Y4 Science: Electricity and circuits

Electrical appliances

There are many examples of electrical appliances around us.







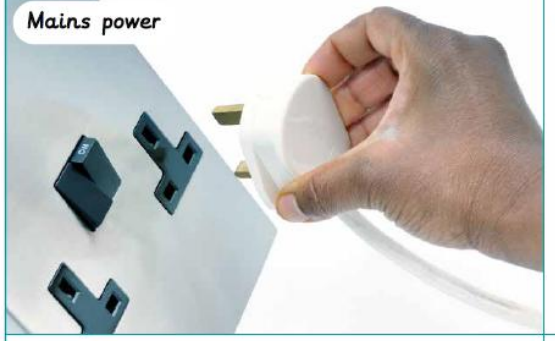

Electrical safety



- Do not use wet hands when using electrical appliances or switches.
- Do not put anything other than a plug in an electrical socket.
- Let an adult know if electrical appliances or wires appear damaged.
- Do not leave electrical wires across the floor or hot surfaces.

Power source: something that transfers electrical energy to make an appliance work.

Mains power



- Provides high power for larger appliances.
- Requires access to an electrical socket.
- Appliance is fixed in place.

Batteries

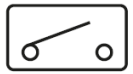
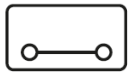
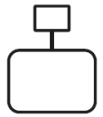


- Allows an appliance to be portable (move anywhere).
- Allows an appliance to used where there are no electrical sockets.
- Batteries run out and need replacing.
- Batteries are harmful and must not go to landfill.

A **component** is a part of an electrical circuit.

Symbols are often used to represent the components so they are easy to draw and recognise.

battery/cell	wire	bulb
		

open switch	closed switch	buzzer	motor
			



Metals are good electrical conductors.



Plastics are good electrical insulators.

Electrical conductor	Allow electricity to flow through.
Electrical insulator	Don't allow electricity to flow through.
Switch	A component used to control the flow of energy.
Buzzer	A component that makes a sound when electricity flows through it.
Electrical circuit	The pathway electrical charge flows around a circuit