



Key Concepts

Key Vocabulary

Where does electricity come from?

- Electricity is generated using energy from natural sources such as the Sun, oil, water and wind.
- These can also be called fuel sources.



Which appliances run on electricity?

- Some appliances use batteries and some use mains electricity.
- Batteries come in different sizes depending on how much and for how long the appliance is used.
- Common appliances that use electricity.



toaster



phone



torch



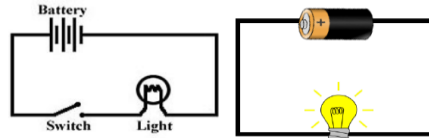
headlights



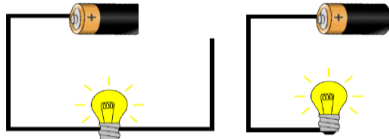
X-box

How does a circuit work?

- A complete circuit is a loop that allows electrical current to flow through wires.
- A circuit contains a battery (cell), wires and an appliance that requires electricity to work (such as a bulb, motor or buzzer).
- The electrical current flows through the wires from the battery (cell) to the bulb, motor or buzzer).
- A switch can break or reconnect a circuit.
- A switch controls the flow of the electrical current around the circuit. When the switch is off, the current cannot flow. This is not the same as an incomplete circuit.



These are complete circuits - they have a battery (cell) and a component (bulb). The wires are placed in the right places of the battery for the circuit to work.



These circuits will not work as they are incomplete.

What are electrical conductors and insulators?

- When objects are placed in the circuits, they may or may not allow electricity to pass through.
- Objects that are made from materials that allow electricity to pass through a create a complete circuit are called electrical conductors.
- Objects that are made from materials that do not allow electricity to pass through and do not complete a circuit are called electrical insulators.

Working Scientifically Skills



Using Scientific knowledge to ask questions.



Planning different types of enquiry, controlling variables where necessary.



Using scientific language to draw conclusions.

appliances

A device or machine in your home that you use to do a job such as cleaning or cooking. Appliances are often electrical.

battery

Small devices that provide the power for electrical items such as torches.

bulb

The glass part of an electric lamp, which gives out light when electricity passes through it.

buzzer

An electrical device that is used to make a buzzing sound.

cell

A synonym for a battery.

circuit

A complete route which an electric current can flow around.

component

The parts that something is made of

conductor

A substance that heat electricity can pass through or along.

current

A flow of electricity through a wire or circuit.

electricity

A form of energy that can be carried by wires and is used for heating and lighting and to provide power to devices.

insulator

A non-conductor of electricity or heat. It does not let heat or electricity to pass through or along.

mains

Where the supply of water, electricity or gas enters a building

source

Where something comes from

wires

A long thin piece of metal that is used to fasten things or carry electric current.

Famous Scientists



Alessandro Volta (1745-1827) was an Italian physicist, chemist, and pioneer of electricity and power who was the inventor of the electric battery.