EXPERIMENT

ELECTRIC CIRCUIT

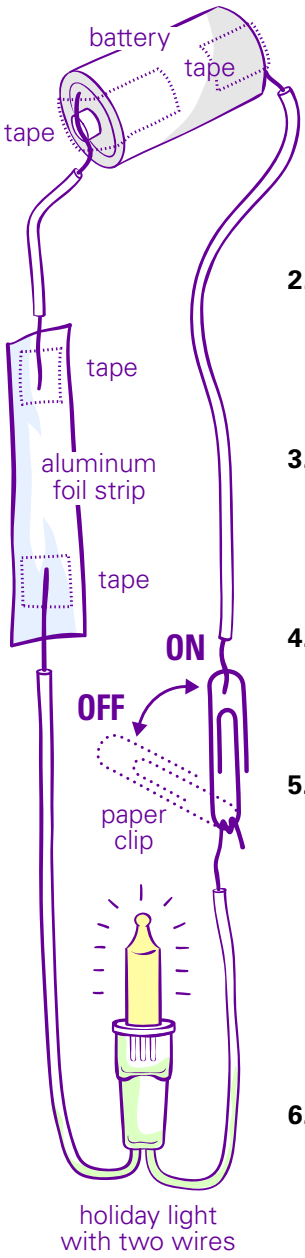
DO YOU LIKE TO WORK WITH YOUR HANDS?

Many jobs in power plant and field operations are hands-on. Employees need these skills to use tools and machines to build, operate, fix and install gas and electrical equipment.

This lineman is repairing the electric circuit to your home. When you turn on a lamp, electricity flows from the power plant to your outlet, to your light bulb, and flows back to the power plant in a continuous loop called a **closed circuit**.

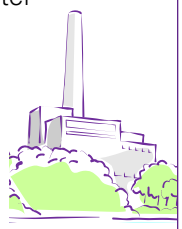
Build your own circuit to see how electricity flows in a loop.

TRY THIS



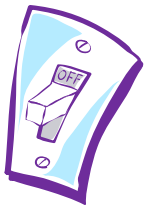
1. Tape one end of each stripped wire to each end of the battery, so the bare wire touches the center of each end of the battery.

   The battery is your power source, just like a power plant is a power source for your home.



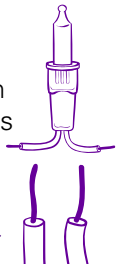
2. Tape the other end of one battery wire to the shiny side of one end of an aluminum foil strip. Be sure the bare wire and the shiny aluminum foil touch each other.
3. Tape the other end of the aluminum foil strip to the end of one wire that connects to the holiday light. Be sure the bare wire and the shiny aluminum foil touch each other.
4. Twist the end of the holiday light's other wire around the end of a paper clip. Be sure the bare wire and paper clip touch each other.
5. Move the paper clip to touch the end of the other battery wire. What happens? What happens when it doesn't touch the wire?

   The paper clip works like a switch in your home. When it completes the circuit, it's ON. When it breaks the circuit, it's OFF.



6. Replace the aluminum strip with a penny. What happens? What if you use a plastic spoon? Are these things conductors, or insulators?

THINGS YOU NEED



- battery (size D)
- miniature holiday light with socket and 2 stripped wires
- 2 wires. Strip 1 inch of the covering from each wire.
- clear tape
- aluminum foil strips. To create the strips, apply clear tape to the dull side of aluminum foil, then cut the foil in strips.
- paper clip, penny, plastic spoon

POWER WORDS

Circuit is the path that electricity follows when it flows.

Closed Circuit is a complete and continuous loop around which electricity flows.

Open Circuit is a circuit with a break or gap that prevents electricity from flowing through.

Switch is a device for making, breaking or changing the flow of electricity in a circuit.

Conductor is a material that allows electricity to flow through it.

Insulator is a material that does not allow electricity to flow through it.

WHAT DO YOU THINK?

What other materials do you think will conduct electricity?
Why do electric plugs have 2 prongs?