SMRP Knowledge Organiser for Year 4 'Electricity'

Science knowledge

Electricity is a form of energy that can be carried by wires and is used for heating and lighting. It also provides power for devices.

Electricity can be created using energy from natural sources such as the Sun, oil, water, and wind.

Electric can also occur naturally. Lightening and static electricity are both examples of natural electricity. when you rub a balloon on your head it causes static electricity to build up both on your hair and the balloon

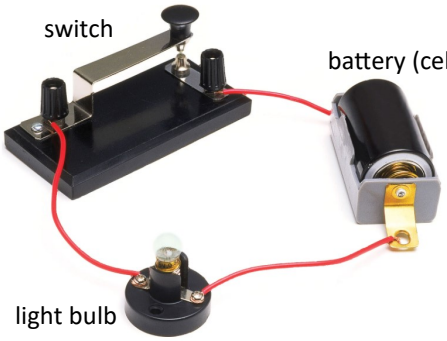
Many of the items that we use every day run on electricity. Electricity can be supplied from batteries or from a main power supply. Some things that run on electricity include mobiles, televisions, ovens, clocks, and fridges.

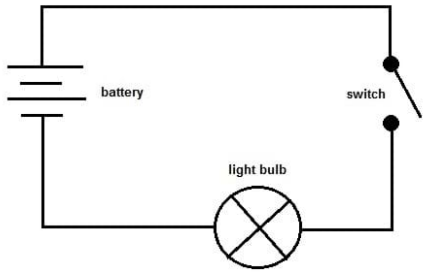
Science Vocabulary

Word	Definition
battery	A small device that provides power for electrical items.
cells	A device used to generate electricity. A battery is an example of a cell.
wires	A long thin piece of metal that carries an electrical current, often covered in plastic for safety.
bulbs	An electrical device that lights up.
switches	Something that can turn the electrical device on or off. When the switch is off, the circuit is broken and electricity cannot flow.
buzzers	An electrical device that makes a buzzing sound.
circuit	A complete route which an electric current can flow around.
series	The electric in a series circuit goes through every device in the circuit.
conductors	Any material that electricity can pass through or along.
insulators	Any material that electricity cannot pass through or along.

An **insulator** is a material that does not allow charges to flow easily through the material. Examples include: rubber, glass, oil, diamond and dry wood.

These materials are good **conductors**. Electricity can pass through them easily. Metals are often good conductors. Examples include: silver, gold, copper, steel and salt water.





This is a photo and a diagram of a series circuit.

In order for electricity to flow, a circuit needs three things:

1. A source of electricity such as a battery.
2. No gaps in the circuit.
3. Conductors.

The light bulb in this circuit will not work until the switch is closed.