

# Electricity

## Prior Learning

Year 3:

Forces and Magnets  
(Physics)

- Magnets have poles which attract or repel.

## Following on:

Year 5:

Earth and Space (Physics)

- Describe the movement of the Earth, and other Planets, relative to the Sun in the Solar System
- Describe the movement of the moon relative to the Earth
- Describe the sun, earth and moon as approximately spherical bodies
- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky
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## Key Vocabulary

Electricity	The flow of an electric current through a material.
Generate	To make or produce.
Renewable	A source of electricity that will not run out.
Non-renewable	This source of energy will eventually run out and so will no

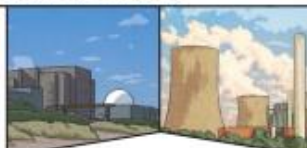
## Key Knowledge

Lightning and static **electricity** are examples of **electricity** occurring naturally but for us to use **electricity** to power **appliances**, we need to make it.

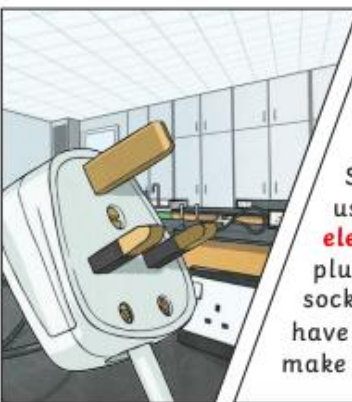


Coal, oil and natural gases are fossil fuels which, when burnt, produce heat which can be used to **generate electricity**.

**Electricity** can be **generated** from wind power used to turn windmills and hydroelectric power from water used in dams. The Sun's rays can be converted into **electricity** by solar panels.



Nuclear energy is created when atoms are split. This creates heat which can be used to **generate electricity**. Geothermal energy is heat from the Earth that is converted into **electricity**.



Many everyday **appliances** rely on **electricity** for them to work. Some appliances use mains **electricity** (are plugged into a socket) and others have a **battery** to make them work.



# Electricity

longer be able to be used to make electricity.

**Appliances** A piece of equipment or a device

There are two types of electric current.

**Mains electricity:** power stations send an electric charge through wires to transformers and pylons. Then, underground wires carry the electricity into our homes via wires in the walls and out through plug sockets.



**Battery electricity:** batteries store chemicals which produce an electric current. Eventually, even rechargeable batteries will stop producing an electric current.



## Key Knowledge



Electricity can only flow around a complete **circuit** that has no gaps. There must be wires connected to both the positive and negative end of the power supply/**battery**.

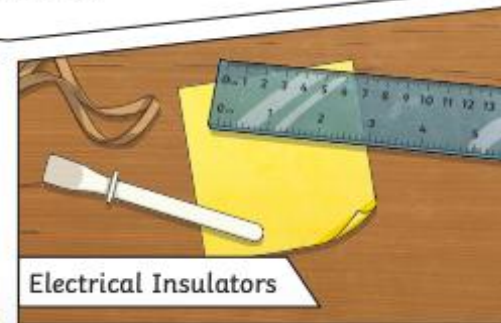
Switches can be used to open or close a **circuit**. When off, a switch 'breaks' the **circuit** to stop the flow of **electricity**. When on, a switch 'completes' the circuit and allows the **electricity** to flow.



A conductor of **electricity** is a material that will allow **electricity** to flow through it. Metals are good conductors. Materials that are electrical insulators do not allow **electricity** to flow through them. Wood, plastic and glass are good insulators



Electrical Conductors



Electrical Insulators