Standard: CS.D.01   Grade: 3

Standard CS.D.01

Identify internal and external parts of **computing devices** that function together to form a system.

Essential Skills

Name the parts of **computing devices** that work together.

Essential Questions

How do internal and external parts of a **computing device** work together to form a system?

How do components of a computing device rely on each other to function?

Explanation

Students will explain that **computing devices** often include various components (mouse, keyboard, monitor, game controller). The **components** may be connected physically (with wires, or as part of one device) and/or connected wirelessly to form an interconnected system. These components depend on the computer's **central processing unit (CPU)** to function. Students should be able to identify, and by 5th grade to model, how the CPU depends on the components to provide **input** and produce **output**. Input may be received from the keyboard and/or controller, mouse, touchscreen, or trackpad and output may be produced on a screen in the form of text and images and/or on speakers in the form of sound.

Think of this as similar to….

When you bake a cake you use bowls, pans, mixing spoons, flour, sugar, butter, eggs, measuring cups, an oven, oven mitts and probably other items. Each item has its own role, and all are essential to create the final product.

Implementation Examples—What would this look like in the classroom?

Title	Description	Link	Content Connection & Notes
Computers All Around	**Grade 3--**Students identify hardware and software, distinguish between them and explain how they depend on each other to perform various functions. Students consider the ways computer hardware and software affect our daily lives.	Computers All Around	
Computer Processing	**Grade 3--**Students are introduced to the four basic functions that computers perform and think about the advantages that computers have over humans in taking in input, processing and storing data, and providing output. Students identify how humans interface with computers and correctly name the input, processing, storage and output devices. Students are challenged to invent a new input/output prototype of their choosing, name the parts appropriately and explain how they work together.	Computer Processing	This lesson also aligns with **CS CS.HS.01.**
I Have, Who Has?	**Grade 3**--Students are given a card with one component of a computing device, and a question about a different part of a device. A student has to find the card which answers the question they have, as well as the card which they have the answer to. **Grade 4**--Students identify the component they have as input, output, processor, or storage. Students should identify connections and potential interactions among the components.	I Have, Who Has?	This lesson also aligns with **CS CS.HS.01.**

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