



Welcome



#CSEdWeek 2020

Exploring Computers: What is a Computer?

Computers are Everywhere

Computers are inside things we use every day, such as smartphones, televisions and cars.

There are many forms of digital technologies but not all of them are computers.

So how do we know if something is a computer?

In today's activity, we'll explore the characteristics of computers and then apply what we've learned by finding computer parts around the house.



What is technology?

An object,
system,
or process
designed by people
to solve a problem.



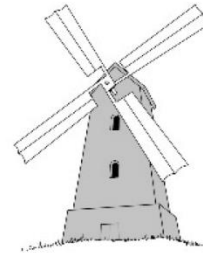
Broom



Roller
Blades



Guitar



Windmill



Laptop



Cell
Phone



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What have you used a computer to do?

Listen to music,
write emails,
edit pictures,
do homework,
search for things,
play games,
write computer programs,
make and watch videos.



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ALL computers do the same four things. They

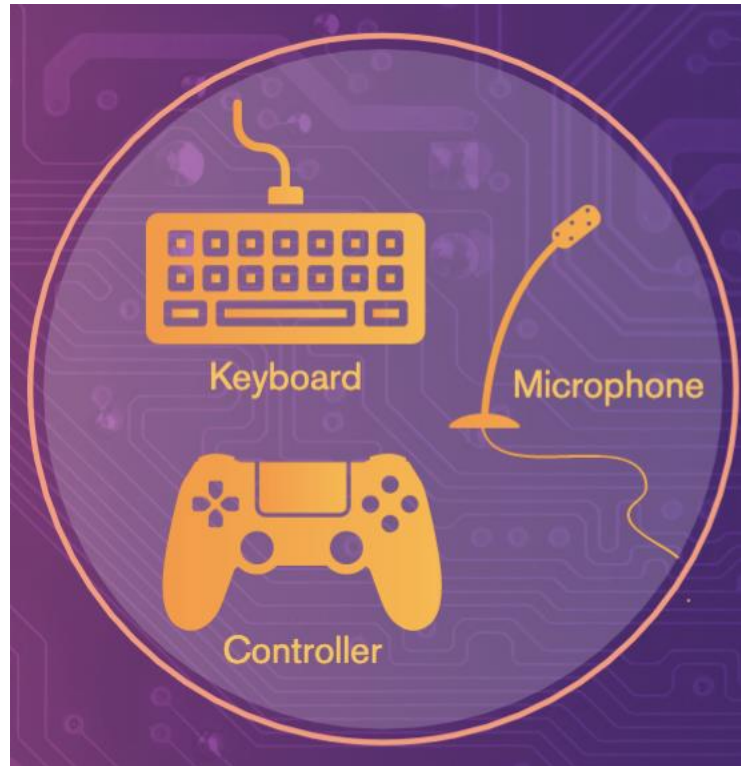
- get **input**.
- **store** and **process** information.
- give **output**.



Different parts of the computer do each of these things.

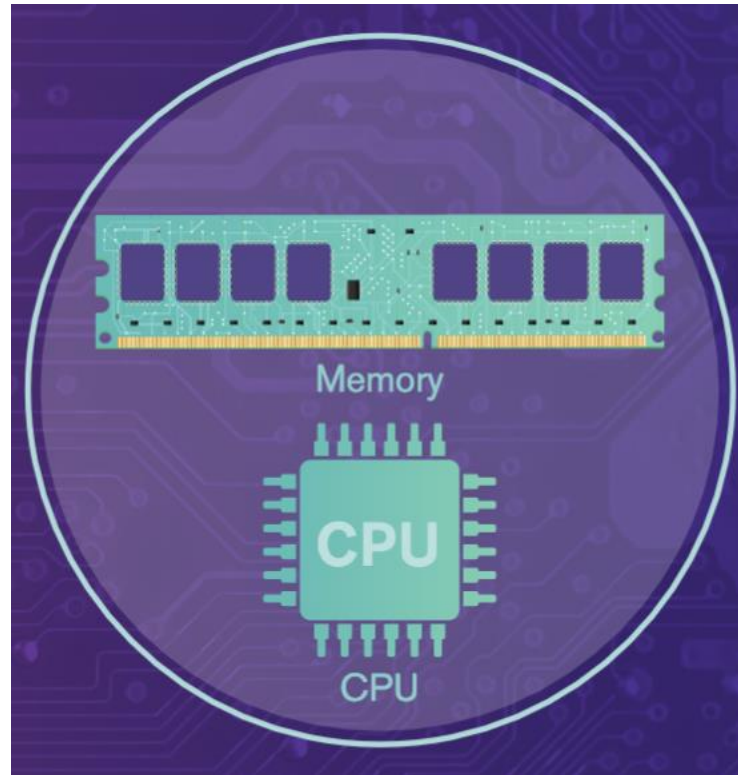


INPUT



An **input** is a way that information gets into a computer system.

