

K-8 TECHNOLOGY, 2026

Idaho Content Standards for K-8 Technology and Artificial Intelligence



IDAHO DEPARTMENT OF EDUCATION
CONTENT AND CURRICULUM | K-8 TECHNOLOGY

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THE ROLE OF STANDARDS

The Idaho Content Standards define what all students are expected to know and be able to do. They do not define how teachers should teach the standards. 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 do not define 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. These standards define grade level expectations in mathematics for all students.

Standards vs. Curriculum

While the Idaho Department of Education reviews curricular materials as a service for school districts, no specific curriculum or strategies are required by the State of Idaho to be used to teach the Idaho Content Standards. Local schools and districts make decisions about what resources will be used to teach the standards. Districts and schools can draw upon resources provided by the Department through the curricular materials review process to support their curricular review and selection process.

ORGANIZATION OF THE STANDARDS

Format for Each Category

This document is organized into three foundational categories: Computational Thinking, Digital Literacy, and Artificial Intelligence. Each category is structured by grade bands: K–2, 3–5, and 6–8. While students are expected to demonstrate proficiency in these standards by the end of each grade band, instruction is a shared responsibility. To ensure student success, these standards should be integrated into a balanced, comprehensive learning experience across every grade level, rather than falling solely on the final year of a grade band.

Standards Identifiers/Coding

Each standard is labeled first by the grade level (e.g., K-2), then the category (e.g., CT) and lastly by a numerical value (e.g., 3). This allows for easier identification of which standard is being taught or addressed within the classroom. The example above would be written as K-2.CT.3.

Throughout this document, clarification statements are *highlighted in pink* and *examples are highlighted in blue*.

STANDARDS WORK GROUP

These standards reflect the collaborative efforts of a diverse committee comprising educators from across the state, post-secondary institution representatives, industry partners, parents, and local board representatives. The Idaho Department of Education extends its deepest gratitude to these dedicated committee members. Their invaluable time, thoughtful consideration, and rigorous dedication have ensured that these standards are both robust and relevant for Idaho's students.

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COMPUTATIONAL THINKING

Grades K-2

Computing Systems

<u>Code</u>	<u>Standard</u>
<u>K-2.CT.1.1</u>	<u>Recognize that software is required to control all computing devices (e.g. programs, browsers, websites, apps).</u>
<u>K-2.CT.1.2</u>	<u>Use digital tools to create original artifacts.</u>

Data and Analysis

<u>Code</u>	<u>Standard</u>
<u>K-2.CT.2.1</u>	<u>Classify and sort information into useful order without using a computer (e.g. sorting objects by various attributes).</u>
<u>K-2.CT.2.2</u>	<u>Demonstrate that computing devices save information as data that can be stored, searched, retrieved, modified, and deleted.</u>
<u>K-2.CT.2.3</u>	<u>Recognize performance feedback from digital tools, make adjustments based on that feedback and use age-appropriate technology to share learning.</u>
<u>K-2.CT.2.4</u>	<u>Analyze age-appropriate data and look for similarities in order to identify patterns and categories.</u>
<u>K-2.CT.2.5</u>	<u>Identify a problem and select appropriate technology tools to explore and find solutions.</u>

Impacts of Computing

<u>Code</u>	<u>Standard</u>
<u>K-2.CT.3.1</u>	<u>Share ideas in multiple ways using digital tools</u>
<u>K-2.CT.3.2</u>	<u>Select technology to share ideas with different people.</u>
<u>K-2.CT.3.3</u>	<u>Select tools to broaden perspectives and enrich learning by collaborating with others and working effectively in teams locally and globally.</u>
<u>K-2.CT.3.4</u>	<u>Use a design process to develop ideas or creations, and they test their design and redesign if necessary.</u>

Algorithms and Programming

<u>Code</u>	<u>Standard</u>
<u>K-2.CT.4.1</u>	<u>Construct and test problem solutions using a block-based and/or visual programming.</u>
<u>K-2.CT.4.2</u>	<u>Construct an algorithm to accomplish a task.</u>
<u>K-2.CT.4.3</u>	<u>Follow the sequencing in an algorithm.</u>
<u>K-2.CT.4.4</u>	<u>Break a problem into parts and identify ways to solve the problem.</u>

<u>Code</u>	<u>Standard</u>
<u>K-2.CT.4.5</u>	<u>Use a design process to ask questions, suggest solutions, test ideas to solve problems and redesign as needed.</u>
<u>K-2.CT.4.6</u>	<u>Use age-appropriate digital and nondigital tools to design something and are aware of the step-by-step process of designing.</u>
<u>K-2.CT.4.7</u>	<u>Understand how technology is used to make a task easier or repeatable and can identify real-world examples.</u>

Grades 3-5

Computing Systems

<u>Code</u>	<u>Standard</u>
<u>3-5.CT.1.1</u>	<u>Identify, using accurate terminology, simple hardware and software problems and apply strategies for solving these problems.</u>
<u>3-5.CT.1.2</u>	<u>Create step-by-step instructions that models intelligent behavior on computing devices.</u>
<u>3-5.CT.1.3</u>	<u>Recognize and utilize the features and functions of a variety of creation or communication tools.</u>
<u>3-5.CT.1.4</u>	<u>Create original works and learn strategies for remixing or repurposing to create new artifacts.</u>

