it from digitized form to voice—and vice versa. (PS2-4-3)~~

~~**ETS1.C: Optimizing the Design Solution**~~

- ~~Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints. (PS2-4-3)~~

Life Science

4-LS-1 – Molecules to Organisms:Structure and Processes

~~LS: Life Sciences~~

~~LS1-4 Molecules to Organisms: Structure and Processes~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

4-LS-1.1 ~~LS1-4-1.~~Students who demonstrate understanding can:

Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Supporting Content LS1.A: Structure and Function

- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (**4-LS-1.1**~~LS1-4-1~~)
- Animals have various body systems with specific functions for sustaining life: skeletal, circulatory. respiratory, muscular, digestive, etc. (**4-LS-1.1**~~LS1-4-1~~).

- **Further Explanation**: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.
- **Assessment ~~Content~~ Limit**: Assessment is limited to macroscopic structures within plant and animal systems.

4-LS-1.2 Students who demonstrate understanding can:

~~LS1-4-2.~~ **Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.**

Supporting Content LS1.D: Information Processing

- Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (**4-LS-1.2**~~LS1-4-2~~)

- **Further Explanation:** Emphasis is on systems of information transfer.
- **Assessment~~Content~~ Limit:** Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.

Supporting Content

~~**LS1.A: Structure and Function**~~

- ~~Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (LS1-4-1)~~
- ~~Animals have various body systems with specific functions for sustaining life: skeletal, circulatory, respiratory, muscular, digestive, etc. (LS1-4-1).~~

~~**LS1.D: Information Processing**~~

- ~~Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (LS1-4-2)~~

Moved to 5th grade ~~LS2-4 Ecosystems: Interactions, Energy, and Dynamics~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

~~LS2-4-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.~~

- ~~Further Explanation: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.~~
- ~~Content Limit: Assessment does not include molecular explanations.~~

~~Supporting Content~~

~~LS2.A: Interdependent Relationships in Ecosystems~~

- ~~The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as "decomposers." Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem. (LS2-4-1)~~

~~LS2.B: Cycles of Matter and Energy Transfer in Ecosystems~~

- ~~Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. (LS2-4-1)~~

Earth and Space Science

4-PS-1 – Earth's Place in the Universe

~~ESS: Earth and Space Sciences~~

~~ESS1-4 Earth's Place in the Universe~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

4-ESS-1.1 ~~ESS1-4-1.~~ Students who demonstrate understanding can:

Identify evidence from patterns in rock formations and fossils in rock layers ~~for changes in a landscape over time~~ to support an explanation for changes in a landscape over time.

Supporting Content ESS1.C: The History of Planet Earth

- Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed. (**4-ESS-1.1** ~~ESS1-4-1~~)
- There are three classifications of rocks produced within the rock cycle: sedimentary, metamorphic, and igneous. (**4-ESS-1.1** ~~ESS1-4-1~~).

- **Further Explanation:** Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock.
- **Assessment~~Content~~ Limit:** Assessment does not include specific knowledge of the mechanism of rock formation or memorization of specific rock formations and layers. Assessment is limited to relative time.

~~Supporting Content~~

~~ESS1.C: The History of Planet Earth~~

- ~~Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed. (ESS1-4-1)~~
- ~~There are three classifications of rocks produced within the rock cycle: sedimentary, metamorphic, and igneous. (ESS1-4-1).~~

4-ESS-2 – Earth's Systems

~~ESS2-4 Earth's Systems~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

4-ESS-2.1 ~~ESS2-4-1.~~Students who demonstrate understanding can:

Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

Supporting Content ESS2.A: Earth Materials and Systems

- Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. (**4-ESS-2.1**~~ESS2-4-1~~)

Supporting Content ESS2.E: Biogeology

- Living things affect the physical characteristics of their regions. Examples could include a beaver constructing a dam to create a pond or tree roots breaking a rock. (**4-ESS-2.1**~~ESS2-4-1~~)

  - **Further Explanation:** Examples of variables to test could include angle of slope in the downhill movement of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycles of heating and cooling, and volume of water flow.
  - **Assessment ~~Content~~ Limit:** Assessment is limited to a single form of weathering or erosion.

4-ESS-2.2 Students who demonstrate understanding can:

~~ESS2-4-2.~~ **Analyze and interpret data from maps to describe patterns of Earth's features.**

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth. (**4-ESS-2.2**~~ESS2-4-2~~)

  - **Further Explanation**: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.

Supporting Content

~~**ESS2.A: Earth Materials and Systems**~~

- ~~Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. (ESS2-4-1)~~

~~**ESS2.B: Plate Tectonics and Large-Scale System Interactions**~~

- ~~The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth. (ESS2-4-2)~~

~~**ESS2.E: Biogeology**~~

- ~~Living things affect the physical characteristics of their regions. (ESS2-4-1)~~

4-ESS-3 – Earth and Human Activity

~~ESS3-4 Earth and Human Activity~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

4-ESS-3.1 ~~ESS3-4-1.~~Students who demonstrate understanding can:

Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Supporting Content ESS3.A: Natural Resources

- Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not. (**4-ESS-3.1**~~ESS3-4-1~~)

Further Explanation: Examples of renewable energy resources could include wind energy, water behind dams, and sunlight; non-renewable energy resources are fossil fuels and atomic energy. Examples of environmental effects could include biological effects from moving parts, erosion, change of habitat, and pollution.~~Examples of environmental effects could include negative biological impacts of wind turbines, erosion due to deforestation, loss of habitat due to dams, loss of habitat due to surface mining, and air pollution from burning of fossil fuels.~~

4-ESS-3.2 Students who demonstrate understanding can:

~~ESS3-4-2.~~**Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.**

Supporting Content ESS3.B: Natural Hazards

- A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts. (**4-ESS-3.2**~~ESS3-4-2~~)

Supporting Content ETS1.B: Designing Solutions to Engineering Problems

Testing a solution involves investigating how well it performs under a range of likely conditions. (**4-ESS-3.2**~~ESS3-4-2~~)

- **Further Explanation:** Examples of solutions could include designing an earthquake resistant building and improving monitoring of volcanic activity.
- **Assessment~~Content~~ Limit:** Assessment is limited to earthquakes, floods, tsunamis, and volcanic eruptions.

~~Supporting Content~~

~~ESS3.A: Natural Resources~~

- ~~Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not. (ESS3-4-1)~~

~~ESS3.B: Natural Hazards~~

- ~~A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts. (ESS3-4-2)~~

~~ETS1.B: Designing Solutions to Engineering Problems~~

- ~~Testing a solution involves investigating how well it performs under a range of likely conditions. (ESS3-4-2)~~

GRADE 5

Physical Science
5-PS-1 – Matter and Its Interactions

~~Elementary School (5th Grade) PS: Physical Sciences~~

~~PS1-5 Matter and Its Interactions~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

5-PS-1.1 ~~PS1-5-1.~~Students who demonstrate understanding can:

Develop a model to describe that matter is made of particles too small to be seen.

Supporting Content **PS1.A: Structure and Properties of Matter**

- Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means. A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects. (**5-PS-1.1**~~PS1-5-1~~)

- **Further Explanation**: Examples of evidence supporting a model could include adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water, and evaporating salt water.
- **Assessment**~~**Content**~~ **Limit:** Assessment does not include the atomic-scale mechanism of evaporation and condensation or defining the unseen particles.

5-PS-1.2 Students who demonstrate understanding can:

~~**PS1-5-2.**~~ **Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.**

Supporting Content PS1.A: Structure and Properties of Matter

- The amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish. (**5-PS-1.2**~~PS1-5-2~~)

Supporting Content PS1.B: Chemical Reactions

No matter what reaction or change in properties occurs, the total weight of the substances does not change. (Boundary: Mass and weight are not distinguished at this grade level.) (PS1-5-2)

- **Further Explanation:** Examples of reactions or changes could include phase changes, dissolving, and mixing that form new substances.
- **Assessment ~~Content~~ Limit**: Assessment does not include distinguishing mass and weight.

5-PS-1.3 Students who demonstrate understanding can:

~~**PS1-5-3.**~~ **Make observations and measurements to identify materials based on their properties.**

Supporting Content PS1.A: Structure and Properties of Matter ~~Measure~~

Measurements of a variety of properties can be used to identify materials. (Boundary: At this grade level, mass and weight are not distinguished, and no attempt is made to define the unseen particles or explain the atomic-scale mechanism of evaporation and condensation.) (**5-PS-1.3**~~PS1-5-3~~)

~~PS1.B: Chemical Reactions~~

~~When two or more different substances are mixed, a new substance with different properties may be formed. (PS1-5-4)~~

- **Further Explanation:** Examples of materials to be identified could include baking soda and other powders, metals, minerals, and liquids. Examples of properties could include color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility; density is not intended as an identifiable property.
- **Assessment ~~Content~~ Limit:** Assessment does not include density or distinguishing mass and weight.

5-PS-1.4 Students who demonstrate understanding can:

~~**PS1-5-4.**~~ **Conduct an investigation to determine whether the mixing of two or more substances results in new substances.**

Supporting Content PS1.B: Chemical Reactions

- When two or more different substances are mixed, a new substance with different properties may be formed. (**5-PS-1.4**)

Supporting Content

~~**PS1.A: Structure and Properties of Matter**~~

- ~~Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means. A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects. (PS1-5-1)~~
- ~~The amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish. (PS1-5-2)~~
- ~~Measurements of a variety of properties can be used to identify materials. (Boundary: At this grade level, mass and weight are not distinguished, and no attempt is made to define the unseen particles or explain the atomic-scale mechanism of evaporation and condensation.) (PS1-5-3)~~

~~**PS1.B: Chemical Reactions**~~

- ~~When two or more different substances are mixed, a new substance with different properties may be formed. (PS1-5-4)~~
- ~~No matter what reaction or change in properties occurs, the total weight of the substances does not change. (Boundary: Mass and weight are not distinguished at this grade level.) (PS1-5-2)~~

5-PS-2 – Motion and Stability: Forces and Interactions

~~**PS2-5 Motion and Stability: Forces and Interactions**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

5-PS-2.1 ~~**PS2-5-1.**~~Students who demonstrate understanding can:

Support an argument that ~~the~~ Earth's gravitational force exerted ~~by Earth~~ on objects is directed downward.

Supporting Content PS2.B: Types of Interactions

- The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center. (**5-PS-2.1**~~PS2-5-1~~)

Further Explanation: "Downward" is a local description of the direction that points toward the center of the spherical Earth. Examples could include reasoning that since an object that is initially stationary when held moves downward when it is released, there must be a force (gravity) acting on the object that pulls the object toward the center of Earth.

- ~~**Assessment Content Limit:** Assessment does not include mathematical representation of gravitational force.~~

~~**Supporting Content**~~

~~**PS2.B: Types of Interactions**~~

- ~~The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center. (PS2-5-1)~~

5-PS-3 - Energy

~~**PS3-5 Energy**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

5-PS-3.1 ~~PS3-5-1~~. Students who demonstrate understanding can:

Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Supporting Content PS3.D: Energy in Chemical Processes and Everyday Life

- The energy released from food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water). (**5-PS-3.1** ~~PS3-5-1~~)

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. (**5-PS-3.1** ~~PS3-5-1~~)

- **Further Explanation:** Examples of models could include diagrams, and flow charts.

Supporting Content

~~**PS3.D: Energy in Chemical Processes and Everyday Life**~~

- ~~The energy released from food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water). (PS3-5-1)~~

~~**LS1.C: Organization for Matter and Energy Flow in Organisms**~~

- ~~Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. (PS3-5-1)~~

Life Science

5-LS-1 – Molecules to Organisms: Structure and Processes

~~**LS: Life Sciences**~~

~~**LS1.5 Molecules to Organisms: Structure and Processes**~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

5-LS-1.1 ~~LS1-5-1~~. Students who demonstrate understanding can:

Support an argument that plants get ~~the materials~~what they need for growth chiefly from air~~, and~~ water, and energy from the sun.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Plants acquire their material for growth chiefly from air and water. (**5-LS-1.1**~~LS1-5-1~~)

Supporting Content PS3.D: Energy in Chemical Processes and Everyday Life

- The energy released from food was once energy from the sun. ~~that~~ The energy was captured by plants in the chemical process that forms plant matter (from air and water). (5-LS-1.1, *5-PS-3.1*)

- Further Explanation: Emphasis is on the idea that plant matter comes mostly from air and ~~and~~ water, not from the soil.

Supporting Content

~~**LS1.C: Organization for Matter and Energy Flow in Organisms**~~

~~• Plants acquire their material for growth chiefly from air and water. (LS1-5-1)~~

5-LS-2 – Biological Adaptation: Unity and Diversity

~~**LS2.5 Biological Adaptation: Unity and Diversity**~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

5-LS-2.1 ~~LS2-5-1.~~Students who demonstrate understanding can:

Analyze and interpret data from fossils to provide evidence of the types of **organisms and the environments** that existed ~~**in which they lived**~~ **long ago** and compare those to living organisms and their environments.~~.~~

Supporting Content LS4.A: Evidence of Common Ancestry and Diversity

- Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (**5-LS-2.1**~~LS2-5-1~~)
- Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (**5-LS-2.1**~~LS2-5-1~~)

- **Further Explanation:** Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.

5-LS-2.2 Students who demonstrate understanding can:

~~**LS2-5-2. Use evidence to construct**~~ **Construct an** argument with evidence~~**explanation**~~ **for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.**

Supporting Content LS4.B: Natural Selection

- Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (**5-LS-2.2**~~LS2-5-2~~)

Supporting Content LS4.D: Biodiversity ~~and Humans~~

- Populations of animals are classified by their characteristics.(**5-LS-2.2**~~LS2-5-2~~)

- **Further Explanation:** Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.

Moved to the third grade *3-LS-3.3* ~~**LS2-5-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.**~~

- ~~Further Explanation: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.~~

5-LS-2.3 Students who demonstrate understanding can: *(prior 5-LS-2.4)*

~~LS2-5-4.~~ **Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals ~~that live~~living there may change.**

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (**5-LS-2.3**~~LS2-5-4~~)

Supporting Content LS4.D: Biodiversity ~~and Humans~~

- Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (**5-LS-2.3**~~LS2-5-4~~)

- **Further Explanation**: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.
  Assessment~~Content~~ Limit: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.

~~LS2-4 Ecosystems: Interactions, Energy, and Dynamics~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

5-LS-2.4 Students who demonstrate understanding can: *(moved from 4th Grade prior 4-LS-2.1)*

~~LS2-4-1.~~ Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants and animals) and therefore operate as "decomposers." Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem. (**5-LS-2.4**)

Supporting Content LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

- Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. (**5-LS-2.4**)

Further Explanation: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.
Assessment ~~Content~~ Limit: Assessment does not include molecular explanations.

~~Supporting Content~~

~~LS2.A: Interdependent Relationships in Ecosystems~~

- ~~The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as "decomposers." Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem. (LS2-4-1)~~

~~LS2.B: Cycles of Matter and Energy Transfer in Ecosystems~~

- ~~Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. (LS2-4-1)~~

-

Supporting Content

~~**LS2.C: Ecosystem Dynamics, Functioning, and Resilience**~~

- ~~When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (LS2-5-4)~~

~~**LS4.A: Evidence of Common Ancestry and Diversity**~~

- ~~Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (LS2-5-1)~~
- ~~Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (LS2-5-1)~~

~~**LS4.B: Natural Selection**~~

- ~~Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (LS2-5-2)~~

~~**LS4.C: Adaptation**~~

- ~~For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (LS2-5-3)~~

~~**LS4.D: Biodiversity and Humans**~~

- ~~Populations of animals are classified by their characteristics.(LS2-5-2)~~
- ~~Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (LS2-5-4)~~

Earth and Space Science

5-ESS-1 – Earth's Place in the Universe

~~ESS: Earth and Space Sciences~~

~~ESS1-5 Earth's Place in the Universe~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

5-ESS-1.1 ~~ESS1-5-1.~~Students who demonstrate understanding can:

Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.

Supporting Content ESS1.A: The Universe and its Stars

~~—~~The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth. (**5-ESS-1.1**)~~ESS1-5-1)~~

-

- **Assessment~~Content~~ Limit:** Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect apparent brightness (such as stellar masses, age, or stage).

5-ESS-1.2 Students who demonstrate understanding can:

~~ESS1-5-2.~~ **Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.**

Supporting Content ESS1.B: Earth and the Solar System

- The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year. (**5-ESS-1.2**~~ESS1-5-2~~)

- **Further Explanation:** Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months.
- **Assessment ~~Content~~ Limit**: Assessment does not include causes of seasons.

Supporting Content

~~**ESS1.A: The Universe and its Stars**~~

- ~~The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth. (ESS1-5-1)~~

~~**ESS1.B: Earth and the Solar System**~~

- ~~The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year. (ESS1-5-2)~~

5-ESS-2 – Earth's Systems

~~ESS2-5 Earth's Systems~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

5-ESS-2.1~~ESS2-5-1~~. Students who demonstrate understanding can:

Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

Supporting Content ESS2.A: Earth Materials and Systems

- Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather. (**5-ESS-2.1**~~ESS2-5-1~~)

~~•~~ **Further Explanation:** Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system.
Assessment ~~**Content**~~ **Limit:** Assessment is limited to the interactions of two systems at a time.

5-ESS-2.2 Students who demonstrate understanding can:

~~•~~

~~**ESS2-5-2.**~~ **Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.**

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- Nearly all of Earth's available water is in the ocean. Most fresh water is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere. (ESS2-5-2)

- **Assessment~~Content~~ Limit**: Assessment is limited to oceans, lakes, rivers, glaciers, ground water, and polar ice caps, and does not include the atmosphere.

~~Supporting Content~~

~~ESS2.A: Earth Materials and Systems~~

- ~~Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather. (ESS2-5-1)~~

~~ESS2.C: The Roles of Water in Earth's Surface Processes~~

- ~~Nearly all of Earth's available water is in the ocean. Most fresh water is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere. (ESS2-5-2)~~

5-ESS-3 – Earth and Human Activity

~~ESS3-5 Earth and Human Activity~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

5-ESS-3.1 ~~ESS3-5-1.~~Students who demonstrate understanding can:

~~Support, obtain~~ Obtain and combine information about ways ~~individual~~ communities ~~use science ideas to~~ protect ~~the~~ Earth's resources and environment **using scientific ideas.**

Supporting Content **ESS3.C: Human I~~mpact~~nfluences on Earth Systems**

- Human activities in agriculture, industry, and everyday life have effects on the land, vegetation, streams, ocean, air, and even outer space. Individuals and communities ~~are doing things to help protect Earth's resources and environments.~~ can often mitigate these effects through innovation and technology. (5-ESS-3.1)~~(ESS3-5-1)~~

Supporting Content

~~**ESS3.C: Human Impacts on Earth Systems**~~

- ~~Human activities in agriculture, industry, and everyday life have effects on the land, vegetation, streams, ocean, air, and even outer space. Individuals and communities are doing things to help protect Earth's resources and environments. (ESS3-5-1)~~

MIDDLE SCHOOL

Physical Science
MS-PS-1 – Matter and Its Interactions

~~**Middle School (6-8) PS: Physical Sciences**~~

~~**PS1-MS Matter and Its Interactions**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

MS-PS-1.1 ~~PS1-MS-1.~~ Students who demonstrate understanding can:

Develop models to describe the atomic composition of simple molecules~~ and extended structures~~.

PS1.A Structure and Properties of Matter

- Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms. (**MS-PS-1.1**~~PS1-MS-1~~)
- Solids may be formed from molecules, or they may be extended structures with repeating subunits (e.g., crystals). (**MS-PS-1.1**~~PS1-MS-1~~)

  - **Further Explanation:** Emphasis is on developing models of molecules that vary in complexity. Examples of simple molecules could include ammonia and methanol. ~~Examples of extended structures could include sodium chloride or diamonds.~~ Examples of ~~molecular-level~~ models could include drawings, 3D ball and stick structures, or computer representations~~ showing different molecules with different types of atoms~~.
- **Assessment ~~Content~~ Limit:** Assessment does not include valence electrons and bonding energy, ~~discussing~~ the ionic nature of subunits of complex structures, or a complete depiction of all individual atoms in a complex molecule or extended structure.

MS-PS-1.2 Students who demonstrate understanding can:

~~PS1-MS-2~~**. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.**

Supporting Content PS1.A: Structure and Properties of Matter

- Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. (MS-PS-1.2, MS-PS-1.3~~PS1-MS-2, PS1-MS-3~~)

Supporting Content PS1.B: Chemical Reactions

- Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. (MS-PS-1.2, MS-PS-1.3, MS-PS-1.5)

  - **Further Explanation**: Examples of reactions could include burning sugar or steel wool, fat reacting with sodium hydroxide, and mixing zinc with hydrogen chloride.
  - **Assessment~~Content~~ Limit:** Assessment is limited to analysis of the following properties: density, melting point, boiling point, solubility, flammability, and odor.

MS-PS-1.3 Students who demonstrate understanding can:

~~PS1-MS-3.~~ Construct a scientific explanation, based on evidence, ~~Gather and make sense of information~~ **to describe that synthetic materials come from natural resources~~ and impact society~~.**

Supporting Content PS1.A: Structure and Properties of Matter

- Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. (MS-PS-1.2, MS-PS-1.3)

Supporting Content PS1.B Chemical Reactions

- Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. (MS-PS-1.2, MS-PS-1.3, MS-PS-1.5)

  - **Further Explanation:** Emphasis is on natural resources that undergo a chemical process to form the synthetic material. Examples of new materials could include new medicine, foods, and alternative fuels.
  - **Assessment~~Content~~ Limit**: Assessment is limited to qualitative information.

MS-PS-1.4 Students who demonstrate understanding can:

~~PS1-MS-4.~~ **Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.**

Supporting Content PS1.A: Structure and Properties of Matter

- Gases and liquids are made of molecules or inert atoms that are moving about relative to each other. (**MS-PS-1.4**~~PS1-MS-4~~)
- In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they happen to collide. In a solid, atoms are closely spaced and may vibrate in position but do not change relative locations. (**MS-PS-1.4** ~~PS1-MS-4~~)
- The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter. (**MS-PS-1.4**)
-

Supporting Content PS3.A: Definitions of Energy

- The term "heat" as used in everyday language refers both to thermal energy (the motion of atoms or molecules with in a substance) and the transfer of that thermal energy from one object to another. In science, heat is used only for this second meaning; it refers to the energy transferred due to the temperature difference between two objects. (**MS-PS-1.4**~~PS1-MS-4~~)
- The temperature of a system is proportional to the average internal kinetic energy and potential energy per atom or molecule (whichever is the appropriate building block for the system's material). The details of that relationship depend on the type of atom or molecule and the interactions among the atoms in the material. Temperature is not a direct measure of a system's total thermal energy. The total thermal energy (sometimes called total internal energy) of a system depends jointly on the temperature, the total number of atoms in the system, and the state of the material. (MS-PS-1.4)

- **Further Explanation**: Emphasis is on qualitative molecular-level models of solids, liquids, and gases to show that adding or removing thermal energy increases or decreases kinetic energy of the particles until a change of state occurs. Examples of models could include drawings and diagrams. Examples of particles could include molecules or inert atoms. Examples of pure substances could include water, carbon dioxide, and helium.

MS-PS-1.5 Students who demonstrate understanding can:

~~PS1-MS-5.~~ **Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.**

Supporting Content PS1.B Chemical Reactions

- Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. (MS-PS-1.2, MS-PS-1.3, MS-PS-1.5~~PS1-MS-1, PS1-MS-3, PS1-MS-5~~)
- The total number of each type of atom is conserved, and thus the mass does not change. (**MS-PS-1.5**~~PS1-MS-5~~)

- **Further Explanation**: Emphasis is on law of conservation of matter and on physical models or drawings, including digital forms, that represent atoms.
- **Assessment~~Content~~ Limit**: Assessment does not include the use of atomic masses, balancing symbolic equations, or intermolecular forces.

MS-PS-1.6 Students who demonstrate understanding can:

~~PS1-MS-6~~. Undertake a design project to construct, test, and/or modify a device that either releases or absorbs thermal energy by chemical processes.

Supporting Content PS1.B Chemical Reactions

- Some chemical reactions release energy, others store energy. (**MS-PS-1.6**~~PS1-MS-6~~)

Supporting Content ETS1.B Developing Possible Solutions

- A solution needs to be tested, and then modified on the basis of the test results in order to improve it. (**MS-PS-1.6**~~PS1-MS-6~~)

Supporting Content ETS1.C: Developing Possible Solutions

- Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of the characteristics may be incorporated into the new design. (MS-PS-1.6)
- The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution. (MS-PS-1.6)~~PS1-MS-6~~)

- **Further Explanation**: Emphasis is on the design, controlling the transfer of energy to the environment, and modification of a device using factors such as type and concentration of a substance. Examples of designs could involve chemical reactions such as dissolving ammonium chloride or calcium chloride (i.e., hand-warmers).~~.~~
- **Assessment ~~Content~~ Limit**: Assessment is limited to the criteria of amount, time, and temperature of substance in testing the device.

~~**Supporting Content**~~

~~**PS1.A Structure and Properties of Matter**~~

- ~~Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms. (PS1-MS-1)~~
- ~~Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. (PS1-MS-2, PS1-MS-3)~~

- Gases and liquids are made of molecules or inert atoms that are moving about relative to each other. (PS1-MS-4)
- In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they happen to collide. In a solid, atoms are closely spaced and may vibrate in position but do not change relative locations. (PS1-MS-4)
- Solids may be formed from molecules, or they may be extended structures with repeating subunits (e.g., crystals). (PS1-MS-1)
- The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter. (PS1-MS-4)

PS1.B: Chemical Reactions

- Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. (PS1-MS-1, PS1-MS-3, PS1-MS-5)
- The total number of each type of atom is conserved, and thus the mass does not change. (PS1-MS-5)
- Some chemical reactions release energy, others store energy. (PS1-MS-6)

PS3.A: Definitions of Energy

- The term "heat" as used in everyday language refers both to thermal energy (the motion of atoms or molecules within a substance) and the transfer of that thermal energy from one object to another. In science, heat is used only for this second meaning; it refers to the energy transferred due to the temperature difference between two objects. (PS1-MS-4)
- The temperature of a system is proportional to the average internal kinetic energy and potential energy per atom or molecule (whichever is the appropriate building block for the system's material). The details of that relationship depend on the type of atom or molecule and the interactions among the atoms in the material. Temperature is not a direct measure of a system's total thermal energy. The total thermal energy (sometimes called total internal energy) of a system depends jointly on the temperature, the total number of atoms in the system, and the state of the material. (PS1-MS-6)

ETS1.B: Developing Possible Solutions

- A solution needs to be tested, and then modified on the basis of the test results in order to improve it. (PS1-MS-6)
- The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution. (PS1-MS-6)

MS-PS-2 – Motion and Stability: Forces and Interactions

PS2-MS: Motion and Stability: Forces and Interactions

Performance Standards

Students who demonstrate understanding can:

MS-PS-2.1 PS2-MS-1. Students who demonstrate understanding can:

Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.

Supporting Content PS2.A: Forces and Motion

- For any pair of interacting objects, the force exerted by the first object on the second object is equal in strength to the force that the second object exerts on the first, but in the opposite direction (Newton's third law). (**MS-PS-2.1**~~PS2-MS-1~~)

  - **Further Explanation**: Examples of practical problems could include the impact of collisions between two cars, between a car and stationary objects, and between a meteor and a space vehicle.
  - **Assessment**~~**Content**~~ **Limit**: Assessment is limited to vertical or horizontal interactions in one dimension.

MS-PS-2.2 Students who demonstrate understanding can:

~~**PS2-MS-2.**~~ **Plan and conduct an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.**

Supporting Content PS2.A: Forces and Motion

- The motion of an object is determined by the sum of the forces acting on it; if the total force on the object is not zero, its motion will change. The greater the mass of the object, the greater the force needed to achieve the same change in motion. For any given object, a larger force causes a larger change in motion. (**MS-PS-2.2**~~PS2-MS-2~~)
- All positions of objects and the directions of forces and motions must be described in an arbitrarily chosen reference frame and arbitrarily chosen units of size. In order to share information with other people, these choices must also be shared. (**MS-PS-2.2**~~PS2-MS-2~~)

  - **Further Explanation**: Emphasis is on balanced (Newton's First Law) and unbalanced forces in a system, qualitative comparisons of forces, mass and changes in motion (Newton's Second Law), frame of reference, and specification of units.
  - **Assessment** ~~**Content**~~ **Limit:** Assessment is limited to forces and changes in motion in one-dimension in an inertial reference frame and to change in one variable at a time. Assessment does not include the use of trigonometry.

MS-PS-2.3 Students who demonstrate understanding can:

~~**PS2-MS-3**~~**. Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.**

Supporting Content PS2.B: Types of Interactions

- Electric and magnetic (electromagnetic) forces can be attractive or repulsive, and their sizes depend on the magnitudes of the charges, currents, or magnetic strengths involved and on the distances between the interacting objects. (**MS-PS-2.3**~~PS2-MS-3~~)

- **Further Explanation**: Examples of devices that use electric and magnetic forces could include electromagnets, electric motors, or generators. Examples of data could include the effect of the number of turns of wire on the strength of an electromagnet, or the effect of increasing the number or strength of magnets on the speed of an electric motor.
- **Assessment ~~Content~~ Limit**: Assessment about questions that require quantitative answers is limited to proportional reasoning and algebraic thinking.

MS-PS-2.4 Students who demonstrate understanding can:

~~PS2-MS-4~~. Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.

Supporting Content PS2.B: Types of Interactions

- Gravitational forces are always attractive. There is a gravitational force between any two masses, but it is very small except when one or both of the objects have large mass—e.g., Earth and the sun. (**MS-PS-2.4**~~PS2-MS-4~~)

- **Further Explanation**: Examples of evidence for arguments could include data generated from simulations or digital tools; and charts displaying mass, strength of interaction, distance from the Sun, and orbital periods of objects within the solar system.
- **Assessment ~~Content~~ Limit**: Assessment does not include Newton's Law of Gravitation or Kepler's Laws.

MS-PS-2.5 Students who demonstrate understanding can:

~~PS2-MS-5~~. Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.

Supporting Content PS2.B: Types of Interactions

- Forces that act at a distance (electric, magnetic, and gravitational) can be explained by fields that extend through space and can be mapped by their effect on a test object (a charged object, or a ball, respectively). (**MS-PS-2.5**~~PS2-MS-5~~)

- **Further Explanation**: Examples of this phenomenon could include the interactions of magnets, electrically-charged strips of tape, and electrically-charged pith balls. Examples of investigations could include first-hand experiences or simulations.
- **Assessment~~Content~~ Limit:** Assessment is limited to electric and magnetic fields, and limited to qualitative evidence for the existence of fields.

~~Supporting Content~~

~~PS2.A: Forces and Motion~~

- ~~For any pair of interacting objects, the force exerted by the first object on the second object is equal in strength to the force that the second object exerts on the first, but in the opposite direction (Newton's third law). (PS2-MS-1)~~
- ~~The motion of an object is determined by the sum of the forces acting on it; if the total force on the object is not zero, its motion will change. The greater the mass of the object, the greater the force needed to achieve the same change in motion. For any given object, a larger force causes a larger change in motion. (PS2-MS-2)~~
- ~~All positions of objects and the directions of forces and motions must be described in an arbitrarily chosen reference frame and arbitrarily chosen units of size. In order to share information with other people, these choices must also be shared. (PS2-MS-2)~~

~~PS2.B: Types of Interactions~~

- ~~Electric and magnetic (electromagnetic) forces can be attractive or repulsive, and their sizes depend on the magnitudes of the charges, currents, or magnetic strengths involved and on the distances between the interacting objects. (PS2-MS-3)~~
- ~~Gravitational forces are always attractive. There is a gravitational force between any two masses, but it is very small except when one or both of the objects have large mass—e.g., Earth and the sun. (PS2-MS-4)~~
- ~~Forces that act at a distance (electric, magnetic, and gravitational) can be explained by fields that extend through space and can be mapped by their effect on a test object (a charged object, or a ball, respectively). (PS2-MS-5)~~

MS-PS-3 – Energy

~~**PS3-MS- Energy**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

MS-PS-3.1 ~~PS3-MS-1.~~Students who demonstrate understanding can:

Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.

Supporting Content PS3.A: Definitions of Energy

- Motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed. (**MS-PS-3.1**~~PS3-MS-1~~)

  - **Further Explanation:** Emphasis is on descriptive relationships between kinetic energy and mass separately from kinetic energy and speed. Examples could include riding a bicycle at different speeds, rolling different sizes of rocks downhill, and getting hit by a wiffle ball versus a tennis ball.

MS-PS-3.2 Students who demonstrate understanding can:

~~**PS3-MS-2.**~~ **Develop a model to describe** ~~**that when the arrangement**~~ the relationship between the relative positions **of objects interacting at a distance** and the relative ~~**changes, different amounts of**~~ **potential energy** ~~**are stored**~~ **in the system.**

Supporting Content PS3.A: Definitions of Energy

- A system of objects may also contain stored (potential) energy, depending on their relative positions. (**MS-PS-3.2**~~PS3-MS-2~~)

Supporting Content PS3.C: Relationship Between Energy and Forces

- When two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object. (**MS-PS-3.2**~~PS3-MS-2~~)

- **Further Explanation**: Emphasis is on relative amounts of potential energy, not on calculations of potential energy. Examples of objects within systems interacting at varying distances could include: the Earth and either a roller coaster cart at varying positions on a hill or objects at varying heights on shelves, changing the direction/orientation of a magnet, and a balloon with static electrical charge being brought closer to a classmate's hair. Examples of models could include representations, diagrams, pictures, and written descriptions of systems.
- **Assessment~~Content~~ Limit**: Assessment is limited to two objects and electric, magnetic, and gravitational interactions.

MS-PS-3.3 Students who demonstrate understanding can:

~~PS3-MS-3.~~ Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.

Supporting Content PS3.A: Definitions of Energy

- Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (MS-PS-3.3, MS-PS-3.4~~PS3-MS-3, PS3-MS-4~~)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy is spontaneously transferred out of hotter regions or objects and into colder ones. (MS-PS-3.3 ~~PS3-MS-3~~)

Supporting Content ETS1.A: Defining and Delimiting an Engineering Problem

- The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that is likely to limit possible solutions. (MS-PS-3.3~~PS3-MS-3~~)

Supporting Content ETS1.B: Developing Possible Solutions

- A solution needs to be tested, and then modified on the basis of the test results in order to improve it. There are systematic processes for evaluating solutions with respect to how well they meet criteria and constraints of a problem. (MS-PS-3.3~~PS3-MS-3~~)

- **Further Explanation**: Examples of devices could include an insulated box, a solar cooker, and a Styrofoam cup.
- **Assessment~~Content~~ Limit**: Assessment does not include calculating the total amount of thermal energy transferred.

MS-PS-3.4 Students who demonstrate understanding can:

~~PS3-MS-4~~. Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.

Supporting Content PS3.A: Definitions of Energy

- Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (MS-PS-3.3, MS-PS-3.4 ~~PS3-MS-3, PS3-MS-4~~)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- The amount of energy transfer needed to change the temperature of a matter sample by a given amount depends on the nature of the matter, the size of the sample, and the environment. (MS-PS-3.4~~PS3-MS-4~~)

  - **Further Explanation**: Examples of experiments could include comparing final water temperatures after different masses of ice melted in the same volume of water with the same initial temperature, the temperature change of samples of different materials with the same mass as they cool or heat in the environment, or the same material with different masses when a specific amount of energy is added.
  - **Assessment~~Content~~ Limit**: Assessment does not include calculating the total amount of thermal energy transferred.

MS-PS-3.5 Students who demonstrate understanding can:

~~PS3-MS-5.~~ Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- When the motion energy of an object changes, there is inevitably some other change in energy at the same time. (**MS-PS-3.5**~~PS3-MS-5~~)

  - **Further Explanation:** Examples of empirical evidence used in arguments could include an inventory or other representation of the energy before and after the transfer in the form of temperature changes or motion of object.
  - **Assessment~~Content~~ Limit**: ~~Assessment~~ does not include calculations of energy.

~~**Supporting Content**~~

~~**PS3.A: Definitions of Energy**~~

- ~~Motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed. (PS3-MS-1)~~
- ~~A system of objects may also contain stored (potential) energy, depending on their relative positions. (PS3-MS-2)~~
- ~~Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (PS3-MS-3, PS3-MS-4)~~

~~**PS3.B: Conservation of Energy and Energy Transfer**~~

- ~~When the motion energy of an object changes, there is inevitably some other change in energy at the same time. (PS3-MS-5)~~
- ~~The amount of energy transfer needed to change the temperature of a matter sample by a given amount depends on the nature of the matter, the size of the sample, and the environment. (PS3-MS-4)~~
- ~~Energy is spontaneously transferred out of hotter regions or objects and into colder ones. (PS3-MS-3)~~

~~PS3.C: Relationship Between Energy and Forces~~

- ~~When two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object. (PS3-MS-2)~~

~~ETS1.A: Defining and Delimiting an Engineering Problem~~

- ~~The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that is likely to limit possible solutions. (PS3-MS-3)~~
- ~~ETS1.B: Developing Possible Solutions~~
- ~~A solution needs to be tested, and then modified on the basis of the test results in order to improve it. There are systematic processes for evaluating solutions with respect to how well they meet criteria and constraints of a problem. (PS3-MS-3)~~

MS-PS-4 – Waves

~~PS4-MS Waves~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

MS-PS-4.1 ~~PS4-MS-1.~~Students who demonstrate understanding can:

Use diagrams of ~~**mathematical representations to describe**~~ **a simple** ~~**model for**~~ **wave**~~**s**~~ to explain that (1) a wave has a repeating pattern with a specific amplitude, frequency, and wavelength, and (2) ~~**that includes how the**~~ **amplitude of a wave is related to the energy in a wave.**

Supporting Content PS4.A: Wave Properties

- A simple wave has a repeating pattern with a specific wavelength, frequency, and amplitude. (**MS-PS-4.1**~~PS4-MS-1~~)
- Waves transfer energy. (MS-PS-4.1)

- **Further Explanation**: Emphasis is on describing waves with both qualitative and quantitative thinking.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include electromagnetic waves and is limited to standard repeating waves.

MS-PS-4.2 Students who demonstrate understanding can:

~~**PS4-MS-2.**~~ **Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.**

Supporting Content PS4.A: Wave Properties

- A sound wave needs a medium through which it is transmitted. (**MS-PS-4.2**~~PS4-MS-2~~)

Supporting Content PS4.B: Electromagnetic Radiation

- When light shines on an object, it is reflected, absorbed, or transmitted through the object, depending on the object's material and the frequency (color) of the light. (**MS-PS-4.2**~~PS4-MS-2~~)
- The path that light travels can be traced as straight lines, except at surfaces between different transparent materials (e.g., air and water, air and glass) where the light path bends. (**MS-PS-4.2**~~PS4-MS-2~~)
- A wave model of light is useful for explaining brightness, color, and the frequency-dependent bending of light at a surface between media. (**MS-PS-4.2**~~PS4-MS-2~~)
- However, because light can travel through space, it cannot be a matter wave, like sound or water waves. (**MS-PS-4.2**~~PS4-MS-2~~)

- **Further Explanation:** Emphasis is on both light and mechanical waves. Examples of models could include drawings, simulations, and written descriptions.
- **Assessment**~~**Content**~~ **Limit**: Assessment is limited to qualitative applications pertaining to light and mechanical waves.

MS-PS-4.3 Students who demonstrate understanding can:

~~**PS4-MS-3. Integrate**~~**Present qualitative scientific and technical information to support the claim that digitized signals** (0s and 1s) ~~**are a more reliable**~~ can be used~~**way**~~ **to encode and transmit information**~~**than analog signals**~~**.**

Supporting Content **PS4.C: Information Technologies and Instrumentation**

- Digitized signals (sent as wave pulses) are a ~~more~~ reliable way to encode and transmit information. (PS4-MS-3)

- **Further Explanation**: Emphasis is on a basic understanding that waves can be used for communication purposes. Examples could include using fiber optic cable to transmit light pulses, radio wave pulses in WIFI devices, and conversion of stored binary patterns to make sound or text on a computer screen.
- **Assessment~~Content~~ Limit**: Assessment does not include binary counting. Assessment does not include the specific mechanism of any given device.

~~Supporting Content~~

~~PS4.A: Wave Properties~~

- ~~A simple wave has a repeating pattern with a specific wavelength, frequency, and amplitude. (PS4-MS-1)~~
- ~~A sound wave needs a medium through which it is transmitted. (PS4-MS-2)~~

~~PS4.B: Electromagnetic Radiation~~

- ~~When light shines on an object, it is reflected, absorbed, or transmitted through the object, depending on the object's material and the frequency (color) of the light. (PS4-MS-2)~~
- ~~The path that light travels can be traced as straight lines, except at surfaces between different transparent materials (e.g., air and water, air and glass) where the light path bends. (PS4-MS-2)~~
- ~~A wave model of light is useful for explaining brightness, color, and the frequency-dependent bending of light at a surface between media. (PS4-MS-2)~~
- ~~However, because light can travel through space, it cannot be a matter wave, like sound or water waves. (PS4-MS-2)~~

~~PS4.C: Information Technologies and Instrumentation~~

- ~~Digitized signals (sent as wave pulses) are a more reliable way to encode and transmit information. (PS4-MS-3)~~

Life Science

MS-LS-1 – Molecules to Organisms: Structure and

~~**LS: Life Sciences**~~

~~**LS1 MS Molecules to Organisms: Structure and Processes**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

MS-LS-1.1 ~~MS-LS1-1~~. Students who demonstrate understanding can:

~~**Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.**~~

Supporting Content LS1.A: Structure and Function

- All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (**MS-LS-1.1**~~LS1 MS 1~~)

  - **Further Explanation:** Emphasis is on developing evidence that living things are made of cells, distinguishing between living and non-living ~~cells~~things, and understanding that living things may be made of one cell or many and varied cells.

MS-LS-1.2 Students who demonstrate understanding can:

~~**MS-LS1-2.**~~ **Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.**

Supporting Content LS1.A: Structure and Function

- Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (**MS-LS-1.2**~~LS1-MS-2~~)

  - **Further Explanation**: Emphasis is on the cell functioning as a whole system and the primary role of identified parts of the cell, specifically the nucleus, chloroplasts, mitochondria, cell membrane, and cell wall. These are visible with a light microscope.

- **Assessment~~Content~~ Limit**: Assessment of organelle structure/function relationships is limited to the cell wall and cell membrane. Assessment of the function of the other organelles is limited to their relationship to the whole cell. Assessment does not include the biochemical function of cells or cell parts.

MS-LS-1.3 Students who demonstrate understanding can:

~~MS-LS1-3.~~ Make a claim **~~Use argument~~ supported by evidence for how a living organism is a system of interacting subsystems composed of groups of cells.**

Supporting Content LS1.A: Structure and Function

- In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. (**MS-LS-1.3**~~LS1-MS-3~~)

- **Further Explanation**: Emphasis is on the conceptual understanding that cells form tissues and tissues form organs specialized for particular body functions. Examples could include the interaction of subsystems within a system and the normal functioning of those systems.
- **Assessment~~Content~~ Limit**: Assessment does not include the mechanism of one body system independent of others. Assessment is not focused on human body systems.

MS-LS-1.4 Students who demonstrate understanding can:

~~MS-LS1-4.~~ Construct a scientific argument based on evidence to defend a claim of life for a specific object or organism.

Supporting Content LS1.B: Characteristics of Living Things

- Organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring. (**MS-LS-1.4**~~LS1-MS-4~~)
- Living things share certain characteristics. (These include response to environment, reproduction, energy use, growth and development, life cycles, made of cells, etc.) (**MS-LS-1.4**~~LS1-MS-4~~)

- **Further Explanation**: Examples should include both biotic and abiotic items, and should be defended using accepted characteristics of life.
- **Assessment~~Content~~ Limit**: Assessment does not include specific conclusions regarding the living status of viruses, or other disputed examples.

MS-LS-1.5 Students who demonstrate understanding can:

~~MS-LS1-5.~~ Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. (**MS-LS-1.5**~~LS1-MS-5~~)

  - **Further Explanation**: Emphasis is on tracing movement of matter and flow of energy.
  - **Assessment**~~**Content**~~ **Limit**: Assessment does not include the biochemical mechanisms of photosynthesis.

MS-LS-1.6 Students who demonstrate understanding can:

~~**MS-LS1-6.**~~ **Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.**

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

Within individual organisms, food moves through a series of chemical reactions (cellular respiration) in which it is broken down and rearranged to form new molecules, to support growth, or to release energy. (LS1-MS-6)

- **Further Explanation**: Emphasis is on describing that molecules are broken apart and put back together and that in this process, energy is released. Also understanding that the elements in the products are the same as the elements in the reactants .
- **Assessment ~~Content~~ Limit**: Assessment does not include details of the chemical reactions for photosynthesis or respiration.

~~Supporting Content~~

~~LS1.A: Structure and Function~~

- ~~All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (LS1-MS-1)~~
- ~~Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (LS1-MS-2)~~
- ~~In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs~~
- ~~that are specialized for particular body functions. (LS1-MS-3)~~

~~LS1.B: Characteristics of Living Things~~

- ~~Organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring. (LS1-MS-4)~~
- ~~Living things share certain characteristics. (These include response to environment, reproduction, energy use, growth and development, life cycles, made of cells, etc.) (LS1-MS-4)~~

~~LS1.C: Organization for Matter and Energy Flow in Organisms~~

- ~~Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. (LS1-MS-5)~~
- ~~Within individual organisms, food moves through a series of chemical reactions (cellular respiration) in which it is broken down and rearranged to form new molecules, to support growth, or to release energy. (LS1-MS-6)~~

MS-LS-2 – Ecosystems: Interactions, Energy, and Dynamics

~~**LS2-MS- Ecosystems: Interactions, Energy, and Dynamics**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

MS-LS-2.1 ~~LS2-MS-1.~~ Students who demonstrate understanding can:

Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors. (**MS-LS-2.1**~~LS2-MS-1~~)
- In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction. (**MS-LS-2.1**~~LS2-MS-1~~)
- Growth of organisms and population increases are limited by access to resources. (**MS-LS-2.1**~~LS2-MS-1~~)

- **Further Explanation**: Emphasis is on cause and effect relationships between resources and growth of individual organisms and the numbers of organisms in ecosystems during periods of abundant and scarce resources.

MS-LS-2.2 Students who demonstrate understanding can:

~~**LS2-MS-2.**~~ **Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.**

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared. (**MS-LS-2.2**~~LS2-MS-2~~)

- **Further Explanation**: Emphasis is on predicting consistent patterns of interactions in different ecosystems in terms of the relationships among and between organisms and abiotic components of ecosystems. Examples of types of interactions could include competitive, predatory, and mutually beneficial.

MS-LS-2.3 Students who demonstrate understanding can:

~~LS2-MS-3.~~ **Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.**

Supporting Content LS2.B: Cycle of Matter and Energy Transfer in Ecosystems

- Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem. (**MS-LS-2.3**~~LS2-MS-3~~)

- **Further Explanation:** Emphasis is on describing the conservation of matter and flow of energy into and out of various ecosystems, and on defining the boundaries of the system.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include the use of chemical reactions to describe the processes.

MS-LS-2.4 Students who demonstrate understanding can:

~~LS2-MS-4.~~ **Develop a model to describe the flow of energy through the trophic levels of an ecosystem.**

Supporting Content LS2.B: Cycle of Matter and Energy Transfer in Ecosystems

- Food webs can be broken down into multiple energy pyramids. Concepts should include the 10% rule of energy and biomass transfer between trophic levels and the environment. (**MS-LS-2.4**~~LS2-MS-4~~)

- **Further Explanation**: Emphasis is on describing the transfer of mass and energy beginning with producers, moving to primary and secondary consumers, and ending with decomposers.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include the use of chemical reactions to describe the processes.

MS-LS-2.5 Students who demonstrate understanding can:

~~LS2-MS-5.~~ **Construct an argument supported by** ~~**empirical**~~ **evidence that changes to physical or biological components of an ecosystem affect populations.**

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations. (**MS-LS-2.5**~~LS2-MS-5~~)

  - **Further Explanation**: Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes to ecosystems.

MS-LS-2.6 Students who demonstrate understanding can:

~~**LS2-MS-6.**~~ Design and evaluate~~**Evaluate competing design**~~ **solutions for maintaining biodiversity and ecosystem services.**

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health. (**MS-LS-2.6**~~LS2-MS-6~~)

LS4.D: Biodiversity and Humans

- Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. (**MS-LS-2.6**~~LS2-MS-6~~)

ETS1.B: Developing Possible Solutions

- There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (**MS-LS-2.6**~~LS2-MS-6~~)

- **Further Explanation**: Examples of ecosystem services could include water purification, nutrient recycling, and prevention of soil erosion. Examples of design solution constraints could include scientific, economic, and social considerations.

