

## Scientist



### Michael Faraday

A self taught chemist and physicist.



### Hertha Ayrton

Electrical engineer and suffragette

## Skills

I'm performing comparative and fair tests like an electrical engineer.



I'm recording findings using diagrams, charts and tables like a physicist.

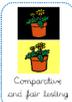


## Careers

Electrical engineer (works with equipment that uses electricity)

Physicist (studies physics)

## Enquiries



Which metal is the best conductor of electricity?

How long does a battery light a torch for?

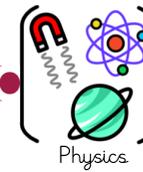


Which room has the most electrical sockets in a house?

How would you group these electrical devices based on where the electricity comes from?



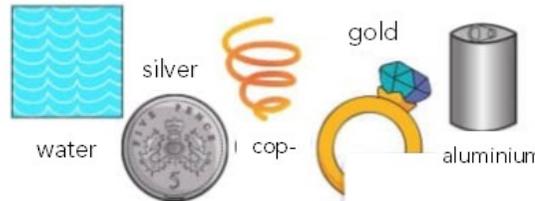
How has electricity changed the way we live?



Pupils will identify common appliances that run on electricity and construct simple electrical circuits. They will be able to identify and name its basic parts, including cells, wires, bulbs, switches and buzzers. Draw simple electrical circuits.

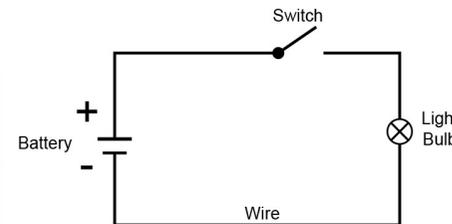
## Conductors

Do allow energy to get through.



## Insulators

Do not allow energy to get through.



## Key Learning

- Explore and build simple circuits, and identify how they do and do not work.
- 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.

## What you should already know

- Electricity is needed to power devices found in the home.
- Electricity can be dangerous.
- Batteries are portable electricity.

## What comes next?

Y6

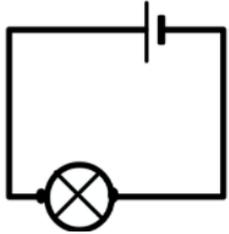
Draw the circuit as a pictorial representation using conventional circuit symbols.

Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.

## Key vocabulary

Circuit	Appliance
Buzzer	Appliance series circuit
Conductor	Insulator
Battery	
Cells	
Switch	
Socket	

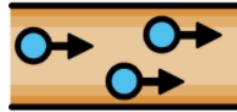
# Year 4: Electricity



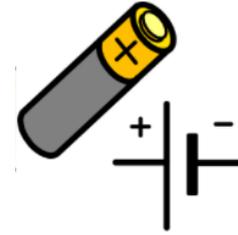
Circuit: An electrical circuit is a path or line through which an electrical current flows



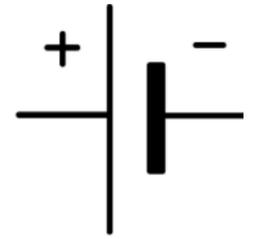
Buzzer: an automatic signalling device. They are used as alarms and door bells.



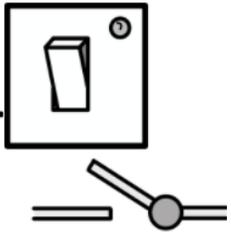
Conductor: an object or type of material that allows the flow of an electrical current in one or more directions



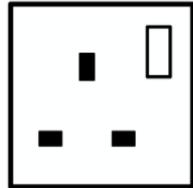
Battery: a device that stores chemical energy and makes it available in an electrical form



Cells: electrical cell is a device that is used to generate electricity



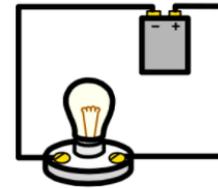
Switch: an electrical component that can "make" or "break" an electrical circuit



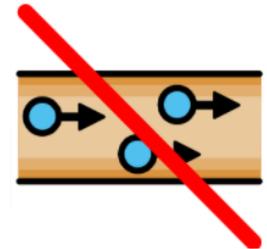
Socket: Sockets allow electric equipment to be connected to the alternating current (AC) power supply in buildings and at other sites



Appliance: an electrical appliance is a device that uses electricity to perform a function

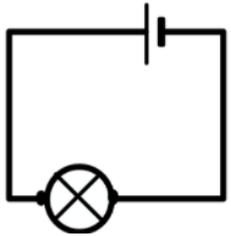


Appliance series circuit: Components connected in series are connected along a single path, so the same current flows through all of the components.



Insulator (electrical): an insulator is a material whose internal electric charges do not flow freely.

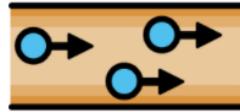
Year 4: Electricity



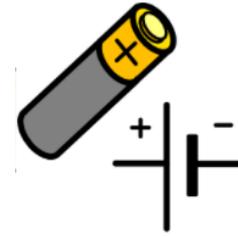
Circuit



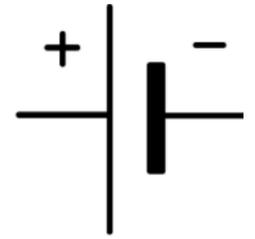
Buzzer



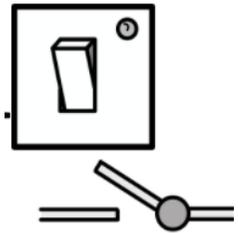
Conductor



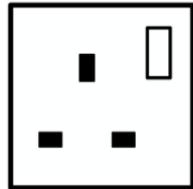
Battery



Cell



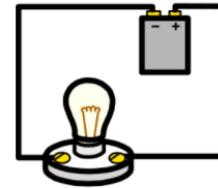
Switch



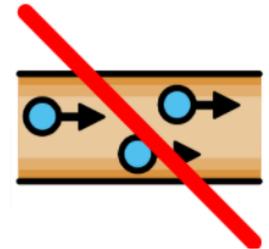
Socket



Appliance



Appliance series  
circuit



Insulator