Data and Analysis

<u>Code</u>	<u>Standard</u>
<u>3-5.CT.2.1</u>	<u>Use outcome data to solve a problem or answer a question.</u>
<u>3-5.CT.2.2</u>	<u>Understand how computers encode and store data.</u>
<u>3-5.CT.2.3</u>	<u>Collect feedback from both people and features embedded in digital tools and use age-appropriate technology to share learning.</u>
<u>3-5.CT.2.4</u>	<u>Explore or solve problems by selecting technology for data analysis, modeling and algorithmic thinking.</u>
<u>3-5.CT.2.5</u>	<u>Select effective technology to represent data.</u>
<u>3-5.CT.2.6</u>	<u>Navigate age-appropriate technologies and begin to transfer their learning to different tools or learning environments.</u>

Impacts of Computing

<u>Code</u>	<u>Standard</u>
<u>3-5.CT.3.1</u>	<u>Demonstrate and encourage respect for intellectual property with both print and digital media when using and sharing the work of others.</u>
<u>3-5.CT.3.2</u>	<u>Demonstrate an understanding of what personal data is, how to keep it private and how it might be shared online.</u>
<u>3-5.CT.3.3</u>	<u>Communicate ideas textually visually and graphically.</u>
<u>3-5.CT.3.4</u>	<u>Consider their expected audience when creating and sharing digital artifacts and presentations.</u>

<u>Code</u>	<u>Standard</u>
<u>3-5.CT.3.5</u>	<u>Choose tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</u>

Networks and the Internet

<u>Code</u>	<u>Standard</u>
<u>3-5.CT.4.1</u>	<u>Demonstrate how a device on a network sends and receives information.</u>

Algorithms and Programming

<u>Code</u>	<u>Standard</u>
<u>3-5.CT.5.1</u>	<u>Identify and understand ways that teamwork and collaboration can support problem solving and the software design cycle.</u>
<u>3-5.CT.5.2</u>	<u>Construct and test problem solutions using block-based and or text-based programming.</u>
<u>3-5.CT.5.3</u>	<u>Generate a list of sub-problems to consider while addressing a larger problem.</u>
<u>3-5.CT.5.4</u>	<u>Explain that computer program design is an iterative process that includes the following steps: define the problem, generate ideas, build a program, test the program, improve the program.</u>
<u>3-5.CT.5.5</u>	<u>Explain and debug the sequencing in an algorithm.</u>
<u>3-5.CT.5.6</u>	<u>Construct an algorithm to accomplish a task.</u>
<u>3-5.CT.5.7</u>	<u>Break down problems into smaller parts, identify key information, and propose solutions.</u>
<u>3-5.CT.5.8</u>	<u>Understand and explore basic concepts related to automation, patterns and algorithmic thinking.</u>
<u>3-5.CT.5.9</u>	<u>Use digital and nondigital tools to plan and manage a design process.</u>

Grades 6-8

Computing Systems

<u>Code</u>	<u>Standard</u>
<u>6-8.CT.1.1</u>	<u>Apply troubleshooting strategies for solving hardware and software problems.</u>
<u>6-8.CT.1.2</u>	<u>Compare and contrast the ways that humans and machines process instructions and sense the world.</u>
<u>6-8.CT.1.3</u>	<u>Navigate a variety of technologies and transfer their knowledge and skills to learn how to use new technologies.</u>
<u>6-8.CT.1.4</u>	<u>Select appropriate platforms and tools to create, share and communicate their work effectively.</u>
<u>6-8.CT.1.5</u>	<u>Create original works or responsibly repurpose or remix other digital resources into new creative artifacts.</u>
<u>6-8.CT.1.6</u>	<u>Communicate complex ideas clearly using various digital tools to convey the concepts textually, visually, graphically, etc.</u>

Data and Analysis

Code	Standard
<u>6-8.CT.2.1</u>	<u>Compare and contrast the factors that affect quality and file size of stored data.</u>
<u>6-8.CT.2.2</u>	<u>Justify the selection of the data, collection, and analysis needed to answer a question.</u>
<u>6-8.CT.2.3</u>	<u>Demonstrate that data collection is used to make recommendations to influence decisions as well as predict behavior.</u>
<u>6-8.CT.2.4</u>	<u>Encode and decode information using encryption/decryption schemes.</u>
<u>6-8.CT.2.5</u>	<u>Identify layers of abstraction in different contexts (e.g., objected oriented programming, video and animation, etc.)</u>
<u>6-8.CT.2.6</u>	<u>Apply problem solving techniques by computing for data analysis, modeling or algorithmic thinking.</u>