~~Supporting Content~~

~~LS2.A: Interdependent Relationships in Ecosystems~~

- ~~Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors. (LS2-MS-1)~~
- ~~In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction. (LS2-MS-1)~~
- ~~Growth of organisms and population increases are limited by access to resources. (LS2-MS-1)~~
- ~~Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared. (LS2-MS-2)~~

~~LS2.B: Cycle of Matter and Energy Transfer in Ecosystems~~

- ~~Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem. (LS2-MS-3)~~
- ~~Food webs can be broken down into multiple energy pyramids. Concepts should include the 10% rule of energy and biomass transfer between trophic levels and the environment. (LS2-MS-4)~~

~~LS2.C: Ecosystem Dynamics, Functioning, and Resilience~~

- ~~Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations. (LS2-MS-5)~~
- ~~Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health. (LS2-MS-6)~~

~~LS4.D: Biodiversity and Humans~~

- ~~Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. (LS2-MS-6)~~

~~ETS1.B: Developing Possible Solutions~~

- ~~There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (LS2-MS-6)~~

MS-LS-3 – Heredity: Inheritance and Variation of Traits

~~**LS3-MS Heredity: Inheritance and Variation of Traits**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

MS-LS-3.1 ~~LS3-MS-1.~~Students who demonstrate understanding can:

Develop and use a model to describe why mutations may result in harmful, beneficial, or neutral effects to the structure and function of the organism.

Supporting Content LS3.A: Inheritance of Traits

- Genes are located in the chromosomes of cells, with each chromosome pair containing two variants of each of many distinct genes. Each distinct gene chiefly controls the production of specific proteins, which in turn affects the traits of the individual. ~~C~~Structural changes ~~(mutations)~~ to genes (mutations) can result in changes to proteins, which can affect the structures and functions of the organism and thereby change traits. (**MS-LS-3.1**~~LS3-MS-1~~)

Supporting Content LS3.B: Variation of Traits

- In addition to variations that arise from sexual reproduction, genetic information can be altered because of mutations. Though rare, mutations may result in significant changes to the structure and function of proteins. ~~Some c~~Changes ~~are~~can be beneficial, ~~others~~ harmful, ~~and some~~or neutral to the organism. (**MS-LS-3.1**~~LS3-MS-1~~)

- **Further Explanation**: Emphasis is on conceptual understanding that changes in genetic material may result in making different proteins.
- **Assessment~~Content~~ Limit**: Assessment does not include specific changes at the molecular level, mechanisms for protein synthesis, or specific types of mutations.

MS-LS-3.2 Students who demonstrate understanding can:

~~**LS3-MS-2.**~~ **Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.**

Supporting Content LS1.B: Growth and Development of Organisms

- Organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring. (**MS-LS-3.2**~~LS3-MS-2~~)

Supporting Content LS3.A: Inheritance of Traits

- Variations of inherited traits between parent and offspring arise from genetic differences that result from the subset of chromosomes (and therefore genes) inherited. (~~LS3-MS-2~~ **MS-LS-3.2**)

Supporting Content LS3.B: Variation of Traits

- In sexually reproducing organisms, each parent contributes half of the genes acquired (at random) by the offspring. Individuals have two of each chromosome and hence two alleles of each gene, one acquired from each parent. These versions may be identical or may differ from each other. (**MS-LS-3.2**~~LS3-MS-2~~)

  - **Further Explanation**: Emphasis is on using models such as simple Punnett squares and pedigrees, diagrams, and simulations to describe the cause and effect relationship of gene transmission from parent(s) to offspring and resulting genetic variation.

~~**Supporting Content**~~

~~**LS3.A: Inheritance of Traits**~~

- ~~Genes are located in the chromosomes of cells, with each chromosome pair containing two variants of each of many distinct genes. Each distinct gene chiefly controls the production of specific proteins, which in turn affects the traits of the individual. Changes (mutations) to genes can result in changes to proteins, which can affect the structures and functions of the organism and thereby change traits. (LS3-MS-1)~~
- ~~Variations of inherited traits between parent and offspring arise from genetic differences that result from the subset of chromosomes (and therefore genes) inherited. (LS3-MS-2)~~

~~**LS3.B: Variation of Traits**~~

- ~~In sexually reproducing organisms, each parent contributes half of the genes acquired (at random) by the offspring. Individuals have two of each chromosome and hence two alleles of each gene, one acquired from each parent. These versions may be identical or may differ from each other. (LS3-MS-2)~~
- ~~In addition to variations that arise from sexual reproduction, genetic information can be altered because of mutations. Though rare, mutations may result in changes to the structure and function of proteins. Some changes are beneficial, others harmful, and some neutral to the organism. (LS3-MS-1)~~

MS-LS-4 – Biological Adaptation: Unity and Diversity

~~**LS4-MS- Biological Adaptation: Unity and Diversity**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

MS-LS-4.1 ~~LS4-MS-1.~~ Students who demonstrate understanding can:

Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

Supporting Content LS4.A: Classification of Organisms

- The collection of fossils and their placement in chronological order is known as the fossil record and documents the change of many life forms throughout the history of the Earth. Anatomical similarities and differences between various organisms living today and between ~~them~~living and once living organisms in the fossil record enable the classification of living things. (MS-LS-4.1, MS-LS-4.2~~LS4-MS-1, LS4-MS-2~~)

  - **Further Explanation**: Emphasis is on finding patterns of changes in the level of complexity of anatomical structures in organisms and the chronological order of fossil appearance in the rock layers.
  - **Assessment~~Content~~ Limit**: Assessment does not include the names of individual species or geological eras in the fossil record.

MS-LS-4.2 Students who demonstrate understanding can:

~~**LS4-MS-2.**~~ **Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer relationships.**

Supporting Content LS4.A: Classification of Organisms

- The collection of fossils and their placement in chronological order is known as the fossil record and documents the change of many life forms throughout the history of the Earth. Anatomical similarities and differences between various organisms living today and between living and once living organisms in the fossil record enable the classification of living things. (MS-LS-4.1, MS-LS-4.2)

  - **Further Explanation**: Emphasis is on explanations of the relationships among organisms in terms of similarity or differences of the gross appearance of anatomical structures.

MS-LS-4.3 Students who demonstrate understanding can:

~~LS4-MS-3.~~ **Analyze** visual evidence ~~**displays of pictorial data**~~ **to compare patterns of similarities in the anatomical structures across multiple species of similar classification levels to identify relationships.**

Supporting Content LS4.A: Classification of Organisms

- Scientific genus and species level names indicate a degree of relationship. (**MS-LS-4.3**~~LS4-MS-3~~)

  - **Further Explanation**: Emphasis is on inferring general patterns of relatedness among structures of different organisms by comparing ~~the appearance of~~ diagrams~~, or~~ pictures, specimens, or fossils.~~.~~
  - **Assessment~~Content~~ Limit**: Assessment of comparisons is limited to gross appearance of anatomical structures within genus and species levels. No memorization of classification levels is required.

MS-LS-4.4 Students who demonstrate understanding can:

~~LS4-MS-4.~~ **Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.**

Supporting Content LS4.B: Natural Selection

- Natural selection leads to the predominance of certain traits in a population, and the suppression of others. (**MS-LS-4.4**~~LS4-MS-4~~)

  - **Further Explanation**: Emphasis is on using concepts of natural selection ~~like~~ including overproduction of offspring, passage of time, variation in a population, selection of favorable traits, and heritability of traits.

MS-LS-4.5 Students who demonstrate understanding can:

~~LS4-MS-5.~~ Obtain, evaluate, and communicate ~~**Gather and synthesize**~~ **information about ~~the~~ how technologies ~~that have changed the way~~allow humans to influence the inheritance of desired traits in organisms.**

Supporting Content LS4.B: Natural Selection

- In artificial selection, humans have the capacity to influence certain characteristics of organisms by selective breeding. One can choose desired parental traits determined by genes, which are then passed ~~on~~ to offspring. (**MS-LS-4.5**~~LS4-MS-5~~)

- **Further Explanation**: Emphasis is on identifying and communicating~~synthesizing~~ information from reliable sources about the influence of humans on genetic outcomes in artificial selection (such as genetic modification, animal husbandry, gene therapy); and, on the influence~~impacts~~ these technologies have on society as well as the technologies leading to these scientific discoveries.

MS-LS-4.6 Students who demonstrate understanding can:

~~LS4-MS-6.~~ **Use mathematical models~~representations~~ to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.**

Supporting Content LS4.C: Adaptation

- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (**MS-LS-4.6**~~LS4-MS-6~~)

- **Further Explanation**: Emphasis is on using mathematical models, probability statements, and proportional reasoning to support explanations of trends in changes to populations over time. Examples could include Peppered moth population changes before and after the industrial revolution.
- **Assessment~~Content~~ Limit**: Assessment does not include Hardy Weinberg calculations.

~~**Supporting Content**~~

~~**LS4.A: Classification of Organisms**~~

- ~~The collection of fossils and their placement in chronological order is known as the fossil record and documents the change of many life forms throughout the history of the Earth. Anatomical similarities and differences between various organisms living today and between them and organisms in the fossil record enable the classification of living things. (LS4-MS-1, LS4-MS-2)~~
- ~~Scientific genus and species level names indicate a degree of relationship. (LS4-MS-3)~~

~~**LS4.B: Natural Selection**~~

- ~~Natural selection leads to the predominance of certain traits in a population, and the suppression of others. (LS4-MS-4)~~
- ~~In artificial selection, humans have the capacity to influence certain characteristics of organisms by selective breeding. One can choose desired parental traits determined by genes, which are then passed on to offspring. (LS4-MS-5)~~

~~**LS4.C: Adaptation**~~

- ~~Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (LS4-MS-6)~~

Earth and Space Science

MS-ESS-1 – Earth's Place in the Universe

~~ESS: Earth and Space Sciences~~

~~ESS1-MS Earth's Place in the Universe~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

MS-ESS-1.1 ~~ESS1-MS-1.~~Students who demonstrate understanding can:

Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.

Supporting Content ESS1.A: The Universe and Its Stars

- Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models. (**MS-ESS-1.1**~~ESS1-MS-1~~)

Supporting Content ESS1.B: Earth and the Solar System

- This model of the solar system can explain eclipses of the sun and the moon. Earth's spin axis is fixed in direction over the short-term but tilted relative to its orbit around the sun. The seasons are a result of that tilt and are caused by the differential intensity of sunlight on different areas of Earth across the year. (**MS-ESS-1.1**~~ESS1-MS-1~~)

- Further Explanation: Examples of models can be physical, graphical, or conceptual.

Assessment Limit: Assessment does not include recalling lunar phases.

MS-ESS-1.2 Students who demonstrate understanding can:

~~ESS1-MS-2.~~ **Develop and use a model to describe the role of gravity in the orbital motions within galaxies and the solar system.**

Supporting Content ESS1.A: The Universe and Its Stars

- Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe. (MS-ESS-1.2)

Supporting Content ESS1.B: Earth and the Solar System

- The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. (MS-ESS-1.2, MS-ESS-1.3)

  - **Further Explanation**: Emphasis for the model is on gravity as the force that holds together the solar system and Milky Way galaxy and controls orbital motions within them. Examples of models can be physical (such as the analogy of distance along a football field or computer visualizations of elliptical orbits) or conceptual (such as mathematical proportions relative to the size of familiar objects such as students' school or state).
  - **Assessment~~Content~~ Limit**: Assessment does not include Kepler's Laws of orbital motion or the apparent retrograde motion of the planets as viewed from Earth.

MS-ESS-1.3 Students who demonstrate understanding can:

~~ESS1-MS-3.~~ Analyze and interpret data to determine scale properties of objects in the solar system.

Supporting Content ESS1.B: Earth and the Solar System

- The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. (ESS1-MS-2, ESS1-MS-3(MS-ESS-1.2, MS-ESS-1.3)

  - **Further Explanation**: Emphasis is on the analysis of data from Earth-based instruments, space-based telescopes, and spacecraft to determine similarities and differences among solar system objects, such as relative size, distance, motions, and features. Examples of scale properties include the sizes of an object's layers (such as crust and atmosphere), surface features (such as volcanoes), and orbital radius. Examples of data include statistical information, drawings and photographs, and models.
  - **Assessment~~Content~~ Limit**: Assessment does not include recalling facts about properties of the planets and other solar system bodies.

MS-ESS-1.4 Students who demonstrate understanding can:

~~ESS1-MS-4.~~ Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to ~~organize~~ analyze Earth's history.

Supporting Content ESS1.C: The History of Planet Earth

- The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale. (**MS-ESS-1.4**~~ESS1-MS-4~~)

- **Further Explanation**: Emphasis is on how analyses of rock formations and the fossils they contain are used to establish relative ages of major events in Earth's history. Examples of Earth's major events could range from being very recent (such as the last Ice Age ~~or the earliest fossils of homo sapiens~~) to very old (such as the formation of Earth or the earliest evidence of life). Examples can include the formation of mountain chains and ocean basins, the evolution or extinction of particular living organisms, or large volcanic eruptions.
- **Assessment~~Content~~ Limit**: Assessment does not include recalling the names of specific eons, eras, periods or epochs and events within them.

~~**Supporting Content**~~

~~**ESS1.A: The Universe and Its Stars**~~

- ~~Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models. (ESS1-MS-1)~~
- Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe. (ESS1-MS-2)

ESS1.B: Earth and the Solar System

- ~~The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. (ESS1-MS-2, ESS1-MS-3)~~
- ~~This model of the solar system can explain eclipses of the sun and the moon. Earth's spin axis is fixed in direction over the short-term but tilted relative to its orbit around the sun. The seasons are a result of that tilt and are caused by the differential intensity of sunlight on different areas of Earth across the year. (ESS1-MS-1)~~
- ~~The solar system appears to have formed from a disk of dust and gas, drawn together by gravity. (ESS1-MS-2)~~

~~**ESS1.C: The History of Planet Earth**~~

- ~~The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale. (ESS1-MS-4)~~

MS-ESS-2 – Earth's Systems

~~ESS2-MS- Earth's Systems~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

MS-ESS-2.1 ~~ESS2-MS-1.~~Students who demonstrate understanding can:

Develop a model to describe the cycling of Earth's materials and the internal and external **flow**s **of energy that drive**~~s~~ **th**e~~is~~ rock cycle processes~~process~~**.**

Supporting Content ESS2.A: Earth's Materials and Systems

- All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms. (**MS-ESS-2.1**~~ESS2-MS-1~~)

- **Further Explanation**: Emphasis is on the processes of melting, crystallization, weathering, deformation, and sedimentation, which act together to form minerals and rocks through the cycling of Earth's materials.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include the identification and naming of minerals.

MS-ESS-2.2 Students who demonstrate understanding can:

~~ESS2-MS-2.~~ **Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.**

Supporting Content ESS2.A: Earth's Materials and Systems

- The planet's systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future. (**MS-ESS-2.2** ~~ESS2-MS-2~~)

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- Water's movements—both on the land and underground—cause weathering and erosion, which change the land's surface features and create underground formations. (**MS-ESS-2.2**~~ESS2-MS-2~~)

Further Explanation: Emphasis is on how processes change Earth's surface at time and spatial scales that can be large (such as slow plate motions or the uplift of large mountain ranges) or small (such as rapid landslides or microscopic geochemical reactions), and how ~~many~~ geoscience processes (such as earthquakes, volcanoes, and meteor impacts) usually behave gradually but are punctuated by catastrophic events. Examples of geoscience processes include surface weathering and deposition by the movements of water, ice, and wind. Emphasis is on geoscience processes that shape local geographic features, where appropriate.

- ***Assessment Limit:*** Assessment does not include memorization of the formation of specific geographic features of Earth's surface, or the geochemical processes involved in the formation.

MS-ESS-2.3 Students who demonstrate understanding can:

~~**ESS2-MS-3.**~~ **Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.**

Supporting Content ESS1.C: The History of Planet Earth

- Tectonic processes continually generate new ocean sea floor at ridges and destroy old sea floor at trenches. (**MS-ESS-2.3**~~ESS2-MS-3~~)

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart. (**MS-ESS-2.3**~~ESS2-MS-3~~)

- ~~**Further Explanation**~~: Examples of data include similarities of rock and fossil types on different continents, the shapes of the continents (including continental shelves), and the locations of ocean structures (such as ridges, fracture zones, and trenches).

Examples of concepts include continental drift and seafloor spreading.

- ***Assessment Limit:*** Assessment of plate tectonics should be limited to large-scale system interactions. ~~Content Limit:~~ Paleomagnetic anomalies in oceanic and continental crust are not assessed.

MS-ESS-2.4 Students who demonstrate understanding can:

~~**ESS2-MS-4.**~~ **Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.**

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation, percolation ~~and~~ crystallization, and precipitation, as well as downhill flows on land. (**MS-ESS-2.4**~~ESS2-MS-4~~)
- Global movements of water and its changes in form are propelled by sunlight and gravity. (**MS-ESS-2.4**~~ESS2-MS-4~~)

- **Further Explanation**: Emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle. Examples of models can be conceptual or physical.
- ~~Content~~ **Assessment Limit**: Assessment includes qualitative energy flows, not quantitative energy calculations~~A quantitative understanding of the latent heats of vaporization and fusion is not assessed~~.

MS-ESS-2.5 Students who demonstrate understanding can:

~~ESS2-MS-5.~~ **Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.**

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- The complex patterns of the changes and the movement of water in the atmosphere, determined by winds, landforms, and ocean temperatures and currents, are major determinants of local weather patterns. (**MS-ESS-2.5**~~ESS2-MS-5~~)

Supporting Content ESS2.D: Weather and Climate

- Because these patterns are so complex, weather can only be predicted using probability. (**MS-ESS-2.5**~~ESS2-MS-5~~)

- **Further Explanation**: Emphasis is on how air masses flow from regions of high pressure to low pressure, causing weather (defined by temperature, pressure, humidity, precipitation, and wind) at a fixed location to change over time, and how sudden changes in weather can result when different air masses collide. Emphasis is on how weather can be predicted within probabilistic ranges. Examples of data can be provided to students ~~(such as weather maps, diagrams, and visualizations)~~ or obtained through laboratory experiments (such as with condensation and the use of barometers).
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include recalling the names of cloud types or weather symbols used on weather maps or the reported diagrams from weather stations.

MS-ESS-2.6 Students who demonstrate understanding can:

~~ESS2-MS-6.~~ **Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.**

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- Variations in density due to variations in temperature and salinity drive a global pattern of interconnected ocean currents. (ESS2-MS-6)

Supporting Content ESS2.D: Weather and Climate

- Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things. These interactions vary with latitude, altitude, and local and regional geography, all of which can affect oceanic and atmospheric flow patterns. (**MS-ESS-2.6**~~ESS2-MS-6~~)
- The ocean exerts a major influence on weather and climate by absorbing energy from the sun, releasing it over time, and globally redistributing it through ocean currents. (**MS-ESS-2.6**~~ESS2-MS-6~~)

- **Further Explanation**: Emphasis is on how patterns vary by latitude, altitude, and geographic land distribution. Emphasis of atmospheric circulation is on the sunlight- driven latitudinal banding, the Coriolis effect, and resulting prevailing winds; emphasis of ocean circulation is on the transfer of heat by the global ocean convection cycle, which is constrained by the Coriolis effect and the outlines of continents. Examples of models can be diagrams, maps and globes, or digital representations.
- **Assessment~~Content~~ Limit**: Assessment does not include the dynamics of the Coriolis effect, or recalling names and locations of specific biomes.~~.~~

~~Supporting Content~~

~~ESS1.C: The History of Planet Earth~~

- ~~Tectonic processes continually generate new ocean sea floor at ridges and destroy old sea floor at trenches. (ESS2-MS-3)~~

~~ESS2.A: Earth's Materials and Systems~~

- ~~All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms. (ESS2-MS-1)~~
- ~~The planet's systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future. (ESS2-MS-2)~~

~~ESS2.B: Plate Tectonics and Large-Scale System Interactions~~

- ~~Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart. (ESS2-MS-3)~~

~~ESS2.C: The Roles of Water in Earth's Surface Processes~~

- ~~Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation, as well as downhill flows on land. (ESS2-MS-4)~~
- ~~The complex patterns of the changes and the movement of water in the atmosphere, determined by winds, landforms, and ocean temperatures and currents, are major determinants of local weather patterns. (ESS2-MS-5)~~
- ~~Global movements of water and its changes in form are propelled by sunlight and gravity. (ESS2-MS-4)~~
- ~~Variations in density due to variations in temperature and salinity drive a global pattern of interconnected ocean currents. (ESS2-MS-6)~~
- ~~Water's movements—both on the land and underground—cause weathering and erosion, which change the land's surface features and create underground formations. (ESS2-MS-2)~~

~~**ESS2.D: Weather and Climate**~~

- ~~Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things. These interactions vary with latitude, altitude, and local and regional geography, all of which can affect oceanic and atmospheric flow patterns. (ESS2-MS-6)~~
- ~~Because these patterns are so complex, weather can only be predicted using probability. (ESS2-MS-5)~~
- ~~The ocean exerts a major influence on weather and climate by absorbing energy from the sun, releasing it over time, and globally redistributing it through ocean currents. (ESS2-MS-6)~~

MS-ESS-3 – Earth and Human Activity

~~ESS3-MS Earth and Human Activity~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

MS-ESS-3.1 ~~ESS3-MS-1.~~Students who demonstrate understanding can:

~~Construct a scientific explanation based on evidence for how the uneven distributions of~~ Earth's mineral, energy, and groundwater resources are unevenly distributed as a **the result of past and current** geologic **~~geoscience~~ processes.**

Supporting Content ESS3.A: Natural Resources

- Humans depend on Earth's land, ocean, atmosphere, and biosphere for many different resources. Minerals, fresh water, and biosphere resources are limited, and many are not renewable or replaceable over human lifetimes. These resources are distributed unevenly around the planet as a result of past geologic processes. (**MS-ESS-3.1**~~ESS3-MS-1~~)

  - **Further Explanation**: Emphasis is on how these resources are limited and typically non-renewable, and how their distributions are changing as a result of ~~removal by humans~~depletion. Examples of uneven distributions of resources as a result of past processes include but are not limited to petroleum (locations of the burial of organic marine sediments and subsequent geologic traps), metal ores (locations of past volcanic and hydrothermal activity associated with subduction zones), and soil (locations of active weathering and/or deposition of rock).

MS-ESS-3.2 Students who demonstrate understanding can:

~~ESS3-MS-2.~~ Analyze and interpret data on natural hazards to forecast future catastrophic events ~~and inform the development of technologies~~ to mitigate their effects.

Supporting Content ESS3.B: Natural Hazards

- Mapping the history of natural hazards in a region, combined with an understanding of related geologic forces can help forecast the locations and likelihoods of future events. (**MS-ESS-3.2**~~ESS3-MS-2~~)

  - **Further Explanation**: Emphasis is on how some natural hazards, such as volcanic eruptions and severe weather, are preceded by phenomena that allow for reliable predictions~~, but .others~~ Others, such as earthquakes, occur suddenly~~ and with no notice~~, and ~~thus~~ are not yet

predictable. Examples of natural hazards can be taken from interior processes (such as earthquakes and volcanic eruptions), surface processes (such as mass wasting and tsunamis), or severe weather events (such as hurricanes, tornadoes, and floods). Examples of data can include the locations, magnitudes, and frequencies of the natural hazards. Examples of mitigation strategies~~technologies~~ can be global (such as satellite systems to monitor hurricanes or forest fires) or local (such as building basements in tornado-prone regions or reservoirs to mitigate droughts).

MS-ESS-3.3 Students who demonstrate understanding can:

~~**ESS3-MS-3.**~~ **Apply scientific ~~principles~~ to design a method for monitoring ~~and minimizing~~** human activity and increasing beneficial ~~a~~ **human** influences~~**impact**~~ **on the environment.**

Supporting Content ESS3.C: Human ~~Impact~~ Influences on Earth Systems

- Human activities can positively and negatively influence ~~can have consequences (positive and negative) on~~ the biosphere, sometimes altering natural habitats and~~-~~ ecosystems. (MS-ESS-3.3)~~causing the extinction of other species. (ESS3-MS-3)~~
- Technology and engineering can potentially help us best manage ~~mitigate impacts on Earth's systems as both human populations and per-capita consumption of~~ natural resources as populations increase. (MS-ESS-3.3, MS-ESS-3.4)~~increase. (ESS3-MS-3, ESS3-MS-4)~~

- **Further Explanation**: Examples of the design process include examining human~~-~~ interactions and designing feasible solutions that promote stewardship.~~environmental impacts, assessing the kinds of solutions that are feasible, and designing and evaluating solutions that could reduce that impact.~~ Examples ~~of human impacts~~ can include water usage (such as such as stream and river use, aquifer recharge, or dams and levee construction~~ the withdrawal of water from streams and aquifers or the construction of dams and levees~~), land usage (such as urban development, agriculture, wetland benefits, stream reclamation, or fire restoration~~or the removal of wetlands~~), and pollution (such as of the air, water, or land).

MS-ESS-3.4 Students who demonstrate understanding can:

~~**ESS3-MS-4.**~~ **Construct an argument** based on ~~**supported by**~~ **evidence for how** changes~~**increases**~~ **in human population and per-capita consumption of natural resources** positively and negatively affect~~**impact**~~ **Earth's systems.**

Supporting Content ESS3.C: Human ~~Impact~~ Influences on Earth Systems

- Technology and engineering can potentially help us best manage natural resources as populations increase. (MS-ESS-3.3, MS-ESS-3.4)

- **Further Explanation:** Examples of evidence include grade-appropriate databases on human populations and the rates of consumption of food and natural resources (such as freshwater, mineral, and energy). Examples of effects~~impacts~~ can include changes made to the appearance, composition, and structure of Earth's systems as well as the rates at which they change. ~~The consequences of increases in human~~

~~populations and consumption of natural resources are described by science, but science does not make the decisions for the actions society takes.~~

MS-ESS-3.5 Students who demonstrate understanding can:

~~**ESS3-MS-5.**~~ **Ask questions to interpret evidence of the factors that cause climate variability** throughout Earth's history.~~**over time.**~~

Supporting Content ESS3.C: Human ~~Impact~~ Influences on Earth Systems

- ~~Mitigating current changes in climate depends on understanding climate science.~~ Current scientific models indicate that human activities, such as the release of greenhouse gases from fossil fuel combustion, can contribute to ~~are the primary factors in~~ the present-day measured rise in Earth's mean surface temperature. Natural activities, such as changes in incoming solar radiation, also contribute to changing global temperatures. (**MS-ESS-3.5**~~ESS3-MS-5~~)

- **Further Explanation:** Examples of factors include human activities (such as fossil fuel combustion and changes in land use) and natural processes (such as changes in incoming solar radiation and volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and natural resource use.

~~**Supporting Content**~~

~~**ESS3.A: Natural Resources**~~

- ~~Humans depend on Earth's land, ocean, atmosphere, and biosphere for many different resources. Minerals, fresh water, and biosphere resources are limited, and many are not renewable or replaceable over human lifetimes. These resources are distributed unevenly around the planet as a result of past geologic processes. (ESS3-MS-1)~~

~~**ESS3.B: Natural Hazards**~~

- ~~Mapping the history of natural hazards in a region, combined with an understanding of related geologic forces can help forecast the locations and likelihoods of future events. (ESS3-MS-2)~~

~~**ESS3.C:**~~

- ~~Human activities can have consequences (positive and negative) on the biosphere, sometimes altering natural habitats and causing the extinction of other species. (ESS3-MS-3)~~
- ~~Technology and engineering can potentially mitigate impacts on Earth's systems as both human populations and per-capita consumption of natural resources increase. (ESS3-MS-3, ESS3-MS-4)~~
- ~~Mitigating current changes in climate depends on understanding climate science. Current scientific models indicate that human activities, such as the release of greenhouse gases from fossil fuel combustion, are the primary factors in the present-day measured rise in Earth's mean~~

~~surface temperature. Natural activities, such as changes in incoming solar radiation, also contribute to changing global temperatures. (ESS3-MS-5)~~

HIGH SCHOOL

Life Science

HS-LS-1 – Molecules to Organisms: Structure and Processes

~~HIGH SCHOOL (9-12)~~

~~LS: Life Sciences (Biology)~~

~~LS1 HS Molecules to Organisms: Structure and Processes~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

HS-LS-1.1 ~~LS1-HS-1.~~Students who demonstrate understanding can:

Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

Supporting Content LS1.A: Structure and Function

- Systems of specialized cells within organisms help them perform the essential functions of life. (**HS-LS-1.1**~~LS1-HS-1~~)
- All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells. (HS-LS-1.1, HS-LS-3.1~~LS1-HS-1~~)

- **Further Explanation**: Emphasis is on the structure of the double helix, the pairing and sequencing of the nitrogenous bases, transcription, translation, and protein synthesis.
- **Assessment~~Content~~ Limit**: Assessment does not include identification of specific cell or tissue types, whole body systems, specific protein structures and functions, or the biochemistry of protein synthesis.

HS-LS-1.2 Students who demonstrate understanding can:

~~LS1-HS-2.~~ **Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.**

Supporting Content LS1.A: Structure and Function

- Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. (**HS-LS-1.2**~~LS1. HS-2~~)

  - **Further Explanation**: Emphasis is on functions at the organism system level such as nutrient uptake, water delivery, and organism movement in response to neural stimuli. An example of an interacting system could be an artery depending on the proper function of elastic tissue and smooth muscle to regulate and deliver the proper amount of blood within the circulatory system.
  - **Assessment**~~**Content**~~ **Limit**: Assessment does not include interactions and functions at the molecular or chemical reaction level.

HS-LS-1.3 Students who demonstrate understanding can:

~~**LS1-HS-3.**~~ **Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.**

Supporting Content LS1.A: Structure and Function

- Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on inside the living system. (**HS-LS-1.3**~~LS1-HS-3~~)

  - **Further Explanation**: Examples of investigations could include heart rate response to exercise, stomate response to moisture and temperature, and root development in response to water levels.
  Assessment~~**Content**~~ **Limit**: Assessment does not include the cellular processes involved in the feedback mechanism.
  -

HS-LS-1.4 Students who demonstrate understanding can:

~~**LS1-HS-4.**~~ **Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.**

Supporting Content LS1.B: Growth and Development of Organisms

- In multicellular organisms individual cells grow and then divide via a process called mitosis, thereby allowing the organism to grow. The organism begins as a single cell (fertilized egg) that divides successively to produce many cells, with each parent cell passing identical genetic material (two variants of each chromosome pair) to both daughter cells. Cellular division and differentiation produce and maintain a complex organism, composed of systems of tissues and organs that work together to meet the needs of the whole organism. (HS-LS-1.4~~LS1-HS-4~~)

  - **Assessment** ~~**Content**~~ **Limit**: Assessment does not include specific gene control mechanisms~~ or rote memorization of the steps of mitosis~~.

HS-LS-1.5 Students who demonstrate understanding can:

~~LS1-HS-5.~~ **Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.**

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- The process of photosynthesis converts light energy to stored chemical energy by converting carbon dioxide plus water into sugars plus released oxygen. (**HS-LS-1.5**~~LS1-HS-5~~)

- **Further Explanation**: Emphasis is on illustrating inputs and outputs of matter and the transfer and transformation of energy in photosynthesis by plants and other photosynthesizing organisms. Examples of models could include diagrams, chemical equations, and conceptual models.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include specific biochemical steps.

HS-LS-1.6 Students who demonstrate understanding can:

~~LS1-HS-6.~~ **Construct** ~~**and revise**~~ **an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.**

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- ~~The~~ Ssugar molecules ~~thus formed~~ contain carbon, hydrogen, and oxygen: their hydrocarbon backbones combined with nitrogen, sulfur and/or phosphorous are used to make monomers (amino acids) and other carbon-based molecules that can be assembled into larger macromolecules (such as proteins or DNA), used for example to form new cells. (**HS-LS-1.6**~~LS1-HS-6~~)
- As matter and energy flow through different organizational levels of living systems, chemical elements are recombined in different ways to form different products. (HS-LS-1.6, HS-LS-1.7~~LS1-HS-6, LS1-HS-7~~)

- **Further Explanation**: Emphasis is on using evidence from models and simulations to support explanations.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include the details of the specific chemical reactions or identification of macromolecules.

HS-LS-1.7 Students who demonstrate understanding can:

~~LS1-HS-7.~~ **Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.**

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- As matter and energy flow through different organizational levels of living systems, chemical elements are recombined in different ways to form different products. (HS-LS-1.6, HS-LS-1.7)
- As a result of these chemical reactions, energy is transferred from one system of interacting molecules to another. Cellular respiration is a chemical process in which the bonds of food molecules and oxygen molecules are broken and new compounds are formed that can transport

energy to cells. Cellular respiration also releases the energy needed to maintain body temperature despite ongoing energy transfer to the surrounding environment. (**HS-LS-1.7**~~LS1-HS-7~~)

- **Further Explanation**: Emphasis is on the conceptual understanding of the inputs and outputs of the process of cellular respiration.
- **Assessment**~~**Content**~~ **Limit**: Assessment should not include identification of the steps or specific processes involved in cellular respiration.

~~**Supporting Content**~~

~~**LS1.A: Structure and Function**~~

- ~~Systems of specialized cells within organisms help them perform the essential functions of life. (LS1-HS-1)~~
- ~~All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells. (LS1-HS-1)~~
- ~~Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. (LS1-HS-2)~~
- ~~Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on inside the living system. (LS1-HS-3)~~

~~**LS1.B: Growth and Development of Organisms**~~

- ~~In multicellular organisms individual cells grow and then divide via a process called mitosis, thereby allowing the organism to grow. The organism begins as a single cell (fertilized egg) that divides successively to produce many cells, with each parent cell passing identical genetic material (two variants of each chromosome pair) to both daughter cells. Cellular division and differentiation produce and maintain a complex organism, composed of systems of tissues and organs that work together to meet the needs of the whole organism. (LS1-HS-4)~~

~~**LS1.C: Organization for Matter and Energy Flow in Organisms**~~

- ~~The process of photosynthesis converts light energy to stored chemical energy by converting carbon dioxide plus water into sugars plus released oxygen. (LS1-HS-5)~~
- ~~The sugar molecules thus formed contain carbon, hydrogen, and oxygen: their hydrocarbon backbones are used to make amino acids and other carbon-based molecules that can be assembled into larger molecules (such as proteins or DNA), used for example to form new cells. (LS1-HS-6)~~
- ~~As matter and energy flow through different organizational levels of living systems, chemical elements are recombined in different ways to form different products. (LS1-HS-6, LS1-HS-7)~~
- ~~As a result of these chemical reactions, energy is transferred from one system of interacting molecules to another. Cellular respiration is a chemical process in which the bonds of food molecules and oxygen molecules are broken and new compounds are formed that can transport energy to cells. Cellular respiration also releases the energy needed to maintain body temperature despite ongoing energy transfer to the surrounding environment. (LS1-HS-7)~~

HS-LS-2 – Ecosystems: Interactions, Energy, and Dynamics

~~**LS2 HS Ecosystems: Interactions, Energy, and Dynamics**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

HS-LS-2.1~~LS2 HS 1~~. Students who demonstrate understanding can:

~~**Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.**~~

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and nonliving resources and from such challenges such as predation, competition, and disease. Organisms would have the capacity to produce populations of great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem. (HS-LS-2.1, HS-LS-2.2~~LS2 HS 1, LS2 HS 2~~)

- **Further Explanation**: Emphasis is on quantitative analysis and comparison of the relationships among interdependent factors including boundaries, resources, climate, and competition. Examples of mathematical comparisons could include graphs, charts, histograms, and population changes gathered from simulations or historical data sets.
- **Assessment** ~~**Content**~~ **Limit**: Assessment does not include deriving mathematical equations to make comparisons.

HS-LS-2.2 Students who demonstrate understanding can:

~~**LS2 HS 2.**~~ **Use mathematical representations to support and** ~~**revise**~~ **explanations** ~~**based on evidence about**~~ **that** biotic and abiotic **factors affect**~~**ing**~~ **biodiversity** ~~**and populations in ecosystems of**~~**at different scales** within an ecosystem**.**

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and nonliving resources and from such challenges such as predation, competition, and disease. Organisms would have the capacity to produce populations of great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem. (HS-LS-2.1, HS-LS-2.2)

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability. (HS-LS-2.2, HS-LS-2.5~~LS2-HS-2, LS2-HS-6~~)

- **Further Explanation**: Emphasis is on genetic diversity within a population and species diversity within an ecosystem. Examples of mathematical representations include finding the average, determining trends, and using graphical comparisons of multiple sets of data. **Assessment~~Content~~ Limit**: Assessment is limited to provided data.

Prior HS-LS-2.3 *Removed and combined with prior HS-LS-2.4 to become the new HS-LS-2.3*

-

~~**LS2-HS-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.**~~

- ~~Further Explanation: Emphasis is on conceptual understanding of the role of aerobic and anaerobic respiration in different environments.~~
- ~~Content Limit: Assessment does not include the specific chemical processes of either aerobic or anaerobic respiration.~~

HS-LS-2.3 Students who demonstrate understanding can: *(formed from the combination of prior HS-LS-2.3 and prior HS-LS-2.4)*

~~**LS2-HS-4.**~~ Construct an explanation using~~**Use**~~ **mathematical representations to support claims for the ~~cycling of matter and~~ flow of energy ~~among organisms~~** through trophic levels and the cycling of matter **in an ecosystem.**

Supporting Content LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

- Photosynthesis and cellular respiration (including anaerobic processes) provide most of the energy for life processes. (HS-LS-2.3, HS-LS-2.4~~LS2-HS-3~~)
- Plants or algae form the lowest level of the food web. At each link upward in a food web, only a small fraction of the matter consumed at the lower level is transferred upward, to produce growth and release energy in cellular respiration at the higher level. Given this inefficiency, there are generally fewer organisms at higher levels of a food web. Some matter reacts to release energy for life functions, some matter is stored in newly made structures, and much is discarded. The chemical elements that make up the molecules of organisms pass through food webs and into and out of the atmosphere and soil, and they are combined and recombined in different ways. At each link in an ecosystem, matter and energy are conserved. (**HS-LS-2.3**~~LS2-HS-4~~)

- **Further Explanation**: Emphasis is on using a mathematical model of stored energy in biomass to describe the transfer of energy from one trophic level to another and that matter and energy are conserved as matter cycles and energy flows through ecosystems. Emphasis is on atoms and molecules such as carbon, oxygen, hydrogen and nitrogen being conserved as they move through an ecosystem.
- **Assessment ~~Content~~ Limit**: Assessment is limited to proportional reasoning to describe the cycling of matter and flow of energy.

HS-LS-2.4 Students who demonstrate understanding can: *(prior HS-LS-2.5)*

~~LS2-HS-5.~~ Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.

Supporting Content LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

- Photosynthesis and cellular respiration are important components of the carbon cycle, in which carbon is exchanged among the biosphere, atmosphere, oceans, and geosphere through chemical, physical, geological, and biological processes. (**HS-LS-2.4**~~LS2-HS-5~~)
- Photosynthesis and cellular respiration (including anaerobic processes) provide most of the energy for life processes. (HS-LS-2.3, HS-LS-2.4)

- **Further Explanation**: Examples of models could include simulations and mathematical models.
- **Assessment~~Content~~ Limit**: Assessment does not include the specific chemical steps of photosynthesis and respiration.

HS-LS-2.5 Students who demonstrate understanding can: *(prior HS-LS-2.6)*

~~LS2-HS-6.~~ Evaluate the claims, evidence, and reasoning that ~~the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but~~ changing the conditions of a static ecosystem **may result in a new ecosystem.**

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability. (HS-LS-2.2, HS-LS-2.5)

- **Further Explanation**: Examples of changes in ecosystem conditions could include modest biological or physical changes, such as a seasonal flood; and extreme changes, such as volcanic eruption or sea level rise.

HS-LS-2.6 Students who demonstrate understanding can: *(formed from the combination of prior HS-LS-2.7 and prior HS-LS-4.6)*

~~LS2-HS-7.~~ Design, evaluate, and/or refine ~~a solution for reducing the impacts~~ practices used to manage a natural resource based on direct and indirect influences **of human activities on ~~the environment and~~ biodiversity** and ecosystem health**.**

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

~~Moreover, anthropogenic c~~Changes (induced by human activity) in the environment—including habitat destruction, pollution, introduction of invasive species, overexploitation, and climate ~~change~~variability, ~~—~~can disrupt an ecosystem and threaten the survival of some species. (**HS-LS-2.6**)~~LS2-HS-7)~~

Supporting Content LS4.C: Adaptation

- Changes in the physical environment, ~~whether naturally occurring or human induced,~~ have ~~thus~~ contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline ~~and sometimes the~~ or possible extinction of some species. (HS-LS-2.6, HS-LS-4.5)

Supporting Content LS4.D: Biodiversity and Humans

- Biodiversity is increased by the formation of new species (speciation) and decreased by the loss of species (extinction). (**HS-LS-2.6**~~LS2-HS-7~~)

~~—~~Sustaining ecosystem health and biodiversity is essential to support and enhance life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational, cultural, or inspirational value. Humans depend on the living world for the resources and other benefits provided by biodiversity. ~~Impacts~~ Effects on biodiversity can be mitigated through actions such as habitat conservation, reclamation practices, wildlife management, and invasive species control. Understanding the effects of population growth, wildfire, pollution, and climate variability on changes in biodiversity could help maintain the integrity of biological systems. (**HS-LS-2.6**~~LS2-HS-7, LS4-HS-6~~.)

Supporting Content ESS3.A: Natural Resources

- Resource availability has guided the development of human society. (HS-LS-2.6, *HS-ESS-3.1*)

Supporting Content ETS1.B: Developing Possible Solutions

- When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, environmental, and cultural, ~~and environmental~~ impacts. (HS-LS-2.6)

Further Explanation: Emphasis is on how natural resources such as forests, waterways, and land are managed in ways that minimize harm to biodiversity and ecosystem health and activities that can improve and or maintain existing health of ecosystems.

~~• Examples of human activities can include urbanization, building dams, and dissemination of invasive species, utilization of non-renewable resources as opposed to renewable resource.~~

HS-LS-2.7 Students who demonstrate understanding can: *(prior HS-LS-2.8)*

~~LS2-HS-8.~~ Evaluate the evidence for the role of group behavior on individual and species' ~~chances~~ ability to survive and reproduce.

Supporting Content LS2.D: Social Interactions and Group Behavior

Group behavior has evolved because membership can increase the chances of survival for individuals and their genetic relatives, gene pool. (**HS-LS-2.7**~~LS2-HS-8~~)

- **Further Explanation:** Emphasis is on: (1) distinguishing between group and individual behavior, (2) identifying evidence supporting the outcomes of group behavior, and (3) developing logical and reasonable arguments based on evidence. Examples of group behaviors could include flocking, schooling, herding, and cooperative behaviors such as hunting, migrating, and swarming.

~~Supporting Content~~

~~LS2.A: Interdependent Relationships in Ecosystems~~

- ~~Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and nonliving resources and from such challenges such as predation, competition, and disease. Organisms would have the capacity to produce populations of great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem. (LS2-HS-1, LS2-HS-2)~~

~~LS2.B: Cycles of Matter and Energy Transfer in Ecosystems~~

- ~~Photosynthesis and cellular respiration (including anaerobic processes) provide most of the energy for life processes. (LS2-HS-3)~~
- ~~Plants or algae form the lowest level of the food web. At each link upward in a food web, only a small fraction of the matter consumed at the lower level is transferred upward, to produce growth and release energy in cellular respiration at the higher level. Given this inefficiency, there are generally fewer organisms at higher levels of a food web. Some matter reacts to release energy for life functions, some matter is stored in newly made structures, and much is discarded. The chemical elements that make up the molecules of organisms pass through food webs and into and out of the atmosphere and soil, and they are combined and recombined in different ways. At each link in an ecosystem, matter and energy are conserved. (LS2-HS-4)~~
- ~~Photosynthesis and cellular respiration are important components of the carbon cycle, in which carbon is exchanged among the biosphere, atmosphere, oceans, and geosphere through chemical, physical, geological, and biological processes. (LS2-HS-5)~~

~~LS2.C: Ecosystem Dynamics, Functioning, and Resilience~~

- ~~A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability. (LS2-HS-2, LS2-HS-6)~~
- ~~Moreover, anthropogenic changes (induced by human activity) in the environment—including habitat destruction, pollution, introduction of invasive species, overexploitation, and climate change—can disrupt an ecosystem and threaten the survival of some species. (LS2-HS-7)~~

~~LS2.D: Social Interactions and Group Behavior~~

- ~~Group behavior has evolved because membership can increase the chances of survival for individuals and their genetic relatives, gene pool. (LS2-HS-8)~~~~LS4.D: Biodiversity and Humans~~
- ~~LS4.D: Biodiversity and Humans~~

- ~~Biodiversity is increased by the formation of new species (speciation) and decreased by the loss of species (extinction). (LS2-HS-7)~~
- ~~Sustaining ecosystem health and biodiversity is essential to support and enhance life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational, cultural, or inspirational value. Humans depend on the living world for the resources and other benefits provided by biodiversity. Impacts on biodiversity can be mitigated through actions such as habitat conservation, reclamation practices, wildlife management, and invasive species control. Understanding the effects of population growth, wildfire, pollution, and climate variability on changes in biodiversity could help maintain the integrity of biological systems. (LS2-HS-7, LS4-HS-6.)~~

HS-LS-3 – Heredity: Inheritance and Variation of Traits

~~LS3-HS Heredity: Inheritance and Variation of Traits~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

HS-LS-3.1 ~~LS3-HS-1~~. Students who demonstrate understanding can:

~~Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.~~

Supporting Content LS1.A: Structure and Function

- All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins. (HS-LS-1.1, HS-LS-3.1~~LS3-HS-1, LS1-HS-1~~.)

Supporting Content LS3.A: Inheritance of Traits

- Each chromosome consists of a single very long DNA molecule, and each gene on the chromosome is a particular segment of that DNA. The instructions for forming species' characteristics are carried in DNA. All cells in an organism have the same genetic content, but the genes used (expressed) by the cell may be regulated in different ways. Not all DNA codes for a protein; some segments of DNA are involved in regulatory or structural functions, and some have no as-yet known function. (**HS-LS-3.1**~~LS3-HS-1~~)

- **Assessment~~Content~~ Limit**: Assessment does not include the phases of meiosis or the biochemical mechanism of specific steps in the process.

HS-LS-3.2 Students who demonstrate understanding can:

~~LS3-HS-2.~~ ~~Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.~~

Supporting Content LS3.B: Variation of Traits

- In sexual reproduction, chromosomes can sometimes swap sections during the process of meiosis ~~(cell division)~~, thereby creating new genetic combinations and thus more genetic variation. Although DNA replication is tightly regulated and remarkably accurate, errors do occur and result in mutations, which are also a source of genetic variation. Environmental factors can also cause mutations in genes, and viable mutations are inherited. (**HS-LS-3.2**~~LS3-HS-2~~)
- Environmental factors also affect expression of traits, and hence affect the probability of occurrences of traits in a population. Thus the variation and distribution of traits observed depends on both genetic and environmental factors. (**HS-LS-3.2**~~LS3-HS-2~~, **HS-LS-3.3**~~LS3-HS-3~~)

- **Further Explanation**: Emphasis is on using data to support claims about ~~arguments for~~ the way variation occurs.
- **Assessment~~Content~~ Limit**: Assessment does not include the phases of meiosis or the biochemical mechanism of specific steps in the process.

HS-LS-3.3 Students who demonstrate understanding can:

~~**LS3-HS-3.**~~ **Apply concepts of ~~statistics and~~ probability** and statistical analysis **to explain the variation and distribution of expressed traits in a population.**

Supporting Content LS3.B: Variation of Traits

- Environmental factors also affect expression of traits, and hence affect the probability of occurrences of traits in a population. Thus the variation and distribution of traits observed depends on both genetic and environmental factors. (**HS-LS-3.2**, **HS-LS-3.3**)

- **Further Explanation:** Emphasis is on the use of mathematics to describe the probability of traits (alleles) as it relates to genetic and environmental factors in the expression of traits.
- **Assessment~~Content~~ Limit**: Assessment does not include Hardy-Weinberg calculations.