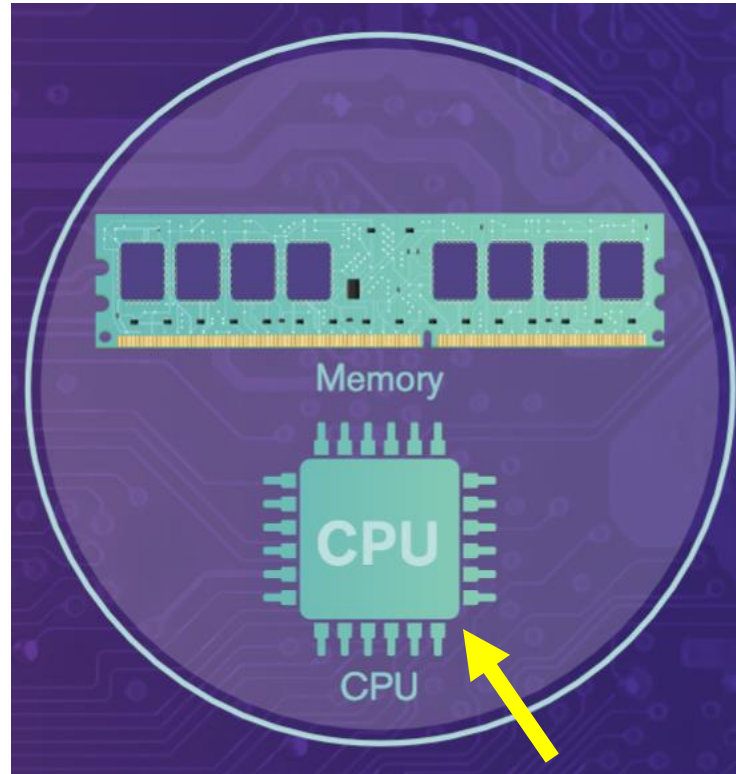
PROCESSING



Processing describes the work a computer does with information.

CPU

The CPU is also called a processor.

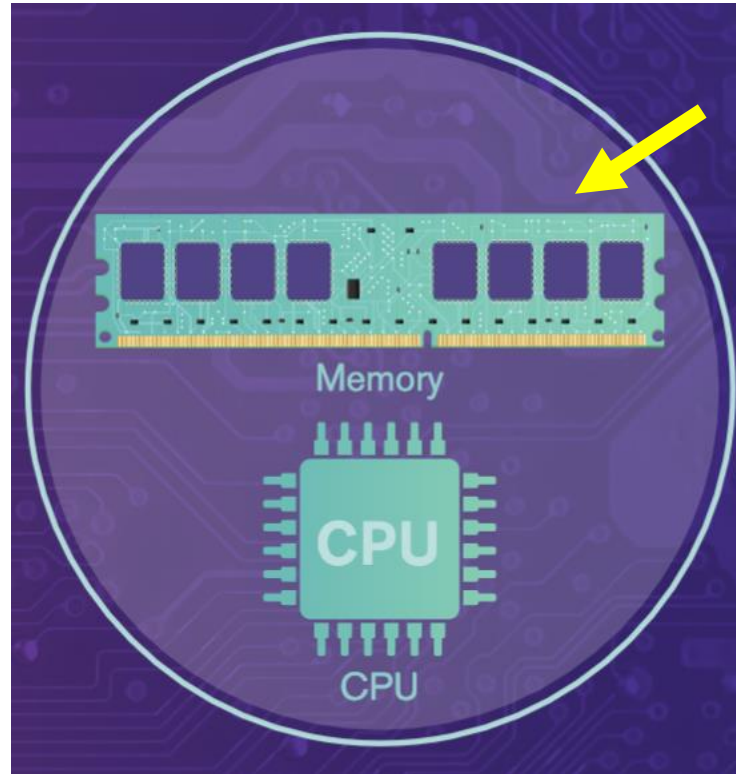


Computers have a “brain” called a **Central Processing Unit**, or CPU.

