

Boo Boo



LIGHTNING



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The Electricity Family: Pg. 1



Materials conduct because they have electrons that can detach from their atoms and zoom around. These are called free electrons. The loose electrons make it easy for

electricity to flow through these materials, so they're known as electrical conductors. Then flowing electrons can transmit electrical energy from one point to another.

Silver (Ag), Copper (Cu) and Gold (Au) are the best conductors though.

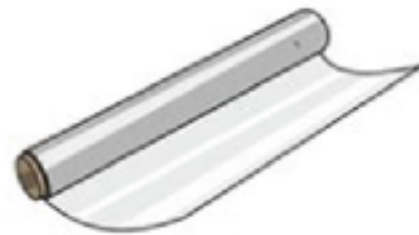
Conduction: There are many metals that can conduct electricity, or provide resistance.

Materials Conduct Electricity

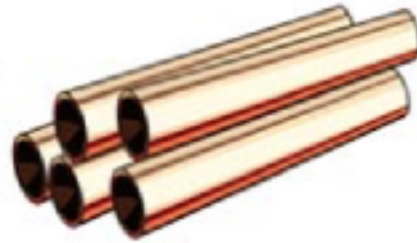
We conduct!



Some materials do conduct electricity



Aluminum



Copper



Graphite



Steel



Tap Water

Some other materials **do not** conduct electricity

We don't. We resist electricity.



Air



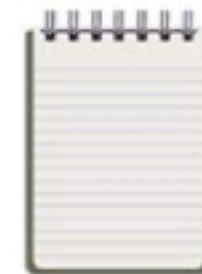
Glass



Wood



Rubber



Paper



Plastic

In modern resistors, usually it's made of carbon or another resistant metal though that can still have a flow of electricity but will resist some of the power.

What's a circuit? A circuit is a loop of electrical conductors that allow the flow of electrons to send energy around the loop.

The Electricity Family Pg.2

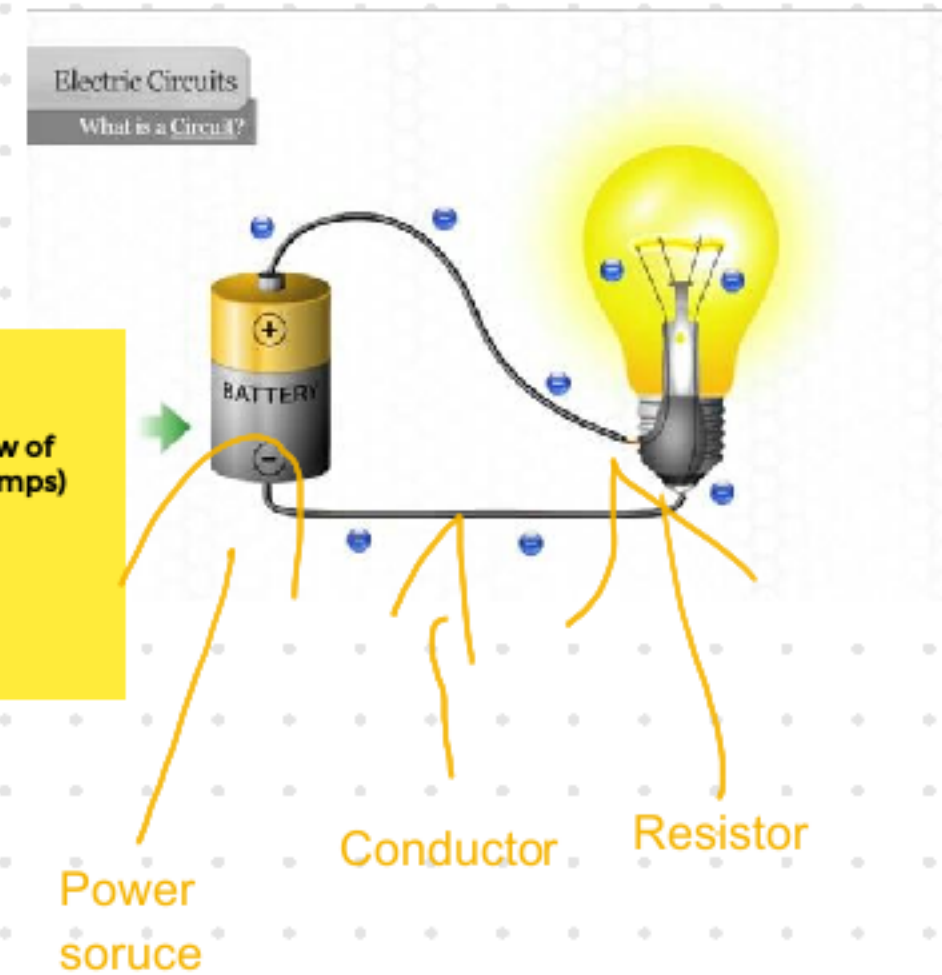
Circuits



Around the circuit, there can then be resistors that use the electric energy to do many things, like power a phone or a electric fan or even a simple lightbulb!

How is electrical energy used? Electrical energy is first stored in the object then put in to work, turning into other types of energy, like thermal energy in a oven, or kinetic energy in a fan, to much more (This ties into the conservation law of energy!) What other ways do you think electricity can be used? They turn into these types of energy by for example using materials like nickel which makes it hard for electrons to move crashing into other atoms and producing heat, or using magnetic energy in a fan to make it move.

Fun fact: Flow of electricity (Amps)
Resistance (Ohms)
Voltage (V)





Practice:

1. What are the best conductors and what are their chemistry symbols?
2. What are good resistors used in modern circuits?
3. What is the resistance of a current in a electrical circuit called?
4. What does electrical energy turn into for an electrical oven to work?
5. Name 5 things that use electricity.

Practice Answers

1. Silver, Copper, Gold. Ag, Cu, and Au.
2. Carbon and other metal resistors that resist the current but don't stop it.
3. The resistance of the current in a circuit is called Ohms.
4. Thermal energy.
5. A lightbulb, oven, ipad, phone, fan, or a microwave and much more!



**Thanks for
listening!!!
:D**

