

Circuits and Symbols



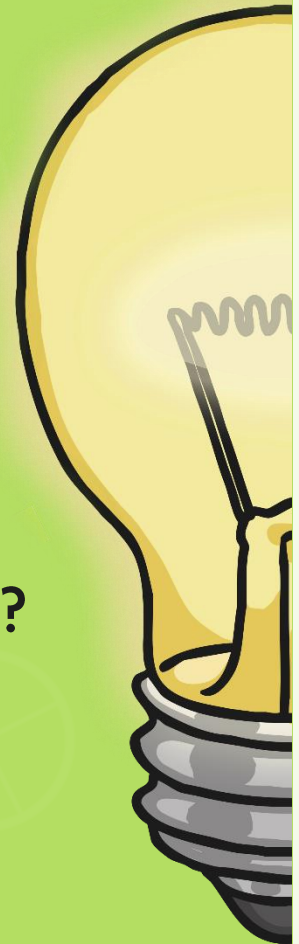
Circuits



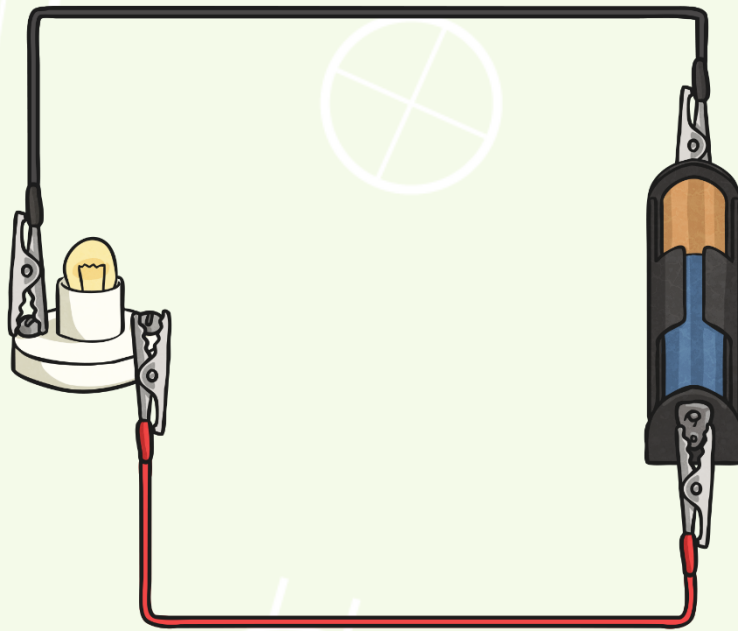
What is a circuit?

What parts do all circuits contain?

Can you draw a circuit which includes a bulb?



Circuit Diagram



Is there anything about this circuit diagram you don't remember or understand?

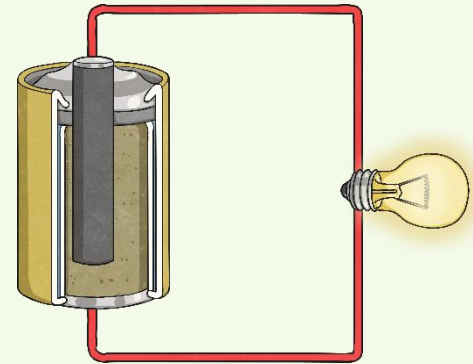
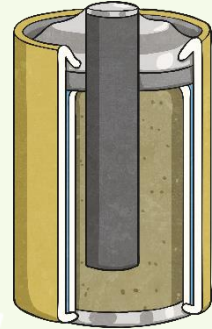
Battery or Cell?

In everyday language we call a single cell a 'battery' but this is not the correct scientific usage.



Scientifically, this is a cell. It is a single unit, containing two electrodes and an electrolyte.

