Wisconsin Computer Science

Grades K–2

Students will recognize and define computational problems using algorithms and programming AP1

A Develop algorithms. AP1.A

1 Construct and execute algorithms (sets of step-by-step instructions), which include sequencing and simple loops to accomplish a task, both independently and collaboratively, with or without a computing device. AP1.A.1.E

2 Decompose a larger computational problem into smaller sub-problems independently or with teacher guidance (e.g., to draw a snowman, we can draw several different, simpler shapes). AP1.A.2.E

3 Categorize a group of items based on the attributes of actions of each item, with or without a computing device. AP1.A.3.E

Students will create computational artifacts using algorithms and programming AP2

A Develop and implement an artifact. AP2.A

1 Construct programs to accomplish a task or as a means of creative expression, which include sequencing, events, and simple loops, using a block-based visual programming language, both independently and collaboratively (e.g., pair programming). AP2.A.1.E

2 Plan and create a design document to illustrate thoughts, ideas, and stories in a sequential (step-by-step) manner (e.g., story map, storyboard, sequential graphic organizer). AP2.A.2.E

5 Use mathematical operations to change a value stored in a variable. AP2.A.5.I

Students will communicate about computing ideas AP3

A Recognize and cite sources. AP3.A

1 Give credit to the source when using code, music, or pictures that were created by others. AP3.A.1.E

B Communicate about technical and social issues. AP3.B

1 Follow simple instructions to complete a task, such as a simple visual tutorial. AP3.B.1.E

Students will develop and use abstractions AP4

A Create and use abstractions (representations) to solve complex computational problems. AP4.A

1 Use numbers or other symbols to represent data (e.g., thumbs up or down for yes or no, color by number, arrows for direction, encoding or decoding a word using numbers or pictographs). AP4.A.1.E

Skip to main content

Students will collaborate with diverse teams AP5

A Work together to solve computational problems using a variety of resources. AP5.A

1. Work together with a team to create a solution to a computational problem. AP5.A.1.E
2. Use teachers, parents, and other resources to solve a computational problem. AP5.A.2.E

B Foster an inclusive computing culture. AP5.B

1. Understand the value for teams to include members with different perspectives, experiences, and backgrounds, including race, gender, ethnicity, language, ability, family background, and family income. AP5.B.1.E

Students will test and refine computational solutions AP6

A Test and debug computational solutions. AP6.A

1. Analyze and debug (fix) an algorithm, which includes sequencing and simple loops, with or without a computing device. AP6.A.1.E

Students will communicate about computing systems CS1

A Identify hardware and software components. CS1.A

1. Identify and use software that controls computational devices to accomplish a task (e.g., use an app to draw on the screen, use software to write a story or control robots). CS1.A.1.E
2. Use appropriate terminology in naming and describing the function of common computing devices and components (e.g., desktop computer, laptop computer, tablet device, monitor, keyboard, mouse, printer). CS1.A.2.E

B Understand how the components of a computer system work together. CS1.B

1. Identify the components of a computer system and what the basic functions are (e.g., hard drive, and memory) as well as external features and their uses (e.g., printers, scanners, external hard drives, and cloud storage). CS1.B.1.E

Students will test and refine computing systems CS2

A Problem solve and debug. CS2.A

1. Identify, using accurate terminology, simple hardware and software problems that may occur during use (e.g., app or program not working as expected, no sound, device won't turn on). CS2.A.1.E

Students will recognize and define data in computational problems DA2

A Gather data to support computational problem solving. DA2.A

1. Collect simple quantitative data over time (e.g., daily temperatures or sunrise time). DA2.A.1.E

B Categorize and analyze data. DA2.B

1. Sort objects into buckets, recognizing relevant and/or irrelevant data (e.g., one of these things is not like the other). DA2.B.1.E

Skip to main content

Students will communicate about data in computing DA3

A Communicate about data. DA3.A

1 Collect data over time and organize it in a chart or graph in order to make and communicate a prediction. DA3.A.1.E

Students will develop and use data abstractions DA4

A Model with data. DA4.A

1 Use a computing device to store, search, retrieve, modify, and delete information and define the information stored as data. DA4.A.1.E

2 Create a model of an object or process in order to identify patterns and essential elements (e.g., water cycle, butterfly life cycle, seasonal weather patterns). DA4.A.2.E

Students will understand the impact and effect computing technology has on our everyday lives IC1

A Understand the impact technology has on our everyday lives and the effects of computing on the economy and culture. IC1.A

1 Compare and contrast examples of how computing technology has changed the way people live, work, and interact. IC1.A.1.E

B Understand the effects of computing on communication and relationships. IC1.B

1 Explain the differences between communicating electronically and communicating in person. IC1.B.1.E

Students will experience learning within a collaborative, inclusive computing culture and explain the steps needed to ensure that all people have access to computing IC2

C Collaborate ethically in the creation of digital artifacts. IC2.C

1 Work with others as co-learners to solve a problem or reach a goal. IC2.C.1.E

Students will understand the importance of proper use of data and information in a computing society IC3

B Assess the practice of digital privacy. IC3.B

1 Respect other students' information and refrain from accessing others' devices or accounts without permission. IC3.B.1.E

2 Understand what kinds of digital information is considered private, take steps to keep their information private, and respect the privacy of other students' information. IC3.B.2.E

Students will understand the importance of security when using technology NI1

A Use secure practices for personal computing. NI1.A

1 Use secure practices (such as passwords) to protect private information and discuss the effects of misuse. NI1.A.1.E

Stu un

Skip to main content

)emonstrate how the internet works at the physical layer. NI2.A

information is sent by the internet NI2

1. Use a physical tool (e.g. flashlight, string) to communicate with another student. NI2.A.1.E
2. Provide examples of computer use that involve the internet. NI2.A.2.E

C Demonstrate how the internet works at the addressing layer. NI2.C

1. Devise a system for sending a physical message to anyone in their school by using addressing techniques (e.g., address envelopes by student first name and teacher, grade, or room). NI2.C.1.E