**Measuring Current**

**Safety**

* Make sure to connect the positive terminal of the ammeter to the positive terminal of the battery.
* Never connect an ammeter directly across the terminals of the battery; there must always be a load in series with an ammeter.
* If the wires or battery get hot, disconnect them immediately.

**Materials:**

* 1.5V cell
* Three different lightbulbs
* Wires
* Switch
* Ammeter

**Procedure:**

1. Using connect the cell, switch, ammeter and lightbulb in a series circuit. Draw the circuit diagram of your set up below.
2. Close the switch and measure the current flowing through the circuit. Open the switch; record your data on the data table.
3. Repeat the second step with the other two lightbulbs.

**Data and Observations:**

|  |  |
| --- | --- |
| **Bulb Type** | **Measured Current (mA)** |
|  |  |
|  |  |
|  |  |

**Concluding Questions:**

1. Which lightbulb showed the greatest current?
2. Which lightbulb showed the smallest current?
3. Why is it important to connect the positive lead of the ammeter to the positive side of the battery?
4. What is the purpose of the switch in this circuit?
5. When you measure an unknown current, you should start with the meter set to a large current scale, and then decrease the scale if necessary. Explain the purpose of starting with a higher setting.