



Electricity

Prior Year 3 Learning

- recognise that you need light in order to see things and that dark is the absence of light.

Year 4 Learning

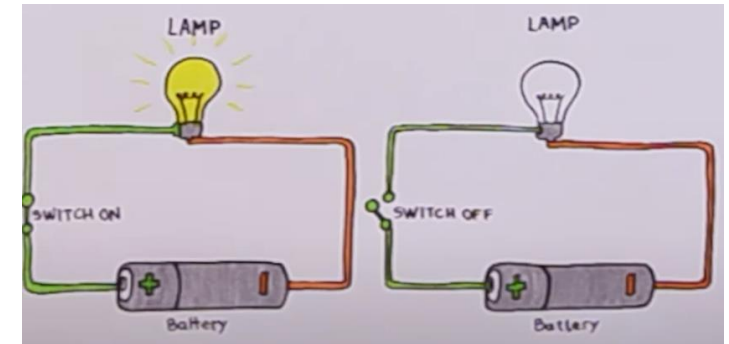
- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- recognise some common conductors and insulators, and associate metals with being good conductors

Electrical Safety

Electricity can be dangerous if not used properly. It can cause shocks, burns and even death. There are electrical dangers both in the home and outdoors.

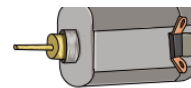


Simple Circuit



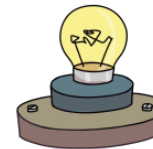
The circuit has to be complete to allow the electricity to travel all the way around it.

Electrical Components



Motor

Uses electricity to spin.



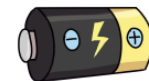
Bulb

Uses electricity to light up.



Crocodile Clips

Some wires have clips on each end to make it easier to attach to the component.



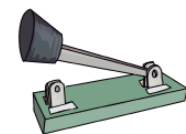
Battery or cell

In science, a cell is one single battery like the one shown. A battery is two or more of these together.



Buzzer

Uses electricity to make a sound.



Switch

Switches can put a gap in the circuit to stop the flow of electricity.

Wires

Wires connect all the different components together and allow electricity to travel through the circuit.

Key Vocabulary

Mains	Mains electricity is the electricity that is delivered to homes and businesses through an electric grid
Cell (battery)	The chemical 'push' that moves the electrons around the circuit
Switch	A component that can complete or a break a circuit
Circuit	complete path which an electric current can flow around.
Component	the parts that something is made of
Appliance	A device or machine in your home
Current	A current is an electrical flow caused when electrons move through a conductor and carry electrical energy from one place to another place.
Insulator	Materials that do not allow electricity to pass through them
Conductor	Materials that do allow electricity to pass through them

Mains or Battery?

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.

Insulators and Conductors

Insulators	Conductors
fabric	tin foil
plastic	tin can
paper	steel spoon
string	penny
wood	

Some materials let electricity pass through them easily. These are known as electrical conductors. Many metals are good electrical conductors, such as iron, copper and steel. Some materials do not allow electricity to pass through them. They are known as insulators. Plastic, wood, rubber and glass are good electrical insulators.



toaster



lamp



kettle



laptop



X-box



phone



torch



headlights



television