~~Supporting Content~~

~~LS1.A: Structure and Function~~

- ~~All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins. (LS3-HS-1, LS1-HS-1.)~~

~~LS3.A: Inheritance of Traits~~

- ~~Each chromosome consists of a single very long DNA molecule, and each gene on the chromosome is a particular segment of that DNA. The instructions for forming species' characteristics are carried in DNA. All cells in an organism have the same genetic content, but the genes used (expressed) by the cell may be regulated in different ways. Not all DNA codes for a protein; some segments of DNA are involved in regulatory or structural functions, and some have no as-yet known function. (LS3-HS-1)~~

~~LS3.B: Variation of Traits~~

- ~~In sexual reproduction, chromosomes can sometimes swap sections during the process of meiosis (cell division), thereby creating new genetic combinations and thus more genetic variation. Although DNA replication is tightly regulated and remarkably accurate, errors do occur and result in mutations, which are also a source of genetic variation. Environmental factors can also cause mutations in genes, and viable mutations are inherited. (LS3-HS-2)~~
- ~~Environmental factors also affect expression of traits, and hence affect the probability of occurrences of traits in a population. Thus the variation and distribution of traits observed depends on both genetic and environmental factors. (LS3-HS-2, LS3-HS-3)~~

HS-LS-4 – Biological Adaptation: Unity and Diversity

~~LS4-HS- Biological Adaptation: Unity and Diversity~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

HS-LS-4.1 Students who demonstrate understanding can:

~~LS4-HS- 1.~~ **Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.**

Supporting Content LS4.A: Evidence of Common Ancestry and Diversity

- Genetic information, like the fossil record, provides evidence of evolution. DNA sequences vary among species, but there are many overlaps; ~~in fact~~, the ongoing branching that produces multiple lines of descent can be inferred by comparing the DNA sequences of different organisms. Such information can be derived ~~is also derivable~~ from the similarities and differences in amino acid sequences and from anatomical and embryological evidence. (**HS-LS-4.1**~~LS4-HS-1~~)

- **Further Explanation**: Emphasis is on a conceptual understanding of the role each line of evidence has relating to common ancestry and biological evolution. Examples of evidence could include similarities in DNA sequences, anatomical structures, and order of appearance of structures in embryological development.

HS-LS-4.2 Students who demonstrate understanding can:

~~LS4-HS-2.~~ **Construct an explanation based on evidence that the process of evolution, through the mechanism of natural selection, primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.**

Supporting Content LS4.B: Natural Selection

- Natural selection occurs only if there is both (1) variation in the genetic information between organisms in a population and (2) variation in the expression of that genetic information—that is, trait variation—that leads to differences in performance among individuals. (HS-LS-4.2, HS-LS-4.3~~LS4-HS-2, LS4-HS-3~~)

Supporting Content LS4.C: Adaptation

- Evolution is a consequence of the interaction of four factors of natural selection ~~:~~ (1) the potential for a species to increase in number, (2) the genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for an environment's limited supply of the resources that individuals need in order to survive and reproduce, and (4) the ensuing proliferation of those organisms that are better able to survive and reproduce in that environment. (**HS-LS-4.2**~~LS4-HS-2~~)

- **Further Explanation**: Emphasis is on using evidence to explain the influence each of the four factors has on number of organisms, behaviors, morphology, or physiology in terms of ability to compete for limited resources and subsequent survival of individuals and adaptation of species. Examples of evidence could include mathematical models such as simple distribution graphs and proportional reasoning.
- **Assessment~~Content~~ Limit**: Assessment does not include other mechanisms of evolution, such as genetic drift, gene flow through migration, and co-evolution.

HS-LS-4.3 Students who demonstrate understanding can:

~~LS4-HS-3.~~ **Apply concepts of ~~statistics and~~ probability and statistical analysis to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.**

Supporting Content LS4.B: Natural Selection

- Natural selection occurs only if there is both (1) variation in the genetic information between organisms in a population and (2) variation in the expression of that genetic information—that is, trait variation—that leads to differences in performance among individuals. (HS-LS-4.2, HS-LS-4.3)

- The traits that positively affect survival are more likely to be reproduced, and thus are more common in the population. (**HS-LS-4.3**~~LS4-HS-3~~)

Supporting Content LS4.C: Adaptation

- Natural selection leads to adaptation, that is, to a population dominated by organisms that are anatomically, behaviorally, and physiologically well suited to survive and reproduce in a specific environment. ~~That is, t~~The differential survival and reproduction of organisms in a population that have an advantageous heritable trait leads to an increase in the proportion of individuals in future generations that have the trait and to a decrease in the proportion of individuals that do not. (**HS-LS-4.3,** ~~LS4-HS-3~~ **HS-LS-4.4**~~, LS4-HS-4~~)
- Adaptation also means that the distribution of traits in a population can change when conditions change. (**HS-LS-4.3**~~LS4-HS-3~~)

- **Further Explanation**: Emphasis is on analyzing shifts in numerical distribution of traits and using these shifts as evidence to support explanations.
- **Assessment**~~**Content**~~ **Limit**: Assessment is limited to basic statistical and graphical analysis. Assessment does not include allele frequency calculations.

HS-LS-4.4 Students who demonstrate understanding can:

~~**LS4-HS-4.**~~ **Construct an explanation based on evidence for how natural selection leads to adaptation of populations.**

Supporting Content LS4.C: Adaptation

- Natural selection leads to adaptation, that is, to a population dominated by organisms that are anatomically, behaviorally, and physiologically well suited to survive and reproduce in a specific environment. The differential survival and reproduction of organisms in a population that have an advantageous heritable trait leads to an increase in the proportion of individuals in future generations that have the trait and to a decrease in the proportion of individuals that do not. (**HS-LS-4.3, HS-LS-4.4**)

- **Further Explanation**: Emphasis is on using data to provide evidence for how specific biotic and abiotic differences in ecosystems (such as ranges of seasonal temperature, long-term climate change, acidity, light, geographic barriers, or evolution of other organisms) contribute to a change in gene frequency over time, leading to adaptation of populations.

HS-LS-4.5 Students who demonstrate understanding can:

~~**LS4-HS-5.**~~ **Evaluate** models that demonstrate how ~~**the evidence supporting claims that**~~ **changes in** an **environment**~~**al conditions**~~ **may result in**~~**: (1) increases in the number of individuals of some species, (2)**~~ the evolution of a population of a given species, **the emergence of new species over** ~~**time**~~**generations**, ~~**and (3)**~~ **or the extinction of other species** due to the processes of genetic drift, gene flow, mutation, and natural selection.~~.~~

Supporting Content LS4.C: Adaptation

- Changes in the physical environment~~, whether naturally occurring or human induced~~, have thus contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline–and sometimes the extinction–of some species. (HS-LS-2.6, HS-LS-4.5~~LS4-HS-5, LS4-HS-6~~)
- Species become extinct because they can no longer survive and reproduce in their altered environment. If members cannot adjust to change that is too fast or drastic, the opportunity for the species' evolution is lost. (**HS-LS-4.5**~~LS4-HS-5~~)

- **Further Explanation**: Emphasis is on determining cause and effect relationships for how changes to the environment such as deforestation, over fishing, application of fertilizers and pesticides, drought, flood, and the rate of change of the environment affect distribution or disappearance of traits in species.

Prior HS-LS-4.6 *Removed and combined with prior HS-LS-2.7 to become the new HS-LS-2.6*

~~**LS4-HS-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.**~~

- ~~Further Explanation: Emphasis is on designing solutions for a proposed problem related to threatened or endangered species, or to genetic variation of organisms for multiple species.~~

~~**Supporting Content**~~

~~**LS4.A: Evidence of Common Ancestry and Diversity**~~

- ~~Genetic information, like the fossil record, provides evidence of evolution. DNA sequences vary among species, but there are many overlaps; in fact, the ongoing branching that produces multiple lines of descent can be inferred by comparing the DNA sequences of different organisms. Such information is also derivable from the similarities and differences in amino acid sequences and from anatomical and embryological evidence. (LS4-HS-1)~~

~~**LS4.B: Natural Selection**~~

- ~~Natural selection occurs only if there is both (1) variation in the genetic information between organisms in a population and (2) variation in the expression of that genetic information—that is, trait variation—that leads to differences in performance among individuals. (LS4-HS-2, LS4-HS-3)~~
- ~~The traits that positively affect survival are more likely to be reproduced, and thus are more common in the population. (LS4-HS-3)~~

LS4.C: Adaptation

- Evolution is a consequence of the interaction of four factors: (1) the potential for a species to increase in number, (2) the genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for an environment's limited supply of the resources that individuals need in order to survive and reproduce, and (4) the ensuing proliferation of those organisms that are better able to survive and reproduce in that environment. (LS4-HS-2)
- Natural selection leads to adaptation, that is, to a population dominated by organisms that are anatomically, behaviorally, and physiologically well suited to survive and reproduce in a specific environment. That is, the differential survival and reproduction of organisms in a population that have an advantageous heritable trait leads to an increase in the proportion of individuals in future generations that have the trait and to a decrease in the proportion of individuals that do not. (LS4-HS-3, LS4-HS-4)
- Adaptation also means that the distribution of traits in a population can change when conditions change. (LS4-HS-3)
- Changes in the physical environment, whether naturally occurring or human induced, have thus contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline—and sometimes the extinction—of some species. (LS4-HS-5, LS4-HS-6)
- Species become extinct because they can no longer survive and reproduce in their altered environment. If members cannot adjust to change that is too fast or drastic, the opportunity for the species' evolution is lost. (LS4-HS-5)

LS4.D: Biodiversity and Humans

- Sustaining ecosystem health and biodiversity is essential to support and enhance life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational, cultural, or inspirational value. Humans depend on the living world for the resources and other benefits provided by biodiversity. Impacts on biodiversity can be mitigated through actions such as habitat conservation, reclamation practices, wildlife management, and invasive species control. Understanding the effects of population growth, wildfire, pollution, and climate variability on changes in biodiversity could help maintain the integrity of biological systems. (LS2-HS-7, LS4-HS-6.

ETS1.B: Developing Possible Solutions

- When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts. (LS4-HS-6)
- Both physical models and computers can be used in various ways to aid in the engineering design process. Computers are useful for a variety of purposes, such as running simulations to test different ways of solving a problem or to see which one is most efficient or economical; and in making a persuasive presentation to a client about how a given design will meet his or her needs. (LS4-HS-6)

Physical Science – Chemistry

HS-PSC-1 – Structure and Properties of Matter

~~PSC: Physical Sciences (Chemistry)~~

~~PSC1-HS Structure and Properties of Matter~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

HS-PSC-1.1~~PSC1-HS-1~~. Students who demonstrate understanding can:

~~—~~**Develop models to describe the atomic composition of simple molecules and extended structures.**

Supporting Content PS1.A: Structure and Properties of Matter

- Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms. (**HS-PSC-1.1**~~PSC1-HS-1~~)

- **Further Explanation**: Emphasis is on reviewing how to develop models of molecules that vary in complexity. This should build on the similar middle school standard (**MS-PS-1.1**~~PS1-MS-1~~). Students should be able to determine valence electrons for representative elements. Examples of simple molecules could include ammonia and methanol. Examples of extended structures could include sodium chloride or diamonds. Examples of ~~molecular-level~~ models could include drawings, 3D ball and stick structures, or computer representations ~~showing different molecules with different types of atoms~~.
- ~~Content~~ Assessment **Limit**: Students will be provided with the names of the elements, a list of common ions, a list of numerical prefixes and their meanings, and the charges of all cations and anions. ~~within the item as necessary. Confine element symbols to the representative and familiar transition metal elements.~~

HS-PSC-1.2 Students who demonstrate understanding can:

~~PSC1-HS-2.~~ **Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.**

Supporting Content PS1.A: Structure and Properties of Matter

- Each atom has a substructure consisting of a nucleus, which is made of protons and neutrons, surrounded by electrons. (PSC1-HS-2)

- The periodic table orders elements horizontally by the number of protons in the atom's nucleus and places those with similar chemical properties in columns. The repeating patterns of this table reflect outermost ~~patterns of outer~~ electron states. (**HS-PSC-1.2**~~PSC1-HS-2~~)

- **Further Explanation**: Examples of properties that could be predicted from patterns could include reactivity of metals, types of bonds formed, numbers of bonds formed, and reactions with oxygen.
- ~~Content~~ **Assessment Limit**: ~~Elements will be~~Assessment is limited to main group elements. Assessment is ~~Properties assessed will be~~ limited to relative trends in reactivity, valence electrons, atomic and ionic radius, electronegativity, ionization energy ~~(first)~~, shielding effect, and ~~the most~~ common oxidation number.

HS-PSC-1.3 Students who demonstrate understanding can:

~~**PSC1-HS-3.**~~ **Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrostatic~~electrical~~ forces between particles.**

Supporting Content PS1.A: Structure and Properties of Matter

- The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms. (HS-PSC-1.3, HS-PSC-1.5~~PSC1-HS-3, PSC1-HS-5~~)

Supporting Content PS2.B: Types of Interactions

- Attraction and repulsion between electric charges at the atomic scale explain the structure, properties (physical and chemical), and transformations of matter, as well as the contact forces between material objects. (~~PSC1-HS-2~~, HS-PSC-1.3, HS-PSC-1.5, *HS-PSP-1.6*~~PSC1-HS3, PSC1-HS-5~~)

- **Further Explanation**: Emphasis is on understanding the strengths of forces between particles~~, not on naming specific intermolecular forces (such as dipole-dipole)~~. Examples of particles could include ions, atoms, molecules, and networked materials (such as graphite). Examples of bulk properties of substances could include the melting point and boiling point, vapor pressure, and surface tension.
- ~~Content~~ **Assessment Limit**: Assessment does not include naming specific intermolecular forces (such as dipole-dipole). Assessment will be limited to quantitative calculations of melting and boiling points only.~~Metallic, ionic, and covalent bonds may be included. Graphical representations of melting or boiling points of different substances may be used in the item (e.g., graph of boiling points vs. molar mass or simple bar graph). Structural formulas of compounds may be used to compare the melting/boiling points of compounds~~

HS-PSC-1.4 Students who demonstrate understanding can:

~~**PSC1-HS-4.**~~ **Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and various modes ~~other types~~ of radioactive decay.**

Supporting Content PS1.C: Nuclear Processes

- Nuclear processes, including fusion, fission, and radioactive decays of unstable nuclei, involve release or absorption of energy. The total number of neutrons plus protons does not change in any nuclear process. (**HS-PSC-1.4**~~PSC1-HS-4~~)

- **Further Explanation**: Emphasis is on simple qualitative models, such as pictures or diagrams, and on the scale of energy released in nuclear processes relative to other kinds of transformations.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include quantitative calculation of energy released. Assessment is limited to alpha, beta, and gamma modes of radioactive decay~~s~~.

HS-PSC-1.5 Students who demonstrate understanding can:

~~**PSC1-HS-5.**~~ **Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.**

Supporting Content PS1.A: Structure and Properties of Matter

- The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms. (HS-PSC-1.3, HS-PSC-1.5)

Supporting Content PS2.B: Types of Interactions

- Attraction and repulsion between electric charges at the atomic scale explain the structure, properties (physical and chemical), and transformations of matter, as well as the contact forces between material objects. (~~HS-PSC-1.2~~, HS-PSC-1.3, HS-PSC-1.5, *HS-PSP-1.6*)

- **Further Explanation:** Emphasis is on the attractive and repulsive forces that determine the functioning of the material. Examples could include why electrically conductive materials are often made of metal, flexible but durable materials are made up of long chained molecules, and pharmaceuticals are designed to interact with specific receptors.
- **Assessment**~~**Content**~~ **Limit**: Assessment is limited to provided molecular structures of specific designed materials. For questions involving polar vs. nonpolar bonds, item distractors
- containing ionic bonds may not be used. Electronegativity differences of < 0.5 should be used for nonpolar covalent bonds. Electronegativity differences of 0.5 – 1.7 should be used for polar covalent bonds.

~~**Supporting Content**~~

~~**PS1.A: Structure and Properties of Matter**~~

- ~~Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms. (PSC1-HS-1)~~
- ~~Each atom has a substructure consisting of a nucleus, which is made of protons and neutrons, surrounded by electrons. (PSC1-HS-2)~~

- ~~The periodic table orders elements horizontally by the number of protons in the atom's nucleus and places those with similar chemical properties in columns. The repeating patterns of this table reflect patterns of outer electron states. (PSC1-HS-2)~~
- ~~The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms. (PSC1-HS-3, PSC1-HS-5)~~

~~PS1.C: Nuclear Processes~~

- ~~Nuclear processes, including fusion, fission, and radioactive decays of unstable nuclei, involve release or absorption of energy. The total number of neutrons plus protons does not change in any nuclear process. (PSC1-HS-4)~~

~~PS2.B: Types of Interactions~~

- ~~Attraction and repulsion between electric charges at the atomic scale explain the structure, properties (physical and chemical), and transformations of matter, as well as the contact forces between material objects. (PSC1-HS-2, PSC1-HS3, PSC1-HS-5)~~

HS-PSC-2 – Chemical Reactions

~~**PSC2-HS-Chemical Reactions**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

HS-PSC-2.1 ~~PSC2-HS-1~~Students who demonstrate understanding can:

Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

Supporting Content PS1.A: Structure and Properties of Matter

- The periodic table orders elements horizontally by the number of protons in the atom's nucleus and places those with similar physical and chemical properties in columns. The repeating patterns of this table reflect patterns of outer electron states. (**HS-PSC-2.1**~~PSC2-S-1~~)

Supporting Content PS1.B: Chemical Reactions

- The fact that atoms are conserved, together with knowledge of the chemical properties of the elements involved, can be used to describe and predict chemical reactions. (**HS-PSC-2.1**~~PSC2-HS-1~~, **HS-PSC-2.4** ~~PSC2-HS-4~~)

- **Further Explanation:** Examples of chemical reactions could include the reaction of sodium and chlorine, of carbon and oxygen, or of carbon and hydrogen.
- ***Assessment Limit:*** Assessment is limited to synthesis, decomposition, single replacement/displacement, double replacement/displacement, including neutralization, and combustion reactions. Predict the products of double replacement, single replacement, and combustion reactions only. Assessment excludes writing formulas or names of acids and hydrocarbons.~~Content Limit: Identify types of chemical reactions including: synthesis/formation/combination reactions, decomposition reactions, single replacement/displacement reactions, double replacement/displacement reactions, oxidation-reduction (redox) reactions (single replacement only), acid-base reactions, and combustion reactions (for hydrocarbons). Predict the products of double replacement, single replacement, and combustion reactions only. For the second skill statement, do not use acid names or hydrocarbons when translating between words and formulas. Items will include a list of common ions, as needed.~~

HS-PSC-2.2 Students who demonstrate understanding can:

~~PSC2-HS-2.~~ Develop a model to illustrate that the ~~release or absorption of~~ energy ~~from a~~ **transferred during an exothermic or endothermic** chemical reaction **is based on the** ~~system depends upon the changes in total~~ bond energy **difference between bonds broken (absorption of energy) and bonds formed (release of energy).**

Supporting Content PS1.A: Structure and Properties of Matter

- ~~-~~ A stable molecule has less energy than the same set of atoms separated; one must provide at least this energy in order to take the molecule apart. (**HS-PSC-2.2**~~PSC2-HS-2~~)

Supporting Content PS1.B: Chemical Reactions

- Chemical processes, their rates, and whether or not energy is stored or released can be understood in terms of the collisions of molecules and the rearrangements of atoms into new molecules, with consequent changes in the sum of all bond energies in the set of molecules that are matched by changes in kinetic energy. (**HS-PSC-2.2**~~PSC2-HS-2~~, **HS-PSC-2.3**~~PSC2-HS-3~~)
- ~~—~~

Further Explanation: Emphasis is on the idea that a chemical reaction is a system that affects the energy change. Examples of models could include molecular-level drawings and diagrams of reactions, graphs showing the relative energies of reactants and products, and representations showing energy is conserved.

- **Assessment~~Content~~ Limit**: Assessment does not include calculating the total bond energy changes during a chemical reaction from the bond energies of reactants and products.

HS-PSC-2.3 Students who demonstrate understanding can:

~~**PSC2-HS-3.**~~ **Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.**

Supporting Content PS1.B: Chemical Reactions

- Chemical processes, their rates, and whether or not energy is stored or released can be understood in terms of the collisions of molecules and the rearrangements of atoms into new molecules, with consequent changes in the sum of all bond energies in the set of molecules that are matched by changes in kinetic energy. (**HS-PSC-2.2**, **HS-PSC-2.3**)

- **Further Explanation**: Emphasis is on student reasoning that focuses on the number and energy of collisions between molecules.

Assessment Limit: Assessment is limited to simple reactions in which there are only two reactants; evidence from temperature, concentration, and rate data; and qualitative relationships between rate and temperature.

- ~~Content Limit: Factors that influence the rate of reaction may include temperature, surface area, size of particles, concentration, and catalysts. Can also include concentration and titration relationships. Provide a graphic showing how a catalyst provides a different pathway for a chemical reaction to occur resulting in a lower activation energy. May include a titration curve.~~

HS-PSC-2.4 Students who demonstrate understanding can: ~~**PSC2-HS-4.**~~

Use mathematical representations to support the claim that the number and type of **atoms, and therefore mass, are conserved during a chemical reaction.**

Supporting Content PS1.B: Chemical Reactions

- The fact that atoms are conserved, together with knowledge of the chemical properties of the elements involved, can be used to describe and predict chemical reactions. (**HS-PSC-2.1**, **HS-PSC-2.4**)

- **Further Explanation**: Emphasis is on using mathematical ideas to communicate the proportional relationships between masses of atoms in the reactants and the products, and the translation of these relationships to the macroscopic scale using the mole as the conversion from the atomic to the macroscopic scale. Emphasis is on assessing students' use of mathematical thinking and not on memorization and rote application of problem-solving techniques. ~~Should also include calculations related to determining the concentration and/or pH of a solution.~~
- ~~Content~~ **Assessment Limit**: Conversion problems will be one to two steps (e.g., grams to moles to atoms/molecules). Compounds and formulas should be provided in the stem of the question. Students should be given molecular masses in problems involving gram to other unit conversions. Molar mass calculations should not be combined with conversion problems. All volumes must be at standard temperature and pressure (STP). A balanced equation and molar masses should be included in the item. Calculations may include grams/moles/volume of reactant to grams/moles/volume of product.

***Prior HS-PSC-2.5** Removed completely*

~~**PSC2-HS-5. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.**~~

- ~~Further Explanation: Emphasis is on the application of Le Chatelier's Principle and on refining designs of chemical reaction systems, including descriptions of the connection between changes made at the macroscopic level and what happens at the molecular level. Examples of designs could include different ways to increase product formation including adding reactants or removing products.~~
- ~~Content Limit: Assessment is limited to specifying the change in only one variable at a time. Assessment does not include calculating equilibrium constants and concentrations.~~

Supporting Content

~~**PS1.A: Structure and Properties of Matter**~~

- ~~The periodic table orders elements horizontally by the number of protons in the atom's nucleus and places those with similar physical and chemical properties in columns. The repeating patterns of this table reflect patterns of outer electron states. (PSC2-S-1)~~
- ~~A stable molecule has less energy than the same set of atoms separated; one must provide at least this energy in order to take the molecule apart. (PSC2-HS-2)~~

~~**PS1.B: Chemical Reactions**~~

- ~~Chemical processes, their rates, and whether or not energy is stored or released can be understood in terms of the collisions of molecules and the rearrangements of atoms into new molecules, with consequent changes in the sum of all bond energies in the set of molecules that are matched by changes in kinetic energy. (PSC2-HS-2, PSC2-HS-3)~~

- ~~In many situations, a dynamic and condition-dependent balance between a reaction and the reverse reaction determines the numbers of all types of molecules present. (PSC2-HS-5)~~
- ~~The fact that atoms are conserved, together with knowledge of the chemical properties of the elements involved, can be used to describe and predict chemical reactions. (PSC2-HS-1, PSC2-HS-4)~~

~~ETS1.C: Optimizing the Design Solution~~

- ~~Criteria may need to be broken down into simpler ones that can be approached systematically, and decisions about the priority of certain criteria over others (trade-offs) may be needed. (PSC2-HS-5)~~

HS-PSC-3 – Energy

~~PSC3-HS Energy~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

HS-PSC-3.1 ~~PSC3-HS-1.~~Students who demonstrate understanding can:

~~Ask questions to clarify~~ ~~**Evaluate the claims, evidence, and reasoning behind**~~ **the idea that electromagnetic radiation can be described either by a wave model or a particle model**~~**, and that for some situations one model is more useful than the other**~~**.**

Supporting Content **PS4.B: Electromagnetic Radiation**

- Electromagnetic radiation (e.g., radio, microwaves, light) can be modeled as a wave of changing electric and magnetic fields or as particles called photons. The wave model is useful for explaining many features of electromagnetic radiation, and the particle model explains other features. (**HS-PSC-3.1**~~PSC3-HS-1~~)

- **Further Explanation**: Emphasis is on how the experimental evidence supports the claim and how a theory is generally modified in light of new evidence. Examples of a phenomenon could include interference, diffraction, and photoelectric effect.
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include using quantum theory.

HS-PSC-3.2 Students who demonstrate understanding can:

~~**PSC3-HS-2**~~ **Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.**

Supporting Content **PS3.A: Definitions of Energy**

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (**HS-PSC-3.2**~~PSC3-HS-2~~, **HS-PSC-3.3**~~PSC3-HS-3~~)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Conservation of energy means that the total change of energy in any system is always equal to the total energy transferred into or out of the system. (**HS-PSC-3.2**~~PSC3-HS-2~~)
- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (**HS-PSC-3.2**~~PSC3-HS-2~~, **HS-PSC-3.5**~~PSC3-HS-5~~)
- Mathematical expressions, which quantify how the stored energy in a system depends on its configuration (e.g. relative positions of charged particles, compression of a spring) and how kinetic energy depends on mass and speed, allow the concept of conservation of energy to be used to predict and describe system behavior. (**HS-PSC-3.2**~~PSC3-HS-2~~)
- The availability of energy limits what can occur in any system. (**HS-PSC-3.2**~~PSC3-HS-2~~)

- **Further Explanation**: Emphasis is on explaining the meaning of mathematical expressions used in the model.
  Assessment Limit: Assessment is limited to basic algebraic expressions or computations; to systems of two or three components; and to thermal energy, kinetic energy, and/or the energies in gravitational, magnetic, or electric fields. Two temperatures (initial and final), a temperature-time graph, or an enthalpy diagram must be provided.
- ~~Content Limit: Provide two temperatures (initial and final), a temperature-time graph, or an enthalpy diagram.~~

HS-PSC-3.3 Students who demonstrate understanding can:

~~PSC3-HS-3.~~ **Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).**

Supporting Content PS3.A: Definitions of Energy

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (**HS-PSC-3.2**, **HS-PSC-3.3**)
- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (**HS-PSC-3.3**~~PSC3-HS-3~~, **HS-PSC-3.4**~~PSC3-HS-4~~)
- These relationships are better understood at the microscopic scale, at which all of the different manifestations of energy can be modeled as a combination of energy associated with the motion of particles and energy associated with the configuration (relative position of the particles). In some cases the relative position energy can be thought of as stored in fields (which mediate interactions between particles). This last concept includes radiation, a phenomenon in which energy stored in fields moves across space. (**HS-PSC-3.3**~~PSC3-HS-3~~)

- Further Explanation: Examples of phenomena at the macroscopic scale could include the conversion of kinetic energy to thermal energy, the energy stored due to position of an object above the earth, and the energy stored between two electrically-charged plates. ~~.~~ Examples of models could include diagrams, drawings, descriptions, and computer simulations.
- ~~Content Limit: Provide equations for the gas laws (i.e., ideal gas law, Boyle's law, Charles' law, and the combined gas laws).~~

HS-PSC-3.4* Students who demonstrate understanding can:

~~**PSC3-HS-4*.**~~ **Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy. ---OPTIONAL**

Supporting Content PS3.A: Definitions of Energy

- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (**HS-PSC-3.3**, **HS-PSC-3.4**)

Supporting Content PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surroundings. ~~environment.~~ (**HS-PSC-3.4**~~PSC3-HS-4~~, **HS-PSC-3.5**~~PSC3-HS-5~~)

- **Further Explanation**: Emphasis is on both qualitative and quantitative evaluations of devices. Examples of devices could include calorimeters, heat and cold packs, solar cells, solar ovens, and electrochemical cells. Examples of constraints could include use of renewable energy forms and efficiency.
- **Assessment**~~**Content**~~ **Limit**: Assessment for quantitative evaluations is limited to total output for a given input. Assessment is limited to devices constructed with materials provided to students.

HS-PSC-3.5 Students who demonstrate understanding can:

~~**PSC3-HS-5.**~~ **Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).**

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (**HS-PSC-3.2**, **HS-PSC-3.5**)
- Uncontrolled systems always evolve toward more stable states—that is, toward more uniform energy distribution (e.g., water flows downhill, objects hotter than their surrounding environment cool down). (**HS-PSC-3.5)**~~PSC3-HS-5)~~

Supporting Content PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surroundings.(**HS-PSC-3.4**, **HS-PSC-3.5**)
-

- **Further Explanation**: Emphasis is on analyzing data from student investigations and using mathematical thinking to describe the energy changes both quantitatively and conceptually (endothermic/exothermic). Examples of investigations could include mixing liquids at different initial temperatures or adding objects at different temperatures to water.
- ~~Content~~ **Assessment Limit**: For items involving specific heat, provide the equation Q = mCpΔT and specific heats. Include the melting and boiling points of water. Limit calculations to ~~Perform calculations for~~ changes that do not involve a change of state. Perform gram to mole and mole to ΔH calculations. Use joules as a unit of measure, as opposed to calories.

~~**Supporting Content**~~

~~**PS4.B: Electromagnetic Radiation**~~

- ~~Electromagnetic radiation (e.g., radio, microwaves, light) can be modeled as a wave of changing electric and magnetic fields or as particles called photons. The wave model is useful for explaining many features of electromagnetic radiation, and the particle model explains other features. (PSC3-HS-1)~~

~~**PS3.A: Definitions of Energy**~~

- ~~Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (PSC3-HS-2, PSC3-HS-3)~~
- ~~At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (PSC3-HS-3, PSC3-HS-4)~~
- ~~These relationships are better understood at the microscopic scale, at which all of the different manifestations of energy can be modeled as a combination of energy associated with the motion of particles and energy associated with the configuration (relative position of the particles). In some cases the relative position energy can be thought of as stored in fields (which mediate interactions between particles). This last concept includes radiation, a phenomenon in which energy stored in fields moves across space. (PSC3-HS-3)~~

~~**PS3.B: Conservation of Energy and Energy Transfer**~~

- ~~Conservation of energy means that the total change of energy in any system is always equal to the total energy transferred into or out of the system. (PSC3-HS-2)~~
- ~~Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (PSC3-HS-2, PSC3-HS-5)~~

- ~~Mathematical expressions, which quantify how the stored energy in a system depends on its configuration (e.g. relative positions of charged particles, compression of a spring) and how kinetic energy depends on mass and speed, allow the concept of conservation of energy to be used to predict and describe system behavior. (PSC3-HS-2)~~
- ~~The availability of energy limits what can occur in any system. (PSC3-HS-2)~~
- ~~Uncontrolled systems always evolve toward more stable states—that is, toward more uniform energy distribution (e.g., water flows downhill, objects hotter than their surrounding environment cool down). (PSC3-HS-5)~~

~~**PS3.D: Energy in Chemical Processes**~~

- ~~Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surrounding environment. (PSC3-HS-4, PSC3-HS-5)~~

Physical Science – Physics

HS-PSP-1 – Motion and Stability: Forces and Interactions

~~**Physical Sciences (Physics)**~~

~~**PSP1-HS- Motion and Stability: Forces and Interactions**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

HS-PSP-1.1 ~~PSP1-HS-1.~~Students who demonstrate understanding can:

Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.

Supporting Content **PS2.A: Forces and Motion**

- Newton's second law accurately predicts changes in the motion of macroscopic objects. (**HS-PSP-1.1**~~PSP1-HS-1~~)

- **Further Explanation**: Examples of data could include tables or graphs of position or velocity as a function of time for objects subject to a net unbalanced force, such as a falling object, an object rolling down a ramp, or a moving object being pulled by a constant force.
- **Assessment**~~Content~~ **Limit**: Assessment is limited to one-dimensional motion and to macroscopic objects moving at non-relativistic speeds.

HS-PSP-1.2 Students who demonstrate understanding can:

~~**PSP1-HS-2.**~~ **Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.**

Supporting Content PS2.A: Forces and Motion

- Momentum is defined for a particular frame of reference; it is the mass times the velocity of the object. (**HS-PSP-1.2**~~PSP1-HS-2~~)
- If a system interacts with objects outside itself, the total momentum of the system can change; however, any such change is balanced by changes in the momentum of objects outside the system. (HS-PSP-1.2, HS-PSP-1.3~~PSP1-HS-2, PSP1-HS-3~~)

- **Further Explanation**: Emphasis is on the quantitative conservation of momentum in interactions and the qualitative meaning of this principle (Newton's first law).
- **Assessment**~~**Content**~~ **Limit**: Assessment is limited to systems of two macroscopic bodies moving in one dimension.

HS-PSP-1.3 Students who demonstrate understanding can:

~~**PSP1-HS-3.**~~ **Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.**

Supporting Content PS2.A: Forces and Motion

- If a system interacts with objects outside itself, the total momentum of the system can change; however, any such change is balanced by changes in the momentum of objects outside the system. (HS-PSP-1.2, HS-PSP-1.3)

Supporting Content ETS1.A: Defining and Delimiting an Engineering Problem

- Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them. (**HS-PSP-1.3**~~PSP1-HS-3~~)

Supporting Content ETS1.C: Optimizing the Design Solution

- Criteria may need to be broken down into simpler ones that can be approached systematically, and decisions about the priority of certain criteria over others (trade-offs) may be needed. (**HS-PSP-1.3**~~PSP1-HS-3~~)

- **Further Explanation**: Examples of evaluation and refinement could include determining the success of the device at protecting an object from damage and modifying the design to improve it. Examples of a device could include a football helmet or a parachute.
- **Assessment**~~**Content**~~ **Limit**: Assessment is limited to qualitative evaluations and/or algebraic manipulations.

HS-PSP-1.4 Students who demonstrate understanding can:

~~**PSP1-HS-4.**~~ **Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects.**

Supporting Content PS2.B: Types of Interactions

- Newton's law of universal gravitation and Coulomb's law provide the mathematical models to describe and predict the effects of gravitational and electrostatic forces between distant objects. (**HS-PSP-1.4**~~PSP1-HS-4~~)
- Forces at a distance are explained by fields (gravitational, electric, and magnetic) permeating space that can transfer energy through space. Magnets or electric currents cause magnetic fields; electric charges or changing magnetic fields cause electric fields. (**HS-PSP-1.4**~~PSP1-HS-4~~, **HS-PSP-1.5**~~PSP1-HS-5~~)
  - **Further Explanation:** Emphasis is on both quantitative and conceptual descriptions of gravitational and electric fields.

    Assessment~~Content~~ Limit: Assessment is limited to systems with two objects. Base equations will be provided.

HS-PSP-1.5 Students who demonstrate understanding can:

~~**PSP1-HS-5.**~~ **Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.**

Supporting Content PS2.B: Types of Interactions

- Forces at a distance are explained by fields (gravitational, electric, and magnetic) permeating space that can transfer energy through space. Magnets or electric currents cause magnetic fields; electric charges or changing magnetic fields cause electric fields. (**HS-PSP-1.4**, **HS-PSP-1.5**)

Supporting Content PS3.A: Definitions of Energy

- "Electrical energy" may mean energy stored in a battery or energy transmitted by electric currents. (**HS-PSP-1.5**~~PSP1-HS-5~~)

  Assessment~~Content~~ Limit: Assessment is limited to designing and conducting investigations with provided materials and tools.

HS-PSP-1.6 Students who demonstrate understanding can:

~~**PSP1-HS-6.**~~ **Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.**

Supporting Content PS1.A: Structure and Properties of Matter

- The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms. (**HS-PSP-1.6**~~PSP1-HS-6~~)

Supporting Content PS2.B: Types of Interactions

Attraction and repulsion between electric charges at the atomic scale explain the structure, properties, and transformations of matter, as well as the contact forces between material objects. (HS-PSP-1.6, ~~*HS-PSC-1.2,* HS-PSC-1.3, HS-PSC-1.5~~~~PSP1-HS-6, PSC1-HS-1, PSC1-HS-3~~)

- **Further Explanation:** Emphasis is on the attractive and repulsive forces that determine the functioning of the material. Examples could include why electrically conductive materials are often made of metal, flexible but durable materials are made up of long chained molecules, and pharmaceuticals are designed to interact with specific receptors.
- **Assessment**~~Content~~ **Limit**: Assessment is limited to provided molecular structures of specific designed materials.

~~**Supporting Content**~~

~~**PS1.A: Structure and Properties of Matter**~~

- ~~The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms. (PSP1-HS-6)~~

~~**PS2.A: Forces and Motion**~~

- ~~Newton's second law accurately predicts changes in the motion of macroscopic objects. (PSP1-HS-1)~~
- ~~Momentum is defined for a particular frame of reference; it is the mass times the velocity of the object. (PSP1-HS-2)~~
- ~~If a system interacts with objects outside itself, the total momentum of the system can change; however, any such change is balanced by changes in the momentum of objects outside the system. (PSP1-HS-2, PSP1-HS-3)~~

~~**PS2.B: Types of Interactions**~~

- ~~Newton's law of universal gravitation and Coulomb's law provide the mathematical models to describe and predict the effects of gravitational and electrostatic forces between distant objects. (PSP1-HS-4)~~
- ~~Forces at a distance are explained by fields (gravitational, electric, and magnetic) permeating space that can transfer energy through space. Magnets or electric currents cause magnetic fields; electric charges or changing magnetic fields cause electric fields. (PSP1-HS-4, PSP1-HS-5)~~
- ~~Attraction and repulsion between electric charges at the atomic scale explain the structure, properties, and transformations of matter, as well as the contact forces between material objects. (PSP1-HS-6, PSC1-HS-1, PSC1-HS-3)~~

~~**PS3.A: Definitions of Energy**~~

- ~~"Electrical energy" may mean energy stored in a battery or energy transmitted by electric currents. (PSP1-HS-5)~~

~~**ETS1.A: Defining and Delimiting an Engineering Problem**~~

- ~~Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them. (PSP1-HS-3)~~

~~**ETS1.C: Optimizing the Design Solution**~~

- ~~Criteria may need to be broken down into simpler ones that can be approached systematically, and decisions about the priority of certain criteria over others (trade-offs) may be needed. PSP1-HS-3)~~

HS-PSP-2 – Energy

~~**PSP2-HS- Energy**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

HS-PSP-2.1 ~~PSP2-HS-1~~ Students who demonstrate understanding can:

Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

Supporting Content PS3.A: Definitions of Energy

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (**HS-PSP-2.1**~~PSP2-HS-1~~, **HS-PSP-2.2**~~PSP2-HS-2~~)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Conservation of energy means that the total change of energy in any system is always equal to the total energy transferred into or out of the system. (**HS-PSP-2.1**~~PSP2-HS-1~~)
- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (**HS-PSP-2.1**~~PSP2-HS-1~~, **HS-PSP-2.4**~~PSP2-HS-4~~)
- Mathematical expressions, which quantify how the stored energy in a system depends on its configuration (e.g. relative positions of charged particles, compression of a spring) and how kinetic energy depends on mass and speed, allow the concept of conservation of energy to be used to predict and describe system behavior. (**HS-PSP-2.1**~~PSP2-HS-1~~)

The availability of energy limits what can occur in any system. (**HS-PSP-2.1**~~PSP2-HS-1~~)

- **Further Explanation**: Emphasis is on explaining the meaning of mathematical expressions used in the model.
- **Assessment**~~**Content**~~ **Limit:** Assessment is limited to basic algebraic expressions or computations; to systems of two or three components; and to thermal energy, kinetic energy, and/or the energies in gravitational, magnetic, or electric fields.

HS-PSP-2.2 Students who demonstrate understanding can:

~~**PSP2-HS-2.**~~ **Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).**

Supporting Content PS3.A: Definitions of Energy

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (**HS-PSP-2.1**, **HS-PSP-2.2**)
- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (**HS-PSP-2.2**~~PSP2-HS-2~~, **HS-PSP-2.3**~~PSP2-HS-3~~)
- These relationships are better understood at the microscopic scale, at which all of the different manifestations of energy can be modeled as a combination of energy associated with the motion of particles and energy associated with the configuration (relative position of the particles). In some cases the relative position energy can be thought of as stored in fields (which mediate interactions between particles). This last concept includes radiation, a phenomenon in which energy stored in fields moves across space. (**HS-PSP-2.2**~~PSP2-HS-2~~)

- **Further Explanation**: Examples of phenomena at the macroscopic scale could include the conversion of kinetic energy to thermal energy, the energy stored due to position of an object above the earth, and the energy stored between two electrically-charged plates. Examples of models could include diagrams, drawings, descriptions, and computer simulations.

HS-PSP-2.3 Students who demonstrate understanding can:

~~**PSP2-HS-3.**~~ **Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.**

Supporting Content PS3.A: Definitions of Energy

- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (**HS-PSP-2.2**, **HS-PSP-2.3**)

Supporting Content PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surrounding environment. (**HS-PSP-2.3**~~PSP2-HS-3~~, **HS-PSP-2.4**~~PSP2-HS-4~~)

Supporting Content ETS1.A: Defining and Delimiting an Engineering Problem

- Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them. (**HS-PSP-2.3**~~PSP2-HS-3~~)

- **Further Explanation**: Emphasis is on both qualitative and quantitative evaluations of devices. Examples of devices could include Rube Goldberg devices, wind turbines, solar cells, solar ovens, and generators. Examples of constraints could include use of multiple~~renewable~~ energy forms and evaluations of efficiency.
- **Assessment** ~~Content~~ **Limit**: Assessment for quantitative evaluations is limited to total output for a given input. Assessment is limited to examples of devices ~~constructed with materials~~ provided to students.

HS-PSP-2.4 Students who demonstrate understanding can:

~~PSP2-HS-4.~~ **Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).**

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (**HS-PSP-2.1**, **HS-PSP-2.4**)

~~—~~Uncontrolled systems always evolve toward more stable states—that is, toward more uniform energy distribution (e.g., water flows downhill, objects hotter than their surrounding environment cool down). (**HS-PSP-2.4**~~PSP2-HS-4~~)

Supporting Content PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surrounding environment. (**HS-PSP-2.3**, **HS-PSP-2.4**)

- **Further Explanation**: Emphasis is on analyzing data from student investigations and using mathematical thinking to describe the energy changes both quantitatively and conceptually. Examples of investigations could include mixing liquids at different initial temperatures or adding objects at different temperatures to water.
- **Assessment** ~~**Content**~~ **Limit**: Assessment is limited to examples of closed system~~investigations based on materials and tools provided to students~~.

HS-PSP-2.5 Students who demonstrate understanding can:

~~PSP2-HS-5.~~ **Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction.**

Supporting Content PS3.C: Relationship Between Energy and Forces

~~—~~When two objects interacting through a field change relative position, the energy stored in the field is changed. (**HS-PSP-2.5**~~PSP2-HS-5~~)

- **Further Explanation**: Examples of models could include drawings, diagrams, and texts, such as drawings of what happens when two charges of opposite polarity are near each other.
- **Assessment** ~~**Content**~~ **Limit**: Assessment is limited to systems containing two objects.

Supporting Content

PS3.A: Definitions of Energy

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (PSP2-HS-1, PSP2-HS-2)
- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (PSP2-HS-2, PSP2-HS-3)
- These relationships are better understood at the microscopic scale, at which all of the different manifestations of energy can be modeled as a combination of energy associated with the motion of particles and energy associated with the configuration (relative position of the particles). In some cases the relative position energy can be thought of as stored in fields (which mediate interactions between particles). This last concept includes radiation, a phenomenon in which energy stored in fields moves across space. (PSP2-HS-2)

PS3.B: Conservation of Energy and Energy Transfer

- Conservation of energy means that the total change of energy in any system is always equal to the total energy transferred into or out of the system. (PSP2-HS-1)
- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (PSP2-HS-1, PSP2-HS-4)
- Mathematical expressions, which quantify how the stored energy in a system depends on its configuration (e.g. relative positions of charged particles, compression of a spring) and how kinetic energy depends on mass and speed, allow the concept of conservation of energy to be used to predict and describe system behavior. (PSP2-HS-1)
- The availability of energy limits what can occur in any system. (PSP2-HS-1)
- Uncontrolled systems always evolve toward more stable states—that is, toward more uniform energy distribution (e.g., water flows downhill, objects hotter than their surrounding environment cool down). (PSP2-HS-4)

PS3.C: Relationship Between Energy and Forces

- When two objects interacting through a field change relative position, the energy stored in the field is changed. (PSP2-HS-5)

PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surrounding environment. (PSP2-HS-3, PSP2-HS-4)

ETS1.A: Defining and Delimiting an Engineering Problem

- Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them. (PSP2-HS-3)

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HS-PSP-3 – Waves

~~PSP3-HS-Waves~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

HS-PSP-3.1 ~~PSP3-HS-1.~~Students who demonstrate understanding can:

~~—~~**Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.**

Supporting Content PS4.A: Wave Properties

- The wavelength and frequency of a wave are related to one another by the speed of travel of the wave, which depends on the type of wave and the medium through which it is passing. (**HS-PSP-3.1**~~PSP3-HS-1~~)

- **Further Explanation**: Examples of data could include electromagnetic radiation traveling in a vacuum and glass, sound waves traveling through air and water, and seismic waves traveling through the Earth.
- **Assessment** ~~Content~~ **Limit**: Assessment is limited to algebraic relationships and describing those relationships qualitatively.

HS-PSP-3.2 Students who demonstrate understanding can:

~~PSP3-HS-2.~~ **Evaluate questions about the advantages of using digital transmission and storage of information.**

Supporting Content PS4.A: Wave Properties

- Information can be digitized (e.g., a picture stored as the values of an array of pixels); in this form, it can be stored reliably in computer memory and sent over long distances as a series of wave pulses. (**HS-PSP-3.2**~~PSP3-HS-2~~, **HS-PSP-3.5**~~PSP3-HS-5~~)

- **Further Explanation**: Examples of advantages could include that digital information is stable because it can be stored reliably in computer memory, transferred easily, and copied and shared rapidly. Disadvantages could include issues of easy deletion, security, and theft.

HS-PSP-3.3 Students who demonstrate understanding can:

~~PSP3-HS-3.~~ **Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.**

Supporting Content PS4.A: Wave Properties

- ~~[From the 3–5 grade band endpoints]~~ Waves can add or cancel one another as they cross, depending on their relative phase (i.e., relative position of peaks and troughs of the waves), but they emerge unaffected by each other. (Boundary: The discussion at this grade level is qualitative only; it can be based on the fact that two different sounds can pass a location in different directions without getting mixed up.)(**HS-PSP-3.3**~~PSP3-HS-3~~)

Supporting Content PS4.B: Electromagnetic Radiation

- Electromagnetic radiation (e.g., radio, microwaves, light) can be modeled as a wave of changing electric and magnetic fields or as particles called photons. The wave model is useful for explaining many features of electromagnetic radiation, and the particle model explains other features. (**HS-PSP-3.3**~~PSP3-HS-3~~)

- **Further Explanation**: Emphasis is on how the experimental evidence supports the claim and how a theory is generally modified in light of new evidence. Examples of a phenomenon could include resonance, interference, diffraction, and photoelectric effect.
- **Assessment** ~~Content~~ **Limit**: Assessment does not include using quantum theory.

HS-PSP-3.4 Students who demonstrate understanding can:

~~**PSP3-HS-4.**~~ **Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.**

Supporting Content PS4.B: Electromagnetic Radiation

- When light or longer wavelength electromagnetic radiation is absorbed in matter, it is generally converted into thermal energy (heat). Shorter wavelength electromagnetic radiation (ultraviolet, X-rays, gamma rays) can ionize atoms and cause damage to living cells. (PSP3-HS-4)

- **Further Explanation**: Emphasis is on the idea that photons associated with different frequencies of light have different energies, and the damage to living tissue from electromagnetic radiation depends on the energy of the radiation. Examples of published materials could include trade books, magazines, web resources, videos, and other passages that may reflect bias.
- **Assessment**~~Content~~ **Limit**: Assessment is limited to qualitative descriptions.

