



Year 4



Statutory Requirements:

- 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, associate metals with being good conductors

Working Scientifically:

- Asking relevant questions and using different types of scientific enquiries to answer them
- Setting up simple practical enquiries, comparative and fair tests
- Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Key Vocabulary:

- | | |
|------------------|--------------|
| ➤ Electricity | ➤ Bulb |
| ➤ Appliance | ➤ Buzzer |
| ➤ Simple Circuit | ➤ Lamp |
| ➤ Series Circuit | ➤ Switch |
| ➤ Component | ➤ Complete |
| ➤ Power Source | ➤ Incomplete |
| ➤ Cell | ➤ Conductor |
| ➤ Battery | ➤ Insulator |

Key Knowledge:

- Common appliances which run on electricity include televisions, computers, fridges, kettles and lamps.
- A circuit needs a power source, such as a cell, in order to work. Electricity will only travel around a circuit that is complete.
- When a switch is open (off), there is a gap in the circuit so electricity cannot travel around the circuit. When a switch is closed (on), it makes the circuit complete so electricity can travel around the circuit.
- Electrical conductors allow electricity to pass through them. Metals, such as copper, silver and gold, are good electrical conductors.
- Electrical insulators, such as rubber, glass and plastic, do not allow electricity to pass through them.

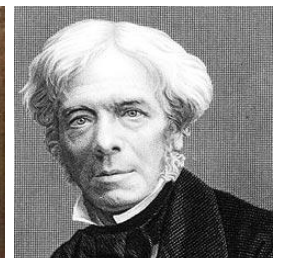
Key Scientists:



Classic

Allesandro Volta (1745-1827)

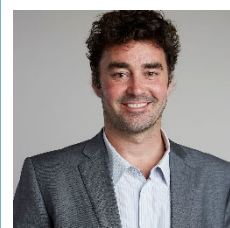
Invented the first electrical battery.



Classic

Michael Faraday (1791-1867)

Invented the first electrical generator.



Contemporary

Henry Snaith (1978-)

Working on making solar cells more efficient.