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**Electrical Power**

**Lab #3 – Determine the Function of Fuses and Resistor Power Rating**

(NOTE: The teacher may want to conduct this lab as a demonstration.)

**Equipment and materials**

* Variable power supply (minimum 10 V, 1-amp capability)
* 1,000-ohm, ½-watt resistor
* 10-ohm, ½-watt resistor (expendable)
* One ½-amp fuse (expendable)
* DC ammeter (1-amp capability)

**Procedure**

1. Connect the power supply, switch, 1,000-ohm resistor, ammeter, and ½-amp fuse in a series as shown in Figure 1.



FIGURE 1

1. Turn on the power supply.
2. Adjust to 10 volts.
3. Turn on switch.
4. Read and record the current indication on the ammeter.
5. Turn the power supply to zero.
6. Open the switch.
7. Replace the 1,000-ohm resistor with the 10-ohm resistor.

(CAUTION: Set range switch, if applicable, to 1 ampere or more.)

1. Close the switch.
2. Adjust the power supply to 10 volts.
3. Observe the fuse and record what you observe. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Connect a wire across the fuse and observe the 10-ohm resistor, and record what you observe.

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