Impacts of Computing

Code	Standard
<u>6-8.CT.3.1</u>	<u>Design user interfaces to be more user-friendly, free of bias, and accessible.</u>
<u>6-8.CT.3.2</u>	<u>Find or organize data and use technology to analyze and represent it to solve problems, and make decisions about trade-offs and risks.</u>
<u>6-8.CT.3.3</u>	<u>Demonstrate an understanding of how automation works and use algorithmic thinking to design and automate solutions.</u>
<u>6-8.CT.3.4</u>	<u>Explore how computer science fosters innovation and enhances other careers and disciplines.</u>
<u>6-8.CT.3.5</u>	<u>Articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.</u>
<u>6-8.CT.3.6</u>	<u>Manage their digital identities and reputations within school policy, including demonstrating an understanding of how digital actions are never fully erasable.</u>
<u>6-8.CT.3.7</u>	<u>Demonstrate an understanding of what personal data is and how to keep it private and secure, including the awareness of terms such as encryption, HTTPS, password, cookies, computer malware and social engineering; they also understand the limitations of data management and how data collection technologies work.</u>
<u>6-8.CT.3.8</u>	<u>Publish or present content designed for specific audiences and select platforms that will effectively convey their ideas to those audiences.</u>
<u>6-8.CT.3.9</u>	<u>Apply digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.</u>

Networks and the Internet

Code	Standard
<u>6-8.CT.4.1</u>	<u>Demonstrate (e.g., physically or digitally) the flow of information as packets on the Internet and networks.</u>

<u>Code</u>	<u>Standard</u>
<u>6-8.CT.4.2</u>	<u>Compare and contrast the trade-offs between wired, wireless, and mobile networks (e.g. speed, security, and cost).</u>

Algorithms and Programming

<u>Code</u>	<u>Standard</u>
<u>6-8.CT.5.1</u>	<u>Compare different algorithms that may be used to solve the same problem.</u>
<u>6-8.CT.5.2</u>	<u>Interpret, modify, and analyze content-specific models used to run simulations.</u>
<u>6-8.CT.5.3</u>	<u>Apply an iterative design process (define the problem, generate ideas, build, test, and improve solutions) in problem solving.</u>
<u>6-8.CT.5.4</u>	<u>Create, analyze, and modify control structures (if-else statements, switch-case statements, looping, etc.) to create programming solutions.</u>
<u>6-8.CT.5.5</u>	<u>Predict the outcome of an algorithm and then step through it to verify your predictions.</u>
<u>6-8.CT.5.6</u>	<u>Decompose a problem into sub- problems and demonstrate how the parts can be incorporated to create a solution.</u>
<u>6-8.CT.5.7</u>	<u>Use debugging and testing to remove errors and improve program quality.</u>
<u>6-8.CT.5.8</u>	<u>Break problems into component parts, identify key pieces and use that information to problem solve.</u>
<u>6-8.CT.5.9</u>	<u>Select and use digital tools to support a design process; to identify constraints and trade-offs, and to weigh risks.</u>

DIGITAL LITERACY

Grades K-2

Empowered Learner

<u>Code</u>	<u>Standard</u>
<u>K-2.DL.1.1</u>	<u>Navigate a variety of technologies that will help them in their learning and begin to demonstrate an understanding of how knowledge can be transferred between tools.</u>
<u>K-2.DL.1.2</u>	<u>Understand that a wide range of jobs require knowledge or use of computing.</u>
<u>K-2.DL.1.3</u>	<u>Demonstrate an understanding that technology is all around them and the importance of keeping their information private.</u>

Digital Citizen

<u>Code</u>	<u>Standard</u>
<u>K-2.DL.2.1</u>	<u>Practice responsible digital citizenship and decision making using positive, safe, legal and honest behaviors in the use of technology systems and software.</u>
<u>K-2.DL.2.2</u>	<u>Demonstrate an understanding of the role an online identity plays in the digital world and learn the permanence of their decisions when interacting online.</u>

Knowledge Constructor

<u>Code</u>	<u>Standard</u>
<u>K-2.DL.3.1</u>	<u>Locate and identify computing, input, and output devices in a variety of environments.</u>
<u>K-2.DL.3.2</u>	<u>Demonstrate how to operate a variety of computing devices by turning on, navigating, opening/closing programs or apps as appropriate.</u>
<u>K-2.DL.3.3</u>	<u>Identify, using accurate terminology, simple hardware and software problems.</u>
<u>K-2.DL.3.4</u>	<u>Understand and apply resources to construct knowledge, produce creative artifacts and make connections to their learning.</u>

Creative Communicator

<u>Code</u>	<u>Standard</u>
<u>K-2.DL.4.1</u>	<u>Create a design document to illustrate thoughts, ideas, and stories in a sequential manner (e.g., storyboard, mind map).</u>
<u>K-2.DL.4.2</u>	<u>Choose different tools for creating something new for communicating with others.</u>
<u>K-2.DL.4.3</u>	<u>Use technology to communicate with others and to look at problems from different perspectives.</u>

Global Collaborator

<u>Code</u>	<u>Standard</u>
<u>K-2.DL.5.1</u>	<u>Explain that networks link people using computers and other computing devices allowing them to communicate, access, and share information.</u>

Grades 3-5

Empowered Learner

<u>Code</u>	<u>Standard</u>
<u>3-5.DL.1.1</u>	<u>Analyze a variety of resources for accuracy, perspective, credibility, and relevance using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.</u>

