

## Lab 4: Ohmic Materials, Part Two

**This week is a continuation of last week's activity.**

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



**Question:** Propose a "rule" that determines whether data is linear or not.

According to this rule, are either of your materials Ohmic?

For the class discussion, be prepared to state clearly what your standard for linearity is, and prove whether or not the resistor and the light bulb are Ohmic.

<b>I. Introduction:</b>	<b>10 min</b>	<b>Whole class</b>
<b>II. Brainstorming and Planning Meeting:</b>	<b>10 min</b>	<b>Groups of 4</b>
<b>III. Carrying out the Experiment</b>	<b>40 min</b>	<b>Groups of 4</b>
<b>IV. Class Discussion</b>	<b>30 min</b>	<b>Whole Class</b>
<b>V. Evaluate and Reconsider:</b>	<b>15 min</b>	<b>Groups of 4</b>