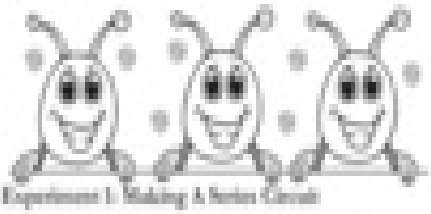
Name(s) _____ Experiments: series and parallel circuits



Comparing Circuits

Electrical currents follow paths called circuits. A series circuit connects everything in a single path. A parallel circuit has more than one path for current. Complete the experiments below to make both a series and a parallel circuit.

Experiment 1: Making A Series Circuit

Materials: two flashlight bulbs with holders
three 5-inch lengths of wire
C-size battery

Procedure:

1. Attach the wires to the battery and lightbulbs as shown in the illustration. If the bulbs do not light, check the connections and try again.
2. While the bulbs are lit, unscrew one bulb. Record your observations.

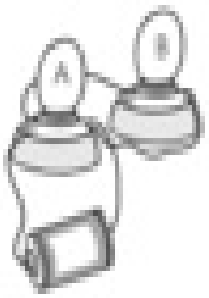
_____
_____
_____
_____

3. Why do you think this happened?

_____
_____
_____

Bonus Box: Why wouldn't you want to wire a house with series circuits? Write your answer on the back of this page.

Experiment 2: Making A Parallel Circuit



Materials: supplies listed for Experiment 1
one more length of wire

Procedure:

1. Attach the wires to the battery and lightbulbs as shown in the illustration. If the bulbs do not light, check the connections and try again.
2. While the bulbs are lit, unscrew bulb B. Record your observations. _____
3. Why do you think this happened? _____
4. Screw bulb B back in and unscrew bulb A. Record your observations. _____
5. Why do you think this happened? _____
6. Which type of circuit do you think is more reliable? _____
Why? _____