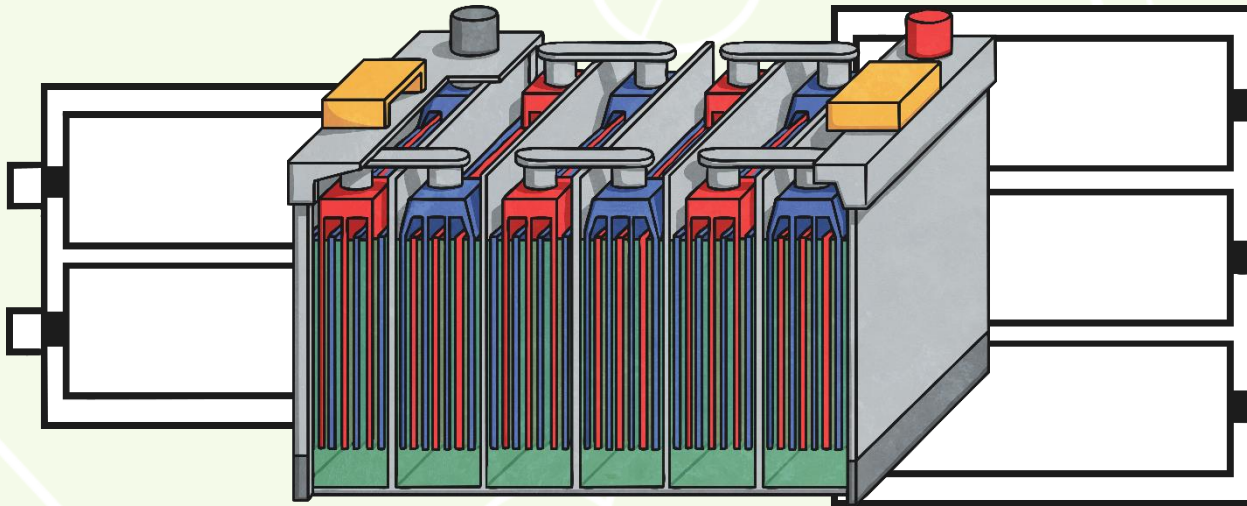
Electrodes are charged electrical conductors inside a cell. Each cell has one positive and one negative electrode.



An **electrolyte** is a chemical that reacts with the electrodes to produce an electrical current.

Battery or Cell?

A battery is the scientific name for a collection of cells joined together.

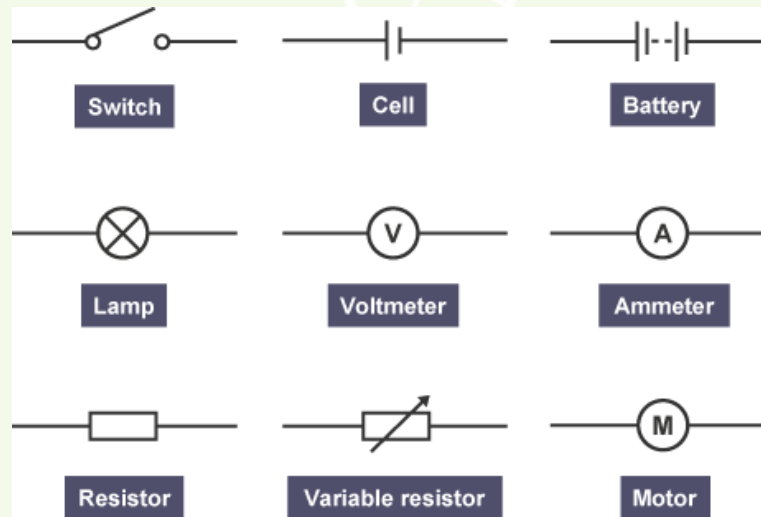


The above diagrams show single cells in individual cases linked together. Some larger batteries, such as car batteries, contain the multiple cells inside one case.

Scientific symbols

We use circuit symbols to draw diagrams of electrical circuits, with straight lines to show the wires. The diagram shows some common circuit symbols.

The symbol for a **battery** is made by joining two or more symbols for a cell together.

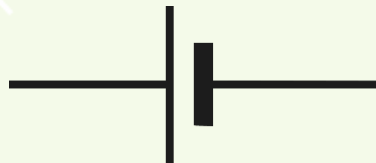
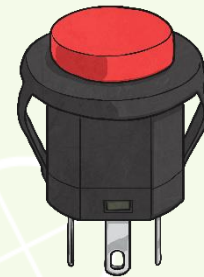
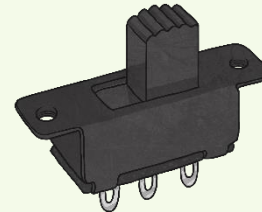
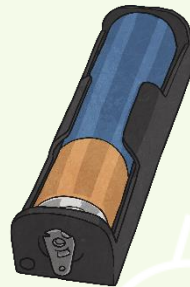
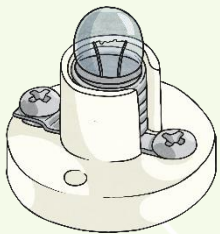
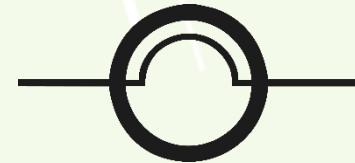


The idea of a circuit diagram is to use circuit symbols instead of drawing each component in the circuit. This is so that they are simple to read and understand. Always try to make the wires straight lines.

