



Year 4 Science Knowledge Organiser – Electricity



Key Vocabulary	
Word	Meaning
electricity	The flow of an electric current or charge through a material, eg. from a power source through wires to an appliance.
generate	To make or produce.
renewable	A source of electricity that will not run out. These include solar, nuclear, geothermal, hydro and wind.
non-renewable	This source of energy will eventually run out and so will no longer be able to be used to make electricity. These include fossil fuels - coal, oil and natural gas.
appliances	A piece of equipment or device designed to perform a particular job, such as a washing machine or mobile phone.
battery	A device that stores electrical energy as a chemical.
circuit	A pathway that electricity can flow around. It includes wires and a power supply and may include bulbs, switches or buzzers.
electrical conductors	Materials that allow electricity to flow through them.
electrical insulators	Materials that DO NOT allow electricity to flow through them.

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 the **circuit**. When off, a switch 'breaks' the **circuit** to stop the flow of **electrons**. When the switch is on, the **circuit** is complete and the **electrons** are able to flow around the **circuit**.

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**.

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**.

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.



WARNING!
Electricity and water DO NOT mix!