Symbols for Circuit Diagrams

* Before building a circuit, it is a good idea to draw a circuit diagram. This will remind you how components should be connected.
* Circuit diagram rules:
	+ Wires are drawn as straight lines (use a ruler!)
	+ Connect wires at right angles (90°)
	+ Use proper symbols (see below)

|  |  |  |  |
| --- | --- | --- | --- |
| Type of Component | Name of Symbol | Symbol | Notes |
| Sources/Outlets | 1 cell |  |  |
| 3 cell battery |  |  |
| Control Devices | Switch |  |  |
| Fuse |  |  |
| Circuit breaker |  |  |
| Electrical loads | Light bulb |  |  |
| Resistor |  |  |
| Variable resistor (rheostat) |  |  |
| Meters | Ammeter |  |  |
| Voltmeter |  |  |
| Connectors | Conducting Wire |  |  |
| Wires Joined |  |  |
| Ground Connection |  |  |

Activity: Getting a Light Bulb to Light!



Purpose: To discover what is needed to complete an electric circuit so that the light bulb will light up!

Procedure: Use the PhET simulator on my website to create a simple circuit that lights up a light bulb! Once you are successful, draw the circuit using proper circuit diagrams in the box.

Questions:

1. What is your power source in this circuit?
2. Which of the materials do you believe are metals, which are not metals?
3. What are the minimum three different parts that are needed to create a basic circuit?
4. What must you do to cause the lightbulb to not light up?
5. What could we add to safely and easily control the flow of energy within the circuit?
6. When electrical particles (electrons) finish going through the bulb, do they have to go back to the battery? Explain.