

**Prior learning to reactivate**

- Some appliances which run on electricity (Year 4)
- How to construct a simple circuit (Year 4)
- Whether a bulb will light based on whether a circuit is complete (Year 4)
- That a switch opens and closes a circuit (Year 4)
- That some materials conduct electricity but some insulate electricity (Year 4)

Key learning

The more voltage in a circuit, the brighter the bulb or louder the buzzer will be.

A bulb converts energy from chemical energy to light energy.

A buzzer converts chemical energy into sound energy.

A switch controls the movement of electrons by opening or closing a circuit.

The symbol for: wire, a bulb, a cell, a battery, a buzzer and an on/off switch.

A short circuit (which results in overheating and damage to components) is caused by too many electrons flowing into a part of the circuit.

Key vocabulary

Voltage	An electrical force that makes electricity move through a wire, measured in volts
Current	A flow of electricity which results from the ordered, directional movement of electrically charged particles
Electrons	Particles that can carry positively or negatively charged particles
Components	Individual parts of a circuit
Energy	Power from chemical or physical resources
Positive and negative	Particles that are negatively or positively charged

SCIENTIFIC SKILLS

By the end of the year, children should be able to...

- Plan scientific enquiries to answer different questions, recognising and controlling variables where necessary
- Take measurements, using a range of scientific equipment
- Record data and results, using charts, tables, diagrams, keys and graphs
- Use test results to make predictions to set up further tests
- Report and present findings, drawing conclusions about results
- Identify scientific evidence which has been used to support or refute ideas

Opportunities for scientific enquiry within the unit:

- Pupils will test different circuits and combinations of components, and assess their effectiveness in a circuit.
- Pupils investigate how to adapt the power of the output from bulbs, motors and buzzers.
- Pupils will investigate how broken circuits can be fixed or corrected.



Battery



Wire



Bulb



Buzzer



Motor



Switch (off)



Switch (on)