Digital Citizen

<u>Code</u>	<u>Standard</u>
<u>3-5.DL.2.1</u>	<u>Practice responsible digital citizenship using positive, safe, legal and ethical behaviors in the use of technology systems and software.</u>
<u>3-5.DL.2.2</u>	<u>Explain ethical issues that relate to equity of access, accessibility, security, privacy, copyright, digital citizenship, digital footprint, and intellectual property with computers and networks.</u>

Knowledge Constructor

<u>Code</u>	<u>Standard</u>
<u>3-5.DL.3.1</u>	<u>Identify how computational devices impact daily life.</u>
<u>3-5.DL.3.2</u>	<u>Gather, manipulate, and evaluate digital data to explore a real-world problem that is of interest to the student.</u>
<u>3-5.DL.3.3</u>	<u>Explore the connections between computer science and other fields.</u>

Global Collaborator

<u>Code</u>	<u>Standard</u>
<u>3-5.DL.4.1</u>	<u>Generate examples of how the use of computing can affect society and how society can influence the use of computing.</u>

Grades 6-8

Empowered Learner

<u>Code</u>	<u>Standard</u>
<u>6-8.DL.1.1</u>	<u>Actively collect performance feedback from people, including teachers, and from functionalities embedded in digital tools to improve their learning process, and they select technology to demonstrate their learning in a variety of ways.</u>
<u>6-8.DL.1.2</u>	<u>Compare and contrast the capabilities of different hardware and software in computer systems.</u>

Digital Citizen

<u>Code</u>	<u>Standard</u>
<u>6-8.DL.2.1</u>	<u>Explore security risks associated with using weak passwords, lack of encryption and/or insecure transactions.</u>
<u>6-8.DL.2.2</u>	<u>Describe the positive and negative impacts of computing devices in daily life.</u>
<u>6-8.DL.2.3</u>	<u>Explain ethical issues that relate to equity of access, security, privacy, ownership and information sharing, copyright, and licensing.</u>
<u>6-8.DL.2.4</u>	<u>Understand and explain the elements of federal, state, and local regulations and policies including COPPA, CIPA, state laws, district policies that relate to digital citizenship.</u>

Knowledge Constructor

<u>Code</u>	<u>Standard</u>
<u>6-8.DL.3.1</u>	<u>Identify different features of everyday objects that contain computing components.</u>
<u>6-8.DL.3.2</u>	<u>Predict positive and negative social impacts of existing or student created content and computational artifacts including economic, entertainment, education, or political.</u>

Creative Communicator

<u>Code</u>	<u>Standard</u>
<u>6-8.DL.4.1</u>	<u>Create and communicate computational artifacts that have a positive social impact.</u>
<u>6-8.DL.4.2</u>	<u>Evaluate a variety of resources for accuracy, perspective, credibility, and relevance using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.</u>

Global Collaborator

<u>Code</u>	<u>Standard</u>
<u>6-8.DL.5.1</u>	<u>Explain how the Internet impacts global communication and collaboration.</u>
<u>6-8.DL.5.2</u>	<u>Summarize current events and changes resulting from computing and their effects on education, the workplace, and society.</u>

ARTIFICIAL INTELLIGENCE (AI)

Preface

These Artificial Intelligence (AI) Academic Standards for grades K–8 are designed to help Idaho students develop the knowledge, skills, and dispositions needed to understand, use, evaluate, and respond to AI in a safe, ethical, responsible, and age-appropriate manner. The standards are intended to support AI literacy across the elementary and middle grades by helping students understand what AI is, how it is used, how it affects individuals and society, and how students can make informed decisions when interacting with AI systems and AI-generated content. The term "AI" throughout the standards is intended to encompass all current and future forms of artificial intelligence that may be used in society.

These standards are not intended to prescribe curriculum, specific instructional materials, software, tools, platforms, or teaching methods. Local Education Agencies (LEAs) and educators retain responsibility for determining how the standards are taught and how instruction is adapted to meet student needs, local context, course content, and available resources. Because AI technologies continue to change rapidly, the standards emphasize durable concepts, responsible practices, critical thinking, human judgment, and ethical decision-making rather than any single product or tool.

The examples are provided for clarification and illustration only. They are not an exhaustive list of possible topics or required activities, nor limits on how the standards may be taught. The examples are intended to show possible ways a standard may appear in instruction. Still, they should not be interpreted as the only acceptable way to teach or assess the standard.

At the foundational K-5 level, AI Systems, AI Privacy and Safety, and AI Literacy categories are designed to be taught across all subject areas. Three of the 6-8 categories, AI-Assisted Learning & Literacy for Students, AI in Society, and AI Privacy, Safety & Ethics, are intended for instruction across all content areas. These strands address foundational AI literacy, responsible use, academic integrity, information evaluation, human oversight, privacy, safety, ethics, accessibility, bias, and the impact of AI on communities and society. These concepts are relevant whenever students encounter, discuss, evaluate, or use AI-supported tools in school or daily life.

