

What Am I?: Computing Systems

About This Activity

Introduction

In this activity, learners will play a “Heads Up!”-style game where they will guess the word on a card that they cannot see based on hints that the other players are giving them. The words will be hardware and software terms to help them keep learning while having fun.

Objective

Upon completion of this activity, learners will:

- be able to talk about how the basic parts of a computer work together as a system

What You Need

This activity requires a high level of facilitator participation.

This activity will take about 30 minutes to complete.

You will need the following supplies:

- Scissors
- Pencil
- Timer or clock with a hand that shows seconds

Facilitator's Instructions

Since learners will need prior knowledge of hardware and software items to complete this activity, it is recommended to have your learner complete the previous activities in the K-2 grade level sequence before attempting this one.

1. Print out the Learner's Sheet pages.
2. Gather your supplies.
3. Tell your learner about this activity: “Today, we’re going to play ‘Heads Up!’ to test what you have learned about computing systems. First, I’ll give you a card to hold up to your forehead with the word facing toward me, but don’t look at the word! Then, I’ll give you clues about what the word is and you’ll try to guess the word before the timer is up. Let’s start by cutting out the cards first.”
4. Hand your learner the sheets with the cards and have them cut the cards out.

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Facilitator's Instructions Cont'd

5. Shuffle the cards and pick one at random. Hand it to your learner face down and tell them to put the blank side against their forehead so that the word faces you.
6. Find the word on the list of clues and keep it handy for yourself.
7. Set a timer for one minute and start giving your learner the clues. You can also use a clock to count the seconds instead.
8. If your learner guesses the word within one minute, mark a point on the scorecard. If they do not, write the word on the scorecard under "Words to Practice" so that your learner can use the previous activities to keep practicing these items.
9. Place the used card to the side.
10. Repeat steps 5-9 until the cards are all gone.
11. Congratulate your learner on a job well done! Use the list of words to practice any words that they might need to spend more time on.

Standards Addressed

CSTA

1B-CS-01, Computing Systems, Devices: Describe how internal and external parts of computing devices function to form a system.

1B-CS-02, Computing Systems, Hardware and Software: Model how computer hardware and software work together as a system to accomplish tasks.

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Examples of Clues

Desktop

- You might include a separate monitor and tower that contains all of your electronic parts, or you might house your electronic parts right in the monitor.
- Keyboards and mice (or a touchpad) need to be added to you in order to type and move the cursor around on the screen.
- You are not portable.
- You live in a designated place, such as a desk or table at school, home, or work.

Laptop

- You come with a keyboard and touchpad already attached.
- You might have a screen that responds to touch just like a tablet or a smartphone.
- You are portable due to your small size and light weight.
- You are easy to travel with and take from place to place.

Screen

- You might be any size from very small to very large.
- You might respond to touch, often like those of you that are on a tablet or a smartphone.
- All devices that display pictures or other data (words, numbers, information, etc.) have one of you that displays these things.

Touchpad

- You move the cursor around on the screen and can make selections as well.
- Laptops have you built into them.
- You work by the user performing “gestures,” such as swiping, clicking, tapping, and more.
- You can be used instead of a mouse on a computer.

Keyboard

- You contain letters, numbers, and symbols on buttons called “keys.”
- You also usually contain shortcut keys that let users perform some tasks quickly, such as brightening the screen or raising the volume.

Mouse

- You are a device that is used to move the cursor on the screen.
- You have two buttons, right and left, that allow users to click to perform different tasks.
- You can be wireless, or you can be attached to the computer with a wire.

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Printer

- You are used to print paper copies of computer files.
- You can sometimes also copy and scan documents.
- You might be connected to a computer by a wire, Bluetooth, or Wi-Fi.

Scanner

- You convert paper documents into computer files.
- You come in different sizes. You might be large and kept in one place, or you might be handheld and taken anywhere.
- You are usually directly connected to a computer, but can also use Wi-Fi or a USB drive to transmit information.

