

Name _____ Date _____

Investigation: Resisting the Flow Worksheet

1. Complete the circuit below by adding a blue LED and a 100 ohm resistor from the inventory.
2. Observe the circuit. Did the LED light up? What direction is the current flowing?

3. Changing only the type of resistor, create a second circuit with a dimmer blue LED. Be careful that the LED does not turn off. What size resistor did you use to successfully complete this circuit? Take a photo of your circuit.

4. Even with a resistor, an LED can still blow out. Use one of the circuits to determine the minimum resistance that will blow the LED. What ohm resistor did you use?

5. Using what you discovered in this investigation, what can you conclude about the relationship between resistance and LED brightness?

6. Remove all inventory models from the breadboard. Your breadboard should now be empty.
7. Extend your learning: Now, attempt to create three different circuits on your breadboard, using 9-volt batteries and red LEDs in place of blue. The LED in each circuit should have a different level of brightness. Take a photo of your three circuits when they are complete.

8. What ohm resistors did you use to complete this task? (Specify which resistor was used for which level of brightness!)