

# Year 6 Science Knowledge Organiser - Electricity

Word	Definition
Amps	The measurement of how much electricity is flowing through a circuit measured using an ammeter.
Battery	A container of one or more cells in which chemical energy is converted into electrical energy and used as a source of power.
Buzzer	An electrical device that is used to make a buzzing sound.
Cell	A single unit used for converting chemical or solar energy into electricity.
Circuit	A complete path which an electric current can flow around.
Component	The parts that something is made of.
Conductors	A substance that heat or electricity can pass through or along.
Current	The flow of electricity through a wire or circuit.
Electricity	A form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.
Energy	The power from sources such as electricity that makes machines work or provides heat.
Insulators	A non-conductor substance, does not allow heat or electricity to pass through or along.
Motor	A device that uses electricity or fuel to produce movement.
Switch	A small control for an electrical device which you use to turn the device on or off.
Volts	A unit of electrical force.

Sticky Knowledge is in red!

## How does a Circuit work?

In a series circuit all the components are joined together and the electricity can only flow in one direction. You must learn the different symbols for the different components. Switches can be used to open and close circuits.

However, a circuit will not work properly if:

The cells aren't connected correctly (+ to -, not ++ or --);  
 a component isn't working or there's no bulb;  
 the circuit has gaps;  
 one of the components acts as an insulator.

## Resistors:

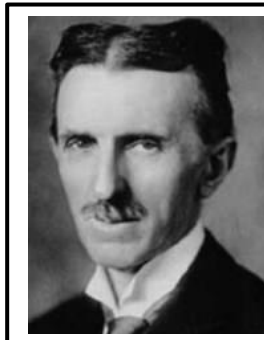
Resistors (bulbs, buzzers motors etc.) use energy. The more resistors in a circuit, the less energy there is for each of them to use. E.g. two bulbs will shine less brightly than one bulb. Using more cells or batteries will increase the energy available.

## What are electrical conductors and insulators?

An electrical conductor lets electricity pass through it. They are often metal (e.g. iron, copper and gold) but also include carbon and water.

An insulator doesn't let electricity pass through it, e.g. wood, leather and plastic. Plastic is used to cover electrical wires because it is a good insulator.

## Electrical Safety



## A significant Scientist - Linked to the topic of Electricity

Nicola Tesla (1856-1943)

Tesla was a Serbian-American electrical and mechanical engineer. He was a prolific inventor and engineer who made big strides in the areas of electricity, radio and X-rays. Without Tesla's development of a type of electrical circuit (AC) we would not have electrical lights in our homes.