Scientific Circuit Symbols



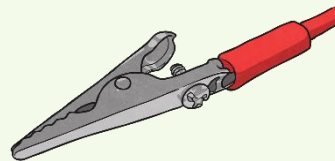
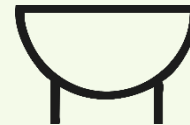
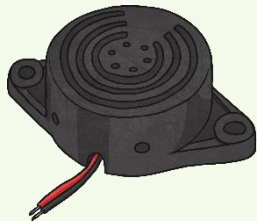
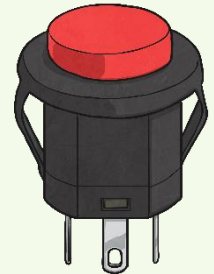
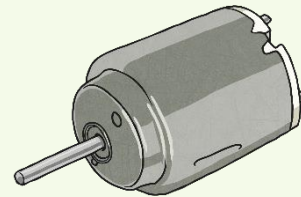
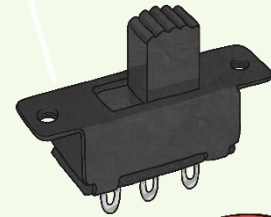
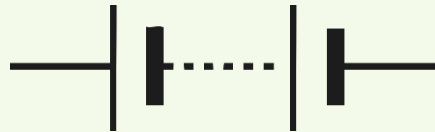
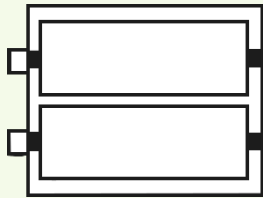
Match the parts of a circuit with their scientific symbols.
(Sometimes there will be more than one symbol for a circuit part)



Scientific Circuit Symbols



Match the parts of a circuit with their scientific symbols.
(Sometimes there will be more than one symbol for a circuit part)



Circuit Symbols Memory Test



You have 1 minute to memorise these symbols, click start and the timer will begin.



bulb



bulb



cell



battery



wire



motor



buzzer



open switch - off

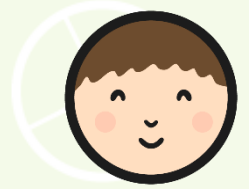


closed switch - on

Start

End

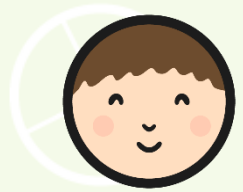
Scientific Circuit Symbols Challenge



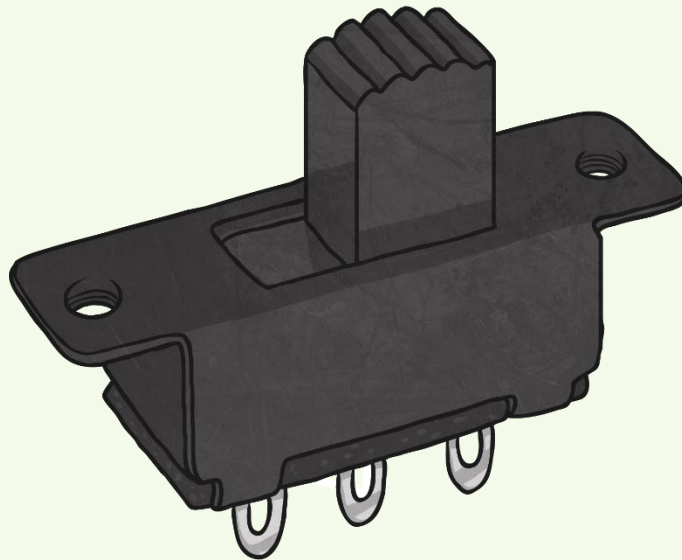
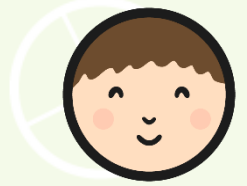
How many circuit symbols can you recall?

Write down the part of the circuit which matches the symbols that you see.

