

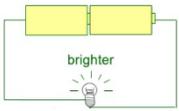
What I should already know

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts
- identify whether or not a lamp will light in a simple series circuit
- recognise that a switch opens and closes a circuit - link with bulbs
- recognise some common conductors (metals are good) and insulators

Important Diagrams

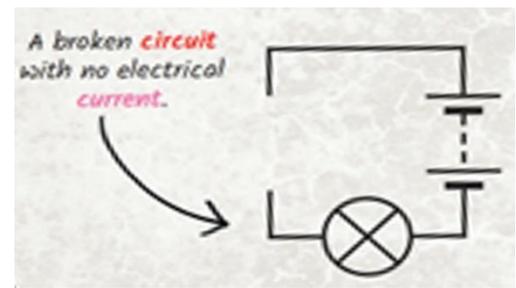
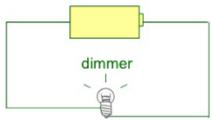
Brighter Bulbs and Louder Buzzers

More **cells** or a higher **voltage** creates more power to flow through the **circuit**. Shortening the wires will mean the **electrons** have less **resistance** to flow through.



Dimmer Bulbs and Quieter Buzzers

Fewer **cells** or a lower **voltage** gives less power to the **circuit**. More bulbs or buzzers mean the power is shared by more components. Lengthening the wires will mean the **electrons** have to travel through more **resistance**.



Key Knowledge
Components of a **Circuit** and Their **Symbols**

lamp/bulb (indicator)	lamp/bulb (lighting)	wire
motor	buzzer	switch (open)
cell	battery	switch (closed)

These **symbols** can be used to create electrical **circuit** diagrams.

Thank you Twinkl for images and most of the text.

Key Vocabulary

voltage	The force that makes the electric current move through the wires. The greater the voltage , the more current will flow.
resistance	The difficulty that the electric current has when flowing around a circuit . This resistance could be from the wires, bulbs, buzzers or anything else that makes it difficult for the current to travel.
circuit	A path that an electrical current can flow around.
symbol	A visual picture that stands for something else.
current	The flow of electrons , measured in amps.
circuit diagram	Using symbols to draw the circuit .
series circuit	A circuit that only has route to take. If one part breaks or is missing, the circuit is broken and will not work because the flow of current has stopped.
electrons	An electron is a very small piece of matter and energy.
cell	The scientific name for a single battery .
battery	The scientific name for more than 1 cell.
conductors	Materials that allow electricity to flow through them.
insulators	Materials that do not allow electricity to flow through them.

Investigative Skills

Types of enquiry:

- Comparative and fair testing

Collecting and recording data:

- Take measurements independently
- To use data loggers to collect data
- Use scientific diagrams, labels, tables and graphs

Concluding:

- Use test results to make predictions and set up further investigations
- Present findings using conclusions, causal relationships and explanations in a written form