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Activities

Testing Ohm's Law

Name: _____ Date: _____

How do you get a scientific law named for you? For Georg Ohm, it was finding how voltage, current, and resistance are related. In this Planet Diary activity, you'll experiment with a virtual electric circuit to test his law.

Directions

- Go to Ohm's Law at Molecular Expressions. Before trying out the simulation, read Ohm's Law (above the circuit), then answer Workspace questions 1 and 2.
- Voltage (in Volts) appears at the top and current (in Milliamps) at the bottom. The resistance (in Ohms) slider is just below the voltage window. Adjust voltage or resistanc by moving the sliders. For the first round of simulations, keep resistance set at 100 Ohms. Run the simulation four times, changing voltage each time. Notice what happens to the current as you increase or decrease voltage. Answer questions 3 and 4.
- For the next round, set voltage at the lowest level (36 volts). Run the simulation four times, changing resistance each time. Notice what happens to current as you increase or decrease resistance. Answer the last two questions.

Workspace

1. In Ohm's Law, what is current directly proportionate to?

2. What is current inversely proportionate to?

3. What happens to current when you increase voltage?

4. What happens to current when you decrease voltage?

5. What happens to current when you increase resistance?

6. What happens to current when you decrease resistance?

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