



Rhode Island Energy™

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e-SMARTkids



EXPERIMENT

Complete a Circuit

Print this page and follow the directions to build your own circuit.

In order for electricity to travel to where we need it, there must be a complete circuit of electricity. A complete circuit is like a circle. Electricity starts at a particular place, travels around the circuit, and returns to the same place.

Ask an adult to help you with this experiment.

Materials:

- 1 D-cell battery
- 1 1.2-volt light bulb
- 1 E-10 light bulb base
- Two 12-inch pieces of insulated solid strand copper wire (18–22 gauge), with 1 inch of insulation removed at each end
- Masking tape



Directions:

1. Connect one end of each wire to the light bulb base (see illustration).
2. Tape one free wire end to each end of the battery.

In this experiment, the complete circuit is something like the electrical distribution system that brings electricity to our homes. The battery produces the electricity like the generating plant does. What part of the distribution system is like the wires?

What happens if you tape only one of the wires to the battery? Why?