At the 6-8 level, the AI Systems category is designed primarily for more technical learning environments, such as computer science, STEM, robotics, engineering, career technical education, or other courses in which students study how AI systems are designed, trained, tested, evaluated, and improved. While all educators may introduce age-appropriate concepts

from this category when they naturally support instruction, the deeper technical expectations in this section are intended for courses where students have opportunities to examine AI systems, data, models, classification, prediction, generation, testing, and refinement in greater depth.

Together, these standards support a human-centered approach to AI education. Students should learn that AI can assist with learning, creativity, communication, analysis, and problem-solving, but that humans remain responsible for asking meaningful questions, evaluating results, protecting privacy, making ethical decisions, and demonstrating their own understanding.

Grades K-2

AI Systems

<u>Code</u>	<u>Standard</u>
<u>K-2.AI.1.1</u>	<u>Identify that AI systems learn from examples provided by humans.</u> <i><u>Example: Students view a picture-sorting game that learned to recognize cats and dogs from labeled photos. Discussion: "Who taught it? Who picked the pictures?"</u></i>
<u>K-2.AI.1.2</u>	<u>Distinguish between decisions made by humans and outputs made by computers.</u> <i><u>Example: Compare a librarian's book recommendations based on student rapport to app recommendations based on user history. Discussion: "Who made that choice?"</u></i>
<u>K-2.AI.1.3</u>	<u>Explain that computers use data, identify patterns, and apply algorithms to make decisions.</u> <i><u>Example: Students sort a variety of objects (into self-identified categories), then connect that process to how a computer learns to sort pictures after seeing many examples.</u></i>
<u>K-2.AI.1.4</u>	<u>Explain that AI tools are created by humans to solve specific problems.</u> <i><u>Clarification: This builds up to the development and application of emerging technologies in grades 3-5.</u></i> <i><u>Example: Students learn about a voice assistant and ask: "What problem does this solve? Who built it?"</u></i>
<u>K-2.AI.1.5</u>	<u>Identify an example of bias.</u> <i><u>Example: Students draw a picture of a scientist and notice whether they all look similar. Why?</u></i>

AI Privacy and Safety

<u>Code</u>	<u>Standard</u>
<u>K-2.AI.2.1</u>	<u>Identify personally identifiable information (PII) that should be kept confidential.</u> <i><u>Example: Students play a "share or keep private?" sorting game with examples such as home address, favorite color, school name, etc. then discuss what's safe to share.</u></i>

<u>Code</u>	<u>Standard</u>
<u>K-2.AI.2.2</u>	<u>Describe how AI tools can be used safely.</u> <u>Clarification:</u> <u>The expectation is simply that students recognize where these tools show up in their lives and how to access them safely in those situations.</u> <u>Example:</u> <u>Students review simple guidelines for AI use and practice applying those rules to short scenarios.</u>
<u>K-2.AI.2.3</u>	<u>Identify that technology does not have human emotions despite tools designed to exhibit these characteristics.</u> <u>Example:</u> <u>After a chatbot says "I'm happy to help!", students discuss: "Does the computer actually feel happy? How is that different from when you feel happy?"</u>

AI Literacy

<u>Code</u>	<u>Standard</u>
<u>K-2.AI.3.1</u>	<u>Identify how the quality of a prompt affects the output.</u> <u>Example:</u> <u>Have the class follow vague instructions (i.e. "Draw an animal") compared to detailed instructions (i.e. detailed instructions around drawing a giraffe). Discuss the differences in ability to meet the vision with the two sets of instructions.</u>
<u>K-2.AI.3.2</u>	<u>Create clear instructions ("prompts") that others can easily follow.</u> <u>Example:</u> <u>Students give a partner step-by-step instructions to recreate a design or task, following them exactly. Connect this to how vague prompts lead to unexpected AI results.</u>
<u>K-2.AI.3.3</u>	<u>Explain the need for human review of AI outputs prior to using or sharing.</u> <u>Clarification:</u> <u>These outputs could include text, images, videos, etc.</u> <u>Example:</u> <u>The teacher shows AI-generated outputs of varying quality, then reviews the result as a class. Discussion: "Would you share this without checking it first? What if it was wrong?"</u>
<u>K-2.AI.3.4</u>	<u>Describe appropriate uses of AI in an academic setting.</u> <u>Clarification:</u> <u>Appropriateness is context-dependent. The goal is for students to develop the critical thinking skills to evaluate this on a case-by-case basis.</u> <u>Example:</u> <u>Students sort school tasks (writing a story, practicing math facts, looking up a word) into red light (AI should not be used), yellow light (use caution and strong oversight) and green light (strong example of using AI with limited oversight) categories.</u>

<u>Code</u>	<u>Standard</u>
<u>K-2.AI.3.5</u>	<u>Identify examples of AI tools in everyday life and community.</u> <u>Example: Students keep a class "AI Spotter" chart for a week, logging AI they notice at home or school, then discuss: "How did it know what to do?" Students can discuss ways AI is used in the community including career connections.</u>
<u>K-2.AI.3.6</u>	<u>Describe the difference between humans making a choice and AI recognizing a pattern to provide an output.</u> <u>Clarification: This standard is useful to differentiate between critical thinking and lived experiences driving human decision-making versus pattern recognition driving AI outputs.</u> <u>Example: Ask students what their favorite ice cream is and collect responses. Display an AI-generated answer to the question. Ask how they came to that decision (they've tasted and enjoyed it) versus how AI generates an output (by data).</u>