The **CPU** is the part of a computer that controls operations, runs code, and routes data to other parts of the computer.

MEMORY

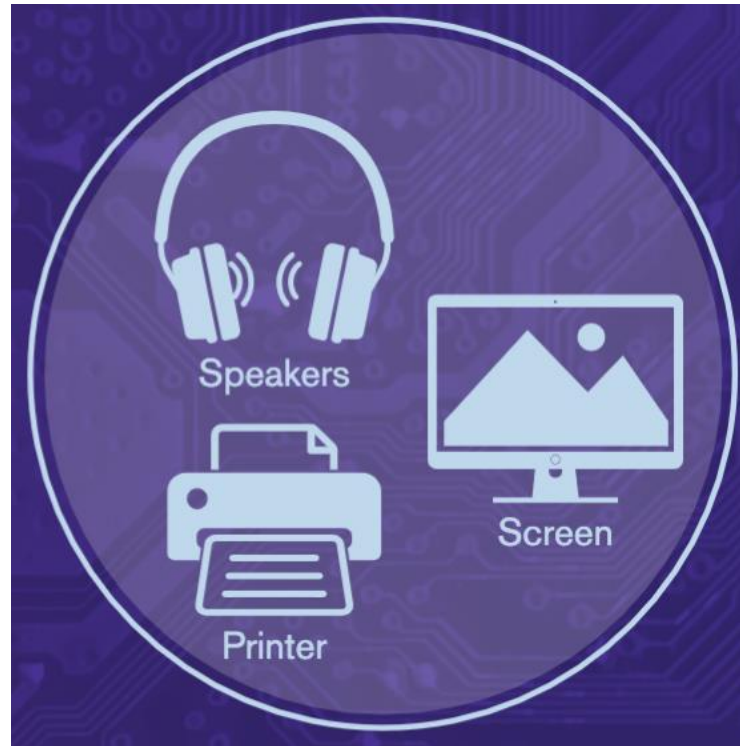
The computer uses its **memory** to remember information.



Memory is the part of the computer system that stores information and instructions.

The computer's processor (CPU) talks to the memory.

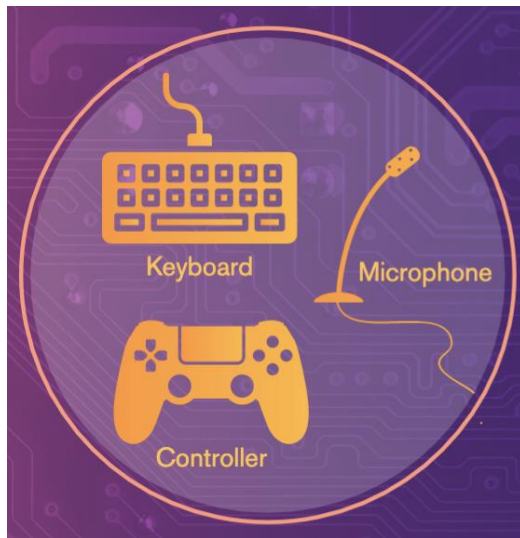
OUTPUT



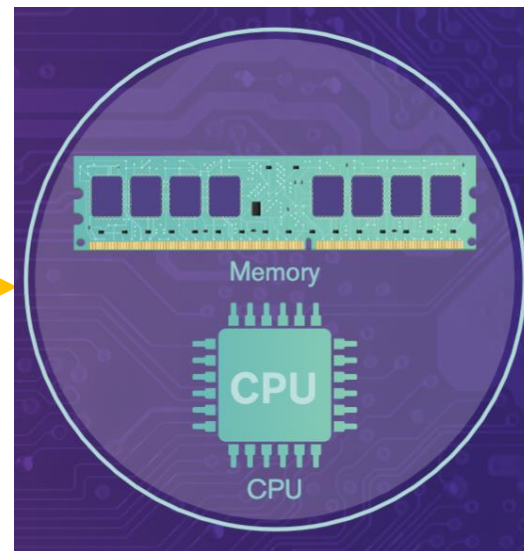
An **Output** is a way that information comes out of a computer system.

So, what is a computer?

