Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Using Objects to Complete a Circuit**

Objective: We will use our knowledge of electric circuits to identify common objects that complete a circuit.

1. **Explore:** Take 5 minutes to explore the sim. Make several different circuits that light 4 light bulbs. Draw one working circuit below.

2. **Turn and Talk:** Share your working circuit with your partner.

* What type of circuit did you make?
* Is there more than one way to design a circuit that will light several bulbs?

3. **Predict**: What will happen if you split the junction between 2 wires in a working circuit?

**Inquiry Question:** Can common objects be used to complete a circuit?

4. **Let’s test it!** Using 3 wires, a battery, and a bulb, create the following series circuit:

5. Open your circuit by disconnecting two of the components. Click on “Grab Bag.”

Try to close the circuit using each item and complete the table below.

|  |  |
| --- | --- |
| Grab Bag Item | Did the bulb light? |
| Dollar | Yes | No |
| Paper Clip | Yes | No |
| Penny | Yes | No |
| Eraser | Yes | No |
| Dog | Yes | No |
| Hand | Yes | No |
| Pencil Lead | Yes | No |

6. What do the materials that were able to light the bulb have in common?

7. What other objects would complete the circuit?

These objects are called **conductors** because they conduct electricity by allowing it to flow through them. Objects that do not allow electricity to flow through them are called **insulators.**

\*8. Look around our classroom. What objects do you see that you are **conductors?**

9. Using our classroom circuit materials, design a circuit that would allow you to test these classroom objects. (Think about how you tested the grab bag objects!)

My Design:

10. Build the circuit and test the classroom objects that you predicted!

**Conductors: Insulators:**