

Key Vocabulary

circuit	A complete route which an electric current can flow around.
current	A flow of electricity through a wire.
physics	The study of forces including electricity and the way it affects objects.
battery	A small device that provides power for electrical items.
cell	A device used to generate electricity. A battery is an example of a cell.
conductor	Any material that electricity can pass through or along.
insulator	Any material that electricity cannot pass through or along.
buzzer	An electrical device that makes a buzzing sound.
motor	A device that changes electrical energy into movement.
wire	A long thin piece of metal that carries an electrical current often covered in plastic for safety.
voltage	An electrical force that makes electricity move through a wire, measured in volts (V).
socket	A device on a wall that you can plug electrical equipment into.

What is electricity?

The flow of an electric current through a material, e.g. from a power source through wires to an appliance.



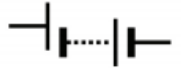
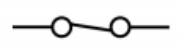
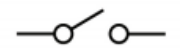
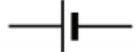






Coal, oil and natural gases are fossil fuels which, when burnt, produce heat which can be used to generate electricity.

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.

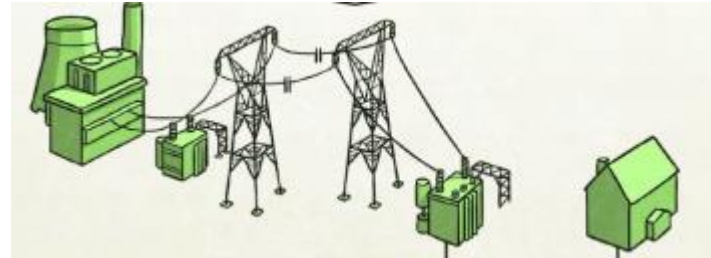
Electric circuit symbols

				
battery	closed switch	open switch	cell	voltmeter
				
buzzer	lamp	lamp	motor	wire

There are 2 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 scientist

Thomas Edison (1847 – 1931)

Thomas Edison was born in 1847 and died in 1931. He lived in the state of New Jersey in the United States of America (USA)

He is known as one of the greatest inventors in history.



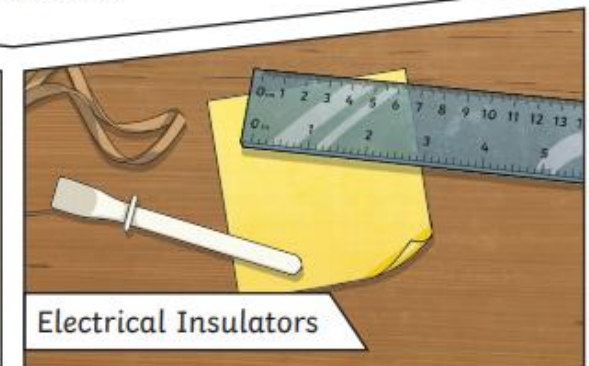
He invented the **light bulb**, the **phonograph** (which could record and play sound) and an early video camera called the **Kinetograph**. The films were then watched on a **Kinetoscope** which he also invented.

Conductors and insulators

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