HS-PSP-3.5 Students who demonstrate understanding can:

~~**PSP3-HS-5.**~~ **Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.**

Supporting Content PS3.D: Energy in Chemical Processes

- Solar cells are human-made devices that likewise capture the sun's energy and produce electrical energy. (PSP3-HS-5)

Supporting Content PS4.A: Wave Properties

- Information can be digitized (e.g., a picture stored as the values of an array of pixels); in this form, it can be stored reliably in computer memory and sent over long distances as a series of wave pulses. (**HS-PSP-3.2**, **HS-PSP-3.5**)

Supporting Content PS4.B: Electromagnetic Radiation

- Photoelectric materials emit electrons when they absorb light of a high-enough frequency. (**HS-PSP-3.5**~~PSP3-HS-5~~)

Supporting Content PS4.C: Information Technologies and Instrumentation

- Multiple technologies based on the understanding of waves and their interactions with matter are part of everyday experiences in the modern world (e.g., medical imaging, communications, scanners) and in scientific research. They are essential tools for producing, transmitting, and capturing signals and for storing and interpreting the information contained in them. (**HS-PSP-3.5**~~PSP3-HS-5~~)

- **Further Explanation**: Examples could include solar cells capturing light and converting it to electricity; medical imaging; and communications technology.
- **Assessment** ~~**Content**~~ **Limit**: Assessments are limited to qualitative information. Assessments do not include band theory.

~~Supporting Content~~

~~PS3.A: Definitions of Energy~~

- ~~Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (PSP2-HS-1, PSP2-HS-2)~~
- ~~At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (PSP2-HS-2, PSP2-HS-3)~~
- ~~These relationships are better understood at the microscopic scale, at which all of the different manifestations of energy can be modeled as a combination of energy associated with the motion of particles and energy associated with the configuration (relative position of the particles). In some cases the relative position energy can be thought of as stored in fields (which mediate interactions between particles). This last concept includes radiation, a phenomenon in which energy stored in fields moves across space. (PSP2-HS-2)~~

~~PS3.B: Conservation of Energy and Energy Transfer~~

- ~~Conservation of energy means that the total change of energy in any system is always equal to the total energy transferred into or out of the system. (PSP2-HS-1)~~
- ~~Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (PSP2-HS-1, PSP2-HS-4)~~
- ~~Mathematical expressions, which quantify how the stored energy in a system depends on its configuration (e.g. relative positions of charged particles, compression of a spring) and how kinetic energy depends on mass and speed, allow the concept of conservation of energy to be used to predict and describe system behavior. (PSP2-HS-1)~~
- ~~The availability of energy limits what can occur in any system. (PSP2-HS-1)~~
- ~~Uncontrolled systems always evolve toward more stable states—that is, toward more uniform energy distribution (e.g., water flows downhill, objects hotter than their surrounding environment cool down). (PSP2-HS-4)~~

~~PS3.C: Relationship Between Energy and Forces~~

- ~~When two objects interacting through a field change relative position, the energy stored in the field is changed. (PSP2-HS-5)~~

~~PS3.D: Energy in Chemical Processes~~

- ~~Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surrounding environment. (PSP2-HS-3, PSP2-HS-4)~~

~~ETS1.A: Defining and Delimiting an Engineering Problem~~

- ~~Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them. (PSP2-HS-3)~~

PSP3-HS Waves

Performance Standards

Students who demonstrate understanding can:

PSP3-HS-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.

- Further Explanation: Examples of data could include electromagnetic radiation traveling in a vacuum and glass, sound waves traveling through air and water, and seismic waves traveling through the Earth.
- Content Limit: Assessment is limited to algebraic relationships and describing those relationships qualitatively.

PSP3-HS-2. Evaluate questions about the advantages of using digital transmission and storage of information.

- Further Explanation: Examples of advantages could include that digital information is stable because it can be stored reliably in computer memory, transferred easily, and copied and shared rapidly. Disadvantages could include issues of easy deletion, security, and theft.

PSP3-HS-3. Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.

- Further Explanation: Emphasis is on how the experimental evidence supports the claim and how a theory is generally modified in light of new evidence. Examples of a phenomenon could include resonance, interference, diffraction, and photoelectric effect.
- Content Limit: Assessment does not include using quantum theory.

PSP3-HS-4. Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.

- Further Explanation: Emphasis is on the idea that photons associated with different frequencies of light have different energies, and the damage to living tissue from electromagnetic radiation depends on the energy of the radiation. Examples of published materials could include trade books, magazines, web resources, videos, and other passages that may reflect bias.
- Content Limit: Assessment is limited to qualitative descriptions.

PSP3-HS-5. Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.

- Further Explanation: Examples could include solar cells capturing light and converting it to electricity; medical imaging; and communications technology.
- Content Limit: Assessments are limited to qualitative information. Assessments do not include band theory.

Supporting Content

PS3.D: Energy in Chemical Processes

- Solar cells are human-made devices that likewise capture the sun's energy and produce electrical energy. (PSP3-HS-5)

PS4.A: Wave Properties

- The wavelength and frequency of a wave are related to one another by the speed of travel of the wave, which depends on the type of wave and the medium through which it is passing. (PSP3-HS-1)
- Information can be digitized (e.g., a picture stored as the values of an array of pixels); in this form, it can be stored reliably in computer memory and sent over long distances as a series of wave pulses. (PSP3-HS-2, PSP3-HS-5)
- [From the 3–5 grade-band endpoints] Waves can add or cancel one another as they cross, depending on their relative phase (i.e., relative position of peaks and troughs of the waves), but they emerge unaffected by each other. (Boundary: The discussion at this grade level is qualitative only; it can be based on the fact that two different sounds can pass a location in different directions without getting mixed up.)(PSP3-HS-3)

PS4.B: Electromagnetic Radiation

- Electromagnetic radiation (e.g., radio, microwaves, light) can be modeled as a wave of changing electric and magnetic fields or as particles called photons. The wave model is useful for explaining many features of electromagnetic radiation, and the particle model explains other features. (PSP3-HS-3)
- When light or longer wavelength electromagnetic radiation is absorbed in matter, it is generally converted into thermal energy (heat). Shorter wavelength electromagnetic radiation (ultraviolet, X-rays, gamma rays) can ionize atoms and cause damage to living cells. (PSP3-HS-4)
- Photoelectric materials emit electrons when they absorb light of a high-enough frequency. (PSP3-HS-5)

PS4.C: Information Technologies and Instrumentation

- Multiple technologies based on the understanding of waves and their interactions with matter are part of everyday experiences in the modern world (e.g., medical imaging, communications, scanners) and in scientific research. They are essential tools for producing, transmitting, and capturing signals and for storing and interpreting the information contained in them. (PSP3-HS-5)

Earth and Space Science

HS-ESS-1 – Earth's Place in the Universe

~~ESS: Earth and Space Sciences~~

~~ESS1-HS Earth's Place in the Universe~~

~~Performance Standards~~

~~Students who demonstrate understanding can:~~

HS-ESS-1.1 ~~ESS1-HS-1.~~ Students who demonstrate understanding can:

Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation.

Supporting Content ESS1.A: The Universe and Its Stars

- The star called the sun is changing and will burn out over a lifespan of approximately 10 billion years. (**HS-ESS-1.1** ~~ESS1-HS-1~~)

Supporting Content PS3.D: Energy in Chemical Processes and Everyday Life

- Nuclear Fusion processes in the center of the sun release the energy that ultimately reaches Earth as radiation. (ESS1-HS-1)

- **Further Explanation**: Emphasis is on the energy transfer mechanisms that allow energy from nuclear fusion in the sun's core to reach Earth. Examples of evidence for the model include observations of the masses and lifetimes of other stars, as well as the ways that the sun's radiation varies due to sudden solar flares ("space weather"), the 11-year sunspot cycle, and non-cyclic variations over centuries.
- **Assessment**~~**Content**~~ **Limit:** Assessment does not include details of the atomic and sub-atomic processes involved with the sun's nuclear fusion.

HS-ESS-1.2 Students who demonstrate understanding can:

~~**ESS1-HS-2.**~~ **Construct an explanation of the current model of the origin of the universe based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.**

Supporting Content ESS1.A: The Universe and Its Stars

- The study of stars' light spectra and brightness is used to identify compositional elements of stars, their movements, and their distances from Earth. (**HS-ESS-1.2** ~~ESS1-HS-2~~, **HS-ESS-1.3** ~~ESS1-HS-3~~)
- Origin theories are ~~The Big Bang theory is a current scientific model of the origin of the universe that is~~ supported by evidence such as observations of distant galaxies receding from our own, of the measured composition of stars and non-stellar gases, and of the maps of spectra

of the primordial radiation (cosmic microwave background) that still fills the universe. Other than the hydrogen and helium formed at the time of the event, nuclear fusion within stars produces all atomic nuclei lighter than and including iron, and the process releases electromagnetic energy. Heavier elements are produced when certain massive stars achieve a supernova stage and explode. (**HS-ESS-1.2, HS-ESS-1.3**~~ESS1-HS-2, ESS1-HS-3~~)

Supporting Content PS4 .B Electromagnetic Radiation

- Atoms of each element emit and absorb characteristic frequencies of light. These characteristics allow identification of the presence of an element, even in microscopic quantities. (**HS-ESS-1.2**~~ESS1-HS-2~~)

- **Further Explanation**: Emphasis is on the astronomical evidence of the redshift of light from galaxies as an indication that the universe is currently expanding, the cosmic microwave background as the remnant radiation from the event, and the observed composition of ordinary matter of the universe, primarily found in stars and interstellar gases (from the spectra of electromagnetic radiation from stars), which matches that predicted by the scientific model (3/4 hydrogen and 1/4 helium).

HS-ESS-1.3 Students who demonstrate understanding can:

~~**ESS1-HS-3.**~~ **Communicate scientific ideas about the way stars, over their life cycle, ~~produce~~ transform elements.**

Supporting Content ESS1.A: The Universe and Its Stars

- The study of stars' light spectra and brightness is used to identify compositional elements of stars, their movements, and their distances from Earth. (**HS-ESS-1.2**, **HS-ESS-1.3**)
- Origin theories are supported by evidence such as observations of distant galaxies receding from our own, of the measured composition of stars and non-stellar gases, and of the maps of spectra of the primordial radiation (cosmic microwave background) that still fills the universe. Other than the hydrogen and helium formed at the time of the event, nuclear fusion within stars produces all atomic nuclei lighter than and including iron, and the process releases electromagnetic energy. Heavier elements are produced when certain massive stars achieve a supernova stage and explode. (**HS-ESS-1.2**, **HS-ESS-1.3**)

- **Further Explanation**: Emphasis is on the way nucleosynthesis, and therefore the different elements created, varies as a function of the mass of a star and the stage of its lifetime.
- **Assessment~~Content~~ Limit**: Details of the many different nucleosynthesis pathways for stars of differing masses are not assessed.

HS-ESS-1.4 Students who demonstrate understanding can:

~~**ESS1-HS-4.**~~ **Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.**

Supporting Content ESS1.B: Earth and the Solar System

- Kepler's laws describe common features of the motions of orbiting objects, including their elliptical paths around the sun. Orbits may change due to the gravitational effects from, or collisions with, other objects in the solar system. (**HS-ESS-1.4**~~ESS1-HS-4~~)

- **Further Explanation**: Emphasis is on Newtonian gravitational law s governing orbital motions, which apply to human-made satellites as well as planets and moons.
- **Assessment**~~**Content**~~ **Limit**: Mathematical representations for the gravitational attraction of bodies and Kepler's Laws of orbital motions should not deal with more than two bodies, nor involve calculus.

HS-ESS-1.5 Students who demonstrate understanding can:

~~**ESS1-HS-5.**~~ **Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.**

Supporting Content ESS1.C: The History of Planet Earth

- Continental rocks are generally much older than the rocks of the ocean floor. (**HS-ESS-1.5**~~ESS1-HS-5~~)

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Plate tectonics is the unifying theory that explains the past and current movements of the rocks at Earth's surface and provides a framework for understanding its geologic history. (**HS-ESS-1.5**~~ESS1-HS-5~~)

Supporting Content PS1.C: Nuclear Processes

- Spontaneous radioactive decay follows a characteristic exponential decay law. Nuclear lifetimes allow radiometric dating to be used to determine the ages of rocks and other materials. (**HS-ESS-1.5**~~ESS1-HS-5~~, **HS-ESS-1.6**~~ESS1-HS-6~~)

- **Further Explanation**: Emphasis is on the ability of plate tectonics to explain the ages of crustal rocks. Examples include evidence of the ages of oceanic crust increasing with distance from mid-ocean ridges (a result of plate spreading) and the ages of North American continental crust ~~increasing~~ decreasing with distance away from a central ancient core (a result of past plate interactions).

HS-ESS-1.6 Students who demonstrate understanding can:

~~**ESS1-HS-6.**~~ **Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.**

Supporting Content ESS1.C: The History of Planet Earth

- Although active geologic processes, such as plate tectonics and erosion, have destroyed or altered most of the very early rock record on Earth, other objects in the solar system, such as lunar rocks, asteroids, and meteorites, have changed little over billions of years. Studying these objects can provide information about Earth's formation and early history. (**HS-ESS-1.6**~~ESS1-HS-6~~)

Supporting Content PS1.C: Nuclear Processes

- Spontaneous radioactive decay follows a characteristic exponential decay law. Nuclear lifetimes allow radiometric dating to be used to determine the ages of rocks and other materials. (**HS-ESS-1.5**, **HS-ESS-1.6**)

- **Further Explanation**: Emphasis is on using available evidence within the solar system to reconstruct the early history of Earth, which formed along with the rest of the solar system. Examples of evidence include the absolute ages of ancient materials (obtained by radiometric dating of meteorites, moon rocks, and Earth's oldest minerals), the sizes and compositions of solar system objects, and the impact cratering record of planetary surfaces.

~~**Supporting Content**~~

~~**ESS1.A: The Universe and Its Stars**~~

- ~~The star called the sun is changing and will burn out over a lifespan of approximately 10 billion years. (ESS1-HS-1)~~
- ~~The study of stars' light spectra and brightness is used to identify compositional elements of stars, their movements, and their distances from Earth. (ESS1-HS-2, ESS1-HS-3)~~
- ~~The Big Bang theory is a current scientific model of the origin of the universe that is supported by evidence such as observations of distant galaxies receding from our own, of the measured composition of stars and non-stellar gases, and of the maps of spectra of the primordial radiation (cosmic microwave background) that still fills the universe. Other than the hydrogen and helium formed at the time of the event, nuclear fusion within stars produces all atomic nuclei lighter than and including iron, and the process releases electromagnetic energy. Heavier elements are produced when certain massive stars achieve a supernova stage and explode. (ESS1-HS-2, ESS1-HS-3)~~

~~**ESS1.B: Earth and the Solar System**~~

- ~~Kepler's laws describe common features of the motions of orbiting objects, including their elliptical paths around the sun. Orbits may change due to the gravitational effects from, or collisions with, other objects in the solar system. (ESS1-HS-4)~~

~~**ESS1.C: The History of Planet Earth**~~

- ~~Continental rocks are generally much older than the rocks of the ocean floor. (ESS1-HS-5)~~
- ~~Although active geologic processes, such as plate tectonics and erosion, have destroyed or altered most of the very early rock record on Earth, other objects in the solar system, such as lunar rocks, asteroids, and meteorites, have changed little over billions of years. Studying these objects can provide information about Earth's formation and early history. (ESS1-HS-6)~~

~~**ESS2.B: Plate Tectonics and Large-Scale System Interactions**~~

- ~~Plate tectonics is the unifying theory that explains the past and current movements of the rocks at Earth's surface and provides a framework for understanding its geologic history. (ESS1-HS-5)~~

~~**PS1.C: Nuclear Processes**~~

- ~~Spontaneous radioactive decay follows a characteristic exponential decay law. Nuclear lifetimes allow radiometric dating to be used to determine the ages of rocks and other materials. (ESS1-HS-5, ESS1-HS-6)~~

~~PS3.D: Energy in Chemical Processes and Everyday Life~~

- ~~Nuclear Fusion processes in the center of the sun release the energy that ultimately reaches Earth as radiation. (ESS1-HS-1)~~

~~PS4 .B Electromagnetic Radiation~~

- ~~Atoms of each element emit and absorb characteristic frequencies of light. These characteristics allow identification of the presence of an element, even in microscopic quantities. (ESS1-HS-2)~~

HS-ESS-2 – **Earth's Systems**

~~ESS2-HS Earth's Systems~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

HS-ESS-2.1 ~~ESS2-HS-1.~~Students who demonstrate understanding can:

~~—~~**Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.**

Supporting Content ESS2.A: Earth Materials and Systems

- Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes. (**HS-ESS-2.1**~~ESS2-HS-1~~, **HS-ESS-2.2**~~ESS2-HS-2~~)

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Plate tectonics is the unifying theory that explains the past and current movements of the rocks at Earth's surface and provides a framework for understanding its geologic history. Plate movements are responsible for most continental and ocean-floor features and for the distribution of most rocks and minerals within Earth's crust. (**HS-ESS-2.1**)

- **Further Explanation**: Emphasis is on how the appearance of land features (such as mountains, valleys, and plateaus) and sea-floor features (such as trenches, ridges, and seamounts) are a result of both constructive forces (such as volcanism, tectonic uplift, and orogeny) and destructive mechanisms (such as weathering, mass wasting, and coastal erosion).
- **Assessment**~~**Content**~~ **Limit**: Assessment does not include memorization of the details of the formation of specific geographic features of Earth's surface.

HS-ESS-2.2 Students who demonstrate understanding can:

~~**ESS2-HS-2.**~~ **Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.**

Supporting Content ESS2.A: Earth Materials and Systems

- Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes. (**HS-ESS-2.1**, **HS-ESS-2.2**)

Supporting Content ESS2.D: Weather and Climate

- The foundation for Earth's global climate systems is the electromagnetic radiation from the sun, as well as its reflection, absorption, storage, and redistribution among the atmosphere, ocean, and land systems, and this energy's re-radiation into space. (**HS-ESS-2.2**~~ESS2-HS-2~~, **HS-ESS-2.4**~~ESS2-HS-4~~)

- **Further Explanation**: ~~Examples should include climate feedbacks, such as how an increase in greenhouse gases causes a rise in global temperatures that melts glacial ice, which reduces the amount of sunlight reflected from Earth's surface, increasing surface temperatures and further reducing the amount of ice.~~ Examples ~~could also be taken from~~of other system interactions~~,~~ include how melting ice exposes darker land, which increases temperatures and causes more ice to melt ~~such as;~~ how the loss of ground vegetation causes an increase in water runoff and soil erosion; how dammed rivers increase groundwater recharge, decrease sediment transport, and increase coastal erosion; or how the loss of wetlands causes a decrease in local humidity that further reduces the wetland extent.

HS-ESS-2.3 Students who demonstrate understanding can:

~~**ESS2-HS-3.**~~ **Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.**

Supporting Content ESS2.A: Earth Materials and Systems

- Evidence from deep probes and seismic waves, reconstructions of historical changes in Earth's surface and its magnetic field, and an understanding of physical and chemical processes lead to a model of Earth with a hot but solid inner core, a liquid outer core, a solid mantle and crust. Motions of the mantle and its plates occur primarily through thermal convection, which involves the cycling of matter due to the outward flow of energy from Earth's interior and gravitational movement of denser materials toward the interior. (**HS-ESS-2.3**~~ESS2-HS-3~~)

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- The radioactive decay of unstable isotopes continually generates new energy within Earth's crust and mantle, providing the primary source of the heat that drives mantle convection. Plate tectonics can be viewed as the surface expression of mantle convection. (**HS-ESS-2.3**~~ESS2-HS-3~~)

Supporting Content PS4.A: Wave Properties

- Geologists use seismic waves and their reflection at interfaces between layers to probe structures deep in the planet. (**HS-ESS-2.3**~~ESS2-HS-3~~)

- **Further Explanation**: Emphasis is on both a one-dimensional model of Earth, with radial layers determined by density, and a three-dimensional model, which is controlled by mantle convection and the resulting plate tectonics. Examples of evidence include maps of Earth's three-

dimensional structure obtained from seismic waves, records of the rate of change of Earth's magnetic field (as constraints on convection in the outer core), and identification of the composition of Earth's layers from high-pressure laboratory experiments.

HS-ESS-2.4 Students who demonstrate understanding can:

~~**ESS2-HS-4.**~~ **Use a model to describe how variations in the flow of energy into and out of Earth's systems result in** variations ~~**changes**~~ **in climate.**

Supporting Content ESS1.B: Earth and the Solar System

- Cyclical changes in the shape of Earth's orbit around the sun, together with changes in the tilt of the planet's axis of rotation, both occurring over hundreds of thousands of years, have altered the intensity and distribution of sunlight falling on the earth. These phenomena cause a cycle of ice ages and other gradual climate **variations** ~~changes~~. (**HS-ESS-2.4** ~~ESS2-HS-4~~)

Supporting Content ESS2.A: Earth Materials and Systems

- The geological record shows that changes to global and regional climate can be caused by interactions among changes in the sun's energy output or Earth's orbit, tectonic events, ocean circulation, volcanic activity, glaciers, vegetation, and human activities. These changes can occur on a variety of time scales from sudden (e.g., volcanic ash clouds) to intermediate (ice ages) to very long-term tectonic cycles. (**HS-ESS-2.4** ~~ESS2-HS-4~~)

Supporting Content ESS2.D: Weather and Climate

- The foundation for Earth's global climate systems is the electromagnetic radiation from the sun, as well as its reflection, absorption, storage, and redistribution among the atmosphere, ocean, and land systems, and this energy's re-radiation into space. (**HS-ESS-2.2**), **HS-ESS-2.4**))
- Changes in ~~the atmosphere due to human activity have increased~~ carbon dioxide concentrations in the atmosphere ~~and thus~~ affect climate. (**HS-ESS-2.4** ~~ESS2-HS-6~~, **HS-ESS-2.6** ~~ESS2-HS-4~~)

- **Further Explanation**: Examples of the causes of variations in climate ~~climate change~~ differ by timescale, over 1-10 years: large volcanic eruption, ocean circulation; 10-100s of years: changes in human activity, ocean circulation, solar output; 10-100s of thousands of years: changes to Earth's orbit and the orientation of its axis; and 10-100s of millions of years: long-term changes in atmospheric composition.
- **Assessment Limit** ~~**Content Limit**~~: Assessment of the results of changes in climate is limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.

HS-ESS-2.5 Students who demonstrate understanding can:

~~**ESS2-HS-5.**~~ **Plan and conduct an investigation of how the** chemical and physical **properties of water** ~~**and its effects on**~~ contribute to the mechanical and chemical mechanisms that affect **Earth materials and surface processes.**

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- The abundance of liquid water on Earth's surface and its unique combination of physical and chemical properties are central to the planet's dynamics. These properties include water's exceptional capacity to absorb, store, and release large amounts of energy, transmit sunlight, expand upon freezing, dissolve and transport materials, and lower the viscosities and melting points of rocks. (**HS-ESS-2.5**~~ESS2-HS-5~~)

- **Further Explanation**: Emphasis is on mechanical and chemical investigations with water and a variety of solid materials to provide the evidence for connections between the hydrologic cycle and system interactions commonly known as the rock cycle. Examples of mechanical investigations include stream transportation and deposition using a stream table, erosion using variations in soil moisture content, or frost wedging by the expansion of water as it freezes. Examples of chemical investigations include chemical weathering and recrystallization (by testing the solubility of different materials) or melt generation (by examining how water lowers the melting temperature of most solids).

HS-ESS-2.6 Students who demonstrate understanding can:

~~**ESS2-HS-6.**~~ **Develop a ~~quantitative~~ model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.**

Supporting Content ESS2.D: Weather and Climate

- Gradual atmospheric changes were due to plants and other organisms that captured carbon dioxide and released oxygen. (**HS-ESS-2.6**~~ESS2-HS-6~~, **HS-ESS-2.7**~~ESS2-HS-7~~)
- Changes in ~~the atmosphere due to human activity have increased~~ carbon dioxide concentrations in the atmosphere ~~and thus~~ affect climate. (**HS-ESS-2.4**~~ESS2-HS-6~~, **HS-ESS-2.6**~~ESS2-HS-4~~)

- **Further Explanation**: Emphasis is on modeling biogeochemical cycles that include the cycling of carbon through the ocean, atmosphere, soil, and biosphere (including humans), providing the foundation for living organisms.

HS-ESS-2.7 Students who demonstrate understanding can:

~~**ESS2-HS-7.**~~ **Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.**

Supporting Content ESS2.D: Weather and Climate

- Gradual atmospheric changes were due to plants and other organisms that captured carbon dioxide and released oxygen. (**HS-ESS-2.6**, **HS-ESS-2.7**)

Supporting Content ESS2.E: Biogeology

- The many dynamic and delicate feedbacks between the biosphere and other Earth systems cause a continual co-evolution of Earth's surface and the life that exists on it. (**HS-ESS-2.7**~~ESS2-HS-7~~)

- **Further Explanation**: Emphasis is on the dynamic causes, effects, and feedbacks between the biosphere and Earth's other systems, whereby geoscience factors control the evolution of life, which in turn continuously alters Earth's surface. Examples of include how photosynthetic life altered the atmosphere through the production of oxygen, which in turn increased weathering rates and allowed for the evolution of animal life; how microbial life on land increased the formation of soil, which in turn allowed for the evolution of land plants; or how the evolution of corals created reefs that altered patterns of erosion and deposition along coastlines and provided habitats for the evolution of new life forms.
- **Assessment Limit~~Content Limit~~**: Assessment does not include a comprehensive understanding of the mechanisms of how the biosphere interacts with all of Earth's other systems.

~~Supporting Content~~

~~ESS1.B: Earth and the Solar System~~

- ~~Cyclical changes in the shape of Earth's orbit around the sun, together with changes in the tilt of the planet's axis of rotation, both occurring over hundreds of thousands of years, have altered the intensity and distribution of sunlight falling on the earth. These phenomena cause a cycle of ice ages and other gradual climate changes. (ESS2-HS-4)~~

~~ESS2.A: Earth Materials and Systems~~

- ~~Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes. (ESS2-HS-1, ESS2-HS-2)~~
- ~~Evidence from deep probes and seismic waves, reconstructions of historical changes in Earth's surface and its magnetic field, and an understanding of physical and chemical processes lead to a model of Earth with a hot but solid inner core, a liquid outer core, a solid mantle and crust. Motions of the mantle and its plates occur primarily through thermal convection, which involves the cycling of matter due to the outward flow of energy from Earth's interior and gravitational movement of denser materials toward the interior. (ESS2-HS-3)~~
- ~~The geological record shows that changes to global and regional climate can be caused by interactions among changes in the sun's energy output or Earth's orbit, tectonic events, ocean circulation, volcanic activity, glaciers, vegetation, and human activities. These changes can occur on a variety of time scales from sudden (e.g., volcanic ash clouds) to intermediate (ice ages) to very long-term tectonic cycles. (ESS2-HS-4)~~

~~ESS2.B: Plate Tectonics and Large-Scale System Interactions~~

- ~~The radioactive decay of unstable isotopes continually generates new energy within Earth's crust and mantle, providing the primary source of the heat that drives mantle convection. Plate tectonics can be viewed as the surface expression of mantle convection. (ESS2-HS-3)~~
- ~~Plate tectonics is the unifying theory that explains the past and current movements of the rocks at Earth's surface and provides a framework for understanding its geologic~~
- ~~history. Plate movements are responsible for most continental and ocean-floor features and for the distribution of most rocks and minerals within Earth's crust. (ESS2-HS- 1)~~

~~ESS2.C: The Roles of Water in Earth's Surface Processes~~

- ~~The abundance of liquid water on Earth's surface and its unique combination of physical and chemical properties are central to the planet's dynamics. These properties include water's exceptional capacity to absorb, store, and release large amounts of energy, transmit sunlight, expand upon freezing, dissolve and transport materials, and lower the viscosities and melting points of rocks. (ESS2-HS-5)~~

~~ESS2.D: Weather and Climate~~

- ~~The foundation for Earth's global climate systems is the electromagnetic radiation from the sun, as well as its reflection, absorption, storage, and redistribution among the atmosphere, ocean, and land systems, and this energy's re-radiation into space. (ESS2-HS-2, ESS2-HS-4)~~
- ~~Gradual atmospheric changes were due to plants and other organisms that captured carbon dioxide and released oxygen. (ESS2-HS-6, ESS2-HS-7)~~
- ~~Changes in the atmosphere due to human activity have increased carbon dioxide concentrations and thus affect climate. (ESS2-HS-6, ESS2-HS-4)~~

~~ESS2.E: Biogeology~~

- ~~The many dynamic and delicate feedbacks between the biosphere and other Earth systems cause a continual co-evolution of Earth's surface and the life that exists on it. (ESS2-HS-7)~~

~~PS4.A: Wave Properties~~

- ~~Geologists use seismic waves and their reflection at interfaces between layers to probe structures deep in the planet. (ESS2-HS-3)~~

HS-ESS-3 – Earth and Human Activity

~~**ESS3-HS- Earth and Human Activity**~~

~~**Performance Standards**~~

~~Students who demonstrate understanding can:~~

HS-ESS-3.1 ~~ESS3-HS-1.~~Students who demonstrate understanding can:

Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

Supporting Content ESS3.A: Natural Resources

- Resource availability has guided the development of human society. (**HS-ESS-3.1**~~ESS3-HS-1~~, *HS-LS-2.6*)

Supporting Content ESS3.B: Natural Hazards

- Natural hazards and other geologic events have shaped the course of human history. They have altered the sizes of human populations and have driven human migrations. (**HS-ESS-3.1**~~ESS3-HS-1~~)

- **Further Explanation**: Examples of key natural resources include access to fresh water (such as rivers, lakes, and groundwater), regions of fertile soils such as river deltas, and high concentrations of minerals and fossil fuels. Examples of natural hazards can be from interior processes (such as volcanic eruptions and earthquakes), surface processes (such as tsunamis, mass wasting and soil erosion), and severe weather (such as hurricanes, floods, and droughts). Examples of the results of changes in climate that can affect populations or drive mass migrations include changes to sea level, regional patterns of temperature and precipitation, and the types of crops and livestock that can be raised.

HS-ESS-3.2 Students who demonstrate understanding can:

~~**ESS3-HS-2.**~~ **Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.**

Supporting Content ESS3.A: Natural Resources

- All forms of energy production and other resource extraction have associated economic, social, environmental, and geopolitical benefits, costs and risks~~costs and risks as well as benefits~~. New technologies and social regulations can change the balance of these factors. (**HS-ESS-3.2**~~ESS3-HS-2~~)

Supporting Content ETS1.B: Developing Possible Solutions

- When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental factors~~impacts~~. (**HS-ESS-3.2**~~ESS3-HS-2~~, **HS-ESS-3.4**~~ESS3-HS-4~~)

- **Further Explanation**: Emphasis is on the conservation, recycling, and reuse of resources (such as minerals and metals) ~~where possible~~, and on minimizing impacts ~~where it is not~~. Examples include developing best practices for agricultural soil use, mining (for coal, tar sands, and oil shales), and pumping (for petroleum and natural gas). ~~Science knowledge indicates what can happen in natural systems—not what should happen.~~

HS-ESS-3.3 Students who demonstrate understanding can:

~~**ESS3-HS-3. Create a computational simulation to i**~~**Illustrate ~~the~~ relationships among management of natural resources, the sustainability of human populations, and biodiversity.**

Supporting Content ESS3.C: Human Influences~~**Impacts** **on Earth Systems**~~

- The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. (**HS-ESS-3.3**~~ESS3-HS-3~~)

- **Further Explanation**: Examples of factors that affect the management of natural resources include costs of resource extraction and waste management, per-capita consumption, and the development of new technologies. Examples of factors that affect human sustainability include agricultural efficiency, levels of conservation, and urban planning.
- ~~Content Limit: Assessment for computational simulations is limited to using provided multi-parameter programs or constructing simplified spreadsheet calculations.~~

HS-ESS-3.4 Students who demonstrate understanding can:

~~**ESS3-HS-4.**~~ **Evaluate or refine a** scientific or **technological solution that ~~reduces impacts~~** mitigates or enhances ~~**of**~~ **human** influences~~**activities**~~ **on natural systems.**

Supporting Content ESS3.C: Human Influences **on Earth Systems**

- Scientists and engineers can make major contributions by developing technologies that produce less pollution and waste and that preclude ecosystem degradation. (**HS-ESS-3.4**~~ESS3-HS-4~~)

Supporting Content ETS1.B: Developing Possible Solutions

- When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental factors. (**HS-ESS-3.2, HS-ESS-3.4**)

- **Further Explanation**: Examples of data on the influences~~impacts~~ of human activities could include the quantities and types of pollutants released, changes to biomass and species diversity , or ~~areal~~ changes in land surface use (such as for urban development, agriculture and livestock, or surface mining). Examples of human contributions ~~for limiting future impacts~~ could range from local efforts (such as reducing, reusing, and recycling resources) to large-scale geoengineering design solutions (such as cloud seeding~~as altering global temperatures by making large changes to the atmosphere or ocean~~).

HS-ESS-3.5 Students who demonstrate understanding can:

~~**ESS3-HS-5.**~~ **Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.**

Supporting Content ESS3.C: Human **Influences** on Earth Systems

- Human abilities to model, predict, and manage current and future effects on Earth's systems are improving with advancing technologies. (HS-ESS-3.5)
- ~~Though the magnitudes of human impacts are greater than they have ever been, so too are human abilities to model, predict, and manage current and future impacts. (ESS3-HS-5)~~

- **Further Explanation**: Examples of evidence, for both data and climate model outputs, are for climate variations~~changes~~ (such as precipitation and temperature) and their associated effects~~impacts~~ (such as on sea level, glacial ice volumes, or atmosphere and ocean composition).
- **Assessment~~Content~~ Limit**: Assessment is limited to one example of a climate variation~~change~~ and its associated effects~~impacts~~.

HS-ESS-3.6 Students who demonstrate understanding can:

~~**ESS3-HS-6.**~~ Communicate how ~~**Use a computational representation to illustrate**~~ **the relationships among Earth systems** ~~**and how those relationships**~~ **are being** influenced by ~~**modified due to**~~ **human activity.**

Supporting Content ESS2.D: Weather and Climate

- Current models project that average global temperatures will continue to rise. The outcomes projected by these models depend on the amounts of greenhouse gases added to the atmosphere each year and the ways these gases are stored by Earth's systems. (**HS-ESS-3.6**)

Supporting Content ESS3.C: Human **Influences** on Earth Systems

- Through computer simulations and and scientific research~~other studies~~, important discoveries are still being made about how the ocean, the atmosphere, and the biosphere interact and are influenced by ~~are modified in response to~~ human activities. (**HS-ESS-3.6**~~ESS3-HS-6~~)

- **Further Explanation**: Examples of Earth systems ~~to be considered~~ are the hydrosphere, atmosphere, cryosphere, geosphere, and/or biosphere. ~~.~~ A~~-~~n example ~~of the far-reaching impacts from a human activity~~ is how an increase in atmospheric carbon dioxide results in an increase in photosynthetic biomass on land and an increase in ocean acidification, with resulting impacts on sea organism health and marine populations.
- **Assessment~~Content~~ Limit**: Assessment does not include running computational representations but is limited to using the published results of scientific computational models.

~~Supporting Content~~

~~ESS2.D: Weather and Climate~~

- ~~Current models project that, without human intervention, average global temperatures will continue to rise. The outcomes projected by global climate models depend on the amounts of greenhouse gases added to the atmosphere each year and by the ways in which these gases are stored by Earth's systems. (ESS3-HS-6)~~

~~ESS3.A: Natural Resources~~

- ~~Resource availability has guided the development of human society. (ESS3-HS-1)~~
- ~~All forms of energy production and other resource extraction have associated economic, social, environmental, and geopolitical costs and risks as well as benefits. New technologies and social regulations can change the balance of these factors. (ESS3-HS-2)~~

~~ESS3.B: Natural Hazards~~

- ~~Natural hazards and other geologic events have shaped the course of human history. They have altered the sizes of human populations and have driven human migrations. (ESS3-HS-1)~~

~~ESS3.C: Human Impacts on Earth Systems~~

- ~~The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. (ESS3-HS-2)~~
- ~~Scientists and engineers can make major contributions by developing technologies that produce less pollution and waste and that preclude ecosystem degradation. (ESS3-HS-4)~~
- ~~Though the magnitudes of human impacts are greater than they have ever been, so too are human abilities to model, predict, and manage current and future impacts. (ESS3-HS-5)~~
- ~~Through computer simulations and other studies, important discoveries are still being made about how the ocean, the atmosphere, and the biosphere interact and are modified in response to human activities. (ESS3-HS-6)~~

~~ETS1.B: Developing Possible Solutions~~

- ~~When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, environmental impacts. (ESS3-HS-2, ESS3-HS-4)~~

~~APPENDIX A: SUGGESTED MIDDLE AND HIGH SCHOOL COURSE PROGRESSIONS~~

~~GRADES 6-8 (ASSESSMENT GIVEN AT END OF 8TH GRADE AS EITHER CUMULATIVE ISAT OR CONTENT SPECIFIC EOC)~~

~~CONCEPTUAL PROGRESSIONS MODEL~~

COURSE 1 SCS	COURSE 1 PSS	COURSE 2 SCS	COURSE 2 PSS	COURSE 3 SCS	COURSE 3 PSS
PS1.A	PS1-MS-1	PS3.C	PS4-MS-3	LS2.C	LS2-MS-5
PS1.B	PS1-MS-2	PS4.B	LS1-MS-1	LS4.A	LS2-MS-6
PS2.A	PS1-MS-3	PS4.C	LS1-MS-2	LS4.B	LS4-MS-1
PS2.B	PS1-MS-4	LS1.A	LS1-MS-3	LS4.C	LS4-MS-2
PS3.A	PS1-MS-5	LS1.B	LS1-MS-4	LS4.D	LS4-MS-3
PS3.B	PS1-MS-6	LS1.C	LS1-MS-5	ESS1.C	LS4-MS-4
PS4.A	PS2-MS-1	LS2.B	LS1-MS-6	ESS2.D	LS4-MS-5
LS2.A	PS2-MS-2	LS3.A	LS2-MS-3	ESS3.C	LS4-MS-6
ESS1.B	PS2-MS-3	LS3.B	LS2-MS-4	ESS3.C	ESS1-MS-4
ESS2.B	PS2-MS-4	ESS1.A	LS3-MS-1	ETS1.A	ESS3-MS-3
ESS2.C	PS2-MS-5	ESS2.A	LS3-MS-2	ETS1.B	ESS3-MS-4

COURSE 1 SCS	COURSE 1 PSS	COURSE 2 SCS	COURSE 2 PSS	COURSE 3 SCS	COURSE 3 PSS
ESS3.A	PS3-MS-1	ESS2.A	ESS2-MS-1	NA	ESS3-MS-5
ETS1.A	PS3-MS-2	ESS2.D	ESS2-MS-2	NA	NA
ETS1.B	PS3-MS-3	ESS3.B	ESS2-MS-3	NA	NA
NA	PS3-MS-4	ETS1.A	ESS2-MS-4	NA	NA
NA	PS3-MS-5	ETS1.B	ESS2-MS-5	NA	NA
NA	PS4-MS-1	NA	ESS2-MS-6	NA	NA
NA	PS4-MS-2	NA	ESS3-MS-1	NA	NA
NA	LS2-MS-1	NA	ESS3-MS-2	NA	NA
NA	LS2-MS-2	NA	NA	NA	NA
NA	ESS1-MS-1	NA	NA	NA	NA
NA	ESS1-MS-2	NA	NA	NA	NA

~~COURSE 1 SCS~~	~~COURSE 1 PSS~~	~~COURSE 2 SCS~~	~~COURSE 2 PSS~~	~~COURSE 3 SCS~~	~~COURSE 3 PSS~~
~~NA~~	~~ESS1-MS-3~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~

~~SCIENCE DOMAINS MODEL~~

PHYSICAL SCS	PHYSICAL PSS	LIFE SCS	LIFE PSS	EARTH SCS	EARTH PSS
PS1.A	PS1-MS-1	LS1.A	LS1-MS-1	ESS1.A	ESS1-MS-1
PS1.B	PS1-MS-2	LS1.B	LS1-MS-2	ESS1.B	ESS1-MS-2
PS2.A	PS1-MS-3	LS1.C	LS1-MS-3	ESS1.C	ESS1-MS-3
PS2.B	PS1-MS-4	LS2.A	LS1-MS-4	ESS2.A	ESS1-MS-4
PS3.A	PS1-MS-5	LS2.B	LS1-MS-5	ESS2.B	ESS2-MS-1
PS3.B	PS1-MS-6	LS2.C	LS1-MS-6	ESS2.C	ESS2-MS-2
PS3.C	PS2-MS-1	LS3.A	LS2-MS-1	ESS2.	ESS2-MS-3
PS4.A	PS2-MS-2	LS3.B	LS2-MS-2	ESS3.	ESS2-MS-4
PS4.B	PS2-MS-3	LS4.A	LS2-MS-3	ESS3.B	ESS2-MS-5
PS4.C	PS2-MS-4	LS4.B	LS2-MS-4	ESS3.C	ESS2-MS-6
ETS1.A	PS2-MS-5	LS4.C	LS2-MS-5	ESS3.C	ESS3-MS-1

PHYSICAL SCS	PHYSICAL PSS	LIFE SCS	LIFE PSS	EARTH SCS	EARTH PSS
ETS1.B	PS3-MS-1	LS4.D	LS2-MS-6	NA	ESS3-MS-2
NA	PS3-MS-2	ETS1.B	LS3-MS-1	NA	ESS3-MS-3
NA	PS3-MS-3	NA	LS3-MS-2	NA	ESS3-MS-4
NA	PS3-MS-4	NA	LS4-MS-1	NA	ESS3-MS-5
NA	PS3-MS-5	NA	LS4-MS-2	NA	NA
NA	PS4-MS-1	NA	LS4-MS-3	NA	NA
NA	PS4-MS-2	NA	LS4-MS-4	NA	NA
NA	PS4-MS-3	NA	LS-MS-5	NA	NA
NA	NA	NA	LS-MS-6	NA	NA

~~GRADES 9-12~~

~~MODIFIED SCIENCE DOMAINS MODEL~~

~~BIOLOGY SCS~~	~~BIOLOGY PSS~~	~~CHEMISTRY SCS~~	~~CHEMISTRY PSS~~	~~PHYSICS SCS~~	~~PHYSICS PSS~~
~~LS1.A~~	~~LS1-HS-1~~	~~PS1.A~~	~~PSC1-HS-1~~	~~PS1.A~~	~~PSP1-HS-1~~
~~LS1.B~~	~~LS1-HS-2~~	~~PS1.B~~	~~PSC1-HS-2~~	~~PS2.A~~	~~PSP1-HS-2~~
~~LS1.C~~	~~LS1-HS-3~~	~~PS1.C~~	~~PSC1-HS-3~~	~~PS2.B~~	~~PSP1-HS-3~~
~~LS2.A~~	~~LS1-HS-4~~	~~PS2.B~~	~~PSC1-HS-4~~	~~PS3.A~~	~~PSP1-HS-4~~
~~LS2.B~~	~~LS1-HS-5~~	~~PS3.A~~	~~PSC1-HS-5~~	~~PS3.B~~	~~PSP1-HS-5~~
~~LS2.C~~	~~LS1-HS-6~~	~~PS3.B~~	~~PSC2-HS-1~~	~~PS3.C~~	~~PSP1-HS-6~~
~~LS2.D~~	~~LS1-HS-7~~	~~PS3.D~~	~~PSC2-HS-2~~	~~PS3.D~~	~~PSP2-HS-1~~
~~LS3.A~~	~~LS2-HS-1~~	~~PS4.B~~	~~PSC2-HS-3~~	~~PS4.A~~	~~PSP2-HS-2~~
~~LS3.B~~	~~LS2-HS-2~~	~~ESS2.C~~	~~PSC2-HS-4~~	~~PS4.B~~	~~PSP2-HS-3~~
~~LS4.A~~	~~LS2-HS-3~~	~~ESS2.D~~	~~PSC2-HS-5~~	~~PS4.C~~	~~PSP2-HS-4~~
~~LS4.B~~	~~LS2-HS-4~~	~~ESS3.A~~	~~PSC3-HS-1~~	~~ESS1.A~~	~~PSP2-HS-5~~
~~LS4.C~~	~~LS2-HS-5~~	~~ESS3.C~~	~~PSC3-HS-2~~	~~ESS1.B~~	~~PSP3-HS-1~~
~~LS4.D~~	~~LS2-HS-6~~	~~ETS1.A~~	~~PSC3-HS-3~~	~~ESS2.A~~	~~PSP3-HS-2~~
~~ESS1.C~~	~~LS2-HS-7~~	~~ETS1.B~~	~~PSC3-HS-4~~	~~ESS2.B~~	~~PSP3-HS-3~~
~~ESS2.E~~	~~LS2-HS-8~~	~~ETS1.C~~	~~PSC3-HS-5~~	~~ETS1.A~~	~~PSP3-HS-4~~
~~ESS3.B~~	~~LS3-HS-1~~	~~NA~~	~~ESS2-HS-4~~	~~ETS1.B~~	~~PSP3-HS-5~~
~~ESS3.C~~	~~LS3-HS-2~~	~~NA~~	~~ESS2-HS-5~~	~~ETS1.C~~	~~ESS1-HS-1~~
~~ETS1.A~~	~~LS3-HS-3~~	~~NA~~	~~ESS2-HS-6~~	~~NA~~	~~ESS1-HS-2~~
~~ETS1.B~~	~~LS4-HS-1~~	~~NA~~	~~ESS3-HS-2~~	~~NA~~	~~ESS1-HS-3~~

~~ETS1.C~~	~~LS4-HS-2~~	~~NA~~	~~ESS3-HS-5~~	~~NA~~	~~ESS1-HS-4~~
~~NA~~	~~LS4-HS-3~~	~~NA~~	~~ESS3-HS-6~~	~~NA~~	~~ESS2-HS-1~~
~~NA~~	~~LS4-HS-4~~	~~NA~~	~~NA~~	~~NA~~	~~ESS2-HS-2~~
~~NA~~	~~LS4-HS-5~~	~~NA~~	~~NA~~	~~NA~~	~~ESS2-HS-3~~
~~NA~~	~~LS4-HS-6~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~NA~~	~~ESS1-HS-5~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~NA~~	~~ESS1-HS-6~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~NA~~	~~ESS2-HS-7~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~NA~~	~~ESS3-HS-1~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~NA~~	~~ESS3-HS-3~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~NA~~	~~ESS3-HS-4~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~

~~GRADES 9-12, CONTINUED~~

~~SCIENCE DOMAINS MODEL~~

~~CHEMISTRY SCS~~	~~CHEMISTRY PSS~~	~~PHYSICS SCS~~	~~PHYSICS PSS~~	~~BIOLOGY SCS~~	~~BIOLOGY PSS~~	~~EARTH/SPACE SCS~~	~~EARTH/SPACE PSS~~
~~PS1.A~~	~~PSC1-HS-1~~	~~PS1.A~~	~~PSP1-HS-1~~	~~LS1.A~~	~~LS1-HS-1~~	~~ESS1.A~~	~~ESS1-HS-1~~
~~PS1.B~~	~~PSC1-HS-2~~	~~PS2.A~~	~~PSP1-HS-2~~	~~LS1.B~~	~~LS1-HS-2~~	~~ESS1.B~~	~~ESS1-HS-2~~
~~PS1.C~~	~~PSC1-HS-3~~	~~PS2.B~~	~~PSP1-HS-3~~	~~LS1.C~~	~~LS1-HS-3~~	~~ESS1.C~~	~~ESS1-HS-3~~
~~PS2.B~~	~~PSC1-HS-4~~	~~PS3.A~~	~~PSP1-HS-4~~	~~LS2.A~~	~~LS1-HS-4~~	~~ESS2.A~~	~~ESS1-HS-4~~
~~PS3.A~~	~~PSC1-HS-5~~	~~PS3.B~~	~~PSP1-HS-5~~	~~LS2.B~~	~~LS1-HS-5~~	~~ESS2.B~~	~~ESS1-HS-5~~
~~PS3.B~~	~~PSC2-HS-1~~	~~PS3.C~~	~~PSP1-HS-6~~	~~LS2.C~~	~~LS1-HS-6~~	~~ESS2.C~~	~~ESS1-HS-6~~
~~PS3.D~~	~~PSC2-HS-2~~	~~PS3.D~~	~~PSP2-HS-1~~	~~LS2.D~~	~~LS1-HS-7~~	~~ESS2.D~~	~~ESS2-HS-1~~
~~PS4.B~~	~~PSC2-HS-3~~	~~PS4.A~~	~~PSP2-HS-2~~	~~LS3.A~~	~~LS2-HS-1~~	~~ESS2.E~~	~~ESS2-HS-2~~
~~ETS1.C~~	~~PSC2-HS-4~~	~~PS4.B~~	~~PSP2-HS-3~~	~~LS3.B~~	~~LS2-HS-2~~	~~ESS3.A~~	~~ESS2-HS-3~~
~~NA~~	~~PSC2-HS-5~~	~~PS4.C~~	~~PSP2-HS-4~~	~~LS4.A~~	~~LS2-HS-3~~	~~ESS3.B~~	~~ESS2-HS-4~~
~~NA~~	~~PSC3-HS-1~~	~~ETS1.A~~	~~PSP2-HS-5~~	~~LS4.B~~	~~LS2-HS-4~~	~~ESS3.C~~	~~ESS2-HS-5~~

~~CHEMISTRY SCS~~	~~CHEMISTRY PSS~~	~~PHYSICS SCS~~	~~PHYSICS PSS~~	~~BIOLOGY SCS~~	~~BIOLOGY PSS~~	~~EARTH/SPACE SCS~~	~~EARTH/SPACE PSS~~
~~NA~~	~~PSC3-HS-2~~	~~ETS1.C~~	~~PSP3-HS-1~~	~~LS4.C~~	~~LS2-HS-5~~	~~ESS3.C~~	~~ESS2-HS-6~~
~~NA~~	~~PSC3-HS-3~~	~~NA~~	~~PSP3-HS-2~~	~~LS4.D~~	~~LS2-HS-6~~	~~PS1.C~~	~~ESS2-HS-7~~
~~NA~~	~~PSC3-HS-4~~	~~NA~~	~~PSP3-HS-3~~	~~ETS1.B~~	~~LS2-HS-7~~	~~PS3.D~~	~~ESS3-HS-1~~
~~NA~~	~~PSC3-HS-5~~	~~NA~~	~~PSP3-HS-4~~	~~NA~~	~~LS2-HS-8~~	~~PS4.A~~	~~ESS3-HS-2~~
~~NA~~	~~NA~~	~~NA~~	~~PSP3-HS-5~~	~~NA~~	~~LS3-HS-1~~	~~PS4.B~~	~~ESS3-HS-3~~
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~LS3-HS-2~~	~~ETS1.B~~	~~ESS3-HS-4~~
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~LS3-HS-3~~	~~NA~~	~~ESS3-HS-5~~
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~LS4-HS-1~~	~~NA~~	~~ESS3-HS-6~~
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~LS4-HS-2~~	~~NA~~	~~NA~~
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~LS4-HS-3~~	~~NA~~	~~NA~~
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~LS4-HS-4~~	~~NA~~	~~NA~~

~~CHEMISTRY SCS~~	~~CHEMISTRY PSS~~	~~PHYSICS SCS~~	~~PHYSICS PSS~~	~~BIOLOGY SCS~~	~~BIOLOGY PSS~~	~~EARTH/SPACE SCS~~	~~EARTH/SPACE PSS~~
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~LS4-HS-5~~	~~NA~~	~~NA~~
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~LS4-HS-6~~	~~NA~~	~~NA~~

APPENDIX B: GLOSSARY OF TERMS

THIS TOOL PROVIDES TERMINOLOGIES THAT REPRESENT THE OVERARCHING CONCEPTS AND IDEAS NEEDED TO UNDERSTAND THE IDAHO STATE SCIENCE STANDARDS. THE GLOSSARY OF TERMS IS NOT MEANT TO BE EXHAUSTIVE, BUT SEEKS TO ADDRESS CRITICAL TERMS AND DEFINITIONS ESSENTIAL IN BUILDING SCIENCE CONTENT KNOWLEDGE AND UNDERSTANDING. THIS TOOL WILL ASSIST IN PROMOTING CONSISTENCY ACROSS DISCIPLINES, INCREASING STUDENT OUTCOMES, AND IMPROVING STAKEHOLDER COMMUNICATION.

