



## Key vocabulary

**Electricity:** a form of energy resulting from the existence of charged particles.

**Circuit:** A complete and closed path around which a circulating electric current can flow.

**Battery:** A container consisting of one or more cells where chemical energy is converted into electricity and used as a source of power.

**Bulb:** A glass bulb which provides light by passing an electrical current through a filament.

**Buzzer:** An electrical device that makes a buzzing noise and is used for signalling.

**Cell:** A device containing electrodes that is used for generating current.

**Motor:** A machine powered by electricity that supplies motive power for a vehicle or other moveable device.

**Switch:** A device for making and breaking the connection in an electric circuit.

**Wire:** A long thin piece of metal that carries an electrical current often covered in plastic for safety.

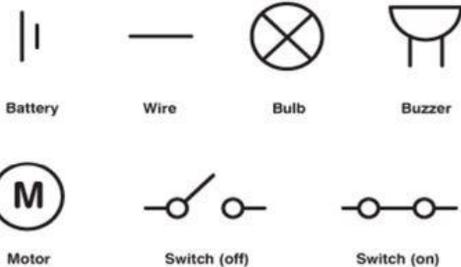
**Current:** A flow of electricity which results from the ordered directional movement of electrically charged particles.

**Voltage:** An electrical force that makes electricity move through a wire, measured in volts.

**Conductor:** A material or device which allows heat or electricity to carry through.

## Electrical symbols

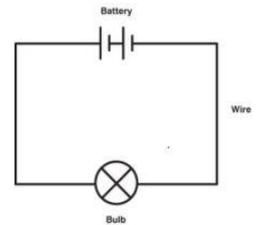
A circuit always has a battery (cell) but it can also contain other electrical components, such as bulbs, buzzers and motors. When drawing circuit diagrams, rather than drawing detailed components, we use simple symbols to represent the different components.



## A simple circuit

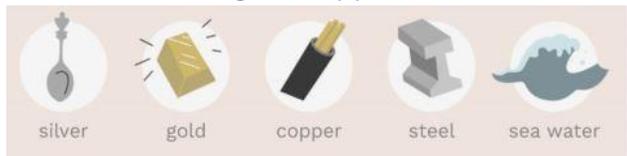
In order for electricity to flow, a circuit needs 3 things:

1. A source of electricity
2. No gaps in the circuit
3. Conductors



## Electrical conductors

A conductor is a material that allows charges to flow easily throughout the material. Metals are often good conductors. Examples include: silver, gold, copper, steel and salt water.



## Electrical insulators

An insulator is a material that does not allow charges to flow easily throughout the material. Examples include: rubber, glass, oil, diamond and dry wood.



## Appliances that use electricity

