Name: _____ Date: _____

Circuits

Objective:
To explore the various series and parallel circuits that can be arranged using a power supply and bulbs. To determine the various characteristics of each circuit.

Equipment:
power supply circuit board light bulbs
wires with alligator clips

Procedure:
Screw all six light bulbs into the sockets of the circuit board. Attach one wire to the positive terminal and a second wire to the negative (ground) terminal. Plug the supply into an outlet and construct the following circuits.

1. Attach the two wires from the power supply to the circuit board. Arrange, by connecting or disconnecting, the metal strips on the board so that only one bulb lights up. Show me the setup and draw the circuit below:

2. Arrange, by connecting or disconnecting, the metal strips on the board so that a series circuit is made that includes all the light bulbs. Compare the brightness of the bulbs to the single bulb in step 1. Show me the setup and draw the circuit below:

3. Arrange, by connecting or disconnecting, the metal strips on the board so that only four bulbs are included. Compare the brightness of the bulbs to the single bulb in step 2. Show me the setup and draw the circuit below:

4. For the circuit in number three, unscrew one of the bulbs. Describe what happens and why.

5. Screw the bulb back into its socket. Now attach a wire to one of the middle bulbs. What happens? Why?

6. Arrange, by connecting or disconnecting, the metal strips on the board so that a parallel circuit is made that includes all the light bulbs. Compare the brightness of the bulbs to the single bulb in step 1. Show me the setup and draw the circuit below:

7. For the circuit in number six, unscrew one of the middle bulbs. Describe what happens and why.