Electricity Autumn 1	Lostwithiel Primary School Science Knowledge Organiser	Year 6

Prior Learning to Reactive

.(Year 4)

- Electricity is a type of energy. It is used to power lots of different things including everyday items.
- Electricity can flow through wires and cables and can be stored in batteries (sometimes called cells)
- Electricity can flow in simple series electrical circuits
- Some materials conduct electricity and others do not (insulators)

Scientific Skills

Plan scientific enquiry to answer different questions, recognising and controlling variables where necessary– *What happens when . . . ?*

Test different types of circuits and combinations of components and assess their effectiveness in a circuit
Make predictions based on scientific knowledge.

Investigate how to adapt the power of the output of bulbs, motors and buzzers. Investigate how broken circuits can be fixed or corrected.

Use test results to make predictions to set up further tests
Use scientific knowledge to explain outcomes
Report and present findings, drawing conclusions from results

Key vocabulary

Battery	A container consisting of one or more cells where chemical energy is converted into electricity and used as a source of power
Bulb	A glass bulb which provides light by passing an electrical current through a filament
Buzzer	An electrical device that makes a buzzing noise and is used for signalling
Cell	A device containing electrodes that is used for generating current
Circuit	A complete, closed path around which a circulating electric current can flow
Current	A flow of electricity which results from the ordered directional movement of electrically charged particles
Electricity	A form of energy resulting from the existence of charged particles
Filament	A conducting wire or thread with a high melting point that forms part of an electric bulb
Motor	A machine powered by electricity that supplies motive power for a vehicle or other moveable device
Switch	A device for making and breaking the connection in an electric circuit
Voltage	An electrical force that makes electricity move through a wire, measured in volts

Linked documents: Class Overview, Science Whole School Progression document and Class Medium Term Planning.

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Key learning

A circuit is made up of different components, based on its purpose.
Each component in a circuit is represented by a different symbol.
When drawing circuits, straight lines and symbols are used.

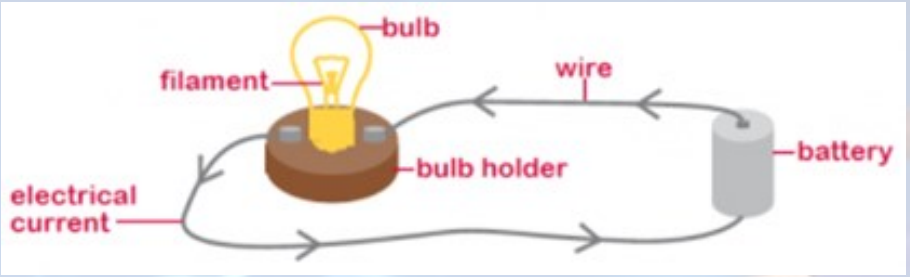
A bulb converts energy from chemical energy to light energy.
A buzzer converts chemical energy into sound energy.

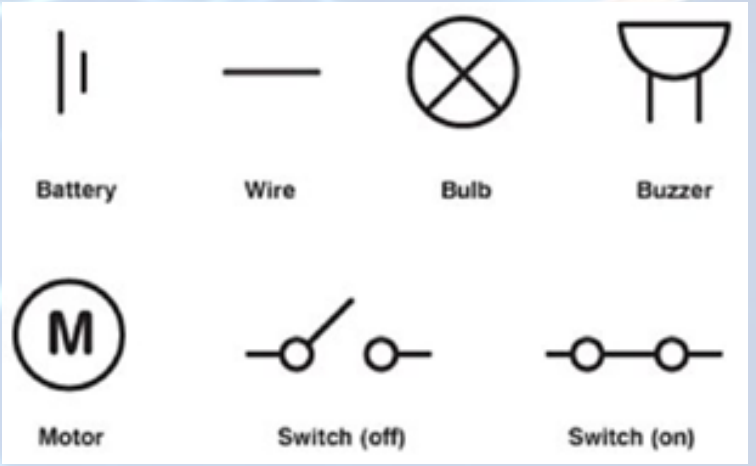
A switch controls the amount of electrons by opening or closing a circuit. When switches are open or wires are removed from a circuits (so that it is no longer a closed circuit) bulbs and buzzers will turn off. Crocodile clips can be used to investigate adding and removing wires.

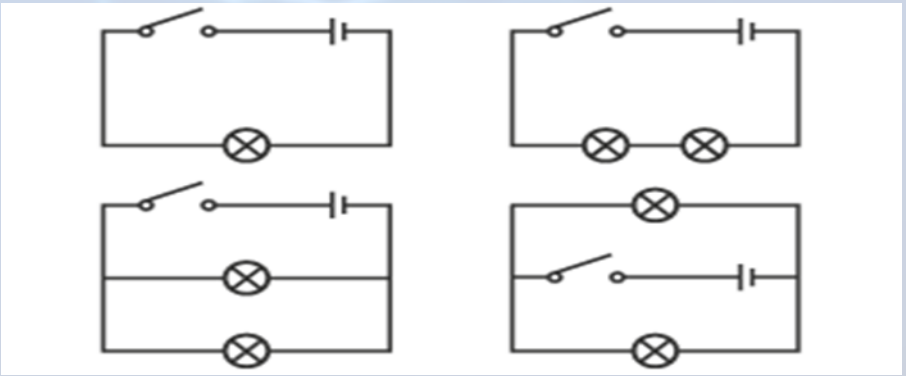
A short circuit, which results in overheating and damage to components is caused by too many electrons flowing into a part of the circuit.

When changes are made to circuits, components can function differently. When more batteries or cells are added (or batteries or cells 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 two bulbs. More voltage would be needed to make them brighter.







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