St Luke's Knowledge Organiser

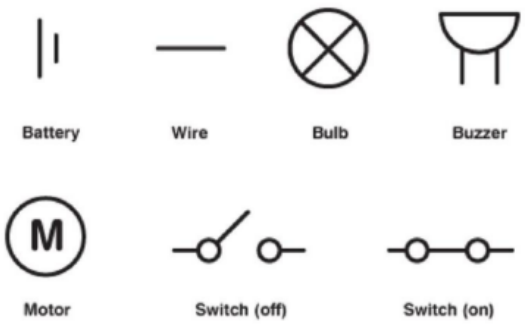
Year 4 – Electricity

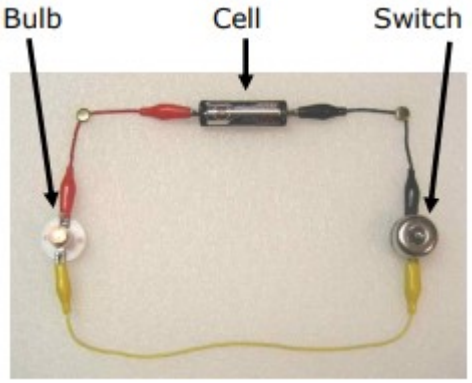
What I should already

- Electricity is a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices.
- Sources of light and sound may need electricity to work.

Working Scientifically

- Observe patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit.
- Investigate which materials are electrical conductors and insulators.





Sticky Knowledge

- A complete **circuit** is a loop that allows **electrical current** to flow through wires. A circuit contains a **battery (cell)**, **wires** and an appliance that requires electricity to work (such as a **bulb, motor or buzzer**).
- The **electrical current** flows through the **wires** from the battery (cell) to the bulb, motor or buzzer).
- A **switch** controls the flow of the **electrical current** around the circuit. When the switch is off, the current cannot flow. This is not the same as an incomplete circuit.
- Objects that are made from **materials** that allow **electricity** to pass through a create a **complete circuit** are called **electrical conductors.**
- Objects that are made from materials that **do not allow electricity** to pass through and do not complete a circuit are called **electrical insulators.**

Vocabulary

Circuit	A complete and closed path around which a circulating **current** can flow
Conductor	A material or device which allows **heat** or **electricity** to carry through
Current	A flow of **electricity** through a wire
energy	The power from sources such as **electricity** that makes machines work or provides heat
insulator	Any material that **electricity** cannot pass through or along
Static electricity	Stationary **electric charge**, produced by friction, which causes sparks or crackling or the attraction of dust
Voltage	An **electrical force** that makes electricity move through a wire, measured in **volts** (V)
renewable	A source of **electricity** which will not run out.
Non-renewable	A source of **energy** that will eventually run out such as **fossil fuels.**