

Ohm's Law Lab: Measuring the effect of Voltage, Resistance, and Current

To measure Current, place a multimeter in series with the rest of the circuit, with its setting DC10A (for xmas lights)

Pre-Lab: 1. Draw a series circuit with a 6V battery, an ammeter, and two resistors in your lab journal.

2. Draw a parallel circuit with a 6V battery, an ammeter, and two resistors in your lab journal.

3. Measure the resistance of a light bulb – please try to find one in the 1-10 Ω range. Record this in your lab journal.

4. Measure the voltage of your 6V battery – (it's not exactly 6V!!!) Record this in your lab journal.

5. Using Ohm's law, predict the amount of current in this (#3) light bulb when connected to the (#4) battery. Show work in your lab journal.

****Before proceeding to #6, have #1-5 checked by Mr. F.**

6. Using your ammeter (multimeter set to DC10A), test it out. Draw a diagram of what you have set up to test this in your lab journal, and show your results.

7. Reflect; how do your results compare with your prediction? Can you offer any explanations for why these numbers might be different?

Inquiry Section:

Design an experiment involving electric circuits, and label sections. **Use good Scientific Method.**

Your points on this lab will be based on conducting a thorough scientific inquiry of your testable question,

how you reflect/make conclusions,

presentation of your results; both to class after the lab and in a visual way in your lab journal.

If math can be used to help analyze results, you should do it (predictions or slope on a line graph)

****remember, if there are #s on the x-axis, it's a line graph. If a slope can be calculated, it should be done!**