Voltage, Current, and Resistance
or
Can I Please Go Ohm?

The idea: Ohm's Law is a simple and fundamental relationship between voltage, resistance, and current in an electric circuit:

Purpose: To investigate Ohm's Law and determine the actual resistance of various resistors.

What you'll need:

Various resistors, Multi-meter with red and black wires
4 wires with alligator clips on either end
Variable Voltage power supply

What you'll do:

Obtaining ONE resistor at a time, make a simple circuit with the power supply, wires and a resistor. Use the multi-meter to measure the voltage across the resistor and current through the resistor for eight different resistors. As you finish one resistor, replace it in the proper baggy and obtain another. Reference your meter diagrams from yesterday for pointers on how to connect the meter to your circuit to measure current and voltage. Before turning meter on, check your circuit with your teacher.

Resistor	**Voltage (Volts)** from meter	**Current (mA)** from meter	**Current (A)** mA / 1000	**Resistance (Ω)** Calculated using Ohm's Law	**% Error & Does it meet tolerance?** (yes or no)

1) When you have completed the table, please return all materials.

Suggest some possible reasons why your resistors might not meet their supposed 5% tolerance: