

# 1.CSY.1 Computing Systems



The student will describe how computing components work together to create a computing system. (a) Identify and define hardware, software, and computing systems. (b) Identify common components of computing systems in different types of computing devices. (c) Describe how hardware and software work together to form a computing system.

## Integration Opportunities

### Understanding the Standard

Computing systems are made up of different parts that help us do various things on our computers, tablets, and phones. Hardware refers to the physical parts of a computer, such as the keyboard for typing, the audio for listening, and the screen for seeing things. Software is the set of instructions that tells the hardware what to do, which many students can connect to the apps that they use. Together, hardware and software create a computing system. In first grade, students should differentiate between hardware and software, as well as identify common parts of computing systems introduced in Kindergarten.

**Physical Education 1.2c** Explore how systems are composed of many parts working together to perform a function such as the different parts of a computer. Have students describe how the heart and lungs work together, identify which function they perform for the body, and compare this to the original example.

| Term             | Definition                                                                           |
|------------------|--------------------------------------------------------------------------------------|
| Computing system | Interconnected computers or computer components that work to accomplish large tasks. |
| Hardware         | Physical components of a computing system.                                           |
| Software         | The programs used by a computing system.                                             |

**English 1.R b,d,e** Support students in locating and collecting information to identify components of computing systems and describe how they work together. Students can use drawing, writing, or dictation to record and share the information collected.

### Prerequisite Knowledge

Students should have a foundational knowledge of common features of computing devices with screens.

**Math 1.PS.1** Identify different computing devices, draw or label their parts and then sort the parts into categories based on their functions, creating a simple picture graph to show their findings.

### Summary of a Lesson

Show pictures or illustrations of different computing systems: desktop computer, laptop computer, tablet, and mobile device and engage students in a brief discussion about the similarities and differences they observe in the pictures. Use these to identify common parts of computing systems, such as screen, keyboard, buttons, microphones, and cameras, explaining their purposes. Have students explore the inside of a computing device, either by opening up an old computer or using detailed photos, identifying and describing key elements. Show where apps or programs are stored, reminding them that those are software while the tangible parts of the computer are hardware. Have students construct their own simple models of a computer using paper or other unplugged supplies.