

19.2

Current and Voltage



Question: How does current move through a circuit?

1 Building test circuit #1

There are no questions to answer in Part 1.

2 Measuring current through test circuit #1

Follow the procedures and record your readings below:

3 Test circuit #2

Follow the procedures and record your readings below:

4 What did you learn about current?

- a. Review the two current readings for circuit 1. What conclusions can you draw from these results?

- b. Review the three current readings for circuit 2. What conclusions can you draw from these results?

- c. Transfer all your results for circuit 1 and circuit 2 into the table below. Compare the current readings in the two circuits. What happened to current when you added a bulb to the circuit?

	Current in circuit 1 (amps)		Current in circuit 2 (amps)
Point A	.092	Point A	.070
Point B	.091	Point B	.070
		Point C	.068

d. In which circuit were the light bulbs brighter? Offer a possible explanation for this.

5 Measuring voltage across a battery

Follow the procedures and record your readings below:

6 Measuring voltage across a battery and bulb in a circuit

Follow the procedures and record your readings below:

7 What did you learn about voltage?

a. Were your predictions correct?

b. Was there much difference in the battery voltage when it was not lighting the bulb and when it was?

c. How did the battery's voltage compare with the bulb's voltage? Why do you think this is?

8**Building circuits with two batteries**

a. Describe how you should wire batteries together to light the bulb.

b. Each battery is 1.5 volts. Explain how to calculate voltage when two batteries are connected.

c. Compare the brightness of a bulb in a one-battery circuit to that of a bulb in a two-battery circuit. How is the bulb's brightness related to energy transfer in each circuit?

d. Explain the meaning of the voltage reading across the bulb.
