

# 2017 Computer Science Standards of Learning

## Kindergarten

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The kindergarten standards place emphasis on developing awareness of computing and computing devices by gathering and organizing data, by sorting or step-by-step. Students will use accurate terminology to identify components and describe their purposes. Students will also be introduced 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

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- K.1 The student will construct sets of step-by-step instructions (algorithms) either independently or collaboratively including sequencing, emphasizing the beginning, middle, and end. [Related SOL: Math K.13]
- K.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 sequencing, emphasizing the beginning, middle, and end.
- K.3 The student will create a design document to illustrate thoughts, ideas, and stories in a sequential (step-by-step) manner (e.g., story map, storyboard, and sequential graphic organizer).
- K.4 The student will categorize a group of items based on one attribute or the action of each item, with or without a computing device. [Related SOL: Math K.12, Science K.1d]

### Computing Systems

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- K.5 The student will identify components of computing systems (e.g., keyboard, mouse, desktop computer, laptop computer, tablet, and printer).
- K.6 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 a device, device will not turn on).

### Cybersecurity

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- K.7 The student will identify what is allowed and what is not allowed at school when using technology.
- K.8 The student will identify personal information (e.g., address, telephone number, and name) and the importance of protecting personal information online.

## **Data and Analysis**

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- K.9 The student will gather and display data and organize it in a chart or graph in order to answer questions about the data, with or without a computing device. [Related SOL: HSS K.1c]

## **Impacts of Computing**

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- K.10 The student will identify responsible behaviors associated with using information and technology. [Related SOL: HSS K.10]

## **Networking and the Internet**

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- K.11 The student will discuss, in a whole class setting, how information can be communicated electronically (e.g., email, social media).