

Year 4 Science Knowledge Organiser

Electricity



Key Knowledge

Electricity is the **energy** that makes things work. We can find this all around us.

Electricity can be found in nature (lightning) or created using **generators** such as wind, gas, coal or solar.

Many everyday appliances run on electricity. This can be **mains electricity** or **battery powered**.

An **electrical circuit** is a complete loop that energy can move around. It begins with a **power source**, loops around and returns to the power source. There will usually be other things in a circuit too. These are called **components**.

Electricity cannot pass through everything. Things that are good at allowing electricity through are called **conductors**. Things that are not good at allowing electricity to pass through are called **insulators**.

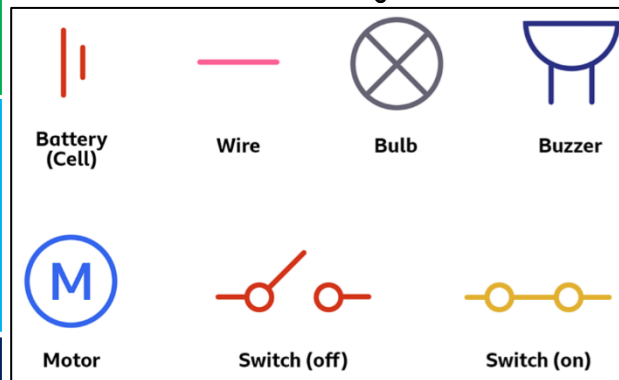
A **switch** can be used to open or close a circuit. An open circuit will not work.

Electricity can be **extremely dangerous**. If we are not safe around electric currents, they can lead to death. We can stay safe by never touching live wires and wearing rubber soled shoes.

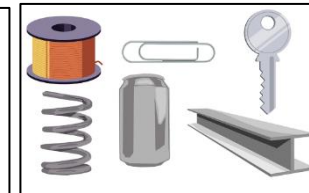
Key Vocabulary

Generator	Something that converts energy into electricity.
Mains Electricity	Electricity that comes through wires and plugs from the National Grid. Things that use mains electricity will be "plugged in".
Power source	Where your electrical energy comes from – a plug, a battery
Components	Parts that go into a circuit – bulbs, buzzers, switches etc.
Conductors	Objects and materials that allow electricity or heat to move through them easily. (Often a metal).
Insulators	Objects and materials that slow down the heat or electricity moving through them.

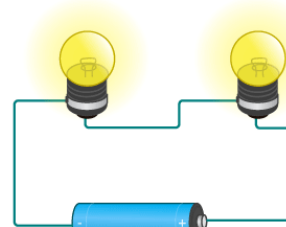
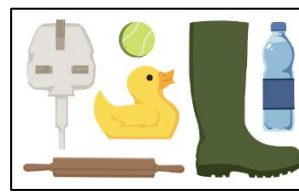
Electrical Circuit Symbols



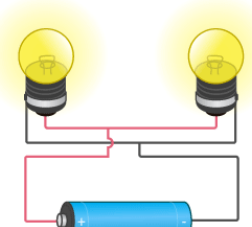
Conductors



Insulators



Series circuits



Parallel circuits



Never play near electricity pylons and wires as they can be very dangerous.