

Name _____

What Are Electric Circuits, Conductors, and Insulators?

Science Words

Say each word quietly to yourself. Then read the meaning.

Read the tip to help you remember.

insulator [IN·suh·layt·er] a material that resists the flow of electric charges

Your home may have *insulation* material in the walls. The *insulation* material keeps heat from flowing out of the house. An electrical *insulator* keeps electricity from flowing.

conductor [kuhn·DUHK·ter] a material that readily allows electric charges to pass through it

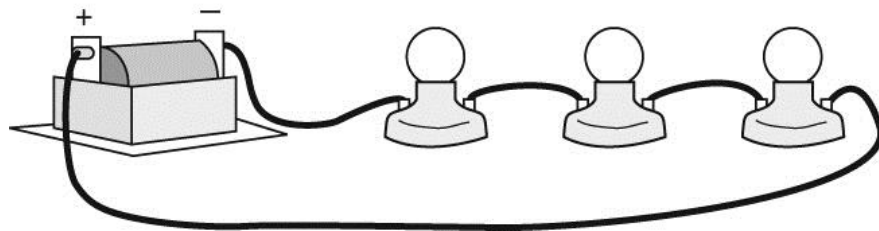
An orchestra *conductor* is the person who helps orchestra music flow. An electrical *conductor* is material that allows electricity to flow.

circuit [SER·kit] a path along which electric charges flow

Circuit and *circle* begin with the same letters. Both words name something that begins and ends at the same place.

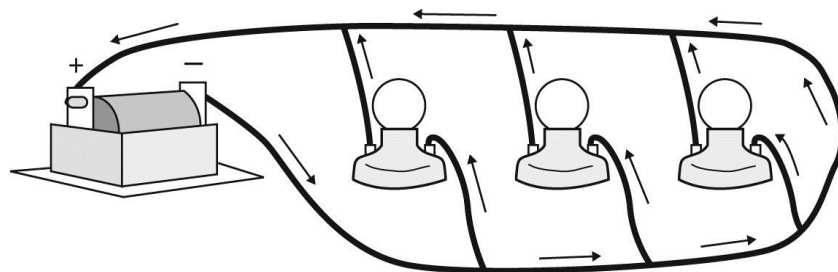
series circuit [SIR·eez SER·kit] an electrical circuit in which electric charges must follow a single path

The World *Series* in baseball is a group of games arranged in a set order. Think of the order as a single path from one game to the next. Like the World *Series*, a *series circuit* has one path for electricity to flow



parallel circuit [PAIR·uh·lel SER·kit] an electrical circuit with several paths for the charges to follow

Parallel tells about two or more paths that never cross. A *parallel circuit* has two or more paths



What Are Electric Currents, Conductors, and Insulators?

Science Concepts

Read the Ideas more than once. Do your best to remember them.

1. Rubber and plastic are insulators that do not allow electric charges to flow through them.
2. Metal is a conductor that allows electric charges to flow through it.
3. Electric cords are conductors wrapped in an insulator for safety.
4. For an electric device to work, the electric circuit must be complete, or closed.
5. A switch controls the flow of electricity by opening and closing the circuit.
6. If one light bulb in a series circuit goes out, the circuit is broken so all the lights go out.
7. If one part of a parallel circuit breaks, electricity can still flow along other parts of the circuit.
8. As electric charges flow, they produce heat.
9. Too much heat can cause insulation to melt, which can start a fire.
10. Circuit breakers and fuses are switches that work automatically to stop the flow of electricity.