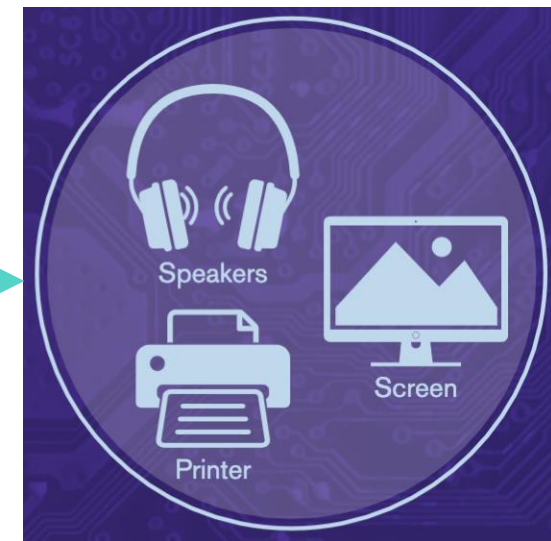
A technology
that gets
input,



**stores and
processes**
information,



and
gives
output.



Kinesthetic Activity

Use hand motions to act out the different parts of the computer.

- Start with your arms stretched out in front of your body, make a grabbing motion as you move your hands closer to your body and say, “**a computer gets input.**”
- Put your hands on either side of your head with your palms open and facing inward, and say, “**stores information in memory.**”
- Next, move your hands around in circles on both sides of your head and say, “**processes information.**”
- Then, push your hands away from your head and say, “**and gives output.**”

Humans and computers are similar...

The ways that humans **get** and **give** information can be called **inputs** and **outputs**.

One way we **get input** is through our ears.



Ear Hears
Sound

One way we **give output** is by drawing and writing with our hands.



Hand Draws
Picture

**Can you think of other ways we
get and give information?**



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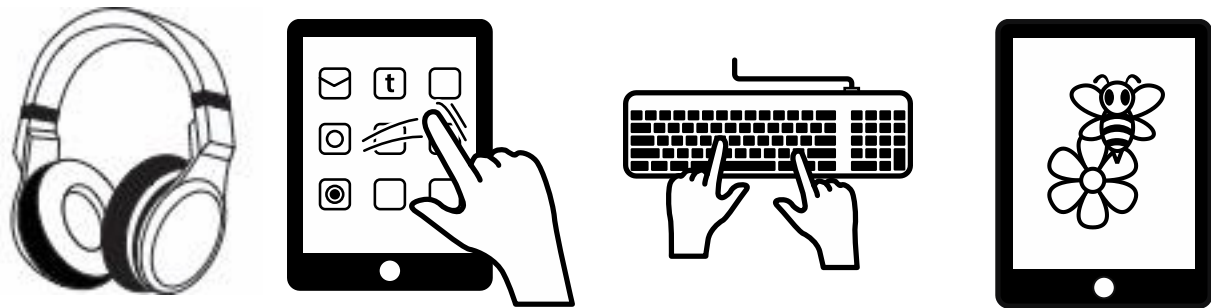
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Now we are going to do an activity to identify how computers and humans **get information** and **give information**.

Sorting Activity



Some cards are examples of **inputs**, and some are examples of **outputs**.

INPUT

OR

OUTPUT



Headphones
Make Sound



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INPUT

OUTPUT



Headphones
Make Sound



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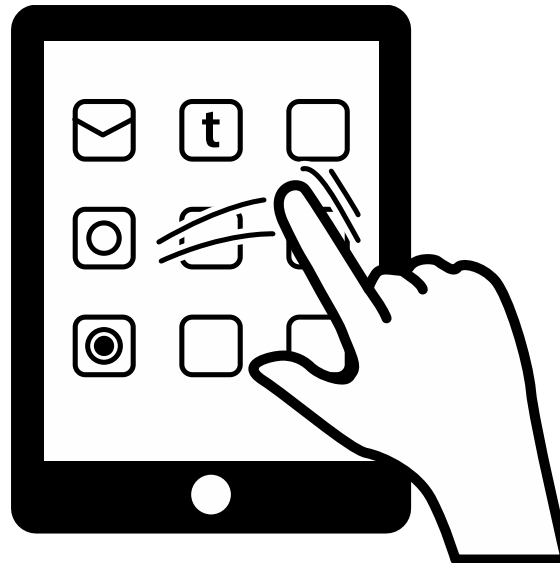
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INPUT

