**Simple Circuits & the Transfer of Electrical Energy – Master Key**

**Parts of an Electrical Circuit**

1. Electrical energy is the energy of charged particles in matter.
2. Electrical circuit is a path for the flow of electrical energy.
3. Electrical circuits are set up so they can transform electrical energy into other forms of energy
4. Electrical circuits have three main parts.
5. A source of electrical energy, output device or a load, and connectors between the two.

Electrical Source

1. Electrical source can be anything that supplies electricity.

Output Device

1. An output device or load is anything that can use the electricity.

Connectors

1. Connectors are usually wires.

Simple Circuit

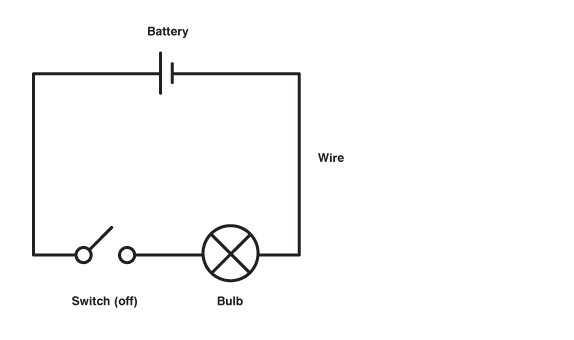
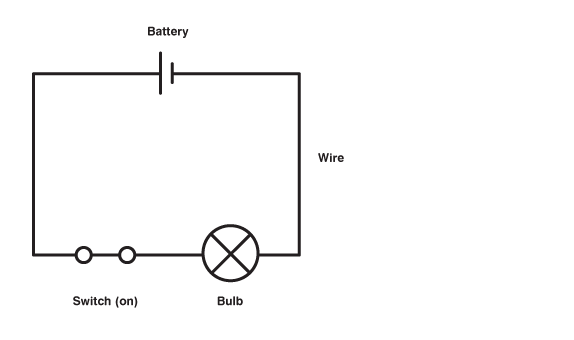
1. Electric current is the flow of electrical energy through a circuit.

Open Circuit

1. An open circuit has a break in the flow of electricity
2. A switch is the device that opens or closes a circuit.
3. The switch is made of metal, like the wire, so an electric current can pass through it.

Closed Circuit

1. A closed circuit is a complete path for the flow of electricity.
2. The switch is closed, so the flow of electricity is not interrupted.



Conductors

1. Electrical energy moves through some materials better than it does others.
2. A conductor is a material that allows electric current to pass through it easily.
3. Metals conduct electricity well.
4. Examples are aluminum and copper.

Insulators

1. An insulator is a material that does not let electric current pass through it easily.
2. Most wires are wrapped in plastic or rubber.
3. Other insulators are glass, wood, and air.

Series Circuit

1. A series circuit is a circuit in which all parts are connected in a single loop. There is only one path for charges to follow, so the charges must flow through each part of the circuit.

Parallel Circuits

1. A parallel circuit is a circuit in which loads (output devices) are connected side by side. Charges have more than one path on which they can travel.