

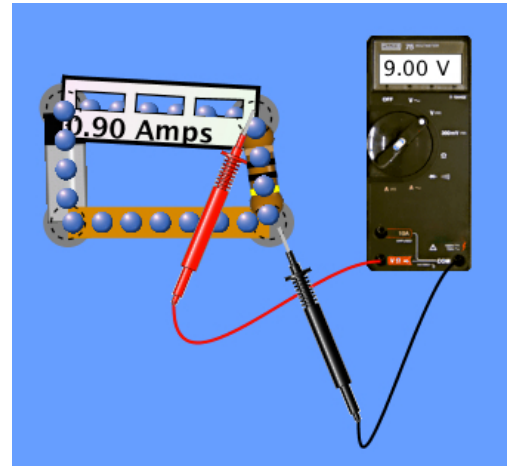
Ohm's Law pre-lab Name: \_\_\_\_\_

Date: \_\_\_\_\_

In this lab, we will get a hands-on introduction to circuits. For the pre-lab, we will use this PhET simulation:

<https://phet.colorado.edu/en/simulation/circuit-construction-kit-dc>

The simulation encourages you to drag a wire into the blue area, which is where you build a circuit. Make a circuit consisting of one battery, one ammeter (to measure current), one resistor, and one wire. If you hook it up properly, the blue dots should travel around the circuit. You can drag out a voltmeter and/or an ammeter to measure values. The picture shows you the basic circuit that you're trying to achieve – note where the tips of the voltage probes need to be placed to measure the resistor voltage.



If you click on the resistor, you can find the resistance of the resistor.

What is the resistance? \_\_\_\_\_

How do you get the current from the voltage and resistance?

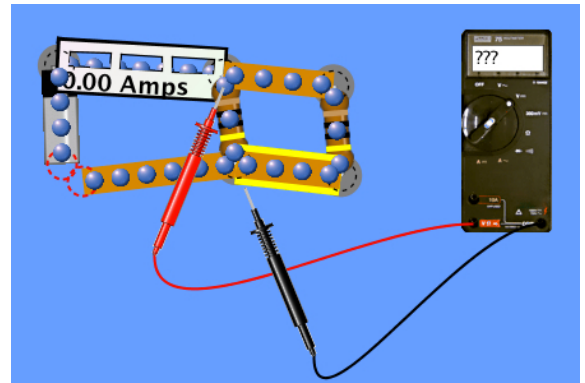
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We'll adjust the circuit to add a second resistor in parallel with the first. First, predict what you think the current and voltage readings will be when you do this.

Predicted values -

Current: \_\_\_\_\_ Voltage: \_\_\_\_\_

Now, construct the circuit and see what the readings are. It should look something like this, except we've left the wire and battery disconnected so as not to give the readings away.



Actual values -

Current: \_\_\_\_\_ Voltage: \_\_\_\_\_

Note that if you click on something, you can delete it; if you do that on a junction, you can disconnect the components at that junction. Adjust the circuit again to move the second resistor so it is in series with the first. First, predict what you think the current and voltage readings will be when you do this.

Predicted values -

Current: \_\_\_\_\_ Voltage: \_\_\_\_\_

Now, construct the circuit and see what the readings are. It should look something like this, except all connected.

Actual values -

Current: \_\_\_\_\_ Voltage: \_\_\_\_\_

