

Current Electricity

Electric Current

- ▶ A flow of electric charges
- ▶ To make a current, you need a path to carry it.

Circuit

- ▶ The path that an electric current flows through.
- ▶ A simple circuit needs a power source, connectors, and a load (what it is giving power to)

Current Electricity

- ▶ The flow of electrical charges through a circuit

Open and Closed Circuit

- ▶ Open Circuit-electric current can flow through it
- ▶ Closed circuit-current cannot flow through it.
- ▶ Switches control if the circuit is open or closed.

Types of Circuits

- ▶ **Series Circuits:** electric current flows in the same direction along a single path. The same current flows through ALL loads. If one part is removed-the circuit is open!
- ▶ **Parallel Circuit:** current flows through more than one path or branch. IF you removed one load, the other loads will still work.
- ▶ Most homes use parallel circuits.

Conductors:

- ▶ materials that allow electricity to flow through them easily.

Insulators:

- ▶ materials that DO NOT allow electricity to flow through them easily.

What do you think?

What types of materials are good electrical conductors?



Alumiuium?



Rubber?



Wood?

What do you think?

What types of materials are electrical insulators?



Glass?



Pencil lead?

Today's Experiment:

- ▶ What objects are good conductors of electricity?
- ▶ What objects are insulators?

What is a circuit tester?

Use of a circuit tester: To test whether the material is a good electrical conductor.

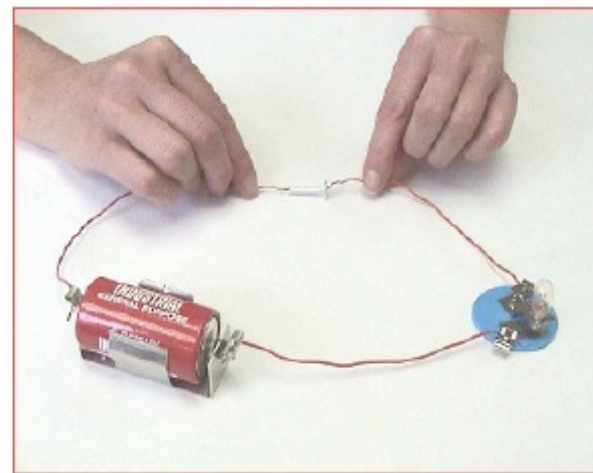


Example of a circuit tester

How to use a circuit tester?

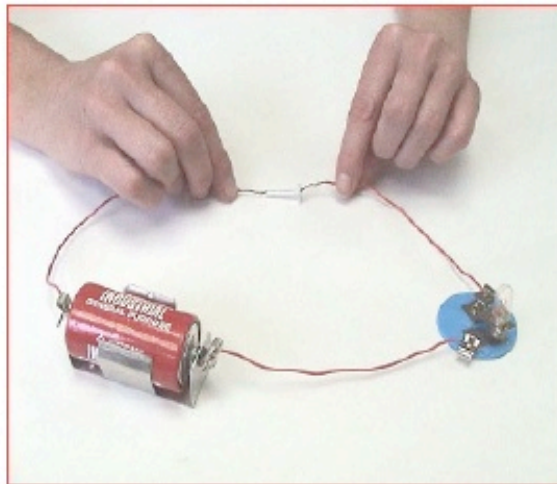


Step 1: Set up the circuit tester as shown above.



Step 2: Place the object between the open ends of the wire or crocodile clips.

How to use a circuit tester?



➤ If the bulb lights up, it means the material allows electric current to flow through the closed circuit.

➤ The brighter the bulb, the better the conductor of electricity is the material.