ANALYZE - STUDYING THE DATA OF AN INVESTIGATION OR EXPERIMENT AND LOOKING FOR TRENDS OR PATTERNS IN THE DATA OR GRAPH TO SEE IF THE CHANGE HAD AN EFFECT

ARGUMENT/EVIDENCE BASED ACCOUNT - A REASON OR SET OF REASONS GIVEN WITH THE AIM OF PERSUADING OTHERS THAT AN ACTION OR IDEA IS RIGHT OR WRONG, BASED ON EMPIRICAL EVIDENCE

CAUSE AND EFFECT - THE RELATIONSHIP BETWEEN EVENTS OR THINGS, WHERE ONE IS THE RESULT OF THE OTHER OR OTHERS (ACTION AND REACTION)

CLAIM - TO STATE OR ASSERT THAT SOMETHING IS TRUE, TYPICALLY WITHOUT PROVIDING EVIDENCE

CLASSIFY - GROUPING ITEMS TOGETHER BASED ON TRAITS AND/OR CHARACTERISTICS

DATA - **THE RESULT OF YOUR EXPERIMENTATION (FACTS, FIGURES, AND OTHER EVIDENCE) THAT YOU USUALLY RECORD ON A CHART AND THEN MAKE A GRAPH**

EMPIRICAL – **VERIFIABLE BY OBSERVATION (USING SENSES) OR EXPERIENCE**

EVIDENCE - **THE AVAILABLE BODY OF FACTS OR INFORMATION INDICATING WHETHER A CLAIM OR PROPOSITION IS TRUE OR VALID**

EXAMPLE – **A THING CHARACTERISTIC OF ITS KIND OR ILLUSTRATING A GENERAL RULE/IDEA**

EXPERIMENTAL DESIGN – **A METHOD OF RESEARCH IN WHICH A CONTROLLED EXPERIMENTAL VARIABLE IS SUBJECTED TO SPECIAL TREATMENT FOR THE PURPOSE OF COMPARISON WITH A VARIABLE KEPT CONSTANT**

FACT – **AN OBSERVATION THAT HAS BEEN REPEATEDLY CONFIRMED**

GRAPH – **A DIAGRAM SHOWING THE VISUAL RELATIONSHIP BETWEEN VARIABLE QUANTITIES**

HYPOTHESIS – **A TESTABLE STATEMENT ABOUT THE NATURAL WORLD THAT CAN BE USED TO BUILD MORE COMPLEX INFERENCES AND EXPLANATIONS**

INFERENCE – **A CONCLUSION REACHED ON THE BASIS OF EVIDENCE AND REASONING**

INTERPRET – **TO EXPLAIN AND UNDERSTAND THE MEANING OF EVIDENCE BASED ON CREDIBLE SCIENTIFIC INFORMATION**

INVESTIGATION – **A PROCESS TO CARRY OUT A SYSTEMATIC OR FORMAL INQUIRY TO DISCOVER AND EXAMINE THE FACTS**

LAW – **A DESCRIPTIVE GENERALIZATION ABOUT HOW SOME ASPECT OF THE NATURAL WORLD BEHAVES UNDER STATED CIRCUMSTANCES**

MEASURE – **TO DETERMINE THE DIMENSIONS, QUANTITY OR CAPACITY OF AN OBJECT**

MODEL **(COMPUTATIONAL, MATHEMATICAL, ETC.)** – **A REPRESENTATION OF AN IDEA, OBJECT, PROCESS OR A SYSTEM THAT IS USED TO DESCRIBE, EXPLAIN, AND MAKE PREDICTIONS ABOUT PHENOMENA THAT CANNOT BE EXPERIENCED DIRECTLY**

OBSERVATION – **RECEIVING KNOWLEDGE OF THE NATURAL WORLD THROUGH OUR SENSES, RECORDING INFORMATION USING SCIENTIFIC TOOLS OR INSTRUMENTS**

PATTERN/TREND – **CONSISTENT AND RECURRING SET OF CHARACTERISTICS OR TRAITS THAT HELPS IN THE IDENTIFICATION OF A PHENOMENON OR PROBLEM AND SERVES AS AN INDICATOR OR MODEL FOR PREDICTING FUTURE BEHAVIOR**

PREDICTION – **A FORECAST OR STATEMENT ABOUT AN UNCERTAIN EVENT THAT IS BASED UPON EXPERIENCE OR EVIDENCE**

RELATIONSHIP – **THE CONNECTIONS BETWEEN TWO VARIABLES**

SCIENCE - **THE PROCESS OF TRYING TO UNDERSTAND THE WORLD AROUND US THROUGH EXPLORATION, INVENTION, AND PROBLEM SOLVING**

SCIENTIFIC REASONING – **A JUSTIFICATION THAT CONNECTS EVIDENCE TO A CLAIM**

SIMULATION - **THE IMITATION OF THE OPERATION OF A REAL-WORLD PROCESS OR SYSTEM OVER TIME**

SOLUTION - **A METHOD OR A PROCESS FOR DEALING WITH A PROBLEM THAT RELIES ON SCIENTIFIC AND/OR ENGINEERING PRACTICES**

THEORY - **A SUBSTANTIATED EXPLANATION OF SOME ASPECT OF THE NATURAL WORLD, BASED ON A BODY OF FACTS THAT HAVE BEEN REPEATEDLY CONFIRMED THROUGH OBSERVATION AND EXPERIMENT; THE SCIENTIFIC COMMUNITY VALIDATES EACH THEORY BEFORE IT IS ACCEPTED; IF NEW EVIDENCE IS DISCOVERED THAT THE THEORY DOES NOT ACCOMMODATE, THE THEORY IS GENERALLY MODIFIED IN LIGHT OF THIS NEW EVIDENCE**

VARIABLE - **ANY FACTOR THAT CAN BE CONTROLLED, CHANGED, AND/OR MEASURED; USUALLY IN AN EXPERIMENT**

PROPOSED DRAFT 07/13/2021

Idaho Content Standards - Science

IDAHO STATE DEPARTMENT OF EDUCATION
CONTENT AND CURRICULUM| SCIENCE

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Introduction

The Idaho State Content Standards in Science are essential for developing the science literacy of Idaho students, as it is vital that our students understand the fundamental laws and practices within scientific disciplines. This document provides stakeholders with a set of rigorous and relevant science performance standards that prepare students to be informed, contributing citizens of the 21st-century world. The unifying goal is for Idaho students to practice and perform science and use their working knowledge of science to successfully function in a complex world.

The Idaho Science standards describe the knowledge and skills that students should learn, but they do not prescribe particular curriculum, lessons, teaching techniques, or activities. Standards describe what students are expected to know and be able to do, while the local curriculum describes how teachers will help students master the standards. A wide variety of instructional resources may be used to meet the state content area standards. Decisions about curriculum and instruction are made locally by individual school districts and classroom teachers. The Idaho State Board of Education does not mandate the curriculum used within local schools. However, these science standards should be taught in a way that allows students to analyze the data and make their own decisions about what it means. Students should also be taught the current models and explanations of the scientific community regarding that data.

Organization and Structure of Science Standards

The Idaho Science Standards are based on *A Framework for K-12 Science Education*[1]. That framework outlines three organizational dimensions for each standard:

- **Science and Engineering Practices**
- **Disciplinary Core Ideas** and **Supporting Content**
- **Crosscutting Concepts**

The **Science and Engineering Practices** are used by students to demonstrate understanding of the disciplinary core ideas and crosscutting concepts. These practices update the scientific method in the classroom and include a wider range of skills for an expanded approach to how scientific investigations are conducted in the real world. Engaging in the practices of science and engineering helps students understand the wide range of approaches used to investigate natural phenomena and develop solutions to challenges. Students are expected to demonstrate grade appropriate proficiency in asking questions and defining problems; developing and using models; planning and carrying out investigations; analyzing and interpreting data; using mathematics and computational thinking; constructing explanations and designing solutions; engaging in argument from evidence; and obtaining, evaluating, and communicating information as they gather, analyze, and communicate scientific information.

The **Disciplinary Core Ideas** and **Supporting Content** are the focused, limited set of science ideas identified in the *Framework* as necessary for ALL students throughout their education and beyond their K-12 school years to achieve scientific literacy. The limited number of disciplinary core ideas

[1] A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas. Washington, DC: The National Academies Press, 2012.

allows more time for students and teachers to engage in the science and engineering practices as they deeply explore science ideas. To allow students to continually build on and revise their knowledge and abilities, the disciplinary core ideas are built on developmental learning progressions. In the Idaho State Science Standards, The Disciplinary Core Ideas are incorporated within the Supporting Content for clarity. The Supporting Content defines the minimum boundary of content knowledge needed to fully demonstrate mastery of the standard.

The **Crosscutting Concepts** are used to organize and make sense of disciplinary core ideas. They serve as tools that bridge disciplinary boundaries and deepen understanding of science content. With grade-appropriate proficiency, students are expected to use patterns; cause and effect; scale, proportion, and quantity; systems and system models; energy and matter; structure and function; and stability and change as they gather, analyze, and communicate scientific understanding. These crosscutting concepts provide structure for synthesizing knowledge from various fields into a coherent and scientifically based view of the world.

The K-12 standards are structured to reflect the developmental nature of learning. Within the standards, content is introduced in a spiraled model using connected core ideas that build deepened understanding throughout grade level progressions. The standards increase in complexity and rigor as students move through the grade levels. Curriculums developed by the school districts of Idaho should encompass all three dimensions of each standard.

The following table lists the disciplinary core ideas, crosscutting concepts, and science and engineering practices (more detailed and grade specific descriptions are available in the supplemental support materials):

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
● Asking Questions and Defining Problems ● Developing and Using Models ● Planning and Carrying Out Investigations ● Analyzing and Interpreting Data ● Using Mathematics and Computational Thinking ● Constructing Explanations and Designing Solutions ● Engaging in Argument from Evidence ● Obtaining, Evaluating, and Communicating Information	LS1: From Molecules to Organisms: Structures and Processes LS2: Ecosystems: Interactions, Energy, and Dynamics LS3: Heredity: Inheritance and Variation of Traits LS4: Biological Evolution: Unity and Diversity PS1: Matter and Its Interactions PS2: Motion and Stability: Forces and Interactions PS3: Energy PS4: Waves ESS1: Earth's Place in the Universe ESS2: Earth's Systems ESS3: Earth and Human Activity	● Patterns ● Cause and Effect ● Scale, Proportion, and Quantity ● Systems and System Models ● Energy and Matter ● Structure and Function ● Stability and Change

Instructional Shifts

While each standard incorporates the three dimensions, this alone does not drive student outcomes; ultimately, student learning depends on how the standards are translated to instructional practices. In order for students to attain the maximum benefit from the Idaho Science Standards, districts are encouraged to incorporate problem solving techniques and deep critical thinking exercises into those practices. Effective science teaching and learning integrates the three dimensions by allowing students to explain scientific phenomena, design solutions to real-world challenges, and build a foundation upon which they can continue to learn and to apply science knowledge and skills within and outside the K-12 education arena.

Interdisciplinary Approaches

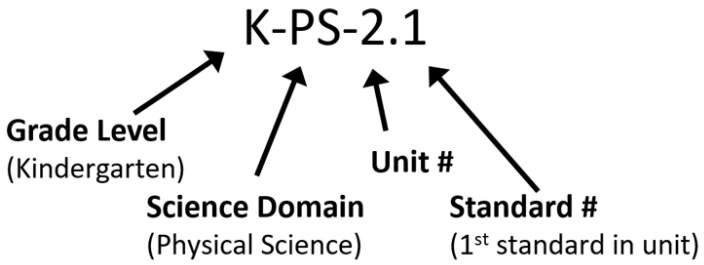
The overlapping skills in the science and engineering practices combined with the intellectual tools developed by the crosscutting concepts, build meaningful and substantive connections to interdisciplinary knowledge and skills in all content areas. Student understanding and retention are increased as connections are made to interdisciplinary learning which affords all students equitable access to learning and ensures all students are prepared for college, career, and citizenship.

Using This Document

Each standard is followed by the Supporting Content (DCI) in order to add details of what knowledge should be mastered while students are working to achieve each standard. There are often *Further Explanations* and *Assessment Limits* following the content. The *Further Explanations* explain how the concepts embedded within the standard should be emphasized. These often contain examples that are not required, but give guidance about the complexity of ideas to ensure grade appropriate implementation. Assessment limits are similar and do not limit what content is learned about in the classroom, but they do keep assessments from expanding inappropriately outside of the grade-level expectations. These features are included when further clarity is needed.

The coding for each standard labels the grade level, science domain, unit number, and standard number as shown below:

Abbreviations
K – Kindergarten
MS – Middle School
HS – High School
LS – Life Science
ESS – Earth and Space Science
PS – Physical Science
PSC – Physical Science Chemistry
PSP – Physical Science Physics
ETS – Engineering and Technology



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Kindergarten

Physical Science

K-PS-1 – Motion and Stability: Forces and Interactions

K-PS-1.1 Students who demonstrate understanding can:
With guidance and support, plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

Supporting Content PS2.A: Forces and Motion

- Pushes and pulls can have different strengths and directions. (K-PS-1.1, K-PS-1.2)
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS-1.1, K-PS-1.2)

Supporting Content PS2.B: Types of Interactions

- When objects touch or collide, they push on one another and can change motion. (K-PS-1.1)

Supporting Content PS3.C: Relationship Between Energy and Forces

- A bigger push or pull makes things speed up or slow down more quickly. (K-PS-1.1)

Further Explanation: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.

Assessment Limit: Assessment is limited to different relative strengths or different directions, but not both at the same time. Assessment does not include non-contact pushes or pulls such as those produced by magnets.

K-PS-1.2 Students who demonstrate understanding can:
With guidance and support, analyze data to determine if a design solution works as intended to change the motion of an object with a push or a pull.

Supporting Content PS2.A: Forces and Motion

- Pushes and pulls can have different strengths and directions. (K-PS-1.1, K-PS-1.2)
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS-1.1, K-PS-1.2)

Supporting Content ETS1.A: Defining Engineering Problems

- A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. (K-PS-1.2)

Further Explanation: Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.

Assessment Limit: Assessment does not include friction as a mechanism for change in speed.

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K-PS-2 – Energy

K-PS-2.1 Students who demonstrate understanding can:
Make observations to determine the effect of the sun's energy on the Earth's surface.

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Sunlight warms Earth's surface. (K-PS-2.1, K-PS-2.2)

Further Explanation: Examples of Earth's surface could include sand, soil, rocks, and water.

Assessment Limit: Assessment of temperature is limited to relative measures such as warmer/cooler.

K-PS-2.2 Students who demonstrate understanding can:
Design and build a structure that will reduce the warming effect of the sun's energy on a material.

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Sunlight warms Earth's surface. (K-PS-2.1, K-PS-2.2)

Further Explanation: Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun on Earth's surface.

Life Science

K-LS-1 – Molecules to Organisms: Structure and Processes

K-LS-1.1 Students who demonstrate understanding can:
Use observations to describe how plants and animals are alike and different in terms of how they live and grow.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (K-LS-1.1)

Further Explanation: Examples of observations could include that animals need to take in food, but plants produce their own; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.

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Earth and Space Science

K-ESS-1 – Earth's Systems

K-ESS-1.1 Students who demonstrate understanding can:
Use and share observations of local weather conditions to describe variations in patterns throughout the year.

Supporting Content ESS2.D: Weather and Climate

- Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region, at a particular time. People measure these conditions to describe and record patterns over time. (K-ESS-1.1)
- The four seasons occur in a specific order due to their weather patterns. (K-ESS-1.1)

Further Explanation: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.

Assessment Limit: Assessment of quantitative observations limited to whole numbers less than 20 and relative measures such as warmer/cooler.

K-ESS-1.2 Students who demonstrate understanding can:
With guidance and support, use evidence to construct an explanation of how plants and animals interact with their environment to meet their needs.

Supporting Content ESS2.E: Biogeology

- Plants and animals can change their environment. (K-ESS-1.2)

Further Explanation: Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.

K-ESS-2 – Weather and Climate

K-ESS-2.1 Students who demonstrate understanding can:
Use a model to represent the relationship between the needs of different plants and animals and the places they live.

Supporting Content ESS3.A: Natural Resources

- Living things need water, air, and resources from the land. They live in places that have the things they need. (K-ESS-2.1)

Further Explanation: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.

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K-ESS-2.2 Students who demonstrate understanding can:
Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, local weather.

Supporting Content ESS3.B: Natural Hazards

- Some kinds of weather are more likely than others in a given region. Weather scientists forecast the weather so that local communities can prepare for and respond to these events. (K-ESS-2.2)

Supporting Content ETS1.A: Delimiting an Engineering Problem

- Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-ESS-2.2)

Further Explanation: Emphasis is on local forms of weather. Examples relating weather forecasting to preparing and responding could include using forecasts to plan for staying indoors during severe weather; going to cooling centers during heat waves; covering windows before storms.

K-ESS-2.3 Students who demonstrate understanding can:
Communicate ideas that would enable humans to interact in a beneficial way with the land, water, air, and/or other living things in the local environment.

Supporting Content ESS3.C: Human Influences on Earth Systems

- Things that people do can affect the world around them. People can reduce their effects on the land, water, air, and other living things. (K-ESS-2.3)

Supporting Content ETS1.B: Developing Possible Solutions

- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K-ESS-2.3)

Further Explanation: Examples of human influence on the land could include planting trees after a burn, protecting farm fields from erosion, or keeping plastic trash out of waterways.

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Grade 1

Physical Science

1-PS-1 – Waves

1-PS-1.1 Students who demonstrate understanding can:
With guidance and support, plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.

Supporting Content PS4.A: Wave Properties

- Sound can make matter vibrate, and vibrating matter can make sound. (1-PS-1.1)

Further Explanation: Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.

1-PS-1.2 Students who demonstrate understanding can:
With guidance and support, make observations to construct an evidence-based explanation that objects in darkness can be seen only when illuminated.

Supporting Content PS4.B: Electromagnetic Radiation (light)

- Objects can be seen if light is available to illuminate them or if they give off their own light. (1-PS-1.2)

Further Explanation: Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.

1-PS-1.3 Students who demonstrate understanding can:
With guidance and support, plan and conduct investigations to determine the effect of placing materials in the path of a beam of light.

Supporting Content PS4.B: Electromagnetic Radiation (light)

- Some materials allow light to pass through them, others allow only some light through, and others block all the light creating a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.) (1-PS-1.3)

Further Explanation: Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror).

Assessment Limit: Assessment does not include the speed of light.

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1-PS-1.4 Students who demonstrate understanding can:
Design and build a device that uses light or sound to communicate over a distance.

Supporting Content PS4.C: Information Technologies and Instrumentation

- People also use a variety of devices to communicate (send and receive information) over long distances. (1-PS-1.4)

Further Explanation: Examples of devices could include a light source to send signals, paper cup and string "telephones," and a pattern of drumbeats.

Assessment Limit: Assessment does not include technological details for how communication devices work.

Life Science

1-LS-1 – Molecules to Organisms: Structure and Processes

1-LS-1.1 Students who demonstrate understanding can:
Design and build a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

Supporting Content LS1.A: Structure and Function

- All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS-1.1)

Supporting Content LS1.D: Information Processing

- Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (1-LS-1.1)

Further Explanation: Examples of human problems that can be solved by mimicking plant or animal solutions could include: designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.

1-LS-1.2 Students who demonstrate understanding can:
Obtain information to identify patterns of behavior in parents and offspring that help offspring survive.

Supporting Content LS1.B: Growth and Development of Organisms

- Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS-1.2)

Further Explanation: Information should be obtained from text readings and media provided by the teacher. Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).

1-LS-1.3 Students who demonstrate understanding can:
Use classification supported by evidence to differentiate between living and non-living items.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Living and non-living things have distinct characteristics. (1-LS-1.3)

Further Explanation: Use chart or Venn diagram to sort objects or pictures into living and not-living items.

1-LS-2 – Heredity: Inheritance and Variation of Traits

1-LS-2.1 Students who demonstrate understanding can:
Make observations to construct an evidence-based explanation that offspring are similar to, but not identical to, their parents.

Supporting Content LS3.A: Inheritance of Traits

- Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. (1-LS-2.1)

Supporting Content LS3.B: Variation of Traits

- Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS-2.1)

Further Explanation: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and a particular breed of dog looks like its parents, but is not exactly the same.

Assessment Limit: Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.

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Earth and Space Science

1-ESS-1 – Earth's Place in the Universe

1-ESS-1.1 Students who demonstrate understanding can:
Use observations of the sun, moon, and stars to describe patterns that can be predicted.

Supporting Content ESS1.A: The Universe and its Stars

- Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (1-ESS-1.1)

Further Explanation: Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.

Assessment Limit: Assessment of star patterns is limited to stars being seen at night and not during the day.

1-ESS-1.2 Students who demonstrate understanding can:
Make observations at different times of year to relate the amount of daylight to the time of year.

Supporting Content ESS1.B: Earth and the Solar System

- Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (1-ESS-1.2)
- Seasons are created by weather patterns for a particular region and time. Local patterns create 4 distinct seasons. (1-ESS-1.2)

Further Explanation: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.

Assessment Limit: Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.

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Grade 2

Physical Science

2-PS-1 – Matter and Its Interactions

2-PS-1.1 Students who demonstrate understanding can:
Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

Supporting Content PS1.A: Structure and Properties of Matter

- Different kinds of matter exist and many of them can be solid, liquid, or gas, depending on temperature. Matter can be described and classified by its observable properties. (2-PS-1.1)

Further Explanation: Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.

2-PS-1.2 Students who demonstrate understanding can:
Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.

Supporting Content PS1.A: Structure and Properties of Matter

- Different properties are suited to different purposes. (2-PS-1.2, 2-PS-1.3)

Further Explanation: Examples of properties could include strength, flexibility, hardness, texture, and absorbency.

Assessment Limit: Assessment of quantitative measurements is limited to length.

2-PS-1.3 Students who demonstrate understanding can:
Make observations to construct an evidence-based argument that objects, when disassembled, may be used to create new objects using the same set of components.

Supporting Content PS1.A: Structure and Properties of Matter

- Different properties are suited to different purposes. (2-PS-1.2, 2-PS-1.3)
- A great variety of objects can be built up from a small set of pieces. (2-PS-1.3)

Further Explanation: Examples of pieces could include blocks, building bricks, or other assorted small objects.

2-PS-1.4 Students who demonstrate understanding can:
Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

Supporting Content PS1.B: Chemical Reactions

- Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. (2-PS-1.4)

Further Explanation: Examples of reversible changes could include materials such as water and butter at different temperatures. Examples of irreversible changes could include cooking an egg, freezing a plant leaf, and heating paper.

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Life Science

2-LS-1 – Ecosystems: Interactions, Energy, and Dynamics

2-LS-1.1 Students who demonstrate understanding can:
Plan and conduct an investigation to determine the impact of light and water on the growth of plants.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Plants depend on water and light to grow. (2-LS-1.1)

Assessment Limit: Assessment is limited to testing one variable at a time.

2-LS-1.2 Students who demonstrate understanding can:
Develop a model that demonstrates how plants depend on animals for pollination or the dispersal of seeds.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Some plants can depend on animals, wind and water for pollination or to move their seeds around. (2-LS-1.2)

Supporting Content ETS1.B: Developing Possible Solutions

- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (2-LS-1.2)

Further Explanation: Emphasis is on the interaction between animals and plants rather than all forms of pollination and seed dispersal.

2-LS-2 – Biological Adaptation: Unity and Diversity

2-LS-2.1 Students who demonstrate understanding can:
Make observations of plants and animals to compare the diversity of life in different habitats.

Supporting Content LS4.D: Biodiversity

- There are many different kinds of living things in any area, and they exist in different places on land and in water. (2-LS-2.1)

Further Explanation: Emphasis is on the diversity of living things in each of a variety of different habitats.

Assessment Limit: Assessment does not include specific animal and plant names in specific habitats.

Earth and Space Science

2-ESS-1 – Earth's Place in the Universe

2-ESS-1.1 Students who demonstrate understanding can:
Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

Supporting Content ESS1.C: The History of Planet Earth

- Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. (2-ESS-1.1)

Further Explanation: Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.

Assessment Limit: Assessment does not include quantitative measurements of timescales.

2-ESS-2 – Earth's Systems

2-ESS-2.1 Students who demonstrate understanding can:
Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

Supporting Content ESS2.A: Earth Materials and Systems

- Wind and water can change the shape of the land. (2-ESS-2.1)

Supporting Content ETS1.C: Optimizing the Design Solution

- Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (2-ESS-2.1)

Further Explanation: Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land.

2-ESS-2.2 Students who demonstrate understanding can:
Develop a model to represent the shapes and kinds of land and bodies of water in an area.

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Maps show where things are located. One can map the shapes and kinds of land and water in any area. (2-ESS-2.2)

Assessment Limit: Assessment does not include quantitative scaling in models.

2-ESS-2.3 Students who demonstrate understanding can:
Obtain information to identify where water is found on Earth and that it can be solid or liquid.

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. (2-ESS-2.3)

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Grade 3

Physical Science

3-PS-1 – Motion and Stability: Forces and Interactions

3-PS-1.1 Students who demonstrate understanding can:
Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

Supporting Content PS2.A: Forces and Motion

- Each force acts on one particular object with both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative additions of forces are used at this level.) (3-PS-1.1)

Supporting Content PS2.B: Types of Interactions

- Objects in contact exert forces on each other (3-PS-1.1)

Further Explanation: Examples could include an unbalanced force on one side of a ball can make it start moving; and balanced forces pushing on a box from both sides will not produce any motion at all.

Assessment Limit: Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.

3-PS-1.2 Students who demonstrate understanding can:
Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

Supporting Content PS2.A: Forces and Motion

- Force applied to an object can alter the position and motion of that object: revolve, rotate, float, sink, fall and at rest. (3-PS-1.2)
- The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (Boundary: Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.) (3-PS-1.2)

Further Explanation: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.

Assessment Limit: Assessment does not include technical terms such as period and frequency.

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3-PS-1.3 Students who demonstrate understanding can:
Ask questions to determine cause and effect relationships of static electricity or magnetic interactions between two objects not in contact with each other.

Supporting Content PS2.B: Types of Interactions

- Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart. For forces between two magnets, the size of the force also depends on their orientation relative to each other. (3-PS-1.3, 3-PS-1.4)

Further Explanation: An example of static electricity force could include the force on hair from an electrically charged balloon. Examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.

Assessment Limit: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.

3-PS-1.4 Students who demonstrate understanding can:
Define a problem that can be solved by applying scientific ideas about magnets.

Supporting Content PS2.B: Types of Interactions

- Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart. For forces between two magnets, the size of the force also depends on their orientation relative to each other. (3-PS-1.3, 3-PS-1.4)

Further Explanation: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.

Life Science

3-LS-1 – From Molecules to Organisms: Structures and Processes

3-LS-1.1 Students who demonstrate understanding can:
Develop models to demonstrate that living things, although they have unique and diverse life cycles, all have birth, growth, reproduction, and death in common.

Supporting Content LS1.B: Growth and Development of Organisms

- Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS-1.1)

Further Explanation: Changes organisms go through during their life form a pattern.

Assessment Limit: Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.

3-LS-2 – Ecosystems: Interactions, Energy, and Dynamics

3-LS-2.1 Students who demonstrate understanding can:
Construct an argument that some animals form groups that help members survive.

Supporting Content LS2.D: Social Interactions and Group Behavior

- Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size. (3-LS-2.1)

3-LS-3 – Heredity Inheritance and Variation of Traits

3-LS-3.1 Students who demonstrate understanding can:
Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

Supporting Content LS3.A: Inheritance of Traits

- Many characteristics of organisms are inherited from their parents. (3-LS-3.1)

Supporting Content LS3.B: Variation of Traits

- Different organisms vary in how they look and function because they have different inherited information. (3-LS-3.1)

Further Explanation: Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on non-human organisms.

Assessment Limit: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.

3-LS-3.2 Students who demonstrate understanding can:
Use evidence to support the explanation that traits can be influenced by the environment.

Supporting Content LS3.A: Inheritance of Traits

- Many characteristics involve both inheritance and environment. Characteristics result from individuals' interactions with the environment, which can range from diet to learning. (3-LS-3.2)

Supporting Content LS3.B: Variation of Traits

- The environment affects the traits that an organism develops. (3-LS-3.2)

Further Explanation: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and a pet dog that is given too much food and little exercise may become overweight.

3-LS-3.3 Students who demonstrate understanding can:
Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Supporting Content LS4.C Adaptation

- For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS-3.3)

Further Explanation: Examples of evidence could include needs, characteristics of the organisms, and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.

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Earth and Space Science

3-ESS-1 – Earth's Systems

3-ESS-1.1 Students who demonstrate understanding can:
Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

Supporting Content ESS.D: Weather and Climate

- Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (3-ESS-1.1)

Further Explanation: Examples of data could include average temperature, precipitation, and wind direction.

Assessment Limit: Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change.

3-ESS-1.2 Students who demonstrate understanding can:
Obtain and combine information to describe climates in different regions of the world.

Supporting Content ESS.D: Weather and Climate

- Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. (3-ESS-1.2)

3-ESS-2 – Earth and Human Activity

3-ESS-2.1 Students who demonstrate understanding can:
Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

Supporting Content ESS3.B: Natural Hazards

- A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. (3-ESS-2.1)

Further Explanation: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.

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Grade 4

Physical Science

4-PS-1 - Energy

4-PS-1.1 Students who demonstrate understanding can:
Use evidence to construct an explanation relating the speed of an object to the energy of that object.

Supporting Content PS3.A: Definitions of Energy

- The faster a given object is moving, the more energy it possesses. (4-PS-1.1)

Assessment Limit: Assessment does not include quantitative measures of changes in the speed of an object or on any precise or quantitative definition of energy.

4-PS-1.2 Students who demonstrate understanding can:
Make observations to provide evidence that energy can be transferred by heat, sound, light, and electric currents.

Supporting Content PS3.A: Definitions of Energy

- Energy can be moved from place to place by moving objects or through heat, sound, light, or electric currents. (4-PS-1.2, 4-PS-1.3)

Supporting Content PS3.B Conservation of Energy and Energy Transfer

- Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. (4-PS-1.2, 4-PS-1.3)
- Light transfers energy from place to place. (4-PS-1.2)
- Energy can be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced by transforming the energy of motion into electrical energy. (4-PS-1.2, 4-PS-1.4)

Assessment Limit: Assessment does not include quantitative measurements of energy.

4-PS-1.3 Students who demonstrate understanding can:
Ask questions and predict outcomes about the changes in energy that occur when objects collide.

Supporting Content PS3.A: Definitions of Energy

- Energy can be moved from place to place by moving objects or through heat, sound, light, or electric currents. (4-PS-1.2, 4-PS-1.3)

Supporting Content PS3.B Conservation of Energy and Energy Transfer

- Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. (4-PS-1.2, 4-PS-1.3)

Supporting Content PS3.C: Relationship Between Energy and Forces

- When objects collide, the contact forces transfer energy so as to change the objects' motions. (4-PS-1.3)

Further Explanation: Emphasis is on the change in the energy due to the change in speed, not on the forces, as objects interact.

Assessment Limit: Assessment does not include quantitative measurements of energy.

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4-PS-1.4 Students who demonstrate understanding can:
Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy can be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced by transforming the energy of motion into electrical energy. (4-PS-1.2, 4-PS-1.4)

Supporting Content PS3.D: Energy in Chemical Processes and Everyday Life

- The expression "produce energy" typically refers to the conversion of stored energy into a desired form for practical use. (4-PS-1.4)

Supporting Content ETS1.A: Defining Engineering Problems

- Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account. (4-PS-1.4)

Further Explanation: Examples of devices could include electric circuits that convert electrical energy into motion energy of a vehicle, light, or sound; and a passive solar heater that converts light into heat. Examples of constraints could include the materials, cost, or time to design the device.

Assessment Limit: Devices should be limited to those that convert motion energy to electric energy or use stored energy to cause motion or produce light or sound.

4-PS-2 - Waves

4-PS-2.1 Students who demonstrate understanding can:
Develop a model of a simple mechanical wave to describe patterns of amplitude and wavelength and that waves can cause objects to move.

Supporting Content PS4.A: Wave Properties

- Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets a beach. (4-PS-2.1)
- Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks). (4-PS-2.1)

Further Explanation: Examples of models could include diagrams, analogies, and physical models using wire to illustrate wavelength and amplitude of waves.

Assessment Limit: Assessment does not include interference effects, electromagnetic waves, non-periodic waves, or quantitative models of amplitude and wavelength.

4-PS-2.2 Students who demonstrate understanding can:
Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

Supporting Content PS4.B: Electromagnetic Radiation

- An object can be seen when light reflected from its surface enters the eyes. (4-PS-2.2)

Assessment Limit: Assessment does not include knowledge of specific colors reflected and seen, the cellular mechanisms of vision, or how the retina works.

4-PS-2.3 Students who demonstrate understanding can:
Generate and compare multiple solutions that use patterns to transfer information.

Supporting Content PS4.C: Information Technologies and Instrumentation

- Digitized information can be transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information—convert it from digitized form to voice—and vice versa. (4-PS-2.3)

Supporting Content ETS1.C: Optimizing the Design Solution

- Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints. (4-PS-2.3)

Further Explanation: Examples of solutions could include drums sending coded information through sound waves, using a grid of 1's and 0's representing black and white to send information about a picture, and using Morse code to send text.

Life Science

4-LS-1 – Molecules to Organisms: Structure and Processes

4-LS-1.1 Students who demonstrate understanding can:
Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Supporting Content LS1.A: Structure and Function

- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS-1.1)
- Animals have various body systems with specific functions for sustaining life: skeletal, circulatory. respiratory, muscular, digestive, etc. (4-LS-1.1)

Further Explanation: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.

Assessment Limit: Assessment is limited to macroscopic structures within plant and animal systems.

4-LS-1.2 Students who demonstrate understanding can:
Use a model to describe how animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

Supporting Content LS1.D: Information Processing

- Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions. (4-LS-1.2)

Further Explanation: Emphasis is on systems of information transfer.

Assessment Limit: Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.

Earth and Space Science

4-PS-1 – Earth's Place in the Universe

4-ESS-1.1 Students who demonstrate understanding can:
Identify evidence from patterns in rock formations and fossils in rock layers for changes in a landscape over time to support an explanation for changes in a landscape over time.

Supporting Content ESS1.C: The History of Planet Earth

- Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed. (4-ESS-1.1)
- There are three classifications of rocks produced within the rock cycle: sedimentary, metamorphic, and igneous. (4-ESS-1.1)

Further Explanation: Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock.

Assessment Limit: Assessment does not include specific knowledge of the mechanism of rock formation or memorization of specific rock formations and layers. Assessment is limited to relative time.

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4-ESS-2 – Earth's Systems

4-ESS-2.1 Students who demonstrate understanding can:
Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

Supporting Content ESS2.A: Earth Materials and Systems

- Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. (4-ESS-2.1)

Supporting Content ESS2.E: Biogeology

- Living things affect the physical characteristics of their regions. Examples could include a beaver constructing a dam to create a pond or tree roots breaking a rock. (4-ESS-2.1)

Further Explanation: Examples of variables to test could include angle of slope in the downhill movement of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycles of heating and cooling, and volume of water flow.

Assessment Limit: Assessment is limited to a single form of weathering or erosion.

4-ESS-2.2 Students who demonstrate understanding can:
Analyze and interpret data from maps to describe patterns of Earth's features.

Supporting Content ESS2.B Plate Tectonics and Large-Scale System Interactions

- The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth. (4-ESS-2.2)

Further Explanation: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.

4-ESS-3 – Earth and Human Activity

4-ESS-3.1 Students who demonstrate understanding can:
Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Supporting Content ESS3.A: Natural Resources

- Energy and fuels that are modified from natural sources affect the environment in multiple ways. Some resources are renewable over time, and others are not. (4-ESS-3.1)

Further Explanation: Examples of renewable energy resources could include wind energy, water behind dams, and sunlight; non-renewable energy resources are fossil fuels and atomic energy. Examples of environmental effects could include biological effects from moving parts, erosion, change of habitat, and pollution.

4-ESS-3.2 Students who demonstrate understanding can:
Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

Supporting Content ESS3.B: Natural Hazards

- A variety of hazards result from natural processes (e.g., earthquakes, floods, tsunamis, volcanic eruptions). Hazards cannot be eliminated, but their impacts can be reduced. (4-ESS-3.2)

Supporting Content ETS1.B: Designing Solutions to Engineering Problems

- Testing a solution involves investigating how well it performs under a range of likely conditions. (4-ESS-3.2)

Further Explanation: Examples of solutions could include designing an earthquake resistant building and improving monitoring of volcanic activity.

Assessment Limit: Assessment is limited to earthquakes, floods, tsunamis, and volcanic eruptions.

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Grade 5

Physical Science

5-PS-1 – Matter and Its Interactions

5-PS-1.1 Students who demonstrate understanding can:
Develop a model to describe that matter is made of particles too small to be seen.

Supporting Content PS1.A: Structure and Properties of Matter

- Matter of any type can be subdivided into particles that are too small to see, but even then, the matter still exists and can be detected by other means. A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects. (5-PS-1.1)

Further Explanation: Examples of evidence supporting a model could include adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water, and evaporating salt water.

Assessment Limit: Assessment does not include the atomic-scale mechanism of evaporation and condensation or defining the unseen particles.

5-PS-1.2 Students who demonstrate understanding can:
Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.

Supporting Content PS1.A: Structure and Properties of Matter

- The amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish. (5-PS-1.2)

Supporting Content PS1.B: Chemical Reactions

- No matter what reaction or change in properties occurs, the total weight of the substances does not change. (Boundary: Mass and weight are not distinguished at this grade level.) (5-PS-1.2)

Further Explanation: Examples of reactions or changes could include phase changes, dissolving, and mixing that form new substances.

Assessment Limit: Assessment does not include distinguishing mass and weight.

5-PS-1.3 Students who demonstrate understanding can:
Make observations and measurements to identify materials based on their properties.

Supporting Content PS1.A: Structure and Properties of Matter

- Measurements of a variety of properties can be used to identify materials. (Boundary: At this grade level, mass and weight are not distinguished, and no attempt is made to define the unseen particles or explain the atomic-scale mechanism of evaporation and condensation.) (5-PS-1.3)

Further Explanation: Examples of materials to be identified could include baking soda and other powders, metals, minerals, and liquids. Examples of properties could include color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility; density is not intended as an identifiable property.

Assessment Limit: Assessment does not include density or distinguishing mass and weight.

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5-PS-1.4 Students who demonstrate understanding can:
Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

Supporting Content PS1.B: Chemical Reactions

- When two or more different substances are mixed, a new substance with different properties may be formed. (5-PS-1.4)

5-PS-2 – Motion and Stability: Forces and Interactions

5-PS-2.1 Students who demonstrate understanding can:
Support an argument that Earth's gravitational force exerted on objects is directed downward.

Supporting Content PS2.B: Types of Interactions

- The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center. (5-PS-2.1)

Further Explanation: "Downward" is a local description of the direction that points toward the center of the spherical Earth. Examples could include reasoning that since an object that is initially stationary when held moves downward when it is released, there must be a force (gravity) acting on the object that pulls the object toward the center of Earth.

Assessment Limit: Assessment does not include mathematical representation of gravitational force.

5-PS-3 - Energy

5-PS-3.1 Students who demonstrate understanding can:
Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Supporting Content PS3.D: Energy in Chemical Processes and Everyday Life

- The energy released from food was once energy from the sun. The energy was captured by plants in the chemical process that forms plant matter (from air and water). (5-PS-3.1, *5-LS-1.1*)

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. (5-PS-3.1)

Further Explanation: Examples of models could include diagrams, and flow charts.

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Life Science

5-LS-1 – Molecules to Organisms: Structure and Processes

5-LS-1.1 Students who demonstrate understanding can:
Support an argument that plants get what they need for growth chiefly from air, water, and energy from the sun.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Plants acquire their material for growth chiefly from air and water. (5-LS-1.1)

Supporting Content PS3.D: Energy in Chemical Processes and Everyday Life

- The energy released from food was once energy from the sun. ~~that~~ the energy was captured by plants in the chemical process that forms plant matter (from air and water). (5-LS-1.1, *5-PS-3.1*)

Further Explanation: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.

5-LS-2 – Biological Adaptation: Unity and Diversity

5-LS-2.1 Students who demonstrate understanding can:
Analyze and interpret data from fossils to provide evidence of the types of organisms and the environments that existed long ago and compare those to living organisms and their environments.

Supporting Content LS4.A: Evidence of Common Ancestry and Diversity

- Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (5-LS-2.1)
- Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (5-LS-2.1)

Further Explanation: Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.

Assessment Limit: Assessment does not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.

5-LS-2.2 Students who demonstrate understanding can:
Construct an argument with evidence for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Supporting Content LS4.B: Natural Selection

- Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing (5-LS-2.2)

Supporting Content LS4.D: Biodiversity

- Populations of animals are classified by their characteristics. (5-LS-2.2)

Further Explanation: Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.

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5-LS-2.3 Students who demonstrate understanding can:
Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals living there may change.

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (5-LS-2.3)

Supporting Content LS4.D: Biodiversity

- Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (5-LS-2.3)

Further Explanation: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.

Assessment Limit: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.

5-LS-2.4 Students who demonstrate understanding can:
Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants and animals) and therefore operate as "decomposers." Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem. (5-LS-2.4)

Supporting Content LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

- Matter cycles between the air and soil, and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. (5-LS-2.4)

Further Explanation: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.

Assessment Limit: Assessment does not include molecular explanations.

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Earth and Space Science

5-ESS-1 – Earth's Place in the Universe

5-ESS-1.1 Students who demonstrate understanding can:
Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.

Supporting Content ESS1.A: The Universe and Its Stars

- The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth. (5-ESS-1.1)

Assessment Limit: Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect apparent brightness (such as stellar masses, age, or stage).

5-ESS-1.2 Students who demonstrate understanding can:
Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

Supporting Content ESS1.B: Earth and the Solar System

- The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year. (5-ESS-1.2)

Further Explanation: Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months.

Assessment Limit: Assessment does not include causes of seasons.

5-ESS-2 – Earth's Systems

5-ESS-2.1 Students who demonstrate understanding can:
Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

Supporting Content ESS2.A Earth Materials and Systems

- Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather. (5-ESS-2.1)

Further Explanation: Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system.

Assessment Limit: Assessment is limited to the interactions of two systems at a time.

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5-ESS-2.2 Students who demonstrate understanding can:
Describe and graph the relative amounts of fresh and salt water in various reservoirs, to interpret and analyze the distribution of water on Earth.

Supporting Content ESS2.C: The Roles of Water in Earth's Processes

- Nearly all of Earth's available water is in the ocean. Most freshwater is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere. (5-ESS-2.2)

Assessment Limit: Assessment is limited to oceans, lakes, rivers, glaciers, ground water, and polar ice caps, and does not include the atmosphere.

5-ESS-3 – Earth and Human Activity

5-ESS-3.1 Students who demonstrate understanding can:
Obtain and combine information about ways communities protect Earth's resources and environment using scientific ideas.

Supporting Content ESS3.C: Human Influences on Earth Systems

- Human activities in agriculture, industry, and everyday life have effects on the land, vegetation, streams, ocean, air, and even outer space. Individuals and communities can often mitigate these effects through innovation and technology. (5-ESS-3.1)

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Middle School

Physical Science

MS-PS-1 – Matter and Its Interactions

MS-PS-1.1 Students who demonstrate understanding can:
Develop models to describe the atomic composition of simple molecules.

Supporting Content PS1.A: Structure and Properties of Matter

- Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms. (MS-PS-1.1)
- Solids may be formed from molecules, or they may be extended structures with repeating subunits (e.q., crystals). (MS-PS-1.1)

Further Explanation: Emphasis is on developing models of molecules that vary in complexity. Examples of simple molecules could include ammonia and methanol. Examples of models could include drawings, 3D ball and stick structures, or computer representations.

Assessment Limit: Assessment does not include valence electrons and bonding energy, the ionic nature of subunits of complex structures, or a complete depiction of all individual atoms in a complex molecule or extended structure.

MS-PS-1.2 Students who demonstrate understanding can:
Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

Supporting Content PS1.A: Structure and Properties of Matter

- Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. (MS-PS-1.2, MS-PS-1.3)

Supporting Content PS1.B: Chemical Reactions

- Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. (MS-PS-1.2, MS-PS-1.3, MS-PS-1.5)

Further Explanation: Examples of reactions could include burning sugar or steel wool, fat reacting with sodium hydroxide, and mixing zinc with hydrogen chloride.

Assessment Limit: Assessment is limited to analysis of the following properties: density, melting point, boiling point, solubility, flammability, and odor.

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MS-PS-1.3 Students who demonstrate understanding can:
Construct a scientific explanation, based on evidence, to describe that synthetic materials come from natural resources.

Supporting Content PS1.A: Structure and Properties of Matter

- Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. (MS-PS-1.2, MS-PS-1.3)

Supporting Content PS1.B: Chemical Reactions

- Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. (MS-PS-1.2, MS-PS-1.3, MS-PS-1.5)

Further Explanation: Emphasis is on natural resources that undergo a chemical process to form the synthetic material. Examples of new materials could include new medicine, foods, plastics, and alternative fuels.

Assessment Limit: Assessment is limited to qualitative information.

MS-PS-1.4 Students who demonstrate understanding can:
Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.

