

# Electricity Knowledge Organiser

## Electrical Appliances



Most big appliances in our house have to be **plugged in**. These are powered by **mains power**. Some smaller appliances can be powered by **batteries**. Some appliances have batteries that need to be **charged** by mains power.

## How is electricity made?

Electricity can be made using a simple **generator**. We could make one in school using a **magnet** and a **coil of wire**. If we turn a magnet around inside a coil of wire, it creates **electricity in the wire**. Doing this only makes a **small amount** of electricity so we need large generators to make enough for everyone. These generators are usually in **power stations**. There are **different types** of power stations.

## Non-renewable Mains Power

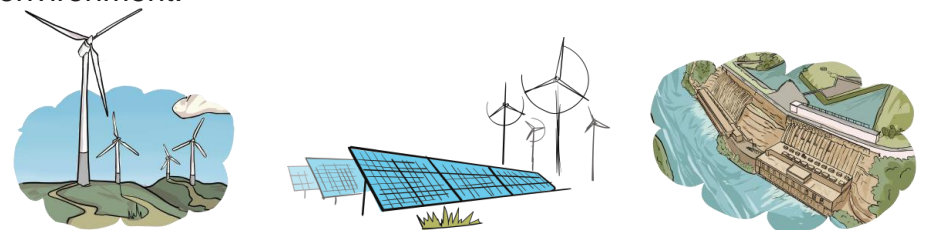
Most of the electricity in the UK is made using **non-renewable** power stations. These power stations **burn oil, coal or gas** to create **steam** which turns the generator.

Oil, coal and gas are **fossil fuels**. They are non-renewable which means that they will eventually run out one day. This is because they are naturally occurring and take thousands of years to make. Burning these fossil fuels can also damage **the environment** as they produce gases such as **carbon dioxide** and **methane**.

## Renewable Mains Power

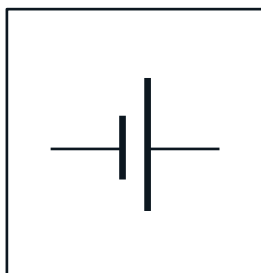
We can also make electricity using renewable energy.

Renewable energy sources like **the Sun, wind** and **sea** can be used over and over again and should not run out. We are beginning to use these sources more as they do not damage our environment.

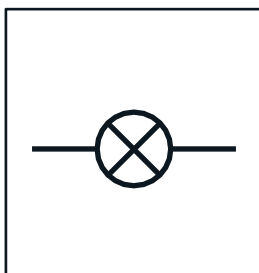


## Scientific Symbols

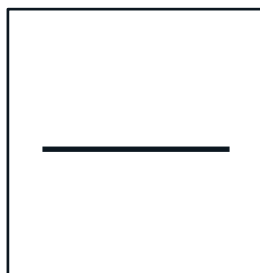
When scientists draw electrical circuits, they use **scientific symbols** to show **different components**.



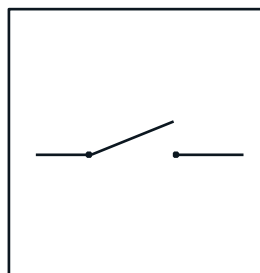
battery or cell



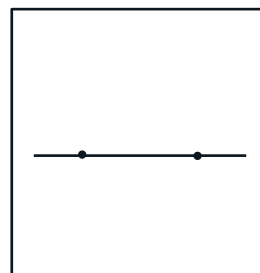
bulb



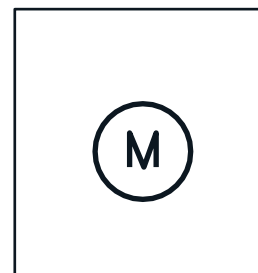
wire



open switch (off)



close switch (on)

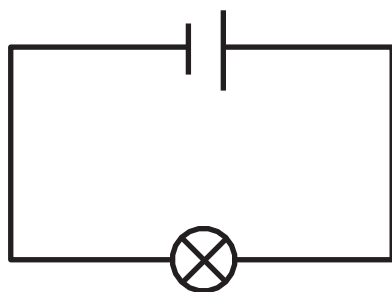
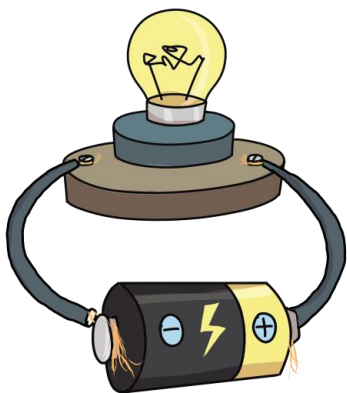


motor



buzzer

## Simple Circuit



The **circuit** has to be complete to allow the **electricity** to travel all the way around it.

## Key Vocabulary

**appliance** – a device or piece of equipment that has been made to perform a specific task

**battery** – a small item used to power small appliances

**circuit** – a route through which electricity flows

**components** – the parts of a circuit

**conductor** – allows electricity to flow through it

**electrical** – something that uses electricity to work

**insulator** – doesn't allow electricity to flow through it

**mains power** – electricity provided by power stations

**portable** – can be easily carried around

**pylon** – a tower used for keeping electrical wires above the ground

