Project #1 (pg.9) Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Build this very basic circuit to introduce yourself to the kits. What must be done to the circuit in order for the lamp to turn on?
2. There are (3) components that are needed for a ‘circuit’ to actually function. Look at this circuit, see if you can **guess** what these (3) components are:

1.

2.

3.

1. On Page 10 in your manual, it mentions that the battery voltage (3V) will not damage the bulb which is rated for ONLY 2.5 V. How is this possible?
2. With your multi-meter, measure the voltage across the batteries before and after the Switch is closed. Record your measurements.

Open circuit:

Closed circuit:

Did you confirm a “drop” in voltage?

1. Draw the ‘schematic’ symbols that we will be using for the following componenets:
2. a wire (conductor)
3. battery
4. slide switch
5. press switch
6. lamp (bulb)
7. resistor
8. What is a ‘series’ circuit?
9. What is a “parallel” circuit?
10. What is a ‘combination’ circuit?

**STOP**! Put your kit away after you have built this first circuit. You will soon be building more than one circuit a day, but we need to learn some basic terminology before we proceed. Once everybody has tried this circuit, let’s discuss your thoughts on these mystery components:

Current electricity-

Circuit-

 “Open” circuit-

“Closed” circuit-

(3) Components Needed For a Circuit:

1.

2.

3.

As a review of two major terms we will be using throughout this course, describe what is meant by these two terms: (HINT: it is often helpful to think of Electricity in a circuit as Water flowing through pipes…)

1. Current-

It is measured in:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Voltage-

It is measured in:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_