




Scientific Skills Progression

*Note: It is expected that children and adults should use the vocabulary from previous year groups as they progress and where appropriate.

By the end of ...	ELECTRICITY 	Year group taught in
Key Stage 2	<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 (batteries), wires, bulbs, switches and buzzers • Identify whether or not a lamp (bulb) will light in a simple series circuit, based on whether or not the lamp (bulb) 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 (bulb) lights in a simple series circuit • Recognise some common conductors and insulators, and associate metals with being good conductors. <p>Vocabulary children should use: electricity, appliances/devices, mains, plug, electrical circuit, complete circuit, circuit diagram, circuit symbol, components, cell, battery, positive/negative, connect/connection, loose connection, short circuit, wire, crocodile clip, bulb, bright/dim, switch, buzzer, motor, fast(er)/slow(er), conductor, insulator, metal/non metal</p> <p>Vocabulary adults should use:</p>	Year 4
	<ul style="list-style-type: none"> • Associate the brightness of a lamp (bulb) or the volume of a buzzer with the number and voltage of cells (batteries) used in the circuit • 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 • Use recognised symbols when representing a simple circuit in a diagram. <p>Vocabulary children should use: electricity, appliances/devices, electrical circuit, complete circuit, circuit diagram, circuit symbol, components, cell, battery, positive /negative, , connect/connection, loose connection, short circuit, wire, crocodile clip, bulb, bright/dim, switch, buzzer, volume, motor, fast(er)/slow(er), conductor, insulator, metal/non-metal, voltage, current, resistance,</p> <p>Vocabulary adults should use: series circuit, parallel circuit</p>	Year 6
	<p>Current electricity</p> <ul style="list-style-type: none"> • <i>Recognise that</i> electric current <i>is</i> measured in amperes • <i>Investigate</i> series and parallel circuits: <ul style="list-style-type: none"> ○ currents add where branches meet 	



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Key Stage 3	<ul style="list-style-type: none"> ○ current as flow of charge ● <i>Recognise that</i> potential difference