

Name _____

Partner _____

Date _____

Goal: Investigate a factor that affects the resistance of a wire and determine the relationship between this factor and the resistance

In this activity you will investigate the relationship between two variables based upon inspection of a graph, the physical significance of a slope, and practice using electrical meters.

- You will work with ONE partner to take the data, and to prepare the lab report.
- You will determine the effect of **length** on the **resistance** of a wire. You will use electrically conductive paper formed by a coating of carbon on one side of a sheet of paper.
- Using the Conductive paper, measure the **resistance** of various lengths of the paper, and the **length** of the paper being used. Have the ohmmeter set to 200Kohms
- In this lab, we are not focusing on measurement errors

Which multi-meter did you use? (Circle one) orange blue yellow

Length of paper	R Measured

- 1) **Graph** Resistance versus length on graph paper. Choose an appropriate scale so that the graph takes up most of the page.
- 2) Using your graph, **what is the relationship** seen between the length and Resistance of the conductive paper? Explain.
- 3) Using Physics Equations, **what is the physical significance of the slope?** (It is **not necessary to find the value of the slope**)
- 4) If your graph does not go through (0,0), what does this means about your data? Be specific.

