



Science Fair Projects

Grades 6 to 8

A Rheostat

Purpose

To prove that electrical current decreases as resistance increases, and to build an instrument that will test this—a rheostat.

Materials

A large square battery and two short lengths of wire (probably from a hardware store), a small light bulb and socket, a knife, and a lead pencil.

Experiment

Cut the wood away from a lead pencil until you have exposed about two inches of the lead. Connect one side of the miniature socket with its bulb to one pole of the battery. Strip the ends of the loose wires so that they are no longer insulated. Press the two exposed ends to the lead. If the ends are close together, the bulb will light. As the distance between the two ends is increased, the light intensity decreases. Why does this happen?

***Lead is a very poor conductor, a resistor, and as the resistance is increased, the current decreases.*