

Rotherhithe Primary School - Science

Topic: Electricity

Year: 6

Strand: Physics

What should I already know?

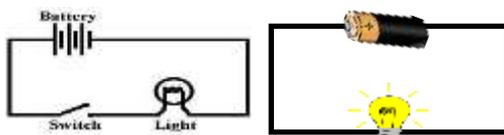
- **Electricity** is a form of **energy** that can be carried by wires and is used for heating and lighting, and to provide **power** for **devices**.
- **Sources** of light and sound may need **electricity** to work.
- **Identify** common application that run on electricity.
- Identify common appliances that 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,

What will I know by the end of the unit?

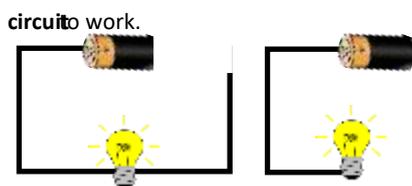
Does the brightness of a lamp link to the voltage?

If light bulbs are connected in parallel to a voltage source, the brightness of the individual bulbs remains more-or-less constant as more and more bulbs are added to the "ladder". The current increases as more bulbs are added to the circuit and

Use recognised symbols when representing a simple circuit in a diagram.



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



These **circuits** will not work as they are incomplete.

Significant People

Thomas Edison (1847-1931). Inventor of the fuse.

Benjamin Franklin (1706-90). Showed that lightning is caused by electricity.

Charles Augustine Coulomb (1736-1806). He invented instruments for measuring the forces between magnets and between charges. The unit for measuring an amount, or charge, of electricity is named after him. One coulomb (symbol C) is the amount of electricity that flows past any point when a current of one amp flows for one second.

Vocabulary

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 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 or electricity can pass through or along
Current	a flow of electricity through a wire or circuit
Device	an object that has been invented for a particular purpose
Electricity	a form of energy that can be carried by wires and in used for heating and lighting, and to provide power for devices
Energy	the power from sources such as electricity that makes machines work or provides heat
Filament	A conducting wire or thread with a high melting point that forms part of an electric bulb
Fuel	a substance such as coal, oil, or petrol that is burned to provide heat or power
Generate	cause it to begin and develop
Insulator	a non- conductor of electricity or heat
Mains	where the supply of water, electricity , or gas enters a building
Motor	a device that uses electricity or fuel to produce movement
Power	Power is energy , especially electricity , that is obtained in large quantities from a fuel source and used to operate lights, heating, and machinery
Source	where something comes from
Switch	a small control for an electrical device which you use to turn the device on or off
Wires	a long thin piece of metal that is used to fasten things or to carry electric current
Voltage	An electrical force that makes electricity move through a wire, measured in volts.

Alessandro Volta (1745-1827). Invented the first battery. The volt, the unit of electromotive force, is named after him.

Andre-Marie Ampere (1775-1836). His studies allowed people to measure the amount of electric current flowing through a circuit. Thus, the current is measured in units called amperes, or amps for short. One amp is a flow of about 6 million million million electrons per second.

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Question 1

Question 2

Question 3

Question 4

Question 5