Supporting Content PS1.A: Structure and Properties of Matter

- Gases and liquids are made of molecules or inert atoms that are moving about relative to each other. (MS-PS-1.4)
- In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they happen to collide. In a solid, atoms are closely spaced and may vibrate in position but do not change relative locations. (MS-PS-1.4)
- The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter. (MS-PS-1.4)

Supporting Content PS3.A: Definitions of Energy

- The term “heat” as used in everyday language refers both to thermal energy (the motion of atoms or molecules within a substance) and the transfer of that thermal energy from one object to another. In science, heat is used only for this second meaning; it refers to the energy transferred due to the temperature difference between two objects. (MS-PS-1.4)
- The temperature of a system is proportional to the average internal kinetic energy and potential energy per atom or molecule (whichever is the appropriate building block for the system’s material). The details of that relationship depend on the type of atom or molecule and the interactions among the atoms in the material. Temperature is not a direct measure of a system’s total thermal energy. The total thermal energy (sometimes called total internal energy) of a system depends jointly on the temperature, the total number of atoms in the system, and the state of the material. (MS-PS-1.4)

Further Explanation: Emphasis is on qualitative molecular-level models of solids, liquids, and gases to show that adding or removing thermal energy increases or decreases kinetic energy of the particles until a change of state occurs. Examples of models could include drawings and diagrams. Examples of particles could include molecules or inert atoms. Examples of pure substances could include water, carbon dioxide, and helium.

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MS-PS-1.5 Students who demonstrate understanding can:
Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.

Supporting Content PS1.B: Chemical Reactions

- Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. (MS-PS-1.2, MS-PS-1.3, MS-PS-1.5)
- The total number of each type of atom is conserved, and thus the mass does not change. (MS-PS-1.5)

Further Explanation: Emphasis is on law of conservation of matter and on physical models or drawings, including digital forms, that represent atoms.

Assessment Limit: Assessment does not include the use of atomic masses, balancing symbolic equations, or intermolecular forces.

MS-PS-1.6 Students who demonstrate understanding can:
Undertake a design project to construct, test, and/or modify a device that either releases or absorbs thermal energy by chemical processes.

Supporting Content PS1.B: Chemical Reactions

- Some chemical reactions release energy, others store energy. (MS-PS-1.6)

Supporting Content ETS1.B: Developing Possible Solutions

- A solution needs to be tested, and then modified on the basis of the test results in order to improve it. (MS-PS-1.6)

Supporting Content ETS1.C: Developing Possible Solutions

- Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of the characteristics may be incorporated into the new design. (MS-PS-1.6)
- The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution. (MS-PS-1.6)

Further Explanation: Emphasis is on the design, controlling the transfer of energy to the environment, and modification of a device using factors such as type and concentration of a substance. Examples of designs could involve chemical reactions such as dissolving ammonium chloride or calcium chloride (i.e., hand-warmers).

Assessment Limit: Assessment is limited to the criteria of amount, time, and temperature of substance in testing the device.

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MS-PS-2 – Motion and Stability: Forces and Interactions

MS-PS-2.1 Students who demonstrate understanding can:
Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.

Supporting Content PS2.A: Forces and Motion

- For any pair of interacting objects, the force exerted by the first object on the second object is equal in strength to the force that the second object exerts on the first, but in the opposite direction (Newton's third law). (MS-PS-2.1)

Further Explanation: Examples of practical problems could include the impact of collisions between two cars, between a car and stationary objects, and between a meteor and a space vehicle.

Assessment Limit: Assessment is limited to vertical or horizontal interactions in one dimension.

MS-PS-2.2 Students who demonstrate understanding can:
Plan and conduct an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

Supporting Content PS2.A: Forces and Motion

- The motion of an object is determined by the sum of the forces acting on it; if the total force on the object is not zero, its motion will change. The greater the mass of the object, the greater the force needed to achieve the same change in motion. For any given object, a larger force causes a larger change in motion. (MS-PS-2.2)
- All positions of objects and the directions of forces and motions must be described in an arbitrarily chosen reference frame and arbitrarily chosen units of size. In order to share information with other people, these choices must also be shared. (MS-PS-2.2)

Further Explanation: Emphasis is on balanced (Newton's First Law) and unbalanced forces in a system, qualitative comparisons of forces, mass and changes in motion (Newton's Second Law), frame of reference, and specification of units.

Assessment Limit: Assessment is limited to forces and changes in motion in one-dimension in an inertial reference frame and to changes in one variable at a time. Assessment does not include the use of trigonometry.

MS-PS-2.3 Students who demonstrate understanding can:
Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.

Supporting Content PS2.B: Types of Interactions

- Electric and magnetic (electromagnetic) forces can be attractive or repulsive, and their sizes depend on the magnitudes of the charges, currents, or magnetic strengths involved and on the distances between the interacting objects. (MS-PS-2.3)

Further Explanation: Examples of devices that use electric and magnetic forces could include electromagnets, electric motors, or generators. Examples of data could include the effect of the number of turns of wire on the strength of an electromagnet, or the effect of increasing the number or strength of magnets on the speed of an electric motor.

Assessment Limit: Assessment about questions that require quantitative answers is limited to proportional reasoning and algebraic thinking.

MS-PS-2.4 Students who demonstrate understanding can:
Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.

Supporting Content PS2.B: Types of Interactions

- Gravitational forces are always attractive. There is a gravitational force between any two masses, but it is very small except when one or both of the objects have large mass—e.g., Earth and the sun. (MS-PS-2.4)

Further Explanation: Examples of evidence for arguments could include data generated from simulations or digital tools; and charts displaying mass, strength of interaction, distance from the Sun, and orbital periods of objects within the solar system.

Assessment Limit: Assessment does not include Newton's Law of Gravitation or Kepler's Laws.

MS-PS-2.5 Students who demonstrate understanding can:
Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.

Supporting Content PS2.B: Types of Interactions

- Forces that act at a distance (electric, magnetic, and gravitational) can be explained by fields that extend through space and can be mapped by their effect on a test object (a charged object, or a ball, respectively). (MS-PS-2.5)

Further Explanation: Examples of this phenomenon could include the interactions of magnets, electrically-charged strips of tape, and electrically-charged pith balls. Examples of investigations could include first-hand experiences or simulations.

Assessment Limit: Assessment is limited to electric and magnetic fields, and limited to qualitative evidence for the existence of fields.

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MS-PS-3 – Energy

MS-PS-3.1 Students who demonstrate understanding can:
Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.

Supporting Content PS3.A: Definitions of Energy

- Motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed. (MS-PS-3.1)

Further Explanation: Emphasis is on descriptive relationships between kinetic energy and mass separately from kinetic energy and speed. Examples could include riding a bicycle at different speeds, rolling different sizes of rocks downhill, and getting hit by a whiffle ball versus a tennis ball.

MS-PS-3.2 Students who demonstrate understanding can:
Develop a model to describe the relationship between the relative positions of objects interacting at a distance and the relative potential energy in the system.

Supporting Content PS3.A: Definitions of Energy

- A system of objects may also contain stored (potential) energy, depending on their relative positions. (MS-PS-3.2)

Supporting Content PS3.C: Relationship Between Energy and Forces

- When two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object. (MS-PS-3.2)

Further Explanation: Emphasis is on relative amounts of potential energy, not on calculations of potential energy. Examples of objects within systems interacting at varying distances could include: the Earth and either a roller coaster cart at varying positions on a hill or objects at varying heights on shelves, changing the direction/orientation of a magnet, and a balloon with static electrical charge being brought closer to a classmate's hair. Examples of models could include representations, diagrams, pictures, and written descriptions of systems.

Assessment Limit: Assessment is limited to two objects and electric, magnetic, and gravitational interactions.

MS-PS-3.3 Students who demonstrate understanding can:
Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.

Supporting Content PS3.A: Definitions of Energy

- Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (MS-PS-3.3, MS-PS-3.4)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy is spontaneously transferred out of hotter regions or objects and into colder ones. (MS-PS-3.3)

Supporting Content ETS1.A: Defining and Delimiting an Engineering Problem

- The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that is likely to limit possible solutions. (MS-PS-3.3)

Supporting Content ETS1.B: Developing Possible Solutions

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- A solution needs to be tested, and then modified on the basis of the test results in order to improve it. There are systematic processes for evaluating solutions with respect to how well they meet criteria and constraints of a problem. (MS-PS-3.3)

Further Explanation: Examples of devices could include an insulated box, a solar cooker, and a Styrofoam cup.

Assessment Limit: Assessment does not include calculating the total amount of thermal energy transferred.

MS-PS-3.4 Students who demonstrate understanding can:
Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.

Supporting Content PS3.A: Definitions of Energy

- Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (MS-PS-3.3, MS-PS-3.4)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- The amount of energy transfer needed to change the temperature of a matter sample by a given amount depends on the nature of the matter, the size of the sample, and the environment. (MS-PS-3.4)

Further Explanation: Examples of experiments could include comparing final water temperatures after different masses of ice melted in the same volume of water with the same initial temperature, the temperature change of samples of different materials with the same mass as they cool or heat in the environment, or the same material with different masses when a specific amount of energy is added.

Assessment Limit: Assessment does not include calculating the total amount of thermal energy transferred.

MS-PS-3.5 Students who demonstrate understanding can:
Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- When the motion energy of an object changes, there is inevitably some other change in energy at the same time. (MS-PS-3.5)

Further Explanation: Examples of empirical evidence used in arguments could include an inventory or other representation of the energy before and after the transfer in the form of temperature changes or motion of object.

Assessment Limit: Assessment does not include calculations of energy.

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MS-PS-4 – Waves

MS-PS-4.1 Students who demonstrate understanding can:
Use diagrams of a simple wave to explain that (1) a wave has a repeating pattern with a specific amplitude, frequency, and wavelength, and (2) the amplitude of a wave is related to the energy in the wave.

Supporting Content PS4.A: Wave Properties

- A simple wave has a repeating pattern with a specific wavelength, frequency, and amplitude. (MS-PS-4.1)
- Waves transfer energy. (MS-PS-4.1)

Further Explanation: Emphasis is on describing waves with both qualitative and quantitative thinking.

Assessment Limit: Assessment does not include electromagnetic waves and is limited to standard repeating waves.

MS-PS-4.2 Students who demonstrate understanding can:
Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

Supporting Content PS4.A: Wave Properties

- A sound wave needs a medium through which it is transmitted. (MS-PS-4.2)

Supporting Content PS4.B: Electromagnetic Radiation

- When light shines on an object, it is reflected, absorbed, or transmitted through the object, depending on the object's material and the frequency (color) of the light. (MS-PS-4.2)
- The path that light travels can be traced as straight lines, except at surfaces between different transparent materials (e.g., air and water, air and glass) where the light path bends. (MS-PS-4.2)
- A wave model of light is useful for explaining brightness, color, and the frequency-dependent bending of light at a surface between media. (MS-PS-4.2)
- However, because light can travel through space, it cannot be a matter wave, like sound or water waves. (MS-PS-4.2)

Further Explanation: Emphasis is on both light and mechanical waves. Examples of models could include drawings, simulations, and written descriptions.

Assessment Limit: Assessment is limited to qualitative applications pertaining to light and mechanical waves.

MS-PS-4.3 Students who demonstrate understanding can:
Present qualitative scientific and technical information to support the claim that digitized signals (0s and 1s) can be used to encode and transmit information.

Supporting Content PS4.C: Information Technologies and Instrumentation

- Digitized signals (sent as wave pulses) are a reliable way to encode and transmit information. (MS-PS-4.3)

Further Explanation: Emphasis is on a basic understanding that waves can be used for communication purposes. Examples could include using fiber optic cable to transmit light pulses, radio wave pulses in WIFI devices, and conversion of stored binary patterns to make sound or text on a computer screen.

Assessment Limit: Assessment does not include binary counting. Assessment does not include the specific mechanism of any given device.

Life Science

MS-LS-1 – Molecules to Organisms: Structure and

MS-LS-1.1 Students who demonstrate understanding can:
Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

Supporting Content LS1.A: Structure and Function

- All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (MS-LS-1.1)

Further Explanation: Emphasis is on developing evidence that living things are made of cells, distinguishing between living and non-living things, and understanding that living things may be made of one cell or many and varied cells.

MS-LS-1.2 Students who demonstrate understanding can:
Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.

Supporting Content LS1.A: Structure and Function

- Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS-1.2)

Further Explanation: Emphasis is on the cell functioning as a whole system and the primary role of identified parts of the cell, specifically the nucleus, chloroplasts, mitochondria, cell membrane, and cell wall. These are visible with a light microscope.

Assessment Limit: Assessment of organelle structure/function relationships is limited to the cell wall and cell membrane. Assessment of the function of the other organelles is limited to their relationship to the whole cell. Assessment does not include the biochemical function of cells or cell parts.

MS-LS-1.3 Students who demonstrate understanding can:
Make a claim supported by evidence for how a living organism is a system of interacting subsystems composed of groups of cells.

Supporting Content LS1.A: Structure and Function

- In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. (MS-LS-1.3)

Further Explanation: Emphasis is on the conceptual understanding that cells form tissues and tissues form organs specialized for particular body functions. Examples could include the interaction of subsystems within a system and the normal functioning of those systems.

Assessment Limit: Assessment does not include the mechanism of one body system independent of others. Assessment is not focused on human body systems.

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MS-LS-1.4 Students who demonstrate understanding can:
Construct a scientific argument based on evidence to defend a claim of life for a specific object or organism.

Supporting Content LS1.B: Characteristics of Living Things

- Organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring. (MS-LS-1.4)
- Living things share certain characteristics. (These include response to environment, reproduction, energy use, growth and development, life cycles, made of cells, etc.) (MS-LS-1.4)

Further Explanation: Examples should include both biotic and abiotic items, and should be defended using accepted characteristics of life.

Assessment Limit: Assessment does not include specific conclusions regarding the living status of viruses, or other disputed examples.

MS-LS-1.5 Students who demonstrate understanding can:
Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. (MS-LS-1.5)

Further Explanation: Emphasis is on tracing movement of matter and flow of energy.

Assessment Limit: Assessment does not include the biochemical mechanisms of photosynthesis.

MS-LS-1.6 Students who demonstrate understanding can:
Develop a conceptual model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as matter moves through an organism.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Within individual organisms, food moves through a series of chemical reactions (cellular respiration) in which it is broken down and rearranged to form new molecules, to support growth, or to release energy. (MS-LS-1.6)

Further Explanation: Emphasis is on describing that molecules are broken apart and put back together and that in this process, energy is released. Also understanding that the elements in the products are the same as the elements in the reactants.

Assessment Limit: Assessment does not include details of the chemical reactions for photosynthesis or respiration.

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MS-LS-2 – Ecosystems: Interactions, Energy, and Dynamics

MS-LS-2.1 Students who demonstrate understanding can:
Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors. (MS-LS-2.1)
- In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction. (MS-LS-2.1)
- Growth of organisms and population increases are limited by access to resources. (MS-LS-2.1)

Further Explanation: Emphasis is on cause and effect relationships between resources and growth of individual organisms and the numbers of organisms in ecosystems during periods of abundant and scarce resources.

MS-LS-2.2 Students who demonstrate understanding can:
Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared. (MS-LS-2.2)

Further Explanation: Emphasis is on predicting consistent patterns of interactions in different ecosystems in terms of the relationships among and between organisms and abiotic components of ecosystems. Examples of types of interactions could include competitive, predatory, and mutually beneficial.

MS-LS-2.3 Students who demonstrate understanding can:
Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

Supporting Content LS2.B: Cycling of Matter and Energy Transfer in Ecosystems

- Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem. (MS-LS-2.3)

Further Explanation: Emphasis is on describing the conservation of matter and flow of energy into and out of various ecosystems, and on defining the boundaries of the system.

Assessment Limit: Assessment does not include the use of chemical reactions to describe the processes.

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MS-LS-2.4 Students who demonstrate understanding can:
Develop a model to describe the flow of energy through the trophic levels of an ecosystem.

Supporting Content LS2.B: Cycling of Matter and Energy Transfer in Ecosystems

- Food webs can be broken down into multiple energy pyramids. Concepts should include the 10% rule of energy and biomass transfer between trophic levels and the environment. (MS-LS-2.4)

Further Explanation: Emphasis is on describing the transfer of mass and energy beginning with producers, moving to primary and secondary consumers, and ending with decomposers.

Assessment Limit: Assessment does not include the use of chemical reactions to describe the processes.

MS-LS-2.5 Students who demonstrate understanding can:
Construct an argument supported by evidence that changes to physical or biological components of an ecosystem affect populations.

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations. (MS-LS-2.5)

Further Explanation: Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes to ecosystems.

MS-LS-2.6 Students who demonstrate understanding can:
Design and evaluate solutions for maintaining biodiversity and ecosystem services.

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health. (MS-LS-2.6)

Supporting Content LS4.D: Biodiversity

- Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. (MS-LS-2.6)

Supporting Content ETS1.B: Developing Possible Solutions

- There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (MS-LS-2.6)

Further Explanation: Examples of ecosystem services could include water purification, nutrient recycling, and prevention of soil erosion. Examples of design solution constraints could include scientific, economic, and social considerations.

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MS-LS-3 – Heredity: Inheritance and Variation of Traits

MS-LS-3.1 Students who demonstrate understanding can:
Develop and use a model to describe why mutations may result in harmful, beneficial, or neutral effects to the structure and function of the organism.

Supporting Content LS3.A: Inheritance of Traits

- Genes are located in the chromosomes of cells, with each chromosome pair containing two variants of each of many distinct genes. Each distinct gene chiefly controls the production of specific proteins, which in turn affects the traits of the individual. Structural changes to genes (mutations) can result in changes to proteins, which can affect the structures and functions of the organism and thereby change traits. (MS-LS-3.1)

Supporting Content LS3.B: Variation of Traits

- In addition to variations that arise from sexual reproduction, genetic information can be altered because of mutations. Though rare, mutations may result in significant changes to the structure and function of proteins. Changes can be beneficial, harmful, or neutral to the organism. (MS-LS-3.1)

Further Explanation: Emphasis is on conceptual understanding that changes in genetic material may result in making different proteins.

Assessment Limit: Assessment does not include specific changes at the molecular level, mechanisms for protein synthesis, or specific types of mutations.

MS-LS-3.2 Students who demonstrate understanding can:
Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.

Supporting Content LS1.B: Growth and Development of Organisms

- Organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring. (MS-LS-3.2)

Supporting Content LS3.A: Inheritance of Traits

- Variations of inherited traits between parent and offspring arise from genetic differences that result from the subset of chromosomes (and therefore genes) inherited. (MS-LS-3.2)

Supporting Content LS3.B: Variation of Traits

- In sexually reproducing organisms, each parent contributes half of the genes acquired (at random) by the offspring. Individuals have two of each chromosome and hence two alleles of each gene, one acquired from each parent. These versions may be identical or may differ from each other. (MS-LS-3.2)

Further Explanation: Emphasis is on using models such as simple Punnett squares and pedigrees, diagrams, and simulations to describe the cause and effect relationship of gene transmission from parent(s) to offspring and resulting genetic variation.

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MS-LS-4 – Biological Adaptation: Unity and Diversity

MS-LS-4.1 Students who demonstrate understanding can:
Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

Supporting Content LS4.A: Classification of Organisms

- The collection of fossils and their placement in chronological order is known as the fossil record and documents the change of many life forms throughout the history of the Earth. Anatomical similarities and differences between various organisms living today and between living and once living organisms in the fossil record enable the classification of living things. (MS-LS-4.1, MS-LS-4.2)

Further Explanation: Emphasis is on finding patterns of changes in the level of complexity of anatomical structures in organisms and the chronological order of fossil appearance in the rock layers.

Assessment Limit: Assessment does not include the names of individual species or geological eras in the fossil record.

MS-LS-4.2 Students who demonstrate understanding can:
Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer relationships.

Supporting Content LS4.A: Classification of Organisms

- The collection of fossils and their placement in chronological order is known as the fossil record and documents the change of many life forms throughout the history of the Earth. Anatomical similarities and differences between various organisms living today and between living and once living organisms in the fossil record enable the classification of living things. (MS-LS-4.1, MS-LS-4.2)

Further Explanation: Emphasis is on explanations of the relationships among organisms in terms of similarity or differences of the gross appearance of anatomical structures.

MS-LS-4.3 Students who demonstrate understanding can:
Analyze visual evidence to compare patterns of similarities in the anatomical structures across multiple species of similar classification levels to identify relationships.

Supporting Content LS4.A: Classification of Organisms

- Scientific genus and species level names indicate a degree of relationship. (MS-LS-4.3)

Further Explanation: Emphasis is on inferring general patterns of relatedness among structures of different organisms by comparing diagrams, pictures, specimens, or fossils.

Assessment Limit: Assessment of comparisons is limited to gross appearance of anatomical structures within genus and species levels. No memorization of classification levels is required.

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MS-LS-4.4 Students who demonstrate understanding can:
Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

Supporting Content LS4.B: Natural Selection

- Natural selection leads to the predominance of certain traits in a population, and the suppression of others. (MS-LS-4.4)

Further Explanation: Emphasis is on using concepts of natural selection including overproduction of offspring, passage of time, variation in a population, selection of favorable traits, and heritability of traits.

MS-LS-4.5 Students who demonstrate understanding can:
Obtain, evaluate, and communicate information about how technologies allow humans to influence the inheritance of desired traits in organisms.

Supporting Content LS4.B: Natural Selection

- In artificial selection, humans have the capacity to influence certain characteristics of organisms by selective breeding. One can choose desired parental traits determined by genes, which are then passed to offspring. (MS-LS-4.5)

Further Explanation: Emphasis is on identifying and communicating information from reliable sources about the influence of humans on genetic outcomes in artificial selection (such as genetic modification, animal husbandry, gene therapy); and, on the influence these technologies have on society as well as the technologies leading to these scientific discoveries.

MS-LS-4.6 Students who demonstrate understanding can:
Use mathematical models to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.

Supporting Content LS4.C: Adaptation

- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (MS-LS-4.6)

Further Explanation: Emphasis is on using mathematical models, probability statements, and proportional reasoning to support explanations of trends in changes to populations over time. Examples could include Peppered Moth population changes before and after the industrial revolution.

Assessment Limit: Assessment does not include Hardy-Weinberg calculations.

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Earth and Space Science

MS-ESS-1 – Earth's Place in the Universe

MS-ESS-1.1 Students who demonstrate understanding can:
Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.

Supporting Content ESS1.A: The Universe and Its Stars

- Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models. (MS-ESS-1.1)

Supporting Content ESS1.B: Earth and the Solar System

- This model of the solar system can explain eclipses of the sun and the moon. Earth's spin axis is fixed in direction over the short-term but tilted relative to its orbit around the sun. The seasons are a result of that tilt and are caused by the differential intensity of sunlight on different areas of Earth across the year. (MS-ESS-1.1)

Further Explanation: Examples of models can be physical, graphical, or conceptual.

Assessment Limit: Assessment does not include recalling lunar phases.

MS-ESS-1.2 Students who demonstrate understanding can:
Develop and use a model to describe the role of gravity in the orbital motions within galaxies and the solar system.

Supporting Content ESS1.A: The Universe and Its Stars

- Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe. (MS-ESS-1.2)

Supporting Content ESS1.B: Earth and the Solar System

- The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. (MS-ESS-1.2, MS-ESS-1.3)
- The solar system appears to have formed from a disk of dust and gas, drawn together by gravity. (MS-ESS-1.2)

Further Explanation: Emphasis for the model is on gravity as the force that holds together the solar system and Milky Way galaxy and controls orbital motions within them. Examples of models can be physical (such as the analogy of distance along a football field or computer visualizations of elliptical orbits) or conceptual (such as mathematical proportions relative to the size of familiar objects such as students' school or state).

Assessment Limit: Assessment does not include Kepler's Laws of orbital motion or the apparent retrograde motion of the planets as viewed from Earth.

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MS-ESS-1.3 Students who demonstrate understanding can:
Analyze and interpret data to determine scale properties of objects in the solar system.

Supporting Content ESS1.B: Earth and the Solar System

- The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. (MS-ESS-1.2, MS-ESS-1.3)

Further Explanation: Emphasis is on the analysis of data from Earth-based instruments, space-based telescopes, and spacecraft to determine similarities and differences among solar system objects, such as relative size, distance, motions, and features. Examples of scale properties include the sizes of an object's layers (such as crust and atmosphere), surface features (such as volcanoes), and orbital radius. Examples of data include statistical information, drawings and photographs, and models.

Assessment Limit: Assessment does not include recalling facts about properties of the planets and other solar system bodies.

MS-ESS-1.4 Students who demonstrate understanding can:
Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to analyze Earth's history.

Supporting Content ESS1.C: The History of Planet Earth

- The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale. (MS-ESS-1.4)

Further Explanation: Emphasis is on how analyses of rock formations and the fossils they contain are used to establish relative ages of major events in Earth's history. Examples of Earth's major events could range from being very recent (such as the last Ice Age) to very old (such as the formation of Earth or the earliest evidence of life). Examples can include the formation of mountain chains and ocean basins, the evolution or extinction of particular living organisms, or large volcanic eruptions.

Assessment Limit: Assessment does not include recalling the names of specific eons, eras, periods or epochs and events within them.

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MS-ESS-2 – Earth's Systems

MS-ESS-2.1 Students who demonstrate understanding can:
Develop a model to describe the cycling of Earth's materials and the internal and external flows of energy that drive the rock cycle processes.

Supporting Content ESS2.A: Earth's Materials and Systems

- All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms. (MS-ESS-2.1)

Further Explanation: Emphasis is on the processes of melting, crystallization, weathering, deformation, and sedimentation, which act together to form minerals and rocks through the cycling of Earth's materials.

Assessment Limit: Assessment does not include the identification and naming of minerals.

MS-ESS-2.2 Students who demonstrate understanding can:
Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

Supporting Content ESS2.A: Earth's Materials and Systems

- The planet's systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future. (MS-ESS-2.2)

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- Water's movements—both on the land and underground—cause weathering and erosion, which change the land's surface features and create underground formations. (MS-ESS-2.2)

Further Explanation: Emphasis is on how processes change Earth's surface at time and spatial scales that can be large (such as slow plate motions or the uplift of large mountain ranges) or small (such as rapid landslides or microscopic geochemical reactions), and how geoscience processes (such as earthquakes, volcanoes, and meteor impacts) usually behave gradually but are punctuated by catastrophic events. Examples of geoscience processes include surface weathering and deposition by the movements of water, ice, and wind. Emphasis is on geoscience processes that shape local geographic features, where appropriate.

Assessment Limit: Assessment does not include memorization of the formation of specific geographic features of Earth's surface, or the geochemical processes involved in the formation.

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MS-ESS-2.3 Students who demonstrate understanding can:
Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

Supporting Content ESS1.C: The History of Planet Earth

- Tectonic processes continually generate new ocean sea floor at ridges and destroy old sea floor at trenches. (MS-ESS-2.3)

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart. (MS-ESS-2.3)

Further Explanation: Examples of data include similarities of rock and fossil types on different continents, the shapes of the continents (including continental shelves), and the locations of ocean structures (such as ridges, fracture zones, and trenches). Examples of concepts include continental drift and seafloor spreading.

Assessment Limit: Assessment of plate tectonics should be limited to large-scale system interactions. Paleomagnetic anomalies in oceanic and continental crust are not assessed.

MS-ESS-2.4 Students who demonstrate understanding can:
Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation, crystallization, percolation, and precipitation, as well as downhill flows on land. (MS-ESS-2.4)
- Global movements of water and its changes in form are propelled by sunlight and gravity. (MS-ESS-2.4)

Further Explanation: Emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle. Examples of models can be conceptual or physical.

Assessment Limit: Assessment includes qualitative energy flows, not quantitative energy calculations.

MS-ESS-2.5 Students who demonstrate understanding can:
Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- The complex patterns of the changes and the movement of water in the atmosphere, determined by winds, landforms, and ocean temperatures and currents, are major determinants of local weather patterns. (MS-ESS-2.5)

Supporting Content ESS2.D: Weather and Climate

- Because these patterns are so complex, weather can only be predicted using probability. (MS-ESS-2.5)

Further Explanation: Emphasis is on how air masses flow from regions of high pressure to low pressure, causing weather (defined by temperature, pressure, humidity, precipitation, and wind) at a fixed location to change over time, and how sudden changes in weather can result when different air masses collide. Emphasis is on how weather can be predicted within probabilistic ranges. Examples of data can be provided to students or obtained through laboratory experiments (such as with condensation and the use of barometers).

Assessment Limit: Assessment does not include recalling the names of cloud types or weather symbols used on weather maps or the reported diagrams from weather stations.

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MS-ESS-2.6 Students who demonstrate understanding can:
Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- Variations in density due to variations in temperature and salinity drive a global pattern of interconnected ocean currents. (MS-ESS-2.6)

Supporting Content ESS2.D: Weather and Climate

- Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things. These interactions vary with latitude, altitude, and local and regional geography, all of which can affect oceanic and atmospheric flow patterns. (MS-ESS-2.6)
- The ocean exerts a major influence on weather and climate by absorbing energy from the sun, releasing it over time, and globally redistributing it through ocean currents. (MS-ESS-2.6)

Further Explanation: Emphasis is on how patterns vary by latitude, altitude, and geographic land distribution. Emphasis of atmospheric circulation is on the sunlight- driven latitudinal banding, the Coriolis effect, and resulting prevailing winds; emphasis of ocean circulation is on the transfer of heat by the global ocean convection cycle, which is constrained by the Coriolis effect and the outlines of continents. Examples of models can be diagrams, maps and globes, or digital representations.

Assessment Limit: Assessment does not include the dynamics of the Coriolis effect, or recalling names and locations of specific biomes.

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MS-ESS-3 – Earth and Human Activity

MS-ESS-3.1 Students who demonstrate understanding can:
Construct a scientific explanation based on evidence for how Earth's mineral, energy, and groundwater resources are unevenly distributed as a result of past and current geologic processes.

Supporting Content ESS3.A: Natural Resources

- Humans depend on Earth's land, ocean, atmosphere, and biosphere for many different resources. Minerals, fresh water, and biosphere resources are limited, and many are not renewable or replaceable over human lifetimes. These resources are distributed unevenly around the planet as a result of past geologic processes. (MS-ESS-3.1)

Further Explanation: Emphasis is on how these resources are limited and typically non-renewable, and how their distributions are changing as a result of depletion. Examples of uneven distributions of resources as a result of past processes include but are not limited to petroleum (locations of the burial of organic marine sediments and subsequent geologic traps), metal ores (locations of past volcanic and hydrothermal activity associated with subduction zones), and soil (locations of active weathering and/or deposition of rock).

MS-ESS-3.2 Students who demonstrate understanding can:
Analyze and interpret data on natural hazards to forecast future catastrophic events to mitigate their effects.

Supporting Content ESS3.B: Natural Hazards

- Mapping the history of natural hazards in a region, combined with an understanding of related geologic forces can help forecast the locations and likelihoods of future events. (MS-ESS-3.2)

Further Explanation: Emphasis is on how some natural hazards, such as volcanic eruptions and severe weather, are preceded by phenomena that allow for reliable predictions. Others, such as earthquakes, occur suddenly, and are not yet predictable. Examples of natural hazards can be taken from interior processes (such as earthquakes and volcanic eruptions), surface processes (such as mass wasting and tsunamis), or severe weather events (such as hurricanes, tornadoes, and floods). Examples of data can include the locations, magnitudes, and frequencies of the natural hazards. Examples of mitigation strategies can be global (such as satellite systems to monitor hurricanes or forest fires) or local (such as building basements in tornado-prone regions or reservoirs to mitigate droughts).

MS-ESS-3.3 Students who demonstrate understanding can:
Apply scientific practices to design a method for monitoring human activity and increasing beneficial human influences on the environment.

Supporting Content ESS3.C: Human Influences on Earth Systems

- Human activities can positively and negatively influence the biosphere, sometimes altering natural habitats and ecosystems. (MS-ESS-3.3)
- Technology and engineering can potentially help us best manage natural resources as populations increase. (MS-ESS-3.3, MS-ESS-3.4)

Further Explanation: Examples of the design process include examining human interactions and designing feasible solutions that promote stewardship. Examples can include water usage (such as stream and river use, aquifer recharge, or dams and levee construction), land usage (such as urban development, agriculture, wetland benefits, stream reclamation, or fire restoration), and pollution (such as of the air, water, or land).

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MS-ESS-3.4 Students who demonstrate understanding can:
Construct an argument based on evidence for how changes in human population and per-capita consumption of natural resources positively and negatively affect Earth's systems.

Supporting Content ESS3.C: Human Influences on Earth Systems

- Technology and engineering can potentially help us best manage natural resources as populations increase. (MS-ESS-3.3, MS-ESS-3.4)

Further Explanation: Examples of evidence include grade-appropriate databases on human populations and the rates of consumption of food and natural resources (such as freshwater, mineral, and energy). Examples of effects can include changes made to the appearance, composition, and structure of Earth's systems as well as the rates at which they change

MS-ESS-3.5 Students who demonstrate understanding can:
Ask questions to interpret evidence of the factors that cause climate variability throughout Earth's history.

Supporting Content ESS3.C: Human Influences on Earth Systems

- Current scientific models indicate that human activities, such as the release of greenhouse gases from fossil fuel combustion, can contribute to the present-day measured rise in Earth's mean surface temperature. Natural activities, such as changes in incoming solar radiation, also contribute to changing global temperatures. (MS-ESS-3.5)

Further Explanation: Examples of factors include human activities (such as fossil fuel combustion and changes in land use) and natural processes (such as changes in incoming solar radiation and volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and natural resource use.

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High School

Life Science

HS-LS-1 – Molecules to Organisms: Structure and Processes

HS-LS-1.1 Students who demonstrate understanding can:
Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

Supporting Content LS1.A: Structure and Function

- Systems of specialized cells within organisms help them perform the essential functions of life. (HS-LS-1.1)
- All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells. (HS-LS-1.1, HS-LS-3.1)

Further Explanation: Emphasis is on the structure of the double helix, the pairing and sequencing of the nitrogenous bases, transcription, translation, and protein synthesis.

Assessment Limit: Assessment does not include identification of specific cell or tissue types, whole body systems, specific protein structures and functions, or the biochemistry of protein synthesis.

HS-LS-1.2 Students who demonstrate understanding can:
Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

Supporting Content LS1.A: Structure and Function

- Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. (HS-LS-1.2)

Further Explanation: Emphasis is on functions at the organism system level such as nutrient uptake, water delivery, and organism movement in response to neural stimuli. An example of an interacting system could be an artery depending on the proper function of elastic tissue and smooth muscle to regulate and deliver the proper amount of blood within the circulatory system.

Assessment Limit: Assessment does not include interactions and functions at the molecular or chemical reaction level.

HS-LS-1.3 Students who demonstrate understanding can:
Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

Supporting Content LS1.A: Structure and Function

- Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on inside the living system. (HS-LS-1.3)

Further Explanation: Examples of investigations could include heart rate response to exercise, stomate response to moisture and temperature, and root development in response to water levels.

Assessment Limit: Assessment does not include the cellular processes involved in the feedback mechanism.

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HS-LS-1.4 Students who demonstrate understanding can:
Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.

Supporting Content LS1.B: Growth and Development of Organisms

- In multicellular organisms, individual cells grow and then divide via a process called mitosis, thereby allowing the organism to grow. The organism begins as a single cell (fertilized egg) that divides successively to produce many cells, with each parent cell passing identical genetic material (two variants of each chromosome pair) to both daughter cells. Cellular division and differentiation produce and maintain a complex organism, composed of systems of tissues and organs that work together to meet the needs of the whole organism. (HS-LS-1.4)

Assessment Limit: Assessment does not include specific gene control mechanisms.

HS-LS-1.5 Students who demonstrate understanding can:
Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- The process of photosynthesis converts light energy to stored chemical energy by converting carbon dioxide plus water into sugars plus released oxygen. (HS-LS-1.5)

Further Explanation: Emphasis is on illustrating inputs and outputs of matter and the transfer and transformation of energy in photosynthesis by plants and other photosynthesizing organisms. Examples of models could include diagrams, chemical equations, and conceptual models.

Assessment Limit: Assessment does not include specific biochemical steps.

HS-LS-1.6 Students who demonstrate understanding can:
Construct an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- Sugar molecules contain carbon, hydrogen, and oxygen: their hydrocarbon backbones combined with nitrogen, sulfur and/or phosphorous are used to make monomers (amino acids) and other carbon-based molecules that can be assembled into larger macromolecules (such as proteins or DNA), used for example to form new cells. (HS-LS-1.6)
- As matter and energy flow through different organizational levels of living systems, chemical elements are recombined in different ways to form different products. (HS-LS-1.6, HS-LS-1.7)

Further Explanation: Emphasis is on using evidence from models and simulations to support explanations.

Assessment Limit: Assessment does not include the details of the specific chemical reactions or identification of macromolecules.

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HS-LS-1.7 Students who demonstrate understanding can:
Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.

Supporting Content LS1.C: Organization for Matter and Energy Flow in Organisms

- As matter and energy flow through different organizational levels of living systems, chemical elements are recombined in different ways to form different products. (HS-LS-1.6, HS-LS-1.7)
- As a result of these chemical reactions, energy is transferred from one system of interacting molecules to another. Cellular respiration is a chemical process in which the bonds of food molecules and oxygen molecules are broken, and new compounds are formed that can transport energy to cells. Cellular respiration also releases the energy needed to maintain body temperature despite ongoing energy transfer to the surrounding environment. (HS-LS-1.7)

Further Explanation: Emphasis is on the conceptual understanding of the inputs and outputs of the process of cellular respiration.

Assessment Limit: Assessment should not include identification of the steps or specific processes involved in cellular respiration.

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HS-LS-2 – Ecosystems: Interactions, Energy, and Dynamics

HS-LS-2.1 Students who demonstrate understanding can:
Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and nonliving resources and from such challenges such as predation, competition, and disease. Organisms would have the capacity to produce populations of great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem. (HS-LS-2.1, HS-LS-2.2)

Further Explanation: Emphasis is on quantitative analysis and comparison of the relationships among interdependent factors including boundaries, resources, climate, and competition. Examples of mathematical comparisons could include graphs, charts, histograms, and population changes gathered from simulations or historical data sets.

Assessment Limit: Assessment does not include deriving mathematical equations to make comparisons.

HS-LS-2.2 Students who demonstrate understanding can:
Use mathematical representations to support explanations that biotic and abiotic factors affect biodiversity at different scales within an ecosystem.

Supporting Content LS2.A: Interdependent Relationships in Ecosystems

- Ecosystems have carrying capacities, which are limits to the numbers of organisms and populations they can support. These limits result from such factors as the availability of living and nonliving resources and from such challenges such as predation, competition, and disease. Organisms would have the capacity to produce populations of great size were it not for the fact that environments and resources are finite. This fundamental tension affects the abundance (number of individuals) of species in any given ecosystem. (HS-LS-2.1, HS-LS-2.2)

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability. (HS-LS-2.2, HS-LS-2.5)

Further Explanation: Emphasis is on genetic diversity within a population and species diversity within an ecosystem. Examples of mathematical representations include finding the average, determining trends, and using graphical comparisons of multiple sets of data.

Assessment Limit: Assessment is limited to provided data.

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HS-LS-2.3 Students who demonstrate understanding can:
Construct an explanation using mathematical representations to support claims for the flow of energy through trophic levels and the cycling of matter in an ecosystem.

Supporting Content LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

- Photosynthesis and cellular respiration (including anaerobic processes) provide most of the energy for life processes. (HS-LS-2.3, HS-LS-2.4)
- Plants or algae form the lowest level of the food web. At each link upward in a food web, only a small fraction of the matter consumed at the lower level is transferred upward, to produce growth and release energy in cellular respiration at the higher level. Given this inefficiency, there are generally fewer organisms at higher levels of a food web. Some matter reacts to release energy for life functions, some matter is stored in newly made structures, and much is discarded. The chemical elements that make up the molecules of organisms pass through food webs and into and out of the atmosphere and soil, and they are combined and recombined in different ways. At each link in an ecosystem, matter and energy are conserved. (HS-LS-2.3)

Further Explanation: Emphasis is on using a mathematical model of stored energy in biomass to describe the transfer of energy from one trophic level to another and that matter and energy are conserved as matter cycles and energy flows through ecosystems. Emphasis is on atoms and molecules such as carbon, oxygen, hydrogen and nitrogen being conserved as they move through an ecosystem.

Assessment Limit: Assessment is limited to proportional reasoning to describe the cycling of matter and flow of energy.

HS-LS-2.4 Students who demonstrate understanding can:
Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.

Supporting Content LS2.B: Cycles of Matter and Energy Transfer in Ecosystems

- Photosynthesis and cellular respiration are important components of the carbon cycle, in which carbon is exchanged among the biosphere, atmosphere, oceans, and geosphere through chemical, physical, geological, and biological processes. (HS-LS-2.4)
- Photosynthesis and cellular respiration (including anaerobic processes) provide most of the energy for life processes. (HS-LS-2.3, HS-LS-2.4)

Further Explanation: Examples of models could include simulations and mathematical models.

Assessment Limit: Assessment does not include the specific chemical steps of photosynthesis and respiration.

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HS-LS-2.5 Students who demonstrate understanding can:
Evaluate the claims, evidence, and reasoning that changing the conditions of a static ecosystem may result in a new ecosystem.

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability. (HS-LS-2.2, HS-LS-2.5)

Further Explanation: Examples of changes in ecosystem conditions could include modest biological or physical changes, such as a seasonal flood; and extreme changes, such as volcanic eruption or sea level rise.

HS-LS-2.6 Students who demonstrate understanding can:
Design, evaluate, and/or refine practices used to manage a natural resource based on direct and indirect influences of human activities on biodiversity and ecosystem health.

Supporting Content LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- Changes in the environment, including habitat destruction, pollution, introduction of invasive species, overexploitation, and climate variability, can disrupt an ecosystem and threaten the survival of some species. (HS-LS-2.6)

Supporting Content LS4.C: Adaptation

- Changes in the physical environment, have contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline or possible extinction of some species. (HS-LS-2.6, HS-LS-4.5)

Supporting Content LS4.D: Biodiversity

- Biodiversity is increased by the formation of new species (speciation) and decreased by the loss of species (extinction). (LS2-HS-6)
- Sustaining ecosystem health and biodiversity is essential to support and enhance life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational, cultural, or inspirational value. Humans depend on the living world for the resources and other benefits provided by biodiversity. Effects on biodiversity can be mitigated through actions such as habitat conservation, reclamation practices, wildlife management, and invasive species control. Understanding the effects of population growth, wildfire, pollution, and climate variability on changes in biodiversity could help maintain the integrity of biological systems. (HS-LS-2.6)

Supporting Content ESS3.A: Natural Resources

- Resource availability has guided the development of human society. (HS-LS-2.6, *HS-ESS-3.1*)

Supporting Content ETS1.B: Developing Possible Solutions

- When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, environmental, and cultural, impacts. (HS-LS-2.6)

Further Explanation: Emphasis is on how natural resources such as forests, waterways, and land are managed in ways that minimize harm to biodiversity and ecosystem health and activities that can improve and or maintain existing health of ecosystems.

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HS-LS-2.7 Students who demonstrate understanding can:
Evaluate the evidence for the role of group behavior on individual and species' ability to survive and reproduce.

Supporting Content LS2.D: Social Interactions and Group Behavior

- Group behavior has evolved because membership can increase the chances of survival for individuals and their genetic relatives, gene pool. (HS-LS-2.7)

Further Explanation: Emphasis is on: (1) distinguishing between group and individual behavior, (2) identifying evidence supporting the outcomes of group behavior, and (3) developing logical and reasonable arguments based on evidence. Examples of group behaviors could include flocking, schooling, herding, and cooperative behaviors such as hunting, migrating, and swarming.

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HS-LS-3 – Heredity: Inheritance and Variation of Traits

HS-LS-3.1 Students who demonstrate understanding can:
Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.

Supporting Content LS1.A: Structure and Function

- All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells. (HS-LS-1.1, HS-LS-3.1)

Supporting Content LS2.A: Inheritance of Traits

- Each chromosome consists of a single very long DNA molecule, and each gene on the chromosome is a particular segment of that DNA. The instructions for forming species' characteristics are carried in DNA. All cells in an organism have the same genetic content, but the genes used (expressed) by the cell may be regulated in different ways. Not all DNA codes for a protein; some segments of DNA are involved in regulatory or structural functions, and some have no as-yet known function. (HS-LS-3.1)

Assessment Limit: Assessment does not include the phases of meiosis or the biochemical mechanism of specific steps in the process.

HS-LS-3.2 Students who demonstrate understanding can:
Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.

Supporting Content LS3.B: Variation of Traits

- In sexual reproduction, chromosomes can sometimes swap sections during the process of meiosis, thereby creating new genetic combinations and thus more genetic variation. Although DNA replication is tightly regulated and remarkably accurate, errors do occur and result in mutations, which are also a source of genetic variation. Environmental factors can also cause mutations in genes, and viable mutations are inherited. (HS-LS-3.2)
- Environmental factors also affect expression of traits, and hence affect the probability of occurrences of traits in a population. Thus, the variation and distribution of traits observed depends on both genetic and environmental factors. (HS-LS-3.2, HS-LS-3.3)

Further Explanation: Emphasis is on using data to support claims about the way variation occurs.

Assessment Limit: Assessment does not include the phases of meiosis or the biochemical mechanism of specific steps in the process.

HS-LS-3.3 Students who demonstrate understanding can:
Apply concepts of probability and statistical analysis to explain the variation and distribution of expressed traits in a population.

Supporting Content LS3.B: Variation of Traits

- Environmental factors also affect expression of traits, and hence affect the probability of occurrences of traits in a population. Thus, the variation and distribution of traits observed depends on both genetic and environmental factors. (HS-LS-3.2, HS-LS-3.3)

Further Explanation: Emphasis is on the use of mathematics to describe the probability of traits (alleles) as it relates to genetic and environmental factors in the expression of traits.

Assessment Limit: Assessment does not include Hardy-Weinberg calculations.

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HS-LS-4 – Biological Adaptation: Unity and Diversity

HS-LS-4.1 Students who demonstrate understanding can:
Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

Supporting Content LS4.A: Evidence of Common Ancestry and Diversity

- Genetic information, like the fossil record, provides evidence of evolution. DNA sequences vary among species, but there are many overlaps; the ongoing branching that produces multiple lines of descent can be inferred by comparing the DNA sequences of different organisms. Such information can be derived from the similarities and differences in amino acid sequences and from anatomical and embryological evidence. (HS-LS-4.1)

Further Explanation: Emphasis is on a conceptual understanding of the role each line of evidence has relating to common ancestry and biological evolution. Examples of evidence could include similarities in DNA sequences, anatomical structures, and order of appearance of structures in embryological development.

HS-LS-4.2 Students who demonstrate understanding can:
Construct an explanation based on evidence that the process of evolution, through the mechanism of natural selection, primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.

Supporting Content LS4.B: Natural Selection

- Natural selection occurs only if there is both (1) variation in the genetic information between organisms in a population and (2) variation in the expression of that genetic information—that is, trait variation—that leads to differences in performance among individuals. (HS-LS-4.2, HS-LS-4.3)

Supporting Content LS4.C: Adaptation

- Evolution is a consequence of the interaction of four factors of natural selection: (1) the potential for a species to increase in number, (2) the genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for an environment's limited supply of the resources that individuals need in order to survive and reproduce, and (4) the ensuing proliferation of those organisms that are better able to survive and reproduce in that environment. (HS-LS-4.2)

Further Explanation: Emphasis is on using evidence to explain the influence each of the four factors has on the number of organisms, behaviors, morphology, or physiology in terms of ability to compete for limited resources and subsequent survival of individuals and adaptation of species. Examples of evidence could include mathematical models such as simple distribution graphs and proportional reasoning.

Assessment Limit: Assessment does not include other mechanisms of evolution, such as genetic drift, gene flow through migration, and co-evolution.

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HS-LS-4.3 Students who demonstrate understanding can:
Apply concepts of probability and statistical analysis to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.

Supporting Content LS4.B: Natural Selection

- Natural selection occurs only if there is both (1) variation in the genetic information between organisms in a population and (2) variation in the expression of that genetic information—that is, trait variation—that leads to differences in performance among individuals. (HS-LS-4.2, HS-LS-4.3)
- The traits that positively affect survival are more likely to be reproduced, and thus are more common in the population. (HS-LS-4.3)

Supporting Content LS4.C: Adaptation

- Natural selection leads to adaptation, that is, to a population dominated by organisms that are anatomically, behaviorally, and physiologically well suited to survive and reproduce in a specific environment. That is, the differential survival and reproduction of organisms in a population that have an advantageous heritable trait leads to an increase in the proportion of individuals in future generations that have the trait and to a decrease in the proportion of individuals that do not. (HS-LS-4.3, HS-LS-4.4)
- Adaptation also means that the distribution of traits in a population can change when conditions change. (HS-LS-4.3)

Further Explanation: Emphasis is on analyzing shifts in numerical distribution of traits and using these shifts as evidence to support explanations.

