

These pages were taken from the Grade 2 Journal, "The Parts That Make Things."



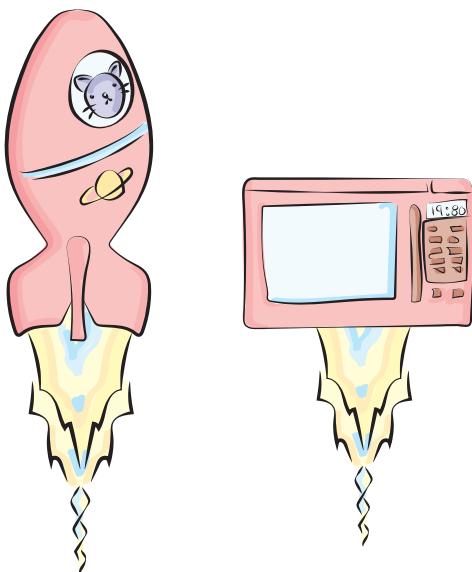
Basic electronic parts make many things

What do a rocket ship and a microwave have in common? A lot more than you would think! Engineers create basic electronic parts and design creative ways to put the parts together to do different things. Clocks, lights, cameras, microwaves and even rocket ships have similar electronic parts in them.



Here is a close-up of a circuit board.

These students are taking apart a broken telephone to see what parts are inside.



What do a rocket ship and your microwave have in common?

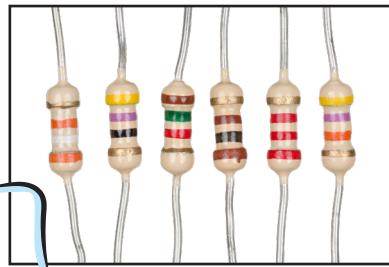
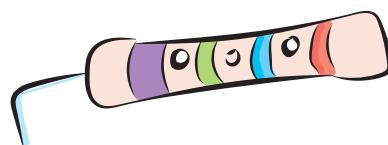
Real answer: They both have many of the same basic electronic parts in them.

Joke: They both can fly! Except for the microwave.

Have you ever looked inside an electronic device to see what makes it work? How does a clock keep time? How does a cell phone send your voice across the world? Each piece in an electronic device has a purpose. When they are arranged differently, they do very different things.

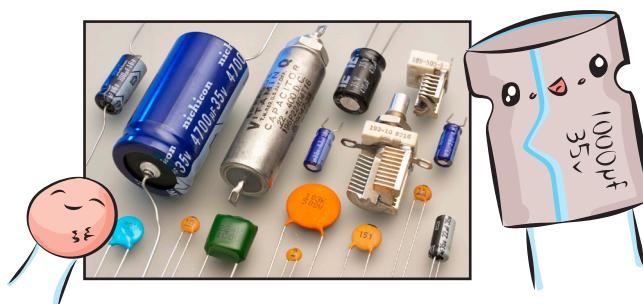
Resistor

I stop part of the flow of electricity in a circuit.



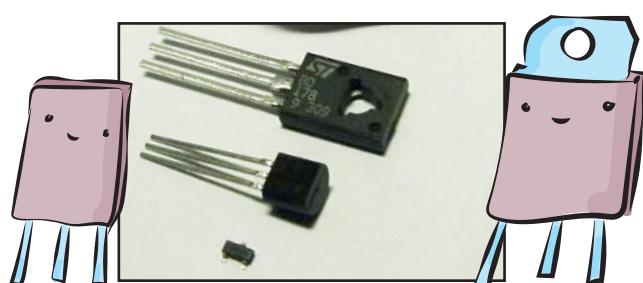
Capacitor

I store electricity, and then I release it in strong bursts.



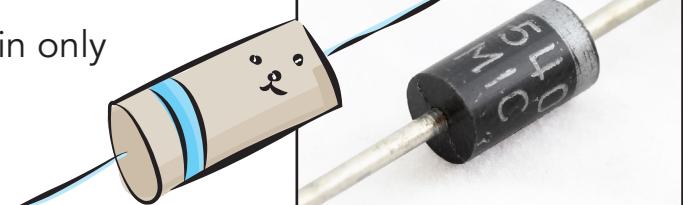
Transistor

I am a switch that turns on and off. Computers use me to store memory.



Diode

I make electricity flow in only one direction.





Activity: Take apart a small electronic device

You will need an old or broken electronic device to take apart. These might be found in a storage area on campus or in a classroom. If you can't find one, thrift stores often have broken devices that they will give you for free. You will need some small screwdrivers to get inside the device. Students will take apart a small device such as a broken telephone, alarm clock, keyboard, or hair dryer.

Caution: Do not take apart a large device such as a microwave or TV because large devices often have powerful capacitors that store voltage that can hurt you. **Make sure whatever device you take apart is not plugged in.**

Try to identify the parts on the previous page: resistors, capacitors, transistors, and diodes. You may also look for other interesting things such as magnets in speakers, LED lights, motors, and microchips.

The Parts That Make Things

I'm very important, although I am small
Join many of us together to make something tall
Building a pillow fort? Constructing a wall?
Smaller pieces are part of it all.

Arranging, re-arranging and moving around
Building down from the top or up from the ground
Whatever direction, wherever you go
I'm just a small part of something larger, you know.

Take me apart to make something new
Use many of us or just a few
Because the smallest parts are the special-est you see
Next time you look at something large, you'll notice me.

Can you find it?

- a spoon handle
- a wrench head
- a spring
- the head of a thumb tack



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