



# Science – Year 4 Electricity

## Vocabulary

Tier 1	Tier 2	Tier 3
Switch	Electricity	Mains Electricity
Wire	Appliance	Conductor
Bulb	Battery	Insulator
Buzzer	Circuit	Current
Complete	Cell	Series circuit
Incomplete	Motor	Component



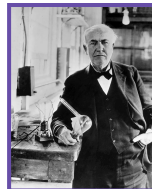
## Useful Resources

- Wires, bulbs, batteries and switches to create series circuits.
- Range of different materials to investigate conductors and insulators.
- Pictures cards to sort battery-powered and main-powered electrical appliances.

## Key Scientists:

### Thomas Edison (1847-1931)

He was an American inventor who invented the first incandescent light bulb.



## Key Questions/Facts

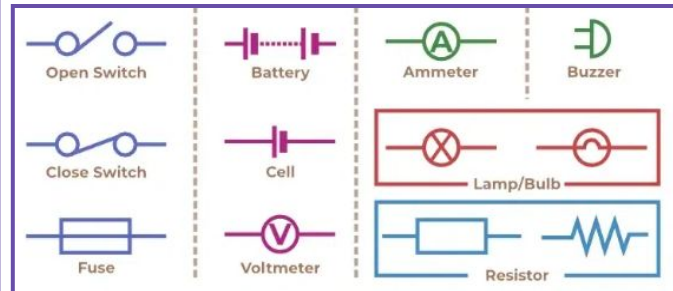
### How do we use electricity everyday?

- Lots of household items use electricity, such as washing machines and mobile phones.
- Electrical appliances are pieces of equipment, designed to perform a particular job.
- Electrical appliances can be mains-powered (plugged into a socket) or battery-powered.

Series Circuit	Complete Circuit	Incomplete Circuit
Electricity flows in a single pathway.	Electricity can flow.	There is a break in the circuit that prevents electricity from flowing.

### What are conductors and insulators?


- A conductor of electricity is a material that will allow electricity to flow through it.
- Materials that are electrical insulators do not allow electricity to flow through them.



### What are the components of an electrical circuit?


- An electrical circuit is a pathway that electricity can flow around. It is based around wires and a power supply. Examples of components (parts) you can add in to a circuit are bulbs, switches, buzzers and motors.
- A circuit where the components are arranged in one loop and the electricity flows around in a single pathway is called a 'series circuit.'
- Switches open or close a circuit.

Be cautious when seeing this sign.




**Electrical hazard**

Do not overload sockets or place near water.



Avoid touching damaged components.



## Scientific Enquiry Skills

**Asking questions**  
Asking questions that can be answered using a scientific enquiry.

**Making predictions**  
Using prior knowledge to suggest what will happen in an enquiry.

**Setting up tests**  
Deciding on the method and equipment to use to carry out an enquiry.

**Observing and measuring**  
Using senses and measuring equipment to make observations about the enquiry.

**Recording data**  
Using tables, drawings and other means to note observations and measurements.

**Interpreting and communicating results**  
Using information from the data to say what you found out.

**Evaluating**  
Reflecting on the success of the enquiry approach and identifying further questions for enquiry.