

Prior Knowledge from Year 4 Electricity

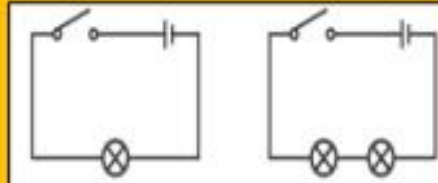
What is electricity?	Electricity is an energy. This energy can be used to power electrical items. Electrical energy is caused by electrons (the particles in atoms) moving about to make a current.
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Circuits

What is a circuit?	A complete and closed path through which an electrical current flows.
What is current?	The flow of electrical charge which is a result of charged particles moving through a conductor .
What is an electrical conductor?	Some materials let electricity pass through them easily. They are known as electrical conductors. Many metals, such as iron, copper and steel, are good electrical conductors.
What is an electrical insulator?	Some materials do not allow electricity to pass through them. They are known as electrical insulators. Wood, glass, plastic and rubber are good electrical insulators. That is why they are used to cover materials that carry electricity.
What is voltage?	Voltage is an electrical force that pushes current around a circuit and is measured in " Volts ".



Series Circuits



Series circuits only have 1 path for electrical current to flow around, all components are placed after each other in a "Series".

Dangers of Electricity

Electricity has the power to cause burns, shocks and even death. Appliances and power cords can be just as dangerous as electrical power lines if you do not take proper safety precautions. Electricity flows easily through water, and it will travel through your body since your body is made of 70 percent water.

You should never: Stick metal objects in a plug socket or touch electrical items with wet hands.



Battery



Wire



Bulb



Buzzer

Circuit Components



Motor



Switch (off)



Switch (on)

Electricity

Components

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.
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 motion for a vehicle or other moveable device.
Switch	A device for making and breaking the connection in an electrical circuit.



Year 6

Science

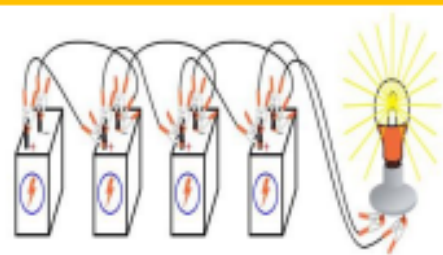
Working Scientifically – Electricity

Key Vocabulary and Phrases

Ask questions	Use the question words What, where, when why, how
Compare and contrast	Look at two or more circuits and describe similarities and differences and how the numbers of cells or components vary.
Analyse	Explain why variations in the circuits have different effects.
Diagram	Scientific use of symbols to create circuit diagrams
Record data	Drawings, scientific diagrams, photos, tables to record my observations
Reporting and presenting findings	Giving reasons, explaining causes and relationships, explaining results and trusting its accuracy

What I could investigate

What happens to the brightness of a bulb or loudness of a buzzer when we add more cells or increase the voltage of cells in a circuit?



Equipment I could use

Battery/Cells



Wire



Bulbs



Buzzer



Switch



How I could record my findings

Pictures For EXPLORING



Use this if you want to tell the story of what you did or what you observed, e.g. bread going mouldy

Table For FAIR TESTING/PATTERN SEEKING

What I Change (Independent or Input) Variable	What I measure (Dependent or Output) Variable

A scientific explanation of my findings and conclusions based on my observations.

What will happen when I change the amount of components in my circuit?
e.g. adding more bulbs.



PHET
online
circuit
builder



Pencil and paper to record observations and draw circuit diagrams

