

National Curriculum programme of study:

Pupils should be taught to:

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- recognise that a switch opens and closes a circuit and associate this with whether or not lamp lights in a simple series circuit
- recognise some common conductors and insulators, and associate metals with being good conductor

'Sticky' Knowledge:

- Electricity is an energy that is used to power electrical appliances.
- Electricity can be dangerous
- Some electrical appliances are powered through mains electricity (kettle), and some are powered through a battery (phone).
- A complete electrical circuit is a loop that allows electrical current to flow through wires.
- A switch can break and reconnect a circuit.
- A conductor of electricity is a material that will allow electricity to flow through it.
- Materials that are electrical insulators do not allow electricity to flow through them.
- Adding bulbs to a circuit makes them dimmer as the energy from the battery is shared.

Key Vocabulary:

Electricity	A type of energy that can build up in one place or flow from one place to another.
Electrical appliance	An electrical device or machine that helps complete a task.
Mains	Where the supply of electricity comes from.
Electrical circuit	A complete route which an electric current can run through.
Battery	A container of one or more cells in which chemical energy is converted into electrical energy and used as a source of power.
Switch	A small control for an electrical device which you use to turn on or off.
Conductor	Materials that allow electricity to pass through.
Insulator	Materials that do not allow electricity to pass through.

Prior Knowledge:

- Explore how things work.

Future Learning:

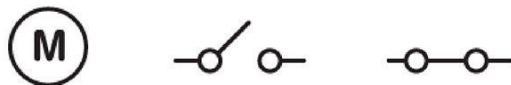
You will learn to:

- Explain that unsupported objects fall towards the Earth because of gravity.
- Identify the effects of air resistance, water resistance and friction.
- Recognise that some mechanisms allow a smaller force to have a greater effect.

Components in an electrical circuit

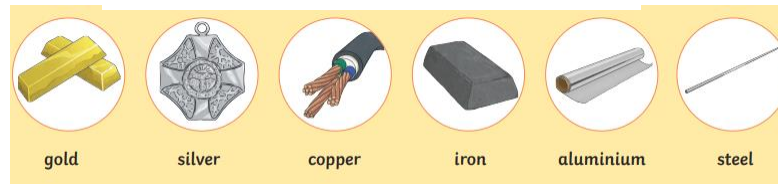


Battery Wire Bulb Buzzer



Motor Switch (off) Switch (on)

Conductors of electricity



gold silver copper iron aluminium steel

Insulators of electricity



rubber wood fabric air glass plastic



Danger
Electrical hazard