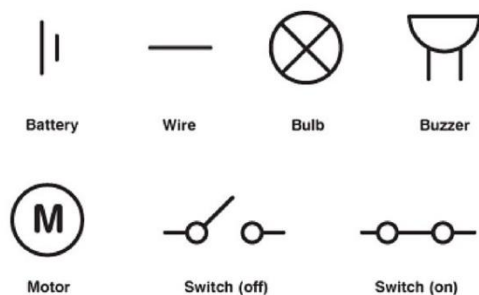
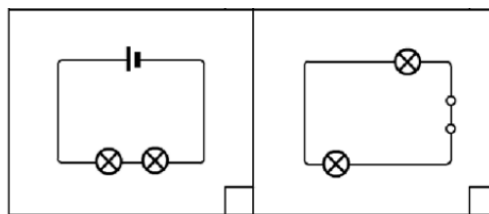


**Important Information****What are electrical circuit symbols?**

Electrical **components** are represented as **symbols** (pictures that stand for something else). We use them when drawing electrical circuit **diagrams**.

Electrical Component Symbols**Circuit Diagrams**

- Draw the circuit symbols first.
- Use a ruler to draw the wires as straight lines and do not let them cross.

What is the effect of changing one component at a time in a circuit?

- When switches are open or wires are removed (so it is **not a closed circuit**), bulbs, buzzers and motors will turn off.
- If you kept the number of batteries the same but added more bulbs and motors to a series circuit, they will be dimmer and slower. This is because the electricity is being shared between more components. More voltage would be needed to make them brighter.

Voltage

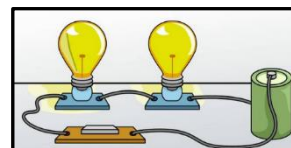
- More batteries (or a higher voltage) creates more power (or current) to flow through a circuit.

Valuable Vocabulary

| | |
|-------------------------|--|
| Bulb | Provides light by passing an electrical current through a filament. |
| Cell (battery) | A stored source of electricity. |
| Circuit | A closed loop through which electricity can flow. |
| Components | Parts of an electric circuit e.g. battery, buzzer and bulb. |
| Conductor | An object that allows electricity to flow through it easily (metal is a good conductor). |
| Insulator | An object that does not allow electricity to flow through it easily e.g. plastic. |
| Motor | A machine that turns electrical energy into movement. |
| Parallel circuit | A circuit where the current is divided into separate paths. |
| Resistance | The difficulty electricity has when flowing around a circuit. |
| Series circuit | A circuit where all of the current flows through each part of the circuit. |
| Switch | A component that makes or breaks the connections in a circuit. |
| Voltage | A force that makes electricity flow through a wire. |

Top Takeaways

- Recall parts of a circuit and their functions.
- Explain the impact of adding to, or removing components.
- Explore the effect of voltage on electrical circuit components.
- Build and create circuit models.
- Draw and annotate circuit diagrams.



Working scientifically (Science Skills)

- i) Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- ii) Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- iii) Recording results using scientific diagrams and labels
- iv) Using test results to make predictions to set up further comparative and fair tests
- v) Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results