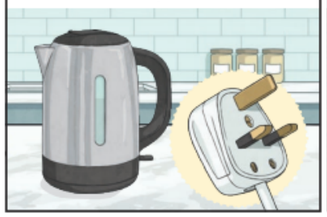
Y3/4 Science Knowledge Organiser – Autumn Term 2

Electricity

Appliances

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. Examples of **mains**-powered **appliances** include toasters and televisions. **Battery**-powered **appliances** can include mobile phones and torches.

mains-powered



battery-powered

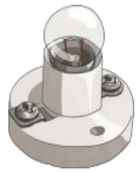


Components (Parts) Vocabulary

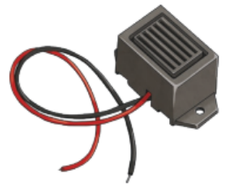
cell: Normally, we would call this a **battery** but scientifically, this is a cell. Two or more cells joined together form a **battery**.



bulb: Lights up in a complete **circuit**.



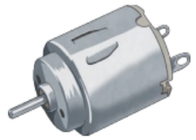
buzzer: Makes a noise in a complete **circuit**.



wires: Used to connect the different components in the **circuit** together.



motor: Produces movement in a complete **circuit**.



switch: Used to turn other components in the **circuit** on or off.

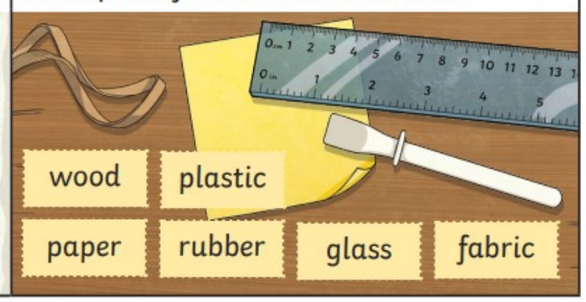


Key Knowledge

Examples of **Electrical Conductors**



Examples of **Electrical Insulators**

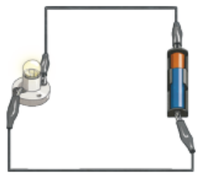


Series Circuit

A **circuit** where the components are connected in a loop. **Electricity** flows through each component in a single pathway.



Complete Circuit



Electricity can flow. The components will work.

Incomplete Circuit

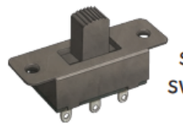
There is a break in the **circuit** that prevents the **electricity** from flowing. The components will not work.



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.



push button switch



slide switch

Key Vocabulary

mains electricity	**Electricity** supplied through wires to a building.
electrical conductor	A **conductor** of **electricity** is a material that will allow **electricity** to flow through it.
electrical insulator	Materials that are **electrical insulators** do not allow **electricity** to flow through them.
electricity	The flow of an electric current through a material, e.g. from a power source through wires to an **appliance**.
appliances	A piece of equipment or a 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. Two or more cells joined together form a **battery**.
circuit	A pathway that **electricity** can flow around. It is based around wires and a power supply. Examples of components (parts) you can add in to a **circuit** are bulbs, switches, buzzers and motors.