OR

OUTPUT



Touchscreen Tracks
Finger

*Hint! When a finger touches the screen,
does the computer
get information or **give** information?*



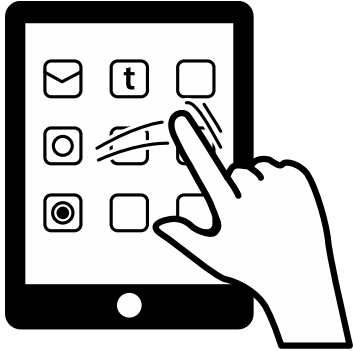
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INPUT



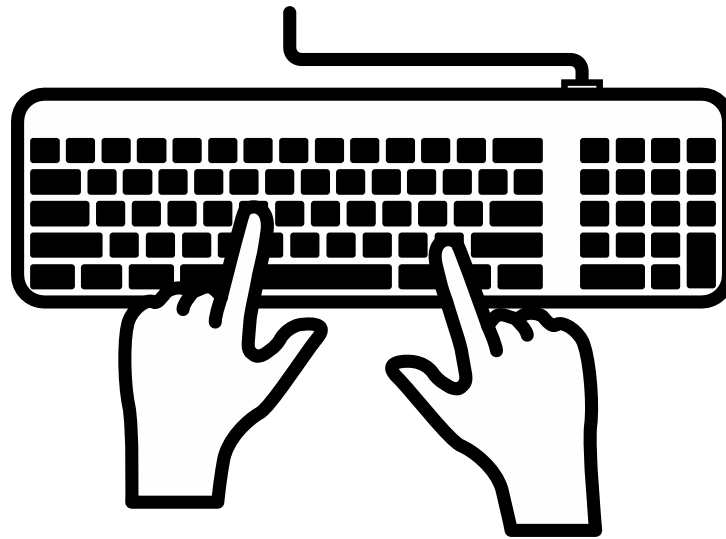
OUTPUT



INPUT

OR

OUTPUT



Keys Press Down



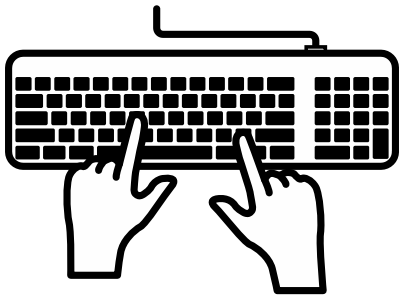
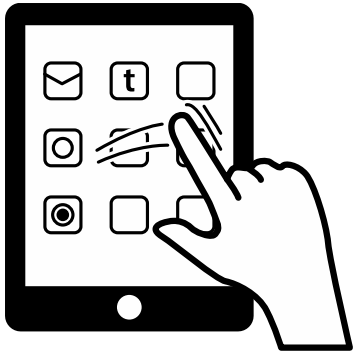
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INPUT



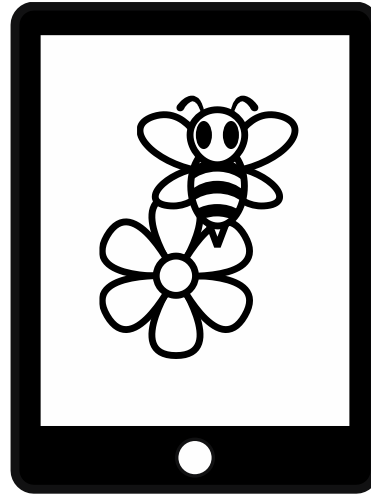
OUTPUT



INPUT

OR

OUTPUT



Screen Shows
Picture

*Hint! When the screen shows a picture,
does the computer
get information or **give** information?*



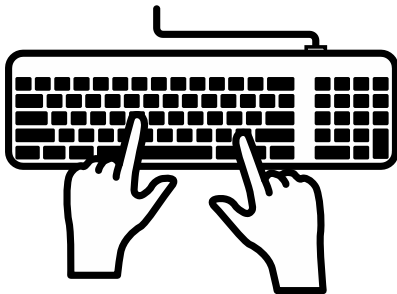
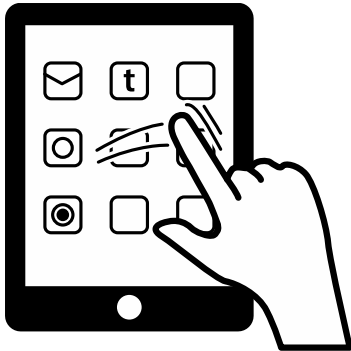
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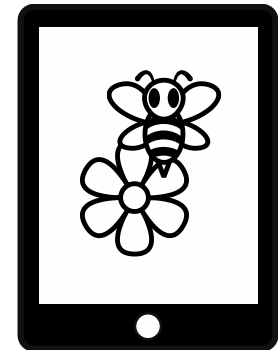
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INPUT



OUTPUT



Now it's your turn...

