



Electricity

Year 6

Knowing More, Remembering More

Remembering previous learning

What is electricity? Electricity is a way of moving energy to power appliances.

What are some of the dangers of electricity? Liquid and wet hands should be kept away from electrical appliances and circuits.

What is a circuit? A circuit is a closed path that energy can flow through. It can include bulbs, wires, switches, buzzers and cells connected in one loop. It must have a cell or battery.

How does a switch affect the circuit? A switch controls a circuit by opening and closing.

What is a conductor? A material that allows energy to flow through it, such as metals.

What is an insulator? A material that does not allow energy to flow through it, such as rubber, plastic or wood.

In this unit children will:

- Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- 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
- Use recognised symbols when representing a simple circuit in a diagram

Working Scientifically:

6.3	Make predictions based on scientific knowledge.
6.5	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
6.7	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
6.9	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
6.15	Use test results to make predictions to set up further comparative and fair tests.
6.16	Suggest investigation improvements including accuracy of results.

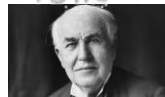
Key Vocabulary:

- series circuit
- cell
- battery
- bulb
- current
- voltage
- complete circuit
- incomplete circuit
- switch
- buzzer
- series circuit
- independent variable
- dependent variable
- controlled variables
- repeatability
- accuracy
- evaluation

Key Learning Steps:

1. Construct and draw series circuits using symbols
2. Complete and incomplete circuits
3. Variations within circuits
4. Plan - voltage experiment
5. Investigate - voltage experiment
6. Evaluate - voltage experiment

Key Scientists:



Classic

Thomas Edison (1847-1931)

Inventor of the fuse, light bulb and film camera.



Contemporary

Johnny Srouji (1964-)

Vice President of Hardware Technologies at Apple.

Knowing More, Remembering More

Knowing more in Y6

What is a series circuit? A series circuit is one in which all the components are connected in one continuous loop.

What is a circuit diagram? A circuit diagram is where every component within a circuit is represented by a symbol.

What is current? Current is the flow of electricity in a circuit.

What is voltage? Voltage causes the current to flow.

What is a complete circuit? For a circuit to be complete, all the components, including a cell, must be connected by wires and the switch must be closed.

What is an incomplete circuit? The current cannot flow in an incomplete circuit. It may have a break in the wires, a switch may be open or the cell may be in the holder the wrong way.

The more components in a circuit, the _____ it is for current to flow.

