

2017 Computer Science Standards of Learning

Grade One

The first grade standards place emphasis on developing organizational skills, such as classifying based on common attributes, completing a pattern, or explaining processes step-by-step. Students will use accurate terminology to identify components and describe their purposes. Students will also be able to describe to communication, security, and responsible computing behaviors. The use of technology will be an integral part of successful acquisition of skills in all content areas.

Algorithms and Programming

- 1.1 The student will construct sets of step-by-step instructions (algorithms) either independently or collaboratively, including
 - a) sequencing (including ordinal numbers) and;
 - b) simple loops (patterns and repetition).
- 1.2 The student will construct programs to accomplish tasks as a means of creative expression using a block based programming language or unplugged activities, either independently or collaboratively including
 - a) sequencing, ordinal numbers; and
 - b) simple loops (patterns and repetition).
- 1.3 The student will analyze, correct, and improve (debug) an algorithm that includes sequencing.
- 1.4 The student will 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).
- 1.5 The student will categorize a group of items based on one or two attributes or the actions of each item, with or without a computing device. [Related SOL: Science 1.1c, Math 1.13]
- 1.6 The student will acknowledge that materials are created by others (e.g., author, illustrator).

Computing Systems

- 1.7 The student will identify components of computing systems that are common among different types of computing devices including desktop and laptop computers, tablets, and mobile phones.

- 1.8 The student will identify, using accurate terminology, simple hardware and software problems that may occur during use (e.g., app or program is not working as expected, no sound is coming from the device, the device won't turn on).

Cybersecurity

- 1.9 The student will describe what is allowed and what is not allowed at school associated with the use of technology.
- 1.10 The student will identify and use strong passwords, explain why strong passwords should be used (e.g., protect name, address, and telephone number).

Data and Analysis

- 1.11 The student will identify and interpret data and organize it in a chart or graph in order to make a prediction, with or without a computing device. [Related SOL: HSS 1.1c]

Impacts of Computing

- 1.12 The student will identify and explain responsible behaviors associated with using information and technology. [Related SOL: HSS 1.10]

Networking and the Internet

- 1.13 The student will, in a whole class environment, discuss how information can be communicated electronically (e.g., email, social media).