

Name _____ Date _____

Group Members _____

Commack High School
Regents Physics
Lab # ____ Ohm's Law Lab

PURPOSE: The purpose of this laboratory exercise is for you and I current is directly proportional to potential difference (i.e. Prove Ohm's Law)

Equipment:

Multimeter, Resistors, Test Leads as needed, Variable Voltage Source, Ammeter

Special Instructions:

Use 10 volts as a MAXIMUM Potential Difference, and use two different = Resistor values (5 ohms and 10 ohms). Note that the numbers on the Variable Voltage Source do NOT correspond to Voltage.

Your lab must include a schematic diagram and 2 data tables

You must write a detailed procedure for your experiment.

Your group must obtain my signature for the following-

DO NOT GATHER ANY EQUIPMENT UNTIL:

_____1. I have approved your SCHEMATIC DIAGRAM

_____2. I have approved your DATA TABLES

_____3. I have approved your PROCEDURE

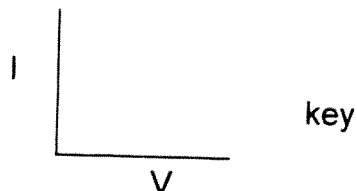
DO NOT TURN ON THE VOLTAGE SOURCE UNTIL:

_____4. I have inspected your CIRCUIT SET-UP

Ohm's Law Lab

Analysis

1. Calculate the resistance using the information in each data table.
2. Graph current versus voltage. (V is the independent variable.)
Include both sets of data on the same grid. Use a key to distinguish between each data set.
(units, title, zero-zero)



3. Calculate the slope of each line. (include units)
4. Determine the resistance for each graphed line using the slopes.
5. What is the relationship between current and voltage shown in the graph?

Conclusion

State how you proved Ohm's Law using data from your lab or graph.

Sources of Error

Describe two sources of error. (Think about the measurements you took in this lab.)