

Science Knowledge Organiser

Scientists



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Key Vocabulary

- Voltage
- Switch
- Motor
- Buzzer
- Bulb
- Cell/battery
- Circuit diagram
- Circuit
- Electricity

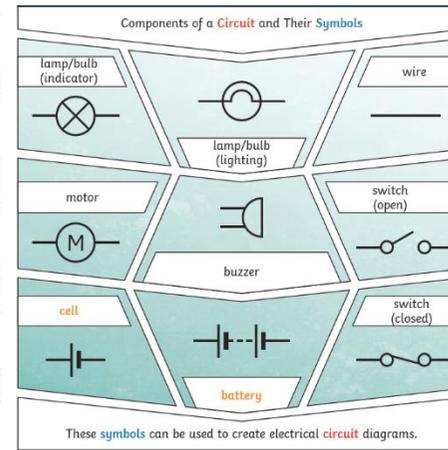
Prior Knowledge

- I can identify common appliances that run on electricity.
- I can build a simple series electrical circuit, identifying and naming its basic parts.
- I can identify whether or not a lamp will light in a circuit, based on whether or not it is part of a complete loop with a battery.
- I know that a switch opens and closes a circuit and associate this with whether or not a lamp lights up in a simple circuit.
- I know some common conductors and insulators and know that metals are good conductors.

Electricity

This is physics.
Physics is the study of the relationship of objects, forces, and energy.

Key Knowledge



Electrical Safety

If electricity is not used safely, it can be highly dangerous. When using electricity, make sure that you:

- never stick your fingers or objects into a plug socket
- never use frayed wires and don't pull wires
- ensure that your hands are dry when you are near sockets or electrical equipment
- do not overload a plug socket
- always get broken appliances

Variation of Components

When changes are made to circuits, components can function differently:

- When switches are open or wires are removed from a circuit it is no longer a closed circuit so bulbs, motors and buzzers will turn off as the circuit is not complete.
- When more batteries or cells are added or batteries are included with a higher voltage the brightness of bulbs and the volume of buzzers will increase.
- When more bulbs are added to a simple circuit, they will be dimmer than if there were one bulb. This is because the electricity is shared between the bulbs. More voltage would be needed to make them brighter. Using more than one motor or buzzer will make them spin more slowly or they will be quieter for the same reason.