Modem and Router

- You are a pair of devices that bring the Internet into a place and then sends it to different devices in that place.
- One of you is like the gates to a stadium. You let the internet in, just like the gates allow people into the stadium.
- The other of you is like an usher inside the stadium. You send the internet to different devices in a place, just like the usher sends people to their seats in the stadium.

Power Button

- You turn a device on or off.
- If the device freezes, holding you down can reset it.
- It is important to shut a computer down instead of just pushing you to turn it off.

Flash Drive

- You are used to save or access computer files.
- You are not part of a computer. You are a separate storage device that can be removed easily.
- You are good to use if a user is using a computer that is shared among many users, such as at a library or school.

Enter Key

- You are one of the most important keys on the keyboard.
- Pressing you brings the cursor to the next line.
- You are often used to take users to the next page or activity in a series.

Mute Button

- Your name means to silence something.
- You can be used to turn off all sound coming from a device.
- In an online call or video chat, you can be used to turn off a device's microphone.

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Volume Buttons

- You control how loud or soft sounds are on a device.
- You can be on the physical device or in the device settings.

Charger

- You power the battery of a device.
- One part of you plugs into a device. The other end is plugged into an electrical outlet.
- You allow people to charge their devices on-the-go.

Headphones

- You are placed over a user's ears so device sounds can be heard privately.
- A smaller version of you that fits into ears are called earbuds.
- Some types of you have built-in microphones and/or volume controls.

Tablet

- You are a flat portable computer with a touchscreen.
- You use rechargeable batteries as your power source.
- You can sometimes be connected to a portable keyboard for typing.

Smartphone

- You are a mobile phone that can also function as a computer.
- Programs on you are called "apps."
- People use a keypad to communicate with others by text or email on you.
- People can also use you to communicate by phone call or video chat.

Monitor

- You are a device that is like a TV, except you display information from a computer.
- You must be attached to a computer and a power supply.
- Sometimes you have built-in speakers and sometimes speakers have to be added.

Speaker

- You project sounds from a device.
- Some devices have you built into them. Other devices need to have you added to them.
- Everyone within hearing distance can hear the sounds you make.

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Motherboard

- You are the central circuit board inside the computer that everything hooks into.
- The RAM, which delivers messages and instructions to the other parts, is built into you.
- You connect everything but cannot process or calculate without the CPU.

Graphics Processing Unit (GPU)

- You process the graphics, or images, for a computer.
- You take the digital information and turn it into something that can be seen on a device's screen.
- You attach to the motherboard of a computer.

Central Processing Unit (CPU)

- You process and calculate things for your computer.
- You tell the other parts of the computer what to do.
- You attach to the motherboard of a computer.

RAM

- You are the memory in a computer and remember things to run applications and data.
- You help a computer remember things and hold onto information so that it can carry out instructions.

Hard Drive

- You store information in a computer.
- You store files so users can retrieve them when they need to.

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Directions

Let's play a game! Cut out the cards below and stack them face down in a random order. Then, follow these directions:

1. Have a player pick a card without looking at what it says.
2. The player should hold the card against their forehead with the word facing out to the other players.
3. The other players will then give them clues about the word on their card.
4. The player with the card will try to guess what is on their card based on the clues the other players are telling them.
5. Once the player correctly guesses the word on their card, place the card at the bottom of the stack and have the next player repeat steps 1-5.

What You Need

- ✓ Scissors
- ✓ Pencil
- ✓ Timer or clock with a hand that shows seconds

Scorecard

Put an "X" in one of the boxes below for every correct answer. Add them up when at the end.

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Desktop

Laptop

Screen

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Touchpad

Keyboard

Mouse

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Printer

Scanner

Modem and Router

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Mute Button

Volume Buttons

Charger

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Headphones

Tablet

Smartphone

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Monitor

Speaker

Motherboard

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Graphics Processing Unit
(GPU)

Central Processing Unit
(CPU)

RAM

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Hard Drive