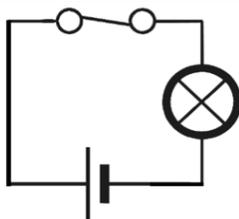
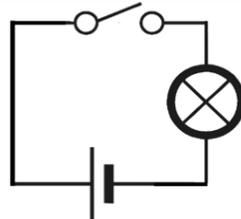


### Key Knowledge

What will make a bulb brighter or a buzzer louder?	<ul style="list-style-type: none"> <li>• More <b>batteries</b> or a higher <b>voltage</b> create more power to flow through the circuit.</li> <li>• Shorter wires mean the <b>electrons</b> have less resistance to flow through.</li> </ul>
What will make a bulb dimmer or a buzzer quieter?	<ul style="list-style-type: none"> <li>• Fewer <b>batteries</b> or a lower <b>voltage</b> give less power to the circuit.</li> <li>• More bulbs or buzzers mean the power is shared by more components.</li> <li>• Longer wires mean the <b>electrons</b> have to travel through more resistance.</li> </ul>
What is a series circuit?	A series <b>circuit</b> only has one route for the <b>current</b> to take. If more bulbs or buzzers are added, the power has to be shared and so they will be dimmer or quieter. If there is a gap anywhere in a <b>series circuit</b> , the <b>circuit</b> is broken and no <b>current</b> flows.



Closed circuit  
Bulb will light



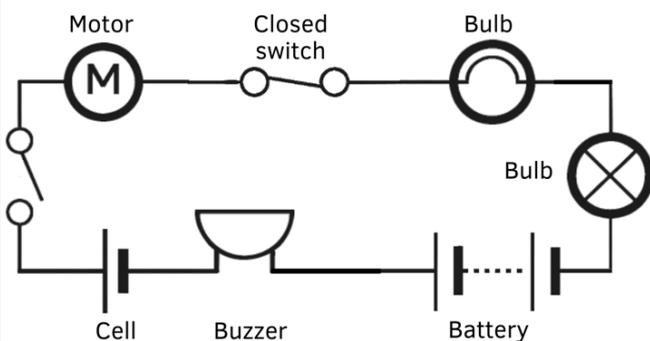
Open circuit  
Bulb will not light

### Investigate

- Make a variety of **circuits**, investigating which **circuits** work and why.
- Draw **circuits** using circuit symbols.
- The effect of varying voltage on a **circuit**.
- Creating **circuits** with variations such as wire length, number of bulbs / buzzers, other different components.

### Diagram – Electrical Components

Electrical circuit diagrams are drawn using symbols.



### Diagram - Cells and Batteries



These are electrical cells. A cell is a single unit, containing two electrodes and an electrolyte. In everyday language we call a single cell a 'battery' but this is not the correct scientific usage.

A battery is the scientific name for a collection of cells joined together. Some large batteries, such as car batteries, contain the multiple cells inside one case.

### Key Vocabulary

ampere	Unit of electric current. Abbreviated to amp.
battery	A battery is the scientific name for a collection of cells joined together.
cell	An electrical cell is a device that generates electricity via a chemical reaction.
circuit	A complete loop through which an electric current can flow
circuit diagram	A diagram using symbols to represent each part of the circuit.
components	The parts that something is made of.
current	A flow of electricity.
electrical conductor	A substance through which electricity can flow.
electrical insulator	A substance through which electricity cannot flow.
electricity	A form of energy that can be carried by wires and is used for heating and lighting.
electrons	Very small, charged particles that travel around an electrical circuit.
mains electricity	The electricity delivered from a power station. When something is plugged into the mains, the circuit to the power station is completed.
power	The rate at which energy is used. Electrical power = current x voltage.
resistance	The difficulty that the electric current has when flowing around a circuit.
symbol	A visual picture that represents something.
volt	Unit of voltage.
voltage	The force that makes an electric current flow. The greater the voltage, the more current flows.