Grades 3-5

AI Systems

<u>Code</u>	<u>Standard</u>
<u>3-5.AI.1.1</u>	<u>Describe how different AI training models use various quantities of data.</u> <u>Example: Students compare a spell-checker trained on a small word list to a large language model trained on vast quantities of texts. Discussion: "Why would more data sometimes help, and could it ever cause problems?"</u>
<u>3-5.AI.1.2</u>	<u>Explore how AI systems use algorithms and patterns in data to make predictions or classifications.</u> <u>Example: Students discuss why a music app or streaming platform keeps suggesting media similar to ones they already liked, discovering the app looks for patterns in streaming history.</u>
<u>3-5.AI.1.3</u>	<u>Describe how the quality and quantity of training data affects AI output.</u> <u>Clarification: While the students don't need to be directly using a large language model, the teacher can model this process, have an unplugged discussion/lesson, etc.. This standard is intended to be assessed by the end of fifth grade.</u> <u>Example: Students try to guess what a picture is with only a fraction viewable at a time and discuss how making predictions can change depending on how much information is given. Students connect this concept to AI inputs and outputs.</u>

<u>Code</u>	<u>Standard</u>
<u>3-5.AI.1.4</u>	<u>Compare the functions of AI to human critical thinking.</u> <u><i>Example: Students discuss what informs a human response vs. an AI tool output. e.g. "What season is your favorite, and why?"</i></u>
<u>3-5.AI.1.5</u>	<u>Explain what bias is and how it happens.</u> <u><i>Example: Students share their preferences for a class pet and give reasons why. The class discusses the lived experiences and perspectives that contribute to their preferences.</i></u>

AI Privacy and Safety

<u>Code</u>	<u>Standard</u>
<u>3-5.AI.2.1</u>	<u>Explain the importance of making responsible choices to protect personally identifiable information (PII).</u> <u><i>Example: Students walk through a scenario where a video game or website asks for their name, home address, favorite color, shoe size, etc. then evaluate which inputs are necessary and which create risk.</i></u>
<u>3-5.AI.2.2</u>	<u>Explain how data may be collected, stored, shared, or used by digital tools.</u> <u><i>Example: Students create a flowchart showing how a single search term moves through potential storage, training use, and/or ad targeting.</i></u>
<u>3-5.AI.2.3</u>	<u>Explain why AI does not have human emotions, beliefs, or intentions despite models designed to exhibit these characteristics.</u> <u><i>Clarification: Student knowledge is limited to the concepts of prompting, training, pattern recognition, etc. by 5th grade.</i></u> <u><i>Example: Students discuss a chatbot response that says "I feel really excited!" and distinguish between language generated from patterns versus a human actually feeling something.</i></u>

AI Literacy

<u>Code</u>	<u>Standard</u>
<u>3-5.AI.3.1</u>	<u>Evaluate when using an AI tool is appropriate for a given task.</u> <u><i>Example: Students evaluate scenarios (e.g. writing a personal reflection, summarizing an article, resolving a disagreement) and decide whether the task is red light (AI should not be used), yellow light (use caution and strong oversight) and green light (strong example of using AI with limited oversight) categories.</i></u>

<u>Code</u>	<u>Standard</u>
<u>3-5.AI.3.2</u>	<u>Provide examples of how flawed or incomplete data can cause inaccurate or biased results.</u> <u>Example: Students discuss a survey that allowed only responses from a single grade but that data was supposed to be representative of the whole school. This example could be extended to include AI by putting those responses into an AI tool that was allowed to make a school wide choice.</u>
<u>3-5.AI.3.3</u>	<u>Demonstrate the role of human review to evaluate AI-generated outputs for accuracy and bias before use.</u> <u>Example: Students compare an AI-generated summary of a text to the original text to identify any flaws.</u>
<u>3-5.AI.3.4</u>	<u>Construct and revise detailed prompts with age-appropriate context to communicate a task or question.</u> <u>Example: Students start with a prompt such as "Write a story" or "Brainstorm ideas for." Then students add context (e.g. audience, length, setting, tone) and compare the outputs as they revise.</u>
<u>3-5.AI.3.5</u>	<u>Explain the importance of disclosure when AI was used for academic tasks.</u> <u>Example: Students examine two work samples: one generated by AI and submitted as their own work (with no disclosure) and a second with a detailed AI disclosure statement about where and how AI was used in the assignment. Debate the integrity of the two scenarios.</u>
<u>3-5.AI.3.6</u>	<u>Explore the historical development and applications of AI tools.</u> <u>Clarification: The goal of this standard is to build a basic understanding of the development and application of AI which builds to later standards.</u> <u>Example: Students build a timeline tracing AI development through time, then map specific AI applications onto career fields they recognize (healthcare, farming, music, sports). Discussion: "Where did this technology come from? Who uses it now? Where does generative AI fit in that larger story?"</u>

