






<p>Programme of Study Statements</p> <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. 					<p>Key Vocabulary</p> <p>Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol</p> <p>N.B.</p> <p>Children in Year 4 do not need to use standard symbols for electrical components, as this is taught in Year 6</p>
<p>Investigations and Skills for thinking like a Scientist</p> <div style="display: flex; justify-content: space-around; align-items: center;">      </div>					<p>Sticky Knowledge:</p> <p>A source of electricity (mains or battery) is needed for electrical devices to work.</p> <ul style="list-style-type: none"> Electricity sources push electricity round a circuit. More batteries will push the electricity round the circuit faster. Devices work harder when more electricity goes through them. A complete circuit is needed for electricity to flow and devices to work. Some materials allow electricity to flow easily and these are called conductors. <p>Materials that don't allow electricity to flow easily are called insulators.</p>
<p><u>Comparative Tests</u></p> <p>How does the thickness of a conducting material affect how bright the lamp is?</p> <p>Which metal is the best conductor of electricity?</p>	<p><u>Identify & Classify</u></p> <p>How would you group these electrical devices based on where the electricity comes from?</p>	<p><u>Observation over time</u></p> <p>How long does a battery light a torch for?</p>	<p><u>Pattern seeking</u></p> <p>Which room has the most electrical sockets in a house?</p>	<p><u>Research</u></p> <p>How has electricity changed the way we live? How does a light bulb work?</p>	<p>Prior Knowledge:</p> <ul style="list-style-type: none"> Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)

<ul style="list-style-type: none"> • Potential Evidence to support our Scientists (I can..): • Can name the components in a circuit • Can make electric circuits • Can control a circuit using a switch • Can name some metals that are conductors • Can name materials that are insulators • Can communicate structures of circuits using drawings which show how the components are connected • Use classification evidence to identify that metals are good conductors and non-metals are insulators • Can incorporate a switch into a circuit to turn it on and off • Can connect a range of different switches identifying the parts that are insulators and conductors • Can add a circuit with a switch to a DT project and can demonstrate how it works • Can give reasons for choice of materials for making different parts of a switch • Can describe how their switch works <p>Big Question: What can we do with electricity?</p>	<p>Future Knowledge:</p> <ul style="list-style-type: none"> • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. (Y6 - Electricity) • Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. (Y6 - Electricity) • Use recognised symbols when representing a simple circuit in a diagram. (Y6 - Electricity)
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<p>Cultural Capital</p>		
<p>Visits and visitors We the Curious (Bristol)</p>	<p>Experiences and events</p>	<p>Key texts</p> <p>Until I Met Dudley (Roger McGough) Oscar and the Bird: A Book about Electricity (Geoff Waring) Electrical Wizard: How Nikola Tesla Lit Up the World (Elizabeth Rusch)</p>
<p>Community events and links</p>	<p>Global issues Renewable energy Green energy sources</p>	<p>Famous people/ Key Scientists</p> <p>Thomas Edison (First Working Lightbulb) Joseph Swan (Incandescent Light Bulb)</p>
<p>Life Skills Curiosity Resilience Making Links</p>	<p>Key places</p>	

