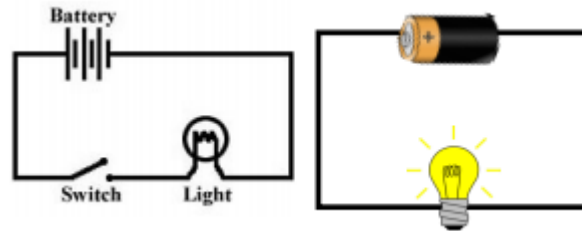




Year 4 - Electricity

What I should already know

- 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.
- Properties of materials



Sticky Knowledge

- Common appliances run on electricity such as toasters, kettles and lamps
- 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 can break or reconnect a circuit. 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.
- When objects are placed in the circuits, they may or may not allow electricity to pass through.
- 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.

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.

Vocabulary

battery	A container consisting of one or more cells that is used for generating current
buzzer	An electrical device that makes a buzzing noise and is used for signalling
bulb	The glass part of an electric lamp, which gives out light when electricity passes through it.
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
Motor	A device that changes electrical energy into movement
Static electricity	Stationary electric charge, produced by friction, which causes sparks or crackling or the attraction of dust
Switch	A device for making and breaking the connection in a circuit
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.