

Our School Values- Science	
Love	We show love by fostering a joy of discovery.
Courage	We show courage by being brave, challenging thinking, asking questions and investigating new ideas. We show courage knowing that we won't always find the answer.
Unity	We show unity by working collaboratively to discover more.
Inspiration	We show inspiration by not giving up and thinking creatively to seek answers.



**Year 4
Science
Electricity**



NC Objectives
<ul style="list-style-type: none"> • identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors.

Knowledge I already know
I know that materials have different properties.
Knowledge I will learn
<p>I know that electricity is a form of energy that can be powered from a battery or the mains.</p> <p>I know that a battery (cell) is portable and a stored form of energy and that it has a positive and negative end.</p> <p>I know that mains electricity is supplied to a building by wires.</p> <p>I know that electrical components are: battery (or power cell), bulb, motor, switch and a buzzer.</p> <p>I know that a simple series circuit (single loop circuit) is when an electrical current follows one path.</p> <p>I know that conductors are materials that allow electricity to flow such as aluminium, copper and tap water.</p> <p>I know that insulators are materials that do not allow electricity to flow such as air, glass and wood.</p>

Key Vocabulary	
Word	Definition
Associate	Connect with an idea
Identify	Recognise what something is
Portable	Easy to carry or move
Effect	A change that something causes
Appliance	A machine
Series	A number of objects coming one after another
Component	A part or element of something
Electrical insulator	A material that stops the flow of electricity
Electrical conductor	A material that allows the flow of electricity
Circuit	A complete path of components along which an electrical current flows
Hypothesis	A statement to prove or disprove
Variable	Something that can be changed

What appliances use electricity? What power makes them work?	How do we use electricity safely?	What are the components in a simple series circuit?	What are the effects of changing circuit components and batteries?																																				
Venn diagrams sorting appliances. Identify different sources of power.	Identify recognised safety symbols. Create safety poster	Identify the purpose of each component. Write description and draw symbols.	Investigation— plan and set up	Investigation— conduct	Investigation— write up.																																		
Challenge: which form of electricity do you think is best?	Challenge: do you think negative or positive language has more impact?	Challenge: do you think all metals conduct electricity?	Challenge: is a hypothesis the same as a prediction?	Challenge: why does this not represent a truly fair test?	Challenge: can the power of batteries ever be exactly equal?																																		
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