Grades 6-8

AI Systems

<u>Code</u>	<u>Standard</u>
<u>6-8.AI.1.1</u>	<u>Explain how people design, train, improve, and monitor AI systems, how AI systems identify patterns in data to generate outputs, and why humans remain responsible for important decisions and outcomes.</u> <u>Example: Articulating the concept of 'human-in-the-loop' by identifying scenarios where human judgment, empathy, and ethical reasoning must guide or override AI-based suggestions (i.e., Medical diagnosis, criminal sentencing, and student education placement decisions, where AI may inform the process, but a human must review, decide, and take responsibility for the outcome).</u>
<u>6-8.AI.1.2</u>	<u>Create and evaluate representations of data, rules, prompts, categories, or examples used by an AI system, and explain how those representations affect the system's outputs.</u> <u>Example: Creating, testing, and revising prompts, categories, or training examples for an AI system, then explaining how changes to those representations affect the quality, accuracy, or fairness of the AI's outputs.</u>
<u>6-8.AI.1.3</u>	<u>Analyze how the variety and quality of training data can impact the functionality and outcomes of an AI system.</u> <u>Example: Building a sorting model using only examples from one category, then introducing new examples that the model hasn't seen, and analyzing where and why it fails.</u>
<u>6-8.AI.1.4</u>	<u>Develop, train, test, and refine a simple and ethical classification, prediction, or generation model using an age-appropriate tool, simulation, or unplugged process, and interpret the results.</u> <u>Examples: Unplugged: Students act as human designers by creating manual classification logic on poster boards. For example, students could create "feature cards" (e.g., "Has fur," "Barks") and build a logic flow to categorize mystery objects, essentially acting as the AI model themselves. Digital: Using a visual machine learning platform, students define a simple task, such as creating a model that recognizes hand gestures (e.g., rock, paper, scissors) to trigger actions on a screen.</u>

AI Privacy, Safety, & Ethics

<u>Code</u>	<u>Standard</u>
<u>6-8.AI.2.1</u>	<u>Practice responsible and safe AI use by identifying potential risks, protecting personal and identifiable data, applying appropriate safeguards, and carefully managing the information shared during AI interactions.</u> <i><u>Example: Adjusting privacy settings, understanding terms of service, anonymizing data, awareness of use, and retention of personal data.</u></i>
<u>6-8.AI.2.2</u>	<u>Evaluate AI tools and systems for fairness, accessibility, transparency, explainability, privacy, safety, intellectual property, and accuracy, including how they may help and harm different groups.</u> <i><u>Example: Conducting a structured review of an AI tool to identify potential biases (fairness), review its terms of service (privacy), and determine if it creates barriers or expands access (accessibility) for diverse users.</u></i>
<u>6-8.AI.2.3</u>	<u>Use AI tools in ways that demonstrate academic integrity by maintaining ownership of learning and original work, appropriately acknowledging and communicating how AI assistance contributed to assignments, projects and other products.</u> <i><u>Example: Using citations and/or disclosure statements, recognizing when AI use prevents rather than supports personal understanding.</u></i>
<u>6-8.AI.2.4</u>	<u>Analyze the differences between human interaction and AI interaction by recognizing that AI lacks sentience, emotions, and personal beliefs.</u> <i><u>Example: Distinguishing between conversational simulation and genuine human social connection, and understanding that AI responses are generated by language patterns rather than reflections of personal experience, feelings, or consciousness. Discussing and warning of the possible dangers of AI Companions and anthropomorphism of AI platforms.</u></i>

AI-Assisted Learning & Literacy

<u>Code</u>	<u>Standard</u>
<u>6-8.AI.3.1</u>	<u>Analyze the strengths and limitations of humans versus AI to determine when AI is an appropriate tool for a task.</u> <i><u>Example: Summarizing, aggregating, or cross-referencing large data sets.</u></i>
<u>6-8.AI.3.2</u>	<u>Collaborate with AI systems by providing clear goals, context, and feedback, refining interactions based on results, and using iterative exchanges to improve outcomes.</u> <i><u>Example: Asking an AI to summarize a historical event, assess whether key details are accurate, then ask follow-up questions to fill gaps or correct errors.</u></i>

<u>Code</u>	<u>Standard</u>
<u>6-8.AI.3.3</u>	<u>Evaluate AI tools and generated content for credibility, transparency, intended purpose, accuracy, reliability, and appropriateness for a specific learning task, including distinguishing between original and AI-generated content.</u> <u><i>Example: Identifying synthetic media, hallucination, and deepfakes, and verifying facts through cross-referencing with multiple credible sources.</i></u>
<u>6-8.AI.3.4</u>	<u>Define the various types of AI and their uses.</u> <u><i>Example: Discussing predictive, generative, agentic, and other types, both historic and those that may be developed.</i></u>
<u>6-8.AI.3.5</u>	<u>Challenge AI models by purposefully experimenting with complex prompts to discover their limitations, recognize potential errors, and understand when outputs are unreliable.</u> <u><i>Example: Testing an AI by asking it to explain a simple concept using impossible constraints, or by presenting it with a "trick" question to see if it mistakenly presents false information (hallucinations) as fact.</i></u>