Assessment Limit: Assessment is limited to basic statistical and graphical analysis. Assessment does not include allele frequency calculations.

HS-LS-4.4 Students who demonstrate understanding can:
Construct an explanation based on evidence for how natural selection leads to adaptation of populations.

Supporting Content LS4.C: Adaptation

- Natural selection leads to adaptation, that is, to a population dominated by organisms that are anatomically, behaviorally, and physiologically well suited to survive and reproduce in a specific environment. The differential survival and reproduction of organisms in a population that have an advantageous heritable trait leads to an increase in the proportion of individuals in future generations that have the trait and to a decrease in the proportion of individuals that do not. (HS-LS-4.3, HS-LS-4.4)

Further Explanation: Emphasis is on using data to provide evidence for how specific biotic and abiotic differences in ecosystems (such as ranges of seasonal temperature, long-term climate change, acidity, light, geographic barriers, or evolution of other organisms) contribute to a change in gene frequency over time, leading to adaptation of populations.

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HS-LS-4.5 Students who demonstrate understanding can:
Evaluate models that demonstrate how changes in an environment may result in the evolution of a population of a given species, the emergence of new species over generations, or the extinction of other species due to the processes of genetic drift, gene flow, mutation, and natural selection.

Supporting Content LS4.C: Adaptation

- Changes in the physical environment, have contributed to the expansion of some species, the emergence of new distinct species as populations diverge under different conditions, and the decline or possible extinction of some species. (HS-LS-2.6, HS-LS-4.5)
- Species become extinct because they can no longer survive and reproduce in their altered environment. If members cannot adjust to change that is too fast or drastic, the opportunity for the species' evolution is lost. (HS-LS-4.5)

Further Explanation: Emphasis is on determining cause and effect relationships for how changes to the environment such as drought, flood, fire, deforestation, overfishing, application of fertilizers and pesticides, and the rate of change of the environment affect distribution or disappearance of traits in species.

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Physical Science – Chemistry

HS-PSC-1 – Structure and Properties of Matter

HS-PSC-1.1 Students who demonstrate understanding can:
Develop models to describe the atomic composition of simple molecules and extended structures.

Supporting Content PS1.A: Structure and Properties of Matter

- Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms. (HS-PSC-1.1)

Further Explanation: Emphasis is on reviewing how to develop models of molecules that vary in complexity. This should build on the similar middle school standard (PS1- MS-1). Students should be able to determine valence electrons for representative elements. Examples of simple molecules could include ammonia and methanol. Examples of extended structures could include sodium chloride or diamonds. Examples of models could include drawings, 3D ball and stick structures, or computer representations

Assessment Limit: Students will be provided with the names of the elements, a list of common ions, a list of numerical prefixes and their meanings, and the charges of all cations and anions.

HS-PSC-1.2 Students who demonstrate understanding can:
Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

Supporting Content PS1.A: Structure and Properties of Matter

- Each atom has a substructure consisting of a nucleus, which is made of protons and neutrons, surrounded by electrons. (HS-PSC-1.2)
- The periodic table orders elements horizontally by the number of protons in the atom's nucleus and places those with similar chemical properties in columns. The repeating patterns of this table reflect outermost electron states. (HS-PSC-1.2)

Further Explanation: Examples of properties that could be predicted from patterns could include reactivity of metals, types of bonds formed, numbers of bonds formed, and reactions with oxygen.

Assessment Limit: Assessment is limited to main group elements. Assessment is limited to relative trends in reactivity, valence electrons, atomic and ionic radius, electronegativity, ionization energy, shielding effect, and common oxidation number.

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HS-PSC-1.3 Students who demonstrate understanding can:
Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrostatic forces between particles.

Supporting Content PS1.A: Structure and Properties of Matter

- The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms. (HS-PSC-1.3, HS-PSC-1.5)

Supporting Content PS2.B: Types of Interactions

- Attraction and repulsion between electric charges at the atomic scale explain the structure, properties (physical and chemical), and transformations of matter, as well as the contact forces between material objects. (HS-PSC-1.3, HS-PSC-1.5, *HS-PSP-1.6*)

Further Explanation: Emphasis is on understanding the strengths of forces between particles. Examples of particles could include ions, atoms, molecules, and networked materials (such as graphite). Examples of bulk properties of substances could include the melting point and boiling point, vapor pressure, and surface tension.

Assessment Limit: Assessment does not include naming specific intermolecular forces (such as dipole-dipole). Assessment will be limited to quantitative calculations of melting and boiling points only.

HS-PSC-1.4 Students who demonstrate understanding can:
Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and the various modes of radioactive decay.

Supporting Content PS1.C: Nuclear Processes

- Nuclear processes, including fusion, fission, and radioactive decays of unstable nuclei, involve release or absorption of energy. The total number of neutrons plus protons does not change in any nuclear process. (HS-PSC-1.4)

Further Explanation: Emphasis is on simple qualitative models, such as pictures or diagrams, and on the scale of energy released in nuclear processes relative to other kinds of transformations.

Assessment Limit: Assessment does not include quantitative calculation of energy released. Assessment is limited to alpha, beta, and gamma modes of radioactive decay.

HS-PSC-1.5 Students who demonstrate understanding can:
Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

Supporting Content PS1.A: Structure and Properties of Matter

- The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms. (HS-PSC-1.3, HS-PSC-1.5)

Supporting Content PS2.B: Types of Interactions

- Attraction and repulsion between electric charges at the atomic scale explain the structure, properties (physical and chemical), and transformations of matter, as well as the contact forces between material objects. (HS-PSC-1.3, HS-PSC-1.5, *HS-PSP-1.6*)

Further Explanation: Emphasis is on the attractive and repulsive forces that determine the functioning of the material. Examples could include why electrically conductive materials are often made of metal, flexible but durable materials are made up of long chained molecules, and pharmaceuticals are designed to interact with specific receptors.

Assessment Limit: Assessment is limited to provided molecular structures of specific designed materials. For questions involving polar vs. nonpolar bonds, item distractors containing ionic bonds may not be used. Electronegativity differences of < 0.5 should be used for nonpolar covalent bonds. Electronegativity differences of 0.5 – 1.7 should be used for polar covalent bonds.

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HS-PSC-2 – Chemical Reactions

HS-PSC-2.1 Students who demonstrate understanding can:
Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

Supporting Content PS1.A: Structure and Properties of Matter

- The periodic table orders elements horizontally by the number of protons in the atom's nucleus and places those with similar physical and chemical properties in columns. The repeating patterns of this table reflect patterns of outer electron states. (HS-PSC-2.1)

Supporting Content PS1.B: Chemical Reactions

- The fact that atoms are conserved, together with knowledge of the chemical properties of the elements involved, can be used to describe and predict chemical reactions. (HS-PSC-2.1, HS-PSC-2.4)

Further Explanation: Examples of chemical reactions could include the reaction of sodium and chlorine, of carbon and oxygen, or of carbon and hydrogen.

Assessment Limit: Assessment is limited to synthesis, decomposition, single replacement/displacement, double replacement/displacement, including neutralization, and combustion reactions. Predict the products of double replacement, single replacement, and combustion reactions only. Assessment excludes writing formulas or names of acids and hydrocarbons.

HS-PSC-2.2 Students who demonstrate understanding can:
Develop a model to illustrate that the energy transferred during an exothermic or endothermic chemical reaction is based on the bond energy difference between bonds broken (absorption of energy) and bonds formed (release of energy).

Supporting Content PS1.A: Structure and Properties of Matter

- A stable molecule has less energy than the same set of atoms separated; one must provide at least this energy in order to take the molecule apart. (HS-PSC-2.2)

Supporting Content PS1.B: Chemical Reactions

- Chemical processes, their rates, and whether or not energy is stored or released can be understood in terms of the collisions of molecules and the rearrangements of atoms into new molecules, with consequent changes in the sum of all bond energies in the set of molecules that are matched by changes in kinetic energy. (HS-PSC-2.2, HS-PSC-2.3)

Further Explanation: Emphasis is on the idea that a chemical reaction is a system that affects the energy change. Examples of models could include molecular-level drawings and diagrams of reactions, graphs showing the relative energies of reactants and products, and representations showing energy is conserved.

Assessment Limit: Assessment does not include calculating the total bond energy changes during a chemical reaction from the bond energies of reactants and products.

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HS-PSC-2.3 Students who demonstrate understanding can:
Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.

Supporting Content PS1.B: Chemical Reactions

- Chemical processes, their rates, and whether or not energy is stored or released can be understood in terms of the collisions of molecules and the rearrangements of atoms into new molecules, with consequent changes in the sum of all bond energies in the set of molecules that are matched by changes in kinetic energy. (HS-PSC-2.2, HS-PSC-2.3)

Further Explanation: Emphasis is on student reasoning that focuses on the number and energy of collisions between molecules.

Assessment Limit: Assessment is limited to simple reactions in which there are only two reactants; evidence from temperature, concentration, and rate data; and qualitative relationships between rate and temperature.

HS-PSC-2.4 Students who demonstrate understanding can:
Use mathematical representations to support the claim that the number and type of atoms, and therefore mass, are conserved during a chemical reaction.

Supporting Content PS1.B: Chemical Reactions

- The fact that atoms are conserved, together with knowledge of the chemical properties of the elements involved, can be used to describe and predict chemical reactions. (HS-PSC-2.1, HS-PSC-2.4)

Further Explanation: Emphasis is on using mathematical ideas to communicate the proportional relationships between masses of atoms in the reactants and the products, and the translation of these relationships to the macroscopic scale using the mole as the conversion from the atomic to the macroscopic scale. Emphasis is on assessing students' use of mathematical thinking and not on memorization and rote application of problem-solving techniques.

Assessment Limit: Conversion problems will be one to two steps (e.g., grams to moles to atoms/molecules). Compounds and formulas should be provided in the stem of the question. Students should be given molecular masses in problems involving gram to other unit conversions. Molar mass calculations should not be combined with conversion problems. All volumes must be at standard temperature and pressure (STP). A balanced equation and molar masses should be included in the item. Calculations may include grams/moles/volume of reactant to grams/moles/volume of product.

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HS-PSC-3 – Energy

HS-PSC-3.1 Students who demonstrate understanding can:
Ask questions to clarify the idea that electromagnetic radiation can be described either by a wave model or a particle model.

Supporting Content PS4.B: Electromagnetic Radiation

- Electromagnetic radiation (e.g., radio, microwaves, light) can be modeled as a wave of changing electric and magnetic fields or as particles called photons. The wave model is useful for explaining many features of electromagnetic radiation, and the particle model explains other features. (HS-PSC-3.1)

Further Explanation: Emphasis is on how the experimental evidence supports the claim and how a theory is generally modified in light of new evidence. Examples of a phenomenon could include interference, diffraction, and photoelectric effect.

Assessment Limit: Assessment does not include using quantum theory.

HS-PSC-3.2 Students who demonstrate understanding can:
Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

Supporting Content PS3.A: Definitions of Energy

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (HS-PSC-3.2, HS-PSC-3.3)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Conservation of energy means that the total change of energy in any system is always equal to the total energy transferred into or out of the system. (HS-PSC-3.2)
- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (HS-PSC-3.2 HS-PSC-3.5)
- Mathematical expressions, which quantify how the stored energy in a system depends on its configuration (e.g., relative positions of charged particles, compression of a spring) and how kinetic energy depends on mass and speed, allow the concept of conservation of energy to be used to predict and describe system behavior. (HS-PSC-3.2)
- The availability of energy limits what can occur in any system. (HS-PSC-3.2)

Further Explanation: Emphasis is on explaining the meaning of mathematical expressions used in the model.

Assessment Limit: Assessment is limited to basic algebraic expressions or computations; to systems of two or three components; and to thermal energy, kinetic energy, and/or the energies in gravitational, magnetic, or electric fields. Two temperatures (initial and final), a temperature-time graph, or an enthalpy diagram must be provided.

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HS-PSC-3.3 Students who demonstrate understanding can:
Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).

Supporting Content PS3.A: Definitions of Energy

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (HS-PSC-3.2, HS-PSC-3.3)
- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (HS-PSC-3.3, HS-PSC-3.4)
- These relationships are better understood at the microscopic scale, at which all of the different manifestations of energy can be modeled as a combination of energy associated with the motion of particles and energy associated with the configuration (relative position of the particles). In some cases, the relative position energy can be thought of as stored in fields (which mediate interactions between particles). This last concept includes radiation, a phenomenon in which energy stored in fields moves across space. (HS-PSC-3.3)

Further Explanation: Examples of phenomena at the macroscopic scale could include the conversion of kinetic energy to thermal energy, the energy stored due to position of an object above the earth, and the energy stored between two electrically-charged plates. Examples of models could include diagrams, drawings, descriptions, and computer simulations.

HS-PSC-3.4* Students who demonstrate understanding can:
Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy. ---OPTIONAL

Supporting Content PS3.A: Definitions of Energy

- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (HS-PSC-3.3, HS-PSC-3.4)

Supporting Content PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surroundings. (HS-PSC-3.4, HS-PSC-3.5)

Further Explanation: Emphasis is on both qualitative and quantitative evaluations of devices. Examples of devices could include calorimeters, heat and cold packs, solar cells, solar ovens, and electrochemical cells. Examples of constraints could include use of renewable energy forms and efficiency.

Assessment Limit: Assessment for quantitative evaluations is limited to total output for a given input. Assessment is limited to devices constructed with materials provided to students.

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HS-PSC-3.5 Students who demonstrate understanding can:
Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (HS-PSC-3.2 HS-PSC-3.5)
- Uncontrolled systems always evolve toward more stable states—that is, toward more uniform energy distribution (e.g., water flows downhill, objects hotter than their surrounding environment cool down). (HS-PSC-3.5)

Supporting Content PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surroundings. (HS-PSC-3.4, HS-PSC-3.5)

Further Explanation: Emphasis is on analyzing data from student investigations and using mathematical thinking to describe the energy changes both quantitatively and conceptually (endothermic/exothermic). Examples of investigations could include mixing liquids at different initial temperatures or adding objects at different temperatures to water.

Assessment Limit: For items involving specific heat, provide the equation $Q = mC_p\Delta T$ and specific heats. Include the melting and boiling points of water. Limit calculations to changes that do not involve a change of state. Perform gram to mole and mole to ΔH calculations. Use joules as a unit of measure, as opposed to calories.

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Physical Science – Physics

HS-PSP-1 – Motion and Stability: Forces and Interactions

HS-PSP-1.1 Students who demonstrate understanding can:
Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.

Supporting Content PS2.A: Forces and Motion

- Newton's second law accurately predicts changes in the motion of macroscopic objects. (HS-PSP-1.1)

Further Explanation: Examples of data could include tables or graphs of position or velocity as a function of time for objects subject to a net unbalanced force, such as a falling object, an object rolling down a ramp, or a moving object being pulled by a constant force.

Assessment Limit: Assessment is limited to one-dimensional motion and to macroscopic objects moving at non-relativistic speeds.

HS-PSP-1.2 Students who demonstrate understanding can:
Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.

Supporting Content PS2.A: Forces and Motion

- Momentum is defined for a particular frame of reference; it is the mass times the velocity of the object. (HS-PSP-1.2)
- If a system interacts with objects outside itself, the total momentum of the system can change; however, any such change is balanced by changes in the momentum of objects outside the system. (HS-PSP-1.2, HS-PSP-1.3)

Further Explanation: Emphasis is on the quantitative conservation of momentum in interactions and the qualitative meaning of this principle (Newton's first law).

Assessment Limit: Assessment is limited to systems of two macroscopic bodies moving in one dimension.

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HS-PSP-1.3 Students who demonstrate understanding can:
Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.

Supporting Content PS2.A: Forces and Motion

- If a system interacts with objects outside itself, the total momentum of the system can change; however, any such change is balanced by changes in the momentum of objects outside the system. (HS-PSP-1.2, HS-PSP-1.3)

Supporting Content ETS1.A: Defining and Delimiting an Engineering Problem

- Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them. (HS-PSP-1.3)

Supporting Content ETS1.C: Optimizing the Design Solution

- Criteria may need to be broken down into simpler ones that can be approached systematically, and decisions about the priority of certain criteria over others (trade-offs) may be needed. (HS-PSP-1.3)

Further Explanation: Examples of evaluation and refinement could include determining the success of the device at protecting an object from damage and modifying the design to improve it. Examples of a device could include a football helmet or a parachute.

Assessment Limit: Assessment is limited to qualitative evaluations and/or algebraic manipulations.

HS-PSP-1.4 Students who demonstrate understanding can:
Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects.

Supporting Content PS2.B: Types of Interactions

- Newton's law of universal gravitation and Coulomb's law provide the mathematical models to describe and predict the effects of gravitational and electrostatic forces between distant objects. (HS-PSP-1.4)
- Forces at a distance are explained by fields (gravitational, electric, and magnetic) permeating space that can transfer energy through space. Magnets or electric currents cause magnetic fields; electric charges or changing magnetic fields cause electric fields. (HS-PSP-1.4, HS-PSP-1.5)

Further Explanation: Emphasis is on both quantitative and conceptual descriptions of gravitational and electric fields.

Assessment Limit: Assessment is limited to systems with two objects. Base equations will be provided.

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HS-PSP-1.5 Students who demonstrate understanding can:
Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.

Supporting Content PS2.B: Types of Interactions

- Forces at a distance are explained by fields (gravitational, electric, and magnetic) permeating space that can transfer energy through space. Magnets or electric currents cause magnetic fields; electric charges or changing magnetic fields cause electric fields. (HS-PSP-1.4, HS-PSP-1.5)

Supporting Content PS3.A: Definitions of Energy

- "Electrical energy" may mean energy stored in a battery or energy transmitted by electric currents. (HS-PSP-1.5)

Assessment Limit: Assessment is limited to designing and conducting investigations with provided materials and tools.

HS-PSP-1.6 Students who demonstrate understanding can:
Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

Supporting Content PS1.A: Structure and Properties of Matter

- The structure and interactions of matter at the bulk scale are determined by electrical forces within and between atoms. (HS-PSP-1.6)

Supporting Content PS2.B: Types of Interactions

- Attraction and repulsion between electric charges at the atomic scale explain the structure, properties, and transformations of matter, as well as the contact forces between material objects. (HS-PSP-1.6, *HS-PSC-1.3, HS-PSC-1.5*)

Further Explanation: Emphasis is on the attractive and repulsive forces that determine the functioning of the material. Examples could include why electrically conductive materials are often made of metal, flexible but durable materials are made up of long chained molecules, and pharmaceuticals are designed to interact with specific receptors.

Assessment Limit: Assessment is limited to provided molecular structures of specific designed materials.

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HS-PSP-2 – Energy

HS-PSP-2.1 Students who demonstrate understanding can:
Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

Supporting Content PS3.AL Definitions of Energy

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (HS-PSP-2.1, HS-PSP-2.2)

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Conservation of energy means that the total change of energy in any system is always equal to the total energy transferred into or out of the system. (HS-PSP-2.1)
- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (HS-PSP-2.1, HS-PSP-2.4)
- Mathematical expressions, which quantify how the stored energy in a system depends on its configuration (e.g., relative positions of charged particles, compression of a spring) and how kinetic energy depends on mass and speed, allow the concept of conservation of energy to be used to predict and describe system behavior. (HS-PSP-2.1)
- The availability of energy limits what can occur in any system. (HS-PSP-2.1)

Further Explanation: Emphasis is on explaining the meaning of mathematical expressions used in the model.

Assessment Limit: Assessment is limited to basic algebraic expressions or computations; to systems of two or three components; and to thermal energy, kinetic energy, and/or the energies in gravitational, magnetic, or electric fields.

HS-PSP-2.2 Students who demonstrate understanding can:
Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).

Supporting Content PS3.AL Definitions of Energy

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system. That there is a single quantity called energy is due to the fact that a system's total energy is conserved, even as, within the system, energy is continually transferred from one object to another and between its various possible forms. (HS-PSP-2.1, HS-PSP-2.2)
- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (HS-PSP-2.2, HS-PSP-2.3)
- These relationships are better understood at the microscopic scale, at which all of the different manifestations of energy can be modeled as a combination of energy associated with the motion of particles and energy associated with the configuration (relative position of the particles). In some cases, the relative position energy can be thought of as stored in fields (which mediate interactions between particles). This last concept includes radiation, a phenomenon in which energy stored in fields moves across space. (HS-PSP-2.2)

Further Explanation: Examples of phenomena at the macroscopic scale could include the conversion of kinetic energy to thermal energy, the energy stored due to position of an object above the earth, and the energy stored between two electrically-charged plates. Examples of models could include diagrams, drawings, descriptions, and computer simulations.

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HS-PSP-2.3 Students who demonstrate understanding can:
Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.

Supporting Content PS3.AL Definitions of Energy

- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy. (HS-PSP-2.2, HS-PSP-2.3)

Supporting Content PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surrounding environment. (HS-PSP-2.3, HS-PSP-2.4)

Supporting Content ETS1.A: Defining and Delimiting an Engineering Problem

- Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them. (HS-PSP-2.3)

Further Explanation: Emphasis is on both qualitative and quantitative evaluations of devices. Examples of devices could include Rube Goldberg devices, wind turbines, solar cells, solar ovens, and generators. Examples of constraints could include use of multiple energy forms and evaluations of efficiency.

Assessment Limit: Assessment for quantitative evaluations is limited to total output for a given input. Assessment is limited to examples of devices provided to students.

HS-PSP-2.4 Students who demonstrate understanding can:
Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).

Supporting Content PS3.B: Conservation of Energy and Energy Transfer

- Energy cannot be created or destroyed, but it can be transported from one place to another and transferred between systems. (HS-PSP-2.1, HS-PSP-2.4)
- Uncontrolled systems always evolve toward more stable states—that is, toward more uniform energy distribution (e.g., water flows downhill, objects hotter than their surrounding environment cool down). (HS-PSP-2.4)

Supporting Content PS3.D: Energy in Chemical Processes

- Although energy cannot be destroyed, it can be converted to less useful forms—for example, to thermal energy in the surrounding environment. (HS-PSP-2.3, HS-PSP-2.4)

Further Explanation: Emphasis is on analyzing data from student investigations and using mathematical thinking to describe the energy changes both quantitatively and conceptually. Examples of investigations could include mixing liquids at different initial temperatures or adding objects at different temperatures to water.

Assessment Limit: Assessment is limited to examples of closed system investigations.

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HS-PSP-2.5 Students who demonstrate understanding can:
Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction.

Supporting Content PS3.C: Relationship Between Energy and Forces

- When two objects interacting through a field change relative position, the energy stored in the field is changed. (HS-PSP-2.5)

Further Explanation: Examples of models could include drawings, diagrams, and texts, such as drawings of what happens when two charges of opposite polarity are near each other.

Assessment Limit: Assessment is limited to systems containing two objects.

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HS-PSP-3 – Waves

HS-PSP-3.1 Students who demonstrate understanding can:
Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.

Supporting Content PS4.A: Wave Properties

- The wavelength and frequency of a wave are related to one another by the speed of travel of the wave, which depends on the type of wave and the medium through which it is passing. (HS-PSP-3.1)

Further Explanation: Examples of data could include electromagnetic radiation traveling in a vacuum and glass, sound waves traveling through air and water, and seismic waves traveling through the Earth.

Assessment Limit: Assessment is limited to algebraic relationships and describing those relationships qualitatively.

HS-PSP-3.2 Students who demonstrate understanding can:
Evaluate questions about the advantages of using digital transmission and storage of information.

Supporting Content PS4.A: Wave Properties

- Information can be digitized (e.g., a picture stored as the values of an array of pixels); in this form, it can be stored reliably in computer memory and sent over long distances as a series of wave pulses. (HS-PSP-3.2, HS-PSP-3.5)

Further Explanation: Examples of advantages could include that digital information is stable because it can be stored reliably in computer memory, transferred easily, and copied and shared rapidly. Disadvantages could include issues of easy deletion, security, and theft.

HS-PSP-3.3 Students who demonstrate understanding can:
Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.

Supporting Content PS4.A: Wave Properties

- Waves can add or cancel one another as they cross, depending on their relative phase (i.e., relative position of peaks and troughs of the waves), but they emerge unaffected by each other. (Boundary: The discussion at this grade level is qualitative only; it can be based on the fact that two different sounds can pass a location in different directions without getting mixed up.) (HS-PSP-3.3)

Supporting Content PS4.B: Electromagnetic Radiation

- Electromagnetic radiation (e.g., radio, microwaves, light) can be modeled as a wave of changing electric and magnetic fields or as particles called photons. The wave model is useful for explaining many features of electromagnetic radiation, and the particle model explains other features. (HS-PSP-3.3)

Further Explanation: Emphasis is on how the experimental evidence supports the claim and how a theory is generally modified in light of new evidence. Examples of a phenomenon could include resonance, interference, diffraction, and photoelectric effect.

Assessment Limit: Assessment does not include using quantum theory.

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HS-PSP-3.4 Students who demonstrate understanding can:
Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.

Supporting Content PS4.B: Electromagnetic Radiation

- When light or longer wavelength electromagnetic radiation is absorbed in matter, it is generally converted into thermal energy (heat). Shorter wavelength electromagnetic radiation (ultraviolet, X-rays, gamma rays) can ionize atoms and cause damage to living cells. (PSP3-HS-4)

Further Explanation: Emphasis is on the idea that photons associated with different frequencies of light have different energies, and the damage to living tissue from electromagnetic radiation depends on the energy of the radiation. Examples of published materials could include trade books, magazines, web resources, videos, and other passages that may reflect bias.

Assessment Limit: Assessment is limited to qualitative descriptions.

HS-PSP-3.5 Students who demonstrate understanding can:
Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.

Supporting Content PS3.D: Energy in Chemical Processes

- Solar cells are human-made devices that likewise capture the sun's energy and produce electrical energy. (HS-PSP-3.5)

Supporting Content PS4.A: Wave Properties

- Information can be digitized (e.g., a picture stored as the values of an array of pixels); in this form, it can be stored reliably in computer memory and sent over long distances as a series of wave pulses. (HS-PSP-3.2, HS-PSP-3.5)

Supporting Content PS4.B: Electromagnetic Radiation

- Photoelectric materials emit electrons when they absorb light of a high-enough frequency. (HS-PSP-3.5)

Supporting Content PS4.C: Information Technologies and Instrumentation

- Multiple technologies based on the understanding of waves and their interactions with matter are part of everyday experiences in the modern world (e.g., medical imaging, communications, scanners) and in scientific research. They are essential tools for producing, transmitting, and capturing signals and for storing and interpreting the information contained in them. (HS-PSP-3.5)

Further Explanation: Examples could include solar cells capturing light and converting it to electricity; medical imaging; and communications technology.

Assessment Limit: Assessments are limited to qualitative information. Assessments do not include band theory.

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Earth and Space Science

HS-ESS-1 – Earth's Place in the Universe

HS-ESS-1.1 Students who demonstrate understanding can:
Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation.

Supporting Content ESS1.A: The Universe and Its Stars

- The star called the sun is changing and will burn out over a lifespan of approximately 10 billion years. (HS-ESS-1.1)

Supporting Content PS3.D: Energy in Chemical Processes and Everyday Life

- Nuclear Fusion processes in the center of the sun release the energy that ultimately reaches Earth as radiation. (HS-ESS-1.1)

Further Explanation: Emphasis is on the energy transfer mechanisms that allow energy from nuclear fusion in the sun's core to reach Earth. Examples of evidence for the model include observations of the masses and lifetimes of other stars, as well as the ways that the sun's radiation varies due to sudden solar flares ("space weather"), the 11-year sunspot cycle, and non-cyclic variations over centuries.

Assessment Limit: Assessment does not include details of the atomic and subatomic processes involved with the sun's nuclear fusion.

HS-ESS-1.2 Students who demonstrate understanding can:
Construct an explanation of the current model of the origin of the universe based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.

Supporting Content ESS1.A: The Universe and Its Stars

- The study of stars' light spectra and brightness is used to identify compositional elements of stars, their movements, and their distances from Earth. (HS-ESS-1.2, HS-ESS-1.3)
- Origin theories are supported by evidence such as observations of distant galaxies receding from our own, of the measured composition of stars and non-stellar gases, and of the maps of spectra of the primordial radiation (cosmic microwave background) that still fills the universe. Other than the hydrogen and helium formed at the time of the event, nuclear fusion within stars produces all atomic nuclei lighter than and including iron, and the process releases electromagnetic energy. Heavier elements are produced when certain massive stars achieve a supernova stage and explode. (HS-ESS-1.2, HS-ESS-1.3)

Supporting Content PS4.B: Electromagnetic Radiation

- Atoms of each element emit and absorb characteristic frequencies of light. These characteristics allow identification of the presence of an element, even in microscopic quantities. (HS-ESS-1.2)

Further Explanation: Emphasis is on the astronomical evidence of the redshift of light from galaxies as an indication that the universe is currently expanding, the cosmic microwave background as the remnant radiation from the event, and the observed composition of ordinary matter of the universe, primarily found in stars and interstellar gases (from the spectra of electromagnetic radiation from stars), which matches that predicted by the scientific model (3/4 hydrogen and 1/4 helium).

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HS-ESS-1.3 Students who demonstrate understanding can:
Communicate scientific ideas about the way stars, over their life cycle, transform elements.

Supporting Content ESS1.A: The Universe and Its Stars

- The study of stars' light spectra and brightness is used to identify compositional elements of stars, their movements, and their distances from Earth. (HS-ESS-1.2, HS-ESS-1.3)
- Origin theories are supported by evidence such as observations of distant galaxies receding from our own, of the measured composition of stars and non-stellar gases, and of the maps of spectra of the primordial radiation (cosmic microwave background) that still fills the universe. Other than the hydrogen and helium formed at the time of the event, nuclear fusion within stars produces all atomic nuclei lighter than and including iron, and the process releases electromagnetic energy. Heavier elements are produced when certain massive stars achieve a supernova stage and explode. (HS-ESS-1.2, HS-ESS-1.3)

Further Explanation: Emphasis is on the way nucleosynthesis, and therefore the different elements created, varies as a function of the mass of a star and the stage of its lifetime.

Assessment Limit: Details of the many different nucleosynthesis pathways for stars of different masses are not assessed.

HS-ESS-1.4 Students who demonstrate understanding can:
Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.

Supporting Content ESS1.B: Earth and the Solar System

- Kepler's laws describe common features of the motions of orbiting objects, including their elliptical paths around the sun. Orbits may change due to the gravitational effects from, or collisions with, other objects in the solar system. (HS-ESS-1.4)

Further Explanation: Emphasis is on Newtonian gravitational laws governing orbital motions, which apply to human-made satellites as well as planets and moons.

Assessment Limit: Mathematical representations for the gravitational attraction of bodies and Kepler's Laws of orbital motions should not deal with more than two bodies, nor involve calculus.

HS-ESS-1.5 Students who demonstrate understanding can:
Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.

Supporting Content ESS1.C: The History of Planet Earth

- Continental rocks are generally much older than the rocks of the ocean floor. (HS-ESS-1.5)

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Plate tectonics is the unifying theory that explains the past and current movements of the rocks at Earth's surface and provides a framework for understanding its geologic history. (HS-ESS-1.5)

Supporting Content PS1.C: Nuclear Processes

- Spontaneous radioactive decay follows a characteristic exponential decay law. Nuclear lifetimes allow radiometric dating to be used to determine the ages of rocks and other materials. (HS-ESS-1.5, HS-ESS-1.6)

Further Explanation: Emphasis is on the ability of plate tectonics to explain the ages of crustal rocks. Examples include evidence of the ages of oceanic crust increasing with distance from mid-ocean ridges (a result of plate spreading) and the ages of North American continental crust decreasing with distance away from a central ancient core (a result of past plate interactions).

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HS-ESS-1.6 Students who demonstrate understanding can:
Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.

Supporting Content ESS1.C: The History of Planet Earth

- Although active geologic processes, such as plate tectonics and erosion, have destroyed or altered most of the very early rock record on Earth, other objects in the solar system, such as lunar rocks, asteroids, and meteorites, have changed little over billions of years. Studying these objects can provide information about Earth's formation and early history. (HS-ESS-1.6)

Supporting Content PS1.C: Nuclear Processes

- Spontaneous radioactive decay follows a characteristic exponential decay law. Nuclear lifetimes allow radiometric dating to be used to determine the ages of rocks and other materials. (HS-ESS-1.5, HS-ESS-1.6)

Further Explanation: Emphasis is on using available evidence within the solar system to reconstruct the early history of Earth, which formed along with the rest of the solar system. Examples of evidence include the absolute ages of ancient materials (obtained by radiometric dating of meteorites, moon rocks, and Earth's oldest minerals), the sizes and compositions of solar system objects, and the impact cratering record of planetary surfaces.

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HS-ESS-2 – Earth's Systems

HS-ESS-2.1 Students who demonstrate understanding can:
Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.

Supporting Content ESS2.A: Earth Materials and Systems

- Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes. (HS-ESS-2.1, HS-ESS-2.2)

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- Plate tectonics is the unifying theory that explains the past and current movements of the rocks at Earth's surface and provides a framework for understanding its geologic history. Plate movements are responsible for most continental and ocean-floor features and for the distribution of most rocks and minerals within Earth's crust. (HS-ESS-2.1)

Further Explanation: Emphasis is on how the appearance of land features (such as mountains, valleys, and plateaus) and sea-floor features (such as trenches, ridges, and seamounts) are a result of both constructive forces (such as volcanism, tectonic uplift, and orogeny) and destructive mechanisms (such as weathering, mass wasting, and coastal erosion).

Assessment Limit: Assessment does not include memorization of the details of the formation of specific geographic features of Earth's surface.

HS-ESS-2.2 Students who demonstrate understanding can:
Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.

Supporting Content ESS2.A: Earth Materials and Systems

- Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes. (HS-ESS-2.1, HS-ESS-2.2)

Supporting Content ESS2.D: Weather and Climate

- The foundation for Earth's global climate systems is the electromagnetic radiation from the sun, as well as its reflection, absorption, storage, and redistribution among the atmosphere, ocean, and land systems, and this energy's re-radiation into space. (HS-ESS-2.2, HS-ESS-2.4)

Further Explanation: Examples of system interactions include how melting ice exposes darker land, which increases temperatures and causes more ice to melt; how the loss of ground vegetation causes an increase in water runoff and soil erosion; how dammed rivers increase groundwater recharge, decrease sediment transport, and increase coastal erosion; or how the loss of wetlands causes a decrease in local humidity that further reduces the wetland extent.

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HS-ESS-2.3 Students who demonstrate understanding can:
Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.

Supporting Content ESS2.A: Earth Material and Systems

- Evidence from deep probes and seismic waves, reconstructions of historical changes in Earth's surface and its magnetic field, and an understanding of physical and chemical processes lead to a model of Earth with a hot but solid inner core, a liquid outer core, a solid mantle and crust. Motions of the mantle and its plates occur primarily through thermal convection, which involves the cycling of matter due to the outward flow of energy from Earth's interior and gravitational movement of denser materials toward the interior. (HS-ESS-2.3)

Supporting Content ESS2.B: Plate Tectonics and Large-Scale System Interactions

- The radioactive decay of unstable isotopes continually generates new energy within Earth's crust and mantle, providing the primary source of the heat that drives mantle convection. Plate tectonics can be viewed as the surface expression of mantle convection. (HS-ESS-2.3)

Supporting Content PS4.A: Wave Properties

- Geologists use seismic waves and their reflection at interfaces between layers to probe structures deep in the planet. (HS-ESS-2.3)

Further Explanation: Emphasis is on both a one-dimensional model of Earth, with radial layers determined by density, and a three-dimensional model, which is controlled by mantle convection and the resulting plate tectonics. Examples of evidence include maps of Earth's three-dimensional structure obtained from seismic waves, records of the rate of change of Earth's magnetic field (as constraints on convection in the outer core), and identification of the composition of Earth's layers from high-pressure laboratory experiments.

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HS-ESS-2.4 Students who demonstrate understanding can:
Use a model to describe how variations in the flow of energy into and out of Earth's systems result in variations in climate.

Supporting Content ESS1.B: Earth and the Solar System

- Cyclical changes in the shape of Earth's orbit around the sun, together with changes in the tilt of the planet's axis of rotation, both occurring over hundreds of thousands of years, have altered the intensity and distribution of sunlight falling on the earth. These phenomena cause a cycle of ice ages and other gradual climate variations. (HS-ESS-2.4)

Supporting Content ESS2.A: Earth Material and Systems

- The geological record shows that changes to global and regional climate can be caused by interactions among changes in the sun's energy output or Earth's orbit, tectonic events, ocean circulation, volcanic activity, glaciers, vegetation, and human activities. These changes can occur on a variety of time scales from sudden (e.g., volcanic ash clouds) to intermediate (ice ages) to very long-term tectonic cycles. (HS-ESS-2.4)

Supporting Content ESS2.D: Weather and Climate

- The foundation for Earth's global climate systems is the electromagnetic radiation from the sun, as well as its reflection, absorption, storage, and redistribution among the atmosphere, ocean, and land systems, and this energy's re-radiation into space. (HS-ESS-2.2, HS-ESS-2.4)
- Changes in carbon dioxide concentrations in the atmosphere affect climate. (HS-ESS-2.6, HS-ESS-2.4)

Further Explanation: Examples of the causes of variations in climate differ by timescale, over 1-10 years: large volcanic eruption, ocean circulation; 10-100s of years: changes in human activity, ocean circulation, solar output; 10-100s of thousands of years: changes to Earth's orbit and the orientation of its axis; and 10-100s of millions of years: long-term changes in atmospheric composition.

Assessment Limit: Assessment of the results of changes in climate is limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.

HS-ESS-2.5 Students who demonstrate understanding can:
Plan and conduct an investigation of how the chemical and physical properties of water contribute to the mechanical and chemical mechanisms that affect Earth materials and surface processes.

Supporting Content ESS2.C: The Roles of Water in Earth's Surface Processes

- The abundance of liquid water on Earth's surface and its unique combination of physical and chemical properties are central to the planet's dynamics. These properties include water's exceptional capacity to absorb, store, and release large amounts of energy, transmit sunlight, expand upon freezing, dissolve and transport materials, and lower the viscosities and melting points of rocks. (HS-ESS-2.5)

Further Explanation: Emphasis is on mechanical and chemical investigations with water and a variety of solid materials to provide the evidence for connections between the hydrologic cycle and system interactions commonly known as the rock cycle. Examples of mechanical investigations include stream transportation and deposition using a stream table, erosion using variations in soil moisture content, or frost wedging by the expansion of water as it freezes. Examples of chemical investigations include chemical weathering and recrystallization (by testing the solubility of different materials) or melt generation (by examining how water lowers the melting temperature of most solids).

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HS-ESS-2.6 Students who demonstrate understanding can:
Develop a model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.

Supporting Content ESS2.D: Weather and Climate

- Gradual atmospheric changes were due to plants and other organisms that captured carbon dioxide and released oxygen. (HS-ESS-2.6, HS-ESS-2.7)
- Changes in carbon dioxide concentrations in the atmosphere affect climate. (HS-ESS-2.6, HS-ESS-2.4)

Further Explanation: Emphasis is on modeling biogeochemical cycles that include the cycling of carbon through the ocean, atmosphere, soil, and biosphere (including humans), providing the foundation for living organisms.

HS-ESS-2.7 Students who demonstrate understanding can:
Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.

Supporting Content ESS2.D: Weather and Climate

- Gradual atmospheric changes were due to plants and other organisms that captured carbon dioxide and released oxygen. (HS-ESS-2.6, HS-ESS-2.7)

Supporting Content ESS2.E: Biogeology

- The many dynamic and delicate feedbacks between the biosphere and other Earth systems cause a continual co-evolution of Earth's surface and the life that exists on it. (ESS2-HS-7)

Further Explanation: Emphasis is on the dynamic causes, effects, and feedbacks between the biosphere and Earth's other systems, whereby geoscience factors control the evolution of life, which in turn continuously alters Earth's surface. Examples of include how photosynthetic life altered the atmosphere through the production of oxygen, which in turn increased weathering rates and allowed for the evolution of animal life; how microbial life on land increased the formation of soil, which in turn allowed for the evolution of land plants; or how the evolution of corals created reefs that altered patterns of erosion and deposition along coastlines and provided habitats for the evolution of new life forms.

Assessment Limit: Assessment does not include a comprehensive understanding of the mechanisms of how the biosphere interacts with all of Earth's other systems.

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HS-ESS-3 – Earth and Human Activity

HS-ESS-3.1 Students who demonstrate understanding can:
Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

Supporting Content ESS3.A: Natural Resources

- Resource availability has guided the development of human society. (HS-ESS-3.1, *HS-LS-2.6*)

Supporting Content ESS3.B: Natural Hazards

- Natural hazards and other geologic events have shaped the course of human history. They have altered the sizes of human populations and have driven human migrations. (HS-ESS-3.1)

Further Explanation: Examples of key natural resources include access to fresh water (such as rivers, lakes, and groundwater), regions of fertile soils such as river deltas, and high concentrations of minerals and fossil fuels. Examples of natural hazards can be from interior processes (such as volcanic eruptions and earthquakes), surface processes (such as tsunamis, mass wasting and soil erosion), and severe weather (such as hurricanes, floods, and droughts). Examples of the results of changes in climate that can affect populations or drive mass migrations include changes to sea level, regional patterns of temperature and precipitation, and the types of crops and livestock that can be raised.

HS-ESS-3.2 Students who demonstrate understanding can:
Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.

Supporting Content ESS3.A: Natural Resources

- All forms of energy production and other resource extraction have associated economic, social, environmental, and geopolitical benefits, costs and risks. New technologies and social regulations can change the balance of these factors. (HS-ESS-3.2)

Supporting Content ETS1.B: Developing Possible Solutions

- When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental factors. (HS-ESS-3.2, HS-ESS-3.4)

Further Explanation: Emphasis is on the conservation, recycling, and reuse of resources (such as minerals and metals) and on minimizing impacts. Examples include developing best practices for agricultural soil use, mining (for coal, tar sands, and oil shales), and pumping (for petroleum and natural gas).

HS-ESS-3.3 Students who demonstrate understanding can:
Illustrate relationships among management of natural resources, the sustainability of human populations, and biodiversity.

Supporting Content ESS3.C: Human Influences on Earth Systems

- The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources. (HS-ESS-3.3)

Further Explanation: Examples of factors that affect the management of natural resources include costs of resource extraction and waste management, per-capita consumption, and the development of new technologies. Examples of factors that affect human sustainability include agricultural efficiency, levels of conservation, and urban planning.

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HS-ESS-3.4 Students who demonstrate understanding can:
Evaluate or refine a scientific or technological solution that mitigates or enhances human influences on natural systems.

Supporting Content ESS3.C: Human Influences on Earth Systems

- Scientists and engineers can make major contributions by developing technologies that produce less pollution and waste and that preclude ecosystem degradation. (HS-ESS-3.4)

Supporting Content ETS1.B: Developing Possible Solutions

- When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental factors. (HS-ESS-3.2, HS-ESS-3.4)

Further Explanation: Examples of data on the influences of human activities could include the quantities and types of pollutants released, changes to biomass and species diversity, or changes in land surface use (such as for urban development, agriculture and livestock, or surface mining). Examples of human contributions could range from local efforts (such as reducing, reusing, and recycling resources) to large-scale geoengineering design solutions (such as cloud seeding).

HS-ESS-3.5 Students who demonstrate understanding can:
Analyze geoscience data and the results from global climate models to make an evidence-based explanation of how climate variability can affect Earth's systems on a global and regional scale.

Supporting Content ESS3.C: Human Influences on Earth Systems

- Human abilities to model, predict, and manage current and future effects on Earth's systems are improving with advancing technologies. (HS-ESS-3.5)

Further Explanation: Examples of evidence, for both data and climate model outputs, are for climate variations (such as precipitation and temperature) and their associated effects (such as on sea level, glacial ice volumes, or atmosphere and ocean composition).

Assessment Limit: Assessment is limited to one example of a climate variation and its associated effect.

HS-ESS-3.6 Students who demonstrate understanding can:
Communicate how relationships among Earth systems are being influenced by human activity.

Supporting Content ESS2.D: Weather and Climate

- Current models project that average global temperatures will continue to rise. The outcomes projected by these models depend on the amounts of greenhouse gases added to the atmosphere each year and the ways these gases are stored by Earth's systems. (HS-ESS-3.6)

Supporting Content ESS3.C: Human Influences on Earth Systems

- Through computer simulations and scientific research, important discoveries are still being made about how the ocean, the atmosphere, and the biosphere interact and are influenced by human activities. (HS-ESS-3.6)

Further Explanation: Examples of Earth systems are the hydrosphere, atmosphere, cryosphere, geosphere, and/or biosphere. A n example is how an increase in atmospheric carbon dioxide results in an increase in photosynthetic biomass on land and an increase in ocean acidification, with resulting impacts on sea organism health and marine populations.

Assessment Limit: Assessment does not include running computational representations but is limited to using the published results of scientific computational models.

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SUBJECT

Less Than Ten (10) Students Reported in Average Daily Attendance

REFERENCE

October 2017	Superintendent reported to the Board that eight (8) schools had requested approval and eight (8) were approved.
October 2018	Superintendent reported to the Board that nine (9) schools had requested approval and nine (9) were approved.
October 2019	Superintendent reported to the Board that nine (9) schools had requested approval and nine (9) were approved.
October 2020	Superintendent reported to the Board that six (6) schools had requested approval and six (6) were approved.

APPLICABLE STATUTE, RULE, OR POLICY

Section 33-1003 (2)(f), Idaho Code

BACKGROUND/DISCUSSION

Section 33-1003 (2)(f), Idaho Code, states that *"Any elementary school having less than ten (10) pupils in average daily attendance shall not be allowed to participate in the state or county support program unless the school has been approved for operation by the state board of education."* At the November 1999 meeting, the State Board of Education (Board) delegated authority to the State Superintendent of Public Instruction to approve elementary schools to operate with less than ten (10) average daily attendance. A report listing the elementary schools that have requested to operate with less than ten (10) average daily attendance and whether approval was granted is to be provided to the Board at the October meeting.

Five (5) schools have requested to operate with less than ten (10) average daily attendance during the 2021-2022 school year. Superintendent Ybarra has approved all of the requests. (Attachment 1)

IMPACT

These approved schools will generate state funding for their school districts, per Chapter 10, Title 33, Idaho Code.

ATTACHMENTS

Attachment 1 – Superintendent Ybarra's approval of list of approved schools

BOARD STAFF COMMENTS AND RECOMMENDATIONS

Section 33-107(4)(d) and (e), Idaho Code authorizes the Board to:

(d) Delegate to its executive secretary, the superintendent of public instruction, if necessary to enhance effectiveness and efficiency, such powers as [s]he requires to perform duties and render decisions prescribed to the State board involving the exercise of judgment and discretion that affect the public schools in Idaho;

(e) Delegations of powers under this subsection must be adopted as statements of agency action by the state board, as provided in section 33-105(2), Idaho Code, and pursuant to a process that provides for notice, opportunity for input and formal adoption by the State Board….

Statements of agency action are adopted through the Board's Governing Policies and Procedures approval process. To comply with section 33-107(4), Idaho Code, this delegation should be incorporated into Board policy IV.B. State Department of Education. The original delegation and annual reporting requirement was made by the Board at the November 18-19, 1999 Board meeting. In addition to the statutory provisions regarding the delegation of duties to the Board's executive officers, in 2014, the Board amended its bylaws to require all Board action that "impacts the ongoing future behavior of the agencies and institutions to be incorporated into Board Policy." In order to stay compliant with Section 33-107, Idaho regarding the delegation of responsibilities assigned to the Board through Idaho Code and the Board's by-laws, the delegation of approval of schools with less than ten (10) students in average daily attendance should be established in Board policy.

BOARD ACTION

This item is for informational purposes only.

IDAHO
STATE DEPARTMENT OF EDUCATION

SHERRI YBARRA, ED.S.
SUPERINTENDENT OF PUBLIC INSTRUCTION

650 W. STATE STREET, 2ND FLOOR
BOISE, IDAHO 83702
(208) 332-6800 OFFICE / 711 TRS
WWW.SDE.IDAHO.GOV

DATE: August 31, 2021

TO: Superintendent Ybarra

FROM: Julie Oberle

SUBJECT: Approval of Elementary Schools Having Less Than 10 ADA

Idaho Code 33-1003(2)(f) states,

Minimum Pupils Required. Any elementary school having less than ten (10) pupils in average daily attendance shall not be allowed to participate in the state or county support program unless the school has been approved for operation by the state board of education.

