Knowledge Bank: **Year 4 Science** – Electricity

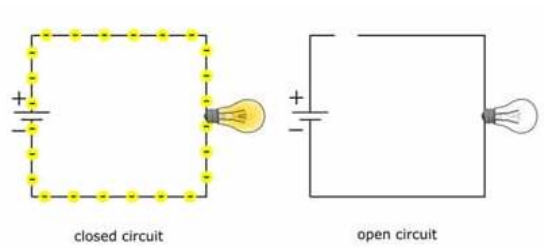
Key Vocabulary:

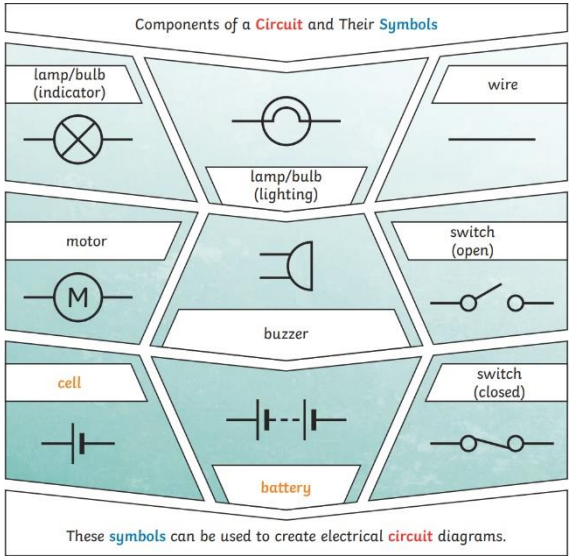
electricity	The flow of an electric current or charge through a material, e.g. from a power source through wires to an appliance.
generate	To make or produce electricity.
appliance	A piece of equipment or **device** designed to perform a particular job, such as a washing machine or mobile phone.
battery	A device that stores electrical energy as a chemical.
circuit	A complete route which an electric current can flow around.
conductor	A material or device which allows heat or electricity to flow through it.
wire	A long thin piece of metal that carries an electrical current often covered in plastic for safety.
bulb	A bulb (or lamp) will light up when the circuit is connected correctly.
insulator	Any material that electricity cannot pass through or along.
component	Parts that make up a circuit.
voltage	Electrical force that makes electricity move, measured in volts (V).
switch	A device for making and breaking the connection in a circuit
mains	Electricity supplied to a build through wires.

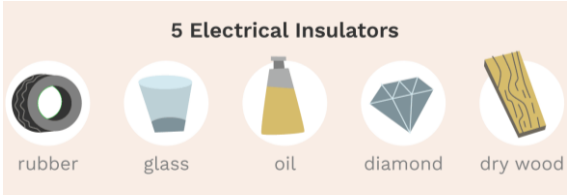
What I should already know:

- Objects need electricity to work.
- A switch turns something on and off.

Diagrams/Images:







Key Facts:

- Electricity can only flow around a complete **circuit** that has no gaps. It is pushed around by it's source. A complete **circuit** is needs for electricity to flow and objects to work and **wires** connected to both the positive and negative end of the power source.
- **Switches** can be used to open or close the circuit. When off (**open**), a switch 'breaks' the circuit to stop the flow of electricity. When the switch is on (**closed**) the circuit is complete and the electricity is able to flow around the circuit.
- Electricity can pass through metal easily as they are **conductors.** Some materials cannot pass electricity along, these are called **insulators.**
- There are two sources of electricity; mains electricity and battery electricity. One of these is needed for electricity to flow round a circuit.
- More batteries will push the electricity faster around the circuit. A **bulb** will get brighter until it receives too much power and breaks the circuit. Adding more bulbs with the same amount of power will reduce the brightness as it has to share the electricity.