

## Lab 3: Ohmic Materials, Part One

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There are some materials that conduct electricity so that the *current* that flows through it is *linearly proportional* to the applied *voltage*. Such a material is called “Ohmic”. If you know that a material is Ohmic, you can tell what the current is just by knowing how much voltage you are applying. Predictability is important for certain electrical hardware.



**Questions:** *Is an electrical resistor Ohmic?*  
*Is a light bulb Ohmic?*

This week you will focus on **data-collecting**. Make sure to collect enough to data so that next week you can *prove* whether or not these materials are Ohmic.

**Pre-lab Discussion**                      **Whole Class**                      **10 minutes**

**Planning the Experiment**              **Groups of 4**                      **20 minutes**

Before you begin, present a plan of how you’re going to carry out this experiment and how much data you’re going to take, i.e. how many trials and data points you will collect.

**Data Collecting**                      **Groups of 4**                      **40 minutes**

**Class Discussion**                      **Whole Class**                      **25 minutes**

**Writing the Report**                      **Groups of 4**                      **15 minutes**