At the November 1999 meeting, the State Board of Education delegated authority to the State Superintendent of Public Instruction to approve elementary schools to operate with less than ten (10) average daily attendance. A report listing the elementary schools that have requested to operate with less than ten (10) average daily attendance and whether approval was granted will be provided to the State Board of Education.

Attached is a list of school districts and elementary schools requesting approval to operate during the 2021-2022 school year with less than ten (10) average daily attendance. I have on file a letter from each school district on this list. I recommend approval of these schools to participate in the state support program. Upon receiving your approval, I will prepare materials for the October State Board of Education meeting, and a letter to each school district advising them of the approval.

Please let me know if you have any questions or if you would like to discuss.

I, Sherri Ybarra, Superintendent of Public Instruction, approve the attached list of schools to operate during the 2021-2022 school year with less than ten (10) average daily attendance.

Sherri A. Ybarra

2021-2022 Elementary Schools Approved to Operate with Less than 10 ADA
Idaho Code 33-1003(2)(f)

School District Name	Building Number	Building Name	Estimated Enrollment	Superintendent
111 Butte County	438	HOWE ELEMENTARY	8	Joe Steele
191 Prairie	491	PRAIRIE ELEMENTARY-JR HIGH SCHOOL	8	Randy Davidson
193 Mountain Home	517	PINE ELEMENTRY-JR HIGH SCHOOL	4	James Gilbert
364 Pleasant Valley	800	PLEASANT VALLEY ELEMENTRY-JR HIGH SCHOOL	7	Heather Williams
416 Three Creek	835	THREE CREEK ELEMENTRY-JR HIGH SCHOOL	6	Dena Pollock

SUBJECT

IDAPA 08.02.03.004.06, Alternate Assessment Achievement Standards - Waiver

REFERENCE

May 2011	Board approved the Idaho Alternate Assessment Achievement Standards.
September 2015	Board approved a temporary rule amending the Alternate Assessment Achievement Standards and the performance level descriptions for the Idaho Alternate Assessment Achievement Assessment.
October 2016	Board approved a temporary rule extending the Alternate Assessment Achievement Standards and the performance level descriptions for the Idaho Alternate Assessment Achievement Assessment.
June 2017	Board approved proposed rule Docket No. 08-0203-1711
October 2017	Board approved the Pending Rule Docket No. 08-0203- 1711
March 23, 2020	Board approved partial waiver of IDAPA 08.02.03.105, waiving the college entrance exam, senior project graduation requirements for students graduating in 2020 and administration of the ISAT for the 2020-2021 school year.
October 2020	Board approved partial waiver of IDAPA 08.02.03.105, waiving the senior project graduation requirement for students graduating in 2021.
December 2020	Board approved partial waiver of IDAPA 08.02.03.105, waiving the requirement the college entrance exam requirement for students graduating in 2021.

APPLICABLE STATUTE, RULE, OR POLICY

Section 33-105, 33-1612 and 33-2002, Idaho Code
IDAPA 08.02.03.004.06
Elementary Secondary Education Act, as amended by the Every Student Succeeds Act Pub.L. 114-95 (2015)

BACKGROUND/DISCUSSION

In 2011, Idaho joined the National Center and State Collaborative (NCSC), a project led by 24 states and five (5) centers to develop an alternate assessment based on alternate achievement standards for students with the most significant cognitive disabilities. The alternate assessment was developed to ensure that all students with significant cognitive disabilities are able to participate in an assessment that is a measure of what they know and can do in relation to the grade-level Idaho Content Standards. The adoption of the NCSC recommended standards was approved in May 2011, and amendments were approved by the

State Board of Education in September 2015 through a temporary rule, and then again in 2016 through the proposed and pending rule process. In 2017, the Board approved Idaho-specific performance levels and scale score ranges for this assessment through the approval of Docket 08-0203-1711.

When the NCSC grant ended, Idaho began partnering with several other states to develop new alternate assessments in English language arts (ELA)/Literacy and Mathematics, consistent with the Every Student Succeeds Act (ESSA) peer review requirement that these assessments be regularly updated and refreshed.

Following the initial development process for its new alternate assessments in ELA/Literacy and Mathematics, Idaho conducted an embedded field test of new items in the spring of 2019. An operational field test of the new alternate assessments in ELA/Literacy and Mathematics was originally scheduled for spring 2020. However, that administration was cancelled due to COVID-19.

Idaho rescheduled the operational field test for the alternate assessments in ELA/Literacy and Mathematics for spring 2021. Under this timeline, Idaho would have pursued standard setting in summer 2021 and released student scores on these assessments in fall 2021. However, the ongoing disruptions caused by COVID-19 during the 2020-2021 school year have introduced significant technical concerns that would limit the validity and reliability of any alternate assessment ELA/Literacy and Mathematics performance standards developed based on student performance this year.

The U.S. Department of Education denied Idaho's original request to produce only raw scores for the alternate assessments in ELA/Literacy and Mathematics following the 2020-2021 school year based on requirements under the Individuals with Disabilities Education Act (IDEA) to produce scores at the same level of detail as students taking the regular assessments in these subjects. Separately, the U.S. Department of Education did approve Idaho's request not to produce scores for the alternate assessment in Science, since the regular Science assessment was also a field test in 2020-2021.

Idaho is not able to use the alternate assessment achievement standards the Board previously approved in 2017 because those components were generated for the old assessment, and do not align in terms of content or grade range. To meet the requirements under IDEA, Idaho can either go through the technically questionable standard setting or use similar achievement standards developed elsewhere on a provisional basis. This proposed action would temporarily waive the alternate assessment achievement standards incorporated by reference in IDAPA 08.02.03. If approved, the Department anticipates using cut scores developed by another state in Idaho's alternate assessment development group that also assesses students at grades 3-8 and 11 to produce provisional scores available to educators, students, and families.

IMPACT

Temporarily waiving the Alternate Assessment Achievement Standards allows for the creation of temporary, provisional alternate assessment scores for English Language Arts/Literacy and Mathematics to meet IDEA requirements, without necessitating a full standard setting based on inadequate data.

ATTACHMENTS

Attachment 1 – Current Idaho Alternate Assessment Achievement Standards Performance Level Descriptors

BOARD STAFF COMMENTS AND RECOMMENDATIONS

IDAPA 08.02.01.007 authorizes the Board to waive any education rule not required by state or federal law. This authorization grants the Board the authority to provide school districts and charter schools with added flexibility to respond to the COVID-19 pandemic. Rules are waived for a limited set period. Any ongoing changes must go through the negotiated rulemaking process. Waiver of any rule only removes the requirement in question. The authorization does not allow the Board to set a new rule in its place without going through the temporary rule process or the negotiated rule process.

Should the Board approve the waiver of the current Alternate Assessment Achievement Standards the Board will still need to take formal action to set new achievement standards for use during the 2021-2022 school year.

BOARD ACTION

I move to waive IDAPA 08.02.03.004.06, Alternate Assessment Achievement Standards for the 2021-2022 school year.

Moved by_____ Seconded by_____ Carried Yes No _____

IDAHO ALTERNATE ASSESSMENT ACHIEVEMENT STANDARDS

PERFORMANCE LEVEL DESCRIPTORS

English Language Arts and Mathematics
IDAPA 08.02.03.004

As approved by the Idaho State
Board of Education October 18, 2017

Performance Levels

The ID-NCSC Alternate Assessment uses a scale score system to express the student's specific performance score. The scale score is used as the basis for assigning a student's performance level in each content area. Table 1 shows the scale score ranges for performance levels for each grade and content area. The student's demonstration of the grade level skills and knowledge required by the assessment is reported as a performance level ranging from 1 to 4, with Levels 3 and 4 designated as 'Meets Expectations.'

ID-NCSC developed Performance Level Descriptors (PLDs) for mathematics and English language arts at grades 3-8 and 11 through an iterative process involving multiple stakeholder groups. The ID-NCSC partnership developed grade-level PLDs to summarize the knowledge, skills, and abilities prioritized for the ID-NCSC Alternate Assessment that students need to attain at each level of achievement (Level 1- Level 4). Each performance level is understood to include the knowledge, skills and abilities of the preceding performance levels.

It is through PLDs that teachers, parents, and the public can see not only that grade-level content a student should know and do to meet expectations, but also how well the student needs to perform—what depth, breadth, and complexity is an appropriately high expectation. The test results are one way teachers find out what a student has learned and in what areas a student needs more help; the test results help teachers, schools, parents and guardians build a path to student learning.

Table 1
Performance-Level Scale Score Ranges

Performance Level	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
English Language Arts							
Level 4	1251-1290	1258-1290	1256-1290	1253-1290	1255-1290	1250-1290	1255-1290
Level 3	1240-1250	1240-1257	1240-1255	1240-1252	1240-1254	1240-1249	1240-1254
Level 2	1234-1239	1234-1239	1232-1239	1231-1239	1236-1239	1230-1239	1236-1239
Level 1	1200-1233	1200-1233	1200-1231	1200-1230	1200-1235	1200-1229	1200-1235
Mathematics							
Level 4	1254-1290	1251-1290	1255-1290	1249-1290	1254-1290	1249-1290	1249-1290
Level 3	1240-1253	1240-1250	1240-1254	1240-1248	1240-1253	1240-1248	1240-1248
Level 2	1236-1239	1233-1239	1231-1239	1234-1239	1232-1239	1234-1239	1234-1239
Level 1	1200-1235	1200-1232	1200-1230	1200-1233	1200-1231	1200-1233	1200-1233

English Language Arts

Grade 3 ELA Performance Level Descriptors

Level 1	Level 2	Level 3	Level 4
Low text complexity - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Low text complexity** - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Moderate text complexity** - *Text with clear, complex ideas and relationships and simple; compound sentences.*	**High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*
In reading, he/she is able to: • identify the topic of a literary text • identify a detail from a literary text • identify a character or setting in a literary text • identify the topic of an informational text • identify a title, caption, or heading in an informational text • identify an illustration related to a given topic • identify a topic presented by an illustration • identify the meaning of words (i.e., nouns)	**In reading, he/she is able to:** • determine the central idea and supporting details in literary text • determine the main idea and identify supporting details in informational text • determine the main idea of visually presented information • identify the purpose of text features in informational text • use information from charts, graphs, diagrams, or timelines in informational text to answer questions • use context to identify the meaning of multiple meaning words	**In reading, he/she is able to:** • determine the central idea and supporting details in literary text • determine the main idea and identify supporting details in informational text • determine the main idea of visually presented information • identify the purpose of text features in informational text • use information from charts, graphs, diagrams, or timelines in informational text to answer questions • use context to identify the meaning of multiple meaning words	**In reading, he/she is able to:** • determine the central idea and supporting details in literary text • determine the main idea and identify supporting details in informational text • determine the main idea of visually presented information • identify the purpose of text features in informational text • use information from charts, graphs, diagrams, or timelines in informational text to answer questions • use context to identify the meaning of multiple meaning words
	AND with Moderate text complexity - *Text with clear, complex ideas and relationships and simple; compound sentences.*	**AND with High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*	
	• use details from a literary text to answer specific questions • describe the relationship between characters, and character and setting in literary text	• use details from a literary text to answer specific questions • describe the relationship between characters, and character and setting in literary text	
	AND with accuracy, he/she is able to: • identify simple words (i.e., words with a consonant at the beginning, a consonant at the end, and a short vowel in the middle)	**AND with accuracy, he/she is able to:** • identify grade level words	
AND in writing, he/she is able to: • identify a statement related to an everyday topic	**AND in writing, he/she is able to:** • identify elements of a narrative text to include beginning, middle, and end • identify the category related to a set of facts	**AND in writing, he/she is able to:** • identify a text feature (e.g., captions, graphs or diagrams) to present information in explanatory text	

Grade 4 ELA Performance Level Descriptors

Level 1	Level 2	Level 3	Level 4
Low text complexity - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Low text complexity** - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Moderate text complexity** - *Text with clear, complex ideas and relationships and simple; compound sentences.*	**High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*
In reading, he/she is able to: • identify a topic of a literary text • identify a detail from a literary text • identify a character in a literary text • identify charts, graphs, diagrams, or timelines in an informational text • identify a topic of an informational text • use context to identify the meaning of multiple meaning words • identify general academic words	**In reading, he/she is able to:** • determine the theme of literary text and identify supportive details • describe character traits using text-based details in literary text • determine the main idea of informational text • locate information in charts, graphs, diagrams, or timelines • use information from charts, graphs, diagrams, or timelines in informational text to answer questions • use general academic words	**In reading, he/she is able to:** • determine the theme of literary text and identify supportive details • determine the main idea of informational text • explain how the information provided in charts, graphs, diagrams, or timelines contributes to an understanding of informational text • use information from charts, graphs, diagrams, or timelines in informational text to answer questions • use general academic words	**In reading, he/she is able to:** • determine the theme of literary text and identify supportive details • determine the main idea of informational text • explain how the information provided in charts, graphs, diagrams, or timelines contributes to an understanding of informational text • use information from charts, graphs, diagrams, or timelines in informational text to answer questions • use general academic words
	AND with Moderate text complexity - *Text with clear, complex ideas and relationships and simple; compound sentences.* • use details from a literary text to answer specific questions • use context to identify the meaning of multiple meaning words	**AND with High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.* • use details from a literary text to answer specific questions • describe character traits using text-based details in literary text • use context to identify the meaning of multiple meaning words	
	AND with accuracy, he/she is able to: • identify simple words (i.e., words with a consonant at the beginning, a consonant at the end, and a short vowel in the middle)	**AND with accuracy, he/she is able to:** • identify grade level words	
AND in writing, he/she is able to: • identify the concluding sentence in a short explanatory text	**AND in writing, he/she is able to:** • identify elements of a narrative text to include beginning, middle, and end • identify a concluding sentence related to information in explanatory text	**AND in writing, he/she is able to:** • identify a text feature (e.g., headings, charts, or diagrams) to present information in explanatory text	

Grade 5 ELA Performance Level Descriptors

Level 1	Level 2	Level 3	Level 4
Low text complexity - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Low text complexity** - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Moderate text complexity** - *Text with clear, complex ideas and relationships and simple; compound sentences.*	**High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*
In reading, he/she is able to: • identify an event from the beginning of a literary text • identify a detail from a literary text • identify a character, setting and event in a literary text • identify the topic of an informational text • identify the main idea of an informational text • identify the difference in how information is presented in two sentences	**In reading, he/she is able to:** • compare characters, settings, and events in literary text • determine the main idea and identify supporting details in informational text • use details from the text to support an author's point in informational text • compare and contrast how information and events are presented in two informational texts • use context to identify the meaning of multiple meaning words	**In reading, he/she is able to:** • compare characters, settings, and events in literary text • determine the main idea and identify supporting details in informational text • use details from the text to support an author's point in informational text • compare and contrast how information and events are presented in two informational texts • use context to identify the meaning of multiple meaning words	**In reading, he/she is able to:** • compare characters, settings, and events in literary text • determine the main idea and identify supporting details in informational text • use details from the text to support an author's point in informational text • compare and contrast how information and events are presented in two informational texts • use context to identify the meaning of multiple meaning words
	AND with Moderate text complexity - *Text with clear, complex ideas and relationships and simple; compound sentences.* • summarize a literary text from beginning to end • use details from a literary text to answer specific questions	**AND with High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.* • summarize a literary text from beginning to end • use details from a literary text to answer specific questions	
AND in writing, he/she is able to: • identify the category related to a set of common nouns	**AND in writing, he/she is able to:** • identify elements of a narrative text to include beginning, middle, and end • identify a sentence that is organized for a text structure such as comparison/contrast	**AND in writing, he/she is able to:** • support an explanatory text topic with relevant information	

Grade 6 ELA Performance Level Descriptors

Level 1	Level 2	Level 3	Level 4
Low text complexity - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Low text complexity** - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Moderate text complexity** - *Text with clear, complex ideas and relationships and simple; compound sentences.*	**High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*
In reading, he/she is able to: • identify an event from the beginning or end of a literary text • identify a detail from a literary text • identify a character in a literary text • identify the topic of an informational text • identify the main idea of an informational text • identify a fact from an informational text • identify a description of an individual or event in an informational text • use context to identify the meaning of multiple meaning words • identify the meaning of general academic words	**In reading, he/she is able to:** • summarize a literary text from beginning to end without including personal opinions • support inferences about characters using details in literary text • use details from the text to elaborate a key idea in informational text	**In reading, he/she is able to:** • summarize a literary text from beginning to end without including personal opinions • support inferences about characters using details in literary text • summarize an informational text without including personal opinions • use details from the text to elaborate a key idea in informational text • use evidence from the text to support an author's claim in informational text • summarize information presented in two informational texts • use domain specific words accurately	**In reading, he/she is able to:** • summarize a literary text from beginning to end without including personal opinions • use details from a literary text to answer specific questions • support inferences about characters using details in literary text • use details from the text to elaborate a key idea in an informational text • use evidence from the text to support an author's claim in informational text • use domain specific words accurately
	AND with Moderate text complexity - *Text with clear, complex ideas and relationships and simple; compound sentences.* • use details from a literary text to answer specific questions • use context to identify the meaning of multiple meaning words	**AND with High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.* • use details from a literary text to answer specific questions • use context to identify the meaning of multiple meaning words	
AND in writing, he/she is able to: • identify an everyday order of events	**AND in writing, he/she is able to:** • identify elements of an explanatory text to include introduction, body, and conclusion • identify the next event in a brief narrative	**AND in writing, he/she is able to:** • identify transition words and phrases to convey a sequence of events in narrative text	

Grade 7 ELA Performance Level Descriptors

Level 1	Level 2	Level 3	Level 4
Low text complexity - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Low text complexity -** *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Moderate text complexity -** *Text with clear, complex ideas and relationships and simple; compound sentences.*	**High text complexity -** *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*
In reading, he/she is able to: • identify a theme from a literary text • identify an inference from a literary text • identify a conclusion from an informational text • identify a claim the author makes in an informational text • compare and contrast two statements related to the same topic • use context to identify the meaning of words	**In reading, he/she is able to:** • identify the relationship between individuals or events in an informational text • use evidence from the text to support an author's claim in informational text in informational text	**In reading, he/she is able to:** • use details to support a conclusion from informational text • use details to explain how the interactions between individuals, events or ideas in informational texts are influenced by each other • use evidence from the text to support an author's claim in informational text • compare and contrast how two authors write about the same topic in informational texts • use context to identify the meaning of grade-level phrases	**In reading, he/she is able to:** • use details to support a conclusion from informational text • use details to explain how the interactions between individuals, events or ideas in informational texts are influenced by each other • use evidence from the text to support an author's claim in informational text • compare and contrast how two authors write about the same topic in informational texts • use context to identify the meaning of grade-level phrases
	AND with Moderate text complexity - *Text with clear, complex ideas and relationships and simple; compound sentences.*	**AND with High text complexity -** *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*	
	• use details to support themes from literary text • use details to support inferences from literary text	• use details to support themes from literary text • use details to support inferences from literary text	
AND in writing, he/she is able to: • identify a graphic that includes an event as described in a text	**AND in writing, he/she is able to:** • identify elements of an explanatory text to include introduction, body, and conclusion • identify the next event in a brief narrative	**AND in writing, he/she is able to:** • identify a sentence that provides a conclusion in narrative text	

Grade 8 ELA Performance Level Descriptors

Level 1 **Low text complexity** - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Level 2** **Low text complexity** - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Level 3** **Moderate text complexity** - *Text with clear, complex ideas and relationships and simple; compound sentences.*	**Level 4** **High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*
In reading, he/she is able to: • identify a theme from a literary text • identify an inference from a literary text • identify a fact related to a presented argument in informational text • identify a similar topic in two informational texts • use context to identify the meaning of multiple meaning words • identify the meaning of general academic words	**In reading, he/she is able to:** • use details to support a conclusion from literary text • identify an inference drawn from an informational text • identify the portion of text which contains specific information • identify an argument the author makes in informational text • examine parts of two informational texts to identify where the texts disagree on matters of fact or interpretation • use domain specific words or phrases accurately	**In reading, he/she is able to:** • use details to support a conclusion from literary text • use details to support an inference from informational text • identify the information (e.g., facts or quotes) in a section of text that contributes to the development of an idea • identify an argument the author makes in informational text • examine parts of two informational texts to identify where the texts disagree on matters of fact or interpretation • use domain specific words and phrases accurately	**In reading, he/she is able to:** • use details to support a conclusion from literary text • use details to support an inference from informational text • identify the information (e.g., facts or quotes) in a section of text that contributes to the development of an idea • identify an argument the author makes in informational text • examine parts of two informational texts to identify where the texts disagree on matters of fact or interpretation • use domain specific words and phrases accurately
	AND with Moderate text complexity - *Text with clear, complex ideas and relationships and simple; compound sentences.* • analyze the development of a theme including the relationship between a character and an event in literary text • use context to identify the meaning of grade-level words and phrases	**AND with High text complexity** - *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.* • analyze the development of a theme including the relationship between a character and an event in literary text • use context to identify the meaning of grade-level words and phrases	
AND in writing, he/she is able to: • identify a writer's opinion	**AND in writing, he/she is able to:** • identify elements of an explanatory text to include introduction, body, and conclusion • identify an idea relevant to a claim	**AND in writing, he/she is able to:** • identify relevant information to support a claim	

Grade 11 ELA Performance Level Descriptors

Level 1	Level 2	Level 3	Level 4
Low text complexity - *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Low text complexity -** *Brief text with straightforward ideas and relationships; short, simple sentences.*	**Moderate text complexity -** *Text with clear, complex ideas and relationships and simple; compound sentences.*	**High text complexity -** *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*
In reading, he/she is able to: • identify a summary of a literary text • identify an event from a literary text • identify the central idea of an informational text • identify facts from an informational text • identify what an author tells about a topic in informational text • use context to identify the meaning of multiple meaning words • identify a word used to describe a person, place, thing, action or event	**In reading, he/she is able to:** • use details to support a summary of literary text • identify a conclusion from an informational text • identify key details that support the development of a central idea of an informational text • use details presented in two informational texts to answer a question • explain why an author uses specific word choices within texts	**In reading, he/she is able to:** • use details to support a summary of literary text • use details to support a conclusion presented in informational text • identify key details that support the development of a central idea of an informational text • use details presented in two informational texts to answer a question • explain why an author uses specific word choices within texts	**In reading, he/she is able to:** • use details to support a summary of literary text • use details to support a conclusion presented in informational text • identify key details that support the development of a central idea of an informational text • use details presented in two informational texts to answer a question • explain why an author uses specific word choices within texts
	AND with Moderate text complexity - *Text with clear, complex ideas and relationships and simple; compound sentences.*	**AND with High text complexity -** *Text with detailed and implied complex ideas and relationships; a variety of sentence types including phrases and transition words.*	
	• evaluate how the author's use of specific details in literary text contributes to the text • determine an author's point of view about a topic in informational text • use context to identify the meaning of grade-level phrases	• evaluate how the author's use of specific details in literary text contributes to the text • determine an author's point of view about a topic in informational text • use context to identify the meaning of grade-level phrases	
AND in writing, he/she is able to: • identify information which is unrelated to a given topic	**AND in writing, he/she is able to:** • identify elements of an argument to include introduction, claim, evidence, and conclusion • identify how to group information for a specific text structure	**AND in writing, he/she is able to:** • identify relevant information to address a given topic and support the purpose of a text	

Grade 3 Mathematics Performance Level Descriptors

Level 1 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	**Level 2** **Low task complexity -** *Simple problems using common mathematical terms and symbols*	**Level 3** **Moderate task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols*	**Level 4** **High task complexity -** *Multiple mathematical ideas presented in problems using various mathematical terms and symbolic representations of numbers, variables, and other item elements*
He/she is able to: • solve addition problems • identify growing number patterns • identify an object showing a specified number of parts shaded • identify which object has the greater number of parts shaded • identify an object equally divided in two parts • identify the number of objects to be represented in a pictograph	**He/she is able to:** • solve addition and subtraction word problems • identify an arrangement of objects which represents factors in a problem • solve multiplication equations in which both numbers are equal to or less than five • identify multiplication patterns • identify a set of objects as nearer to 1 or 10 • identify a representation of the area of a rectangle	**He/she is able to:** • solve addition and subtraction word problems • check the correctness of an answer in the context of a scenario • solve multiplication equations in which both numbers are equal to or less than five • identify multiplication patterns • match fraction models to unitary fractions • compare fractions with different numerators and the same denominator • transfer data from an organized list to a bar graph	**He/she is able to:** • solve addition and subtraction word problems • check the correctness of an answer in the context of a scenario • solve multiplication equations in which both numbers are equal to or less than five • identify multiplication patterns • match fraction models to unitary fractions • compare fractions with different numerators and the same denominator • transfer data from an organized list to a bar graph
	AND with Moderate task complexity - *Common problems presented in mathematical context using various mathematical terms and symbols* • identify geometric figures which are divided into equal parts	**AND with High task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols* • round numbers to nearest 10 • identify geometric figures which are divided into equal parts • count unit squares to compute the area of a rectangle	

Grade 4 Mathematics Performance Level Descriptors

Level 1	Level 2	Level 3	Level 4
Low task complexity - *Simple problems using common mathematical terms and symbols*	**Low task complexity -** *Simple problems using common mathematical terms and symbols*	**Moderate task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols*	**High task complexity -** *Multiple mathematical ideas presented in problems using various mathematical terms and symbolic representations of numbers, variables, and other item elements*
He/she is able to: • identify an array with the same number of objects in each row • identify values rounded to nearest tens place • identify equivalent representations of a fraction (e.g., shaded diagram) • compare representations of a fraction (e.g., shaded diagram) • identify a rectangle with the larger or smaller perimeter • identify a given attribute of a shape • identify the data drawn in a bar graph that represents the greatest value	**He/she is able to:** • match a model to an multiplication expression using two single digit numbers • identify a model of a multiplicative comparison • show division of objects into equal groups • round numbers to nearest 10, 100 or 1000 • differentiate parts and wholes • compute the perimeter of a rectangle **AND with Moderate task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols* • identify equivalent fractions • select a 2-dimensional shape with a given attribute	**He/she is able to:** • solve multiplication word problems • show division of objects into equal groups • round numbers to nearest 10, 100, or 1000 • compare two fractions with different denominators • sort a set of 2-dimensional shapes • compute the perimeter of a rectangle • transfer data to a graph **AND with High task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols* • solve a multiplicative comparison word problem using up to two-digit numbers • check the correctness of an answer in the context of a scenario • identify equivalent fractions	**He/she is able to:** • solve multiplication word problems • show division of objects into equal groups • round numbers to nearest 10, 100 or 1000 • compare two fractions with different denominators • sort a set of 2-dimensional shapes • compute the perimeter of a rectangle • transfer data to a graph

Grade 5 Mathematics Performance Level Descriptors

Level 1 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	Level 2 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	Level 3 **Moderate task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols*	Level 4 **High task complexity -** *Multiple mathematical ideas presented in problems using various mathematical terms and symbolic representations of numbers, variables, and other item elements*
He/she is able to: • solve one-step subtraction word problems • divide sets (no greater than 6) into two equal parts • identify values in the tenths place • identify a number in the ones, tens or hundreds place • identify a given axis of a coordinate plan • match the conversion of 3 feet to 1 yard to a model • calculate elapsed time (i.e., hours) • identify whether the values increase or decrease in a line graph	**He/she is able to:** • identify if the total will increase or decrease when combining sets • perform operations with decimals • identify a symbolic representation of the addition of two fractions • identify place values to the hundredths place • convert standard measurements	**He/she is able to:** • solve multiplication and division word problems • perform operations with decimals • solve word problems involving fractions • identify place values to the hundredths place • locate a given point on a coordinate plane when given an ordered pair • convert standard measurements • convert between minutes and hours • make quantitative comparisons between data sets shown as line graphs	**He/she is able to:** • solve multiplication and division word problems • perform operations with decimals • solve word problems involving fractions • identify place values to the hundredths place • locate a given point on a coordinate plane when given an ordered pair • convert standard measurements • convert between minutes and hours • make quantitative comparisons between data sets shown as line graphs
	AND with Moderate task complexity - *Common problems presented in mathematical context using various mathematical terms and symbols* • compare the values of two products based upon multipliers • round decimals to nearest whole number	**AND with High task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols* • compare the values of two products based upon multipliers • round decimals to nearest whole number	

Grade 6 Mathematics Performance Level Descriptors

Level 1 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	Level 2 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	Level 3 **Moderate task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols*	Level 4 **High task complexity -** *Multiple mathematical ideas presented in problems using various mathematical terms and symbolic representations of numbers, variables, and other item elements*
He/she is able to: • identify a model of a given percent • match a given unit rate to a model • identify a representation of two equal sets • identify a number less than zero on a number line • identify the meaning of an unknown in a modeled equation • count the number of grids or tiles inside a rectangle to find the area of a rectangle • identify the object that appears most frequently in a set of data (mode) • identify a representation of a set of data arranged into even groups (mean)	**He/she is able to:** • match a given ratio to a model • recognize a representation of the sum of two halves • solve real world measurement problems involving unit rates • identify a representation of a value less than zero • identify the median or the equation needed to determine the mean of a set of data	**He/she is able to:** • perform operations using up to three-digit numbers • solve real world measurement problems involving unit rates • identify positive and negative values on a number line • determine the meaning of a value from a set of positive and negative integers • solve word problems with expressions including variables • compute the area of a parallelogram • identify the median or the equation needed to determine the mean of a set of data	**He/she is able to:** • solve real world measurement problems involving unit rates • identify positive and negative values on a number line • solve word problems with expressions including variables • compute the area of a parallelogram • identify the median or the equation needed to determine the mean of a set of data
	AND with Moderate task complexity - *Common problems presented in mathematical context using various mathematical terms and symbols* • perform one-step operations with two decimal numbers • solve word problems using a percent	**AND with High task complexity** - *Common problems presented in mathematical context using various mathematical terms and symbols* • perform one-step operations with two decimal numbers • solve word problems using a percent • solve word problems using ratios and rates	

Grade 7 Mathematics Performance Level Descriptors

Level 1 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	Level 2 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	Level 3 **Moderate task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols*	Level 4 **High task complexity -** *Multiple mathematical ideas presented in problems using various mathematical terms and symbolic representations of numbers, variables, and other item elements*
He/she is able to: • identify a representation which represents a negative number and its multiplication or division by a positive number • identify representations of area and circumference of a circle • identify representations of surface area • make qualitative comparisons when interpreting a data set presented on a bar graph or in a table	**He/she is able to:** • match a given ratio to a model • identify the meaning of an unknown in a modeled equation • describe a directly proportional relationship (i.e., increases or decreases) • find the surface area of three-dimensional right prism	**He/she is able to:** • solve division problems with positive/negative whole numbers • solve word problems involving ratios • use a proportional relationship to solve a percentage problem • identify proportional relationships between quantities represented in a table • identify unit rate (constant of proportionality) in tables and graphs of proportional relationships • compute the area of a circle • find the surface area of a three-dimensional right prism	**He/she is able to:** • solve division problems with positive/negative whole numbers • solve word problems involving ratios • identify proportional relationships between quantities represented in a table • compute the area of a circle • find the surface area of a three-dimensional right prism
	AND with Moderate task complexity - *Common problems presented in mathematical context using various mathematical terms and symbols*	**AND with High task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols*	
	• solve multiplication problems with positive/negative whole numbers • interpret graphs to qualitatively contrast data sets	• solve multiplication problems with positive/negative whole numbers • evaluate variable expressions that represent word problems • interpret graphs to qualitatively contrast data sets	

Grade 8 Mathematics Performance Level Descriptors

Level 1	Level 2	Level 3	Level 4
Low task complexity - *Simple problems using common mathematical terms and symbols*	**Low task complexity -** *Simple problems using common mathematical terms and symbols*	**Moderate task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols*	**High task complexity -** *Multiple mathematical ideas presented in problems using various mathematical terms and symbolic representations of numbers, variables, and other item elements*
He/she is able to: • locate a given decimal number on a number line • identify the relatively larger data set when given two data sets presented in a graph • identify congruent rectangles • identify similar rectangles • identify an attribute of a cylinder • identify a rectangle with the larger or smaller area as compared to another rectangle • identify an ordered pair and its point on a graph	**He/she is able to:** • identify the solution to an equation which contains a variable • identify the y-intercept of a linear graph • match a given relationship between two variables to a model • identify a data display that represents a given situation • interpret data presented in graphs to identify associations between variables	**He/she is able to:** • locate approximate placement of an irrational number on a number line • solve a linear equation which contains a variable • identify the relationship shown on a linear graph • calculate slope of a positive linear graph • compute the change in area of a figure when its dimensions are changed • solve for the volume of a cylinder • plot provided data on a graph	**He/she is able to:** • locate approximate placement of an irrational number on a number line • solve a linear equation which contains a variable • identify the relationship shown on a linear graph • compute the change in area of a figure when its dimensions are changed • plot provided data on a graph
	AND with Moderate task complexity - *Common problems presented in mathematical context using various mathematical terms and symbols* • identify congruent figures • use properties of similarity to identify similar figures • interpret data tables to identify the relationship between variables	**AND with High task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols* • interpret data presented in graphs to identify associations between variables • interpret data tables to identify the relationship between variables • use properties of similarity to identify similar figures • identify congruent figures	

Grade 11 Mathematics Performance Level Descriptors

Level 1 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	Level 2 **Low task complexity -** *Simple problems using common mathematical terms and symbols*	Level 3 **Moderate task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols*	Level 4 **High task complexity -** *Multiple mathematical ideas presented in problems using various mathematical terms and symbolic representations of numbers, variables, and other item elements*
He/she is able to: • arrange a given number of objects into two sets in multiple combinations • match an equation with a variable to a provided real world situation • determine whether a given point is or is not part of a data set shown on a graph • identify an extension of a linear graph • use a table to match a unit conversion • complete the formula for area of a figure	**He/she is able to:** • identify the model that represents a square number • identify variable expressions which represent word problems • identify the hypotenuse of a right triangle • identify the greatest or least value in a set of data shown on a number line • identify the missing label on a histogram • calculate the mean and median of a set of data	**He/she is able to:** • compute the value of an expression that includes an exponent • identify variable expressions which represent word problems • solve real world measurement problems that require unit conversions • find the missing attribute of a three-dimensional figure • determine two similar right triangles when a scale factor is given • make predictions from data tables and graphs to solve problems • plot data on a histogram • calculate the mean and median of a set of data	**He/she is able to:** • identify variable expressions which represent word problems • solve real world measurement problems that require unit conversions • determine two similar right triangles when a scale factor is given • make predictions from data tables and graphs to solve problems • plot data on a histogram • calculate the mean and median of a set of data
	AND with Moderate task complexity - *Common problems presented in mathematical context using various mathematical terms and symbols* • identify the linear representation of a provided real world situation • use an equation or a linear graphical representation to solve a word problem	**AND with High task complexity -** *Common problems presented in mathematical context using various mathematical terms and symbols* • identify the linear representation of a provided real world situation • use an equation or a linear graphical representation to solve a word problem • identify a histogram which represents a provided data set	

SUBJECT

ARP ESSER 2.5% of State Set-Aside Reserve funds for Non-Title and Low Title LEAs

REFERENCE

April 5, 2021	The Board approved use of $11,851,300 of the $19,589,000 in ESSER II 10% SEA reserve funds for distribution to local education agencies who receive no ESSER II or low ESSER II funding through the Title I formula distribution; and to approve the use of up to $300,000 in ESSER II SEA reserve funding for use by the State Department of Education to administer the distribution of ESSER funding to local education agencies; and preliminarily designate the use of the 2.5% of the SEA reserve funds to local education agencies who receive no ARP ESSER funds or low ARP ESSER funds based on their Title I student populations.

BACKGROUND/DISCUSSION

The American Rescue Plan (ARP) ESSER was signed into law March 11, 2021 and provides Idaho $439,942,041 for K-12 education. Of this amount, 90% will be allocated to local education agencies (LEAs). Of this amount, LEAs must spend 20% of their funds on addressing lost instructional time. The remaining 10% State Set-Aside Reserve must be used to address learning loss (5%), summer enrichment (1%), after school programs (1%) and emergency needs and administrative costs (3%) identified by the State Board members. On April 5, 2021, the Board approved to designate 2.5% of the State Education Agency (SEA) Set-Aside Reserve for non-Title and low Title LEAs. Idaho received the grant award notice for 2/3 of the ARP ESSER funds on March 24, 2021. The State will receive the remaining funds after a Plan and Application are submitted. The Idaho ARP ESSER State Plan was submitted to USED on June 17, 2021 after an extension was requested and approved. USED responded with feedback and a request for additional information on July 13, 2021 for sections C, D, and the GEPA statement. The Superintendent submitted an updated Plan on July 23, 2021. On August 23, 2021, USED requested additional feedback on section D. Board members approved the Plan, which was provided by the State Board office, on August 26, 2021. The final version of the Idaho ARP ESSER State Plan was submitted to USED on August 30, 2021.

Of Idaho's $43,994,204 State Set-Aside Reserve, 3% or $13,198,261, is available for "Other Emergency needs by the SEA". On April 5, 2021, in a Special Board Meeting, the Board approved the use of 2.5% or $10,998,551 to fund LEAs that did not receive any Title I-A funds and additional LEAs that are low Title I-A funded.

The recommended methodology for awarding 2.5% of the ARP ESSER State Set-Aside Reserve in the amount of $10,998,551 is:

1. To first fund Idaho Bureau of Educational Services for the Deaf and Blind (IBESDB) $590,000;
2. To fund a base amount of $349,062 to LEAs who did not receive a Title I-A allocation for the 2020-2021 school year; and
3. To increase the allocation for the Title I-A LEAs who fall below the base amount.

After funding IBESDB off the top and using the minimum base amount of $349,062, 16 non-Title LEAs will receive the minimum allocation and 42 low-Title LEAs will receive additional funds to bring them up to the base amount of $349,062.

This methodology reflects the same methodology used to determine allocations for the $1M in Coronavirus Relief Funds, Non- ESSER fund. See Attachment 1, ARP ESSER State Set-Aside 2.5%, for a list of the allocations using the methodology above.

ATTACHMENT

Attachment 1 – ARP ESSER State Set-Aside 2.5%

IMPACT

The ARP ESSER allocations from the 2.5% State Set-Aside reserve amount of $10,998,551 for non-Title and low Title LEAs, including the IBESDB, will help mitigate the on-going impact of COVID-19 for students and educators.

BOARD STAFF COMMENTS AND RECOMMENDATIONS

The US Department of Education approved the Board ARP Act ESSER Plan on September 13, 2021. Current SEA Set Aside Funding Proposals Consist of:

Total 10% SEA Set Aside	**$43,994,204**	**Proposed Use**	**Remaining**
3% of Total - Emergency Needs	$13,198,261	2.5% Non-Title, Low-Title $10,998,551	$2,199,710
5% of Total - Learning Loss	$21,997,102	AOC Use $100,000 Mathematics Accelerated Learning Collaborative $3,500,000	$18,397,102
1% of Total - Summer Enrichment	$4,399,420		$4,399,420
1% of Total - After School Programs	$4,399,421		$4,399,421

Two of these proposals the Board will consider under a separate agenda item and are recommended by the Accountability Oversight Committee and the Unfinished Learning Work Group. Additional proposals are being considered that align with the provisions the Board identified in the ARP Act ESSER Plan and identified uses of the SEA Set Aside Funds. These proposals will be brought to the Board for consideration once finalized.

BOARD ACTION

I move to approve the methodology and allocations provided in Attachment 1 for the non-Title and low Title LEAs, including the Idaho Bureau of Educational Services for the Deaf and Blind, using the 2.5% of the ARP ESSER SEA State Set-Aside Reserve approved by the Board on April 5, 2021.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

ARP ESSER State Set Aside
Reserve - 2.5%
DRAFT 7.15.2021

ARP ESSER STATE SET Aside	$439,942,041
2.5% of the State Set-Aside Reserve for distribution to non-title/ low-title schools	$10,998,551

		80% Discretionary	20% Learning Loss	Total	Percentage of Total Allocation	Base or Additional Amount	E3 Total + E3 Set Aside	Grand Total
	IDAHO BUREAU OF EDUCATIONAL SERVICES FOR THE							
596	DEAF AND THE BLIND	0	0	0	0	590000	590000	590000
553	PINECREST ACADEMY OF IDAHO, INC.	0	0	0	0	349062	349062	349062
92	SWAN VALLEY ELEMENTARY DISTRICT	0	0	0	0	349062	349062	349062
364	PLEASANT VALLEY ELEMENTARY DISTRICT	0	0	0	0	349062	349062	349062
383	ARBON ELEMENTARY DISTRICT	0	0	0	0	349062	349062	349062
394	AVERY ELEMENTARY DISTRICT	0	0	0	0	349062	349062	349062
416	THREE CREEK JOINT ELEMENTARY DISTRICT	0	0	0	0	349062	349062	349062
453	IDAHO VIRTUAL HIGH SCHOOL, INC.	0	0	0	0	349062	349062	349062
480	NORTH IDAHO STEM CHARTER ACADEMY, INC.	0	0	0	0	349062	349062	349062
486	UPPER CARMEN PUBLIC CHARTER SCHOOL, INC.	0	0	0	0	349062	349062	349062
489	IDAHO COLLEGE AND CAREER READINESS ACADEMY, INC.	0	0	0	0	349062	349062	349062
491	COEUR D'ALENE CHARTER ACADEMY, INC.	0	0	0	0	349062	349062	349062
493	NORTH STAR CHARTER SCHOOL, INC.	0	0	0	0	349062	349062	349062
540	ISLAND PARK CHARTER SCHOOL, INC.	0	0	0	0	349062	349062	349062
	PRAIRIE ELEMENTARY DISTRICT - NON ESSER NOT							
191	COMMITED TO SPEND; DID NOT RECEIVE IA ALLO	0	0	0	0	349062	349062	349062
	IDAHO VIRTUAL EDUCATION PARTNERS, INC. - NON							
469	ESSER NOT COMMITED TO SPEND; DID NOT RECEIVE IA	0	0	0	0	349062	349062	349062
470	THE KOOTENAI BRIDGE ACADEMY, INC. - DECLINED	0	0	0	0	349062	349062	349062
550	DORAL ACADEMY OF IDAHO, INC.	78355.7011	19588.92528	97944.62638	0.000248848	251117.3736	251117.3736	349062
149	NORTH GEM DISTRICT	106697.749	26674.43726	133372.1863	0.000338859	215689.8137	215689.8137	349062
472	PALOUSE PRAIRIE EDUCATIONAL ORGANIZATION, INC.	108140.9583	27035.23956	135176.1978	0.000343443	213885.8022	213885.8022	349062
292	SOUTH LEMHI DISTRICT	121077.041	30269.26025	151346.3012	0.000384526	197715.6988	197715.6988	349062
485	IDAHO STEM ACADEMY, INC.	124685.0641	31171.26601	155856.3301	0.000395985	193205.6699	193205.6699	349062
488	SYRINGA MOUNTAIN SCHOOL, INC.	124849.3318	31212.33294	156061.6647	0.000396506	193000.3353	193000.3353	349062
531	FERN-WATERS PUBLIC CHARTER SCHOOL, INC.	125582.6698	31395.66745	156978.3372	0.000398835	192083.6628	192083.6628	349062
302	NEZPERCE JOINT DISTRICT	129114.4257	32278.60643	161393.0321	0.000410052	187668.9679	187668.9679	349062
511	PEACE VALLEY CHARTER SCHOOL, INC.	145118.7947	36279.69868	181398.4934	0.00046088	167663.5066	167663.5066	349062
182	MACKAY JOINT DISTRICT	147893.7458	36973.43645	184867.1823	0.000469693	164194.8177	164194.8177	349062
456	FALCON RIDGE PUBLIC CHARTER SCHOOL, INC.	149483.6226	37370.90566	186854.5283	0.000474742	162207.4717	162207.4717	349062
121	CAMAS COUNTY DISTRICT	154458.5878	38614.64695	193073.2347	0.000490542	155988.7653	155988.7653	349062
382	ROCKLAND DISTRICT	160841.562	40210.39049	201051.9524	0.000510813	148010.0476	148010.0476	349062
508	HAYDEN CANYON CHARTER SCHOOL, INC.	163528.5125	40882.12812	204410.6406	0.000519347	144651.3594	144651.3594	349062
566	Cardinal Academy, Incorporated	166062.342	41515.5855	207577.9275	0.000527394	141484.0725	141484.0725	349062
532	TREASURE VALLEY CLASSICAL ACADEMY, INC.	172576.8	43144.2	215721	0.000548083	133341	133341	349062
342	CULDESAC JOINT DISTRICT	178864.0772	44716.0193	223580.0965	0.000568051	125481.9035	125481.9035	349062
283	KENDRICK JOINT DISTRICT	181709.4287	45427.35719	227136.7859	0.000577087	121925.2141	121925.2141	349062
287	TROY SCHOOL DISTRICT	182876.9029	45719.22572	228596.1286	0.000580795	120465.8714	120465.8714	349062
559	THOMAS JEFFERSON CHARTER SCHOOL, INC.	185833.7218	46458.43045	232292.1522	0.000590185	116769.8478	116769.8478	349062
305	HIGHLAND JOINT DISTRICT	186508.3928	46627.09819	233135.491	0.000592328	115926.509	115926.509	349062
560	Alturas Preparatory Academy, Inc.	187305.3845	46826.34613	234131.7307	0.000594859	114930.2693	114930.2693	349062

STATE DEPARTMENT OF EDUCATION
OCTOBER 21, 2021

ATTACHMENT 1

		80% Discretionary	20% Learning Loss	Total	Percentage of Total Allocation	Base or Additional Amount	E3 Total + E3 Set Aside	Grand Total
234	BLISS JOINT DISTRICT	189254.0103	47313.50258	236567.5129	0.000601048	112494.4871	112494.4871	349062
528	FORGE INTERNATIONAL, LLC	193865.2398	48466.30995	242331.5498	0.000615693	106730.4502	106730.4502	349062
433	MIDVALE DISTRICT	196159.1212	49039.78029	245198.9014	0.000622978	103863.0986	103863.0986	349062
161	CLARK COUNTY DISTRICT	202589.0289	50647.25723	253236.2862	0.000643398	95825.71383	95825.71383	349062
544	MOSAICS PUBLIC SCHOOL, INC.	204706.9091	51176.72729	255883.6364	0.000650124	93178.36356	93178.36356	349062
243	SALMON RIVER JOINT SCHOOL DISTRICT	211271.7511	52817.93778	264089.6889	0.000670973	84972.31108	84972.31108	349062
288	WHITEPINE JOINT SCHOOL DISTRICT	220805.1454	55201.28636	276006.4318	0.00070125	73055.56821	73055.56821	349062
513	PROJECT IMPACT STEM ACADEMY, INC.	221192.3479	55298.08698	276490.4349	0.00070248	72571.56511	72571.56511	349062
497	PATHWAYS IN EDUCATION - NAMPA, INC.	223703.2973	55925.82433	279629.1216	0.000710455	69432.87837	69432.87837	349062
549	Gem Prep: Meridian North LLC.	227009.4784	56752.36961	283761.8481	0.000720955	65300.15194	65300.15194	349062
282	GENESEE JOINT DISTRICT	230491.074	57622.76851	288113.8426	0.000732012	60948.15744	60948.15744	349062
478	LEGACY PUBLIC CHARTER SCHOOL, INC.	231148.1449	57787.03623	288935.1811	0.000734099	60126.81886	60126.81886	349062
454	ROLLING HILLS PUBLIC CHARTER SCHOOL, INC.	236211.1106	59052.77766	295263.8883	0.000750178	53798.11172	53798.11172	349062
482	AMERICAN HERITAGE CHARTER SCHOOL, INC.	236293.2445	59073.31112	295366.5556	0.000750439	53695.44439	53695.44439	349062
451	VICTORY CHARTER SCHOOL, INC.	254192.559	63548.13974	317740.6987	0.000807285	31321.30131	31321.30131	349062
483	CHIEF TAHGEE ELEMENTARY ACADEMY, INC.	255377.6332	63844.4083	319222.0415	0.000811048	29839.9585	29839.9585	349062
458	LIBERTY CHARTER SCHOOL, INC.	258375.519	64593.87976	322969.3988	0.000820569	26092.6012	26092.6012	349062
432	CAMBRIDGE JOINT DISTRICT	258956.3228	64739.08069	323695.4034	0.000822414	25366.59656	25366.59656	349062
492	ANSER OF IDAHO, INC.	259936.0624	64984.01559	324920.0779	0.000825525	24141.92206	24141.92206	349062
418	MURTAUGH JOINT DISTRICT	276532.9685	69133.24212	345666.2106	0.000878235	3395.789383	3395.789383	349062
						10998551.27	10998551.27	