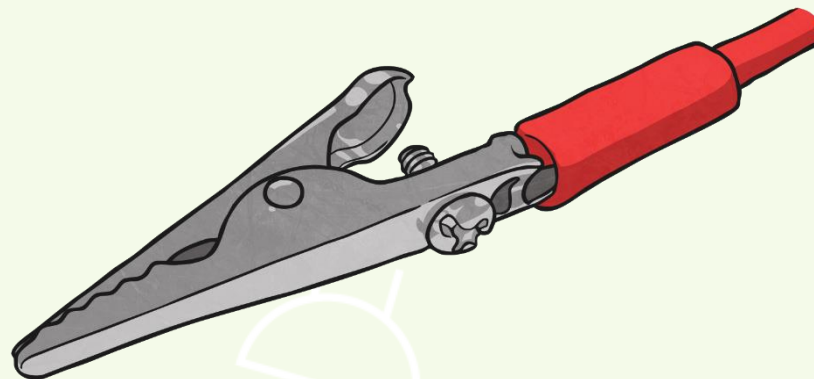
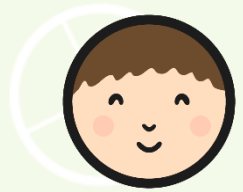
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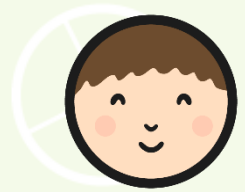
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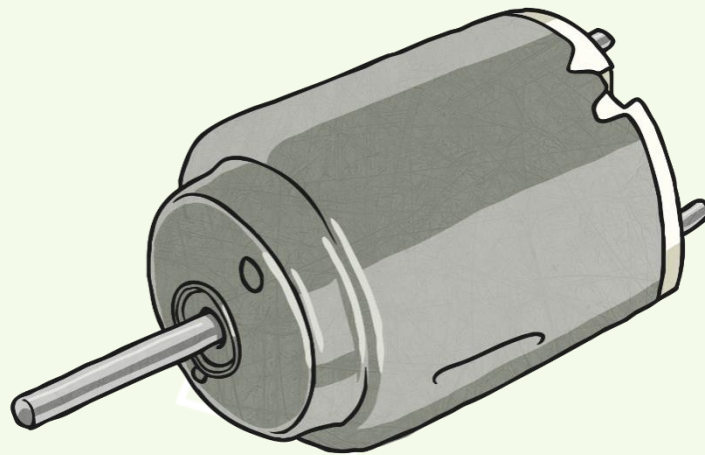
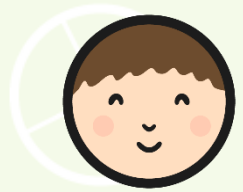
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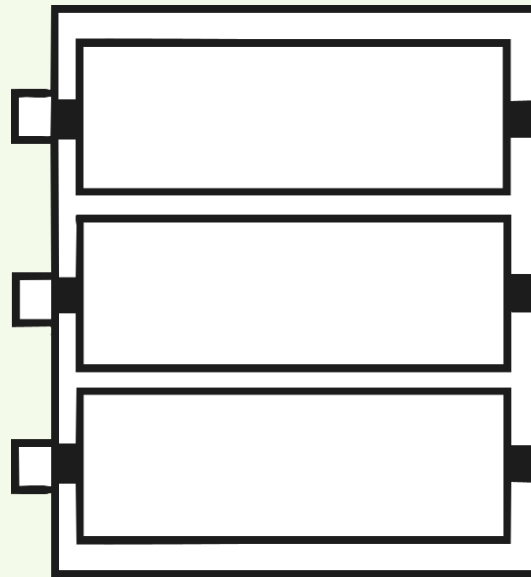
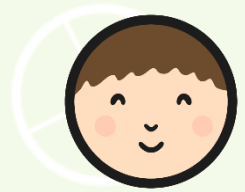
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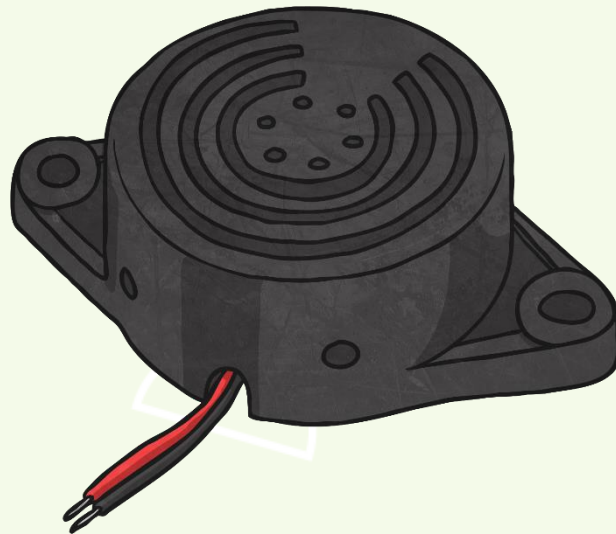
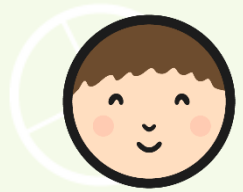
Scientific Circuit Symbols Challenge



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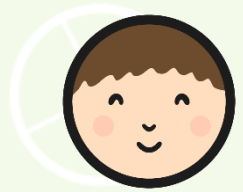


Scientific Circuit Symbols Challenge



Scientific Circuit Symbols

Challenge Answers



1.



bulb

or



bulb

2.



closed switch

or



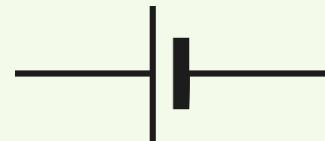
open switch

3.



wire

4.



cell

5.



motor

6.



battery

7.



buzzer