AI in Society

<u>Code</u>	<u>Standard</u>
<u>6-8.AI.4.1</u>	<u>Evaluate how AI solves real-world problems and influences the workforce by creating, replacing, or transforming job roles.</u> <u><i>Example: Researching a career like logistics or graphic design to analyze how current AI tools are impacting that field, or creating new job roles.</i></u>
<u>6-8.AI.4.2</u>	<u>Explain the roles humans play in creating, prompting, training, monitoring, and improving AI systems, and describe why humans must remain responsible for consequential decisions.</u> <u><i>Example: Examining why human judgment is necessary for topics including medical decisions, criminal justice, hiring, student education placement, etc.</i></u>
<u>6-8.AI.4.3</u>	<u>Analyze how AI has changed and may continue to change how people live, work, and interact, considering intended and unintended impacts on local and global communities, cultures, and the environment.</u> <u><i>Example: Investigating how AI-generated images, videos, and text can shape the understanding of information or spread misinformation and influence how people understand events and issues.</i></u>

<u>Code</u>	<u>Standard</u>
<u>6-8.AI.4.4</u>	<u>Evaluate how AI tools can increase access to learning, communication, and participation for individuals with diverse needs while also identifying ways AI systems may create or reinforce barriers, bias, or inequities.</u> <u>Example: Evaluating how AI tools can help people with different language, reading, or communication needs access information while identifying examples where AI-generated results may be less accurate or helpful for some groups.</u>

Artificial Intelligence Glossary

This glossary is not comprehensive, nor are all the terms used in the standards. They are included for reference.

Agentic AI: AI systems designed to independently plan, execute, and adjust actions to achieve a specific goal with minimal human intervention, often capable of working across multiple tools or applications.

Algorithms: A step-by-step set of instructions used to solve a problem or complete a task.

AI Companion: A highly personalized, conversational AI designed to simulate human-like relationships, offering emotional support, companionship, and customized personalities rather than just executing practical tasks.

AI Literacy: AI Literacy represents technical knowledge, durable skills and future-ready attitudes required to thrive in a world influenced by AI. It enables learners to engage, create, manage, and design AI, while critically evaluating its benefits, risks, and ethical implications.

AI Systems/Models: A computer program or machine designed to perform tasks such as learning from data, recognizing patterns, understanding language, and generating content.

AI Tools: Software applications that use artificial intelligence technologies—such as machine learning and natural language processing—to automate tasks, analyze data, and generate content.

Anthropomorphism: The cognitive tendency to attribute human traits, emotions, intentions, or consciousness to AI systems, which can lead to unrealistic expectations, misplaced trust, or the mistaken belief that an AI platform is capable of genuine social connection or personal experience.

Artificial Intelligence (AI): Software that can recognize patterns, generate content, and make predictions.

Automation: The use of technology to perform tasks, processes, or workflows with minimal human assistance to increase efficiency, speed, or precision.

Bias: A characteristic that may occur in an AI system where results are inaccurate or unfair because of the data, assumptions, or design choices used in creating the system.

Deepfakes: A specific type of synthetic media where a person in an existing image or video is replaced with someone else's likeness, or where audio is fabricated, using AI to create deceptive or realistic content.

Explainability: The ability to understand and communicate how an algorithmic system or AI model reaches its conclusions.

Generative AI (Gen AI): A type of AI that produces new, original content, such as text, images, audio, code, or video, in response to user prompts.

Hallucination: An occurrence where an AI model generates information that is false, nonsensical, or unfaithful to the source data, while confidently presenting it as fact.

Human-Centered: An approach where AI is used specifically to support human inquiry. It ensures that humans remain responsible for the initial objective, final decision-making, oversight, and ethical reflection at the beginning and end of every task (Human→AI→Human).

Human-in-the-loop: A model of interaction where a human is required to participate in a process, such as verifying, approving, or correcting, to ensure the accuracy, safety, and ethical alignment of AI-generated outcomes.

Inputs: The raw data, prompts, or instructions fed into a system.

Large Language Model (LLM): A specific type of Generative AI trained on vast amounts of text data to recognize, predict, and generate human-like text responses.

Machine Learning: A subfield of AI where computer systems are trained to identify patterns in large datasets, allowing them to improve their performance on tasks over time without being explicitly programmed for every step.

Patterns: Repeated trends, relationships, or similarities that can be observed in information, events, or data. In AI, patterns are used by AI systems to learn from data and make predictions, classifications, or decisions.

Personally Identifiable Information (PII): Information that can be used to identify a specific person, such as a name, home address, phone number, email address, or student ID number.

Predictive AI: AI models that analyze historical and existing data to make forecasts or estimations about future events, trends, or outcomes.

Outputs: The synthesized results or generated content the AI produces in response to inputs.

Synthetic media: Content, such as images, audio, video, or text, that has been created, modified, or generated by AI, often used to simulate reality.

Training Data: The collection of examples (such as text, images, audio, or video) used to teach machine learning models (including AI) how to perform specific tasks.