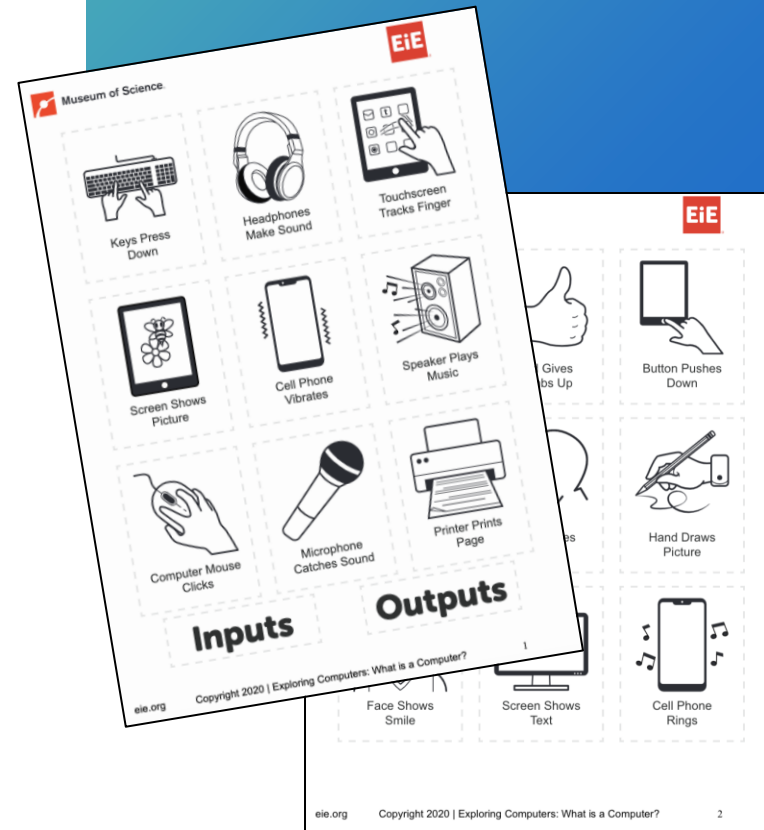
Directions

- Sort the rest of the cards into two piles:
 - one for **inputs**
 - one for **outputs**

.....

IF you're doing this as a virtual learning assignment, THEN

2. Take a picture of the sorted piles and send the photo to your teacher.



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Computer Parts Scavenger Hunt

1. Look around your house for objects that are inputs or outputs.

- For example: A computer's keyboard is an...**INPUT!**
- Here's another example: The beeping sound a printer makes is an...**OUTPUT!**

2. Write down the things you find on your recording sheet.



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SCAVENGER HUNT: Inputs and Outputs in Your Home
 Directions: Take a look at the list of household items below. Notice that some items have inputs and outputs even though they are not computers. Decide whether it is an **input**, an **output**, or **both**. Explain why.

ITEM	Gets INPUT	Gives OUTPUT	BOTH	Explain WHY
Ex. keyboard	✓			the keys press down
microwave				
stove				
TV				
light switch				
tablet				
computer				
coffee machine				
toy				
sink				
phone				
headphones				
camera				
printer				
computer mouse				
vacuum				
washing machine				

Continue on the back of this page if you find more items!

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SCAVENGER HUNT: Inputs and Outputs in Your Home
 Directions: Take a look around your house for each of the following items. Draw and label each item. The first one is an example.

ITEMS	DRAW and LABEL
✓ button that gets input	 Button on a tablet
button that gets input	
remote that gets input	
touchscreen that gets input	
screen that gives output	
speaker that gives output	
toy that gives output	
Something else that gets input or gives output	

Continue on the back of this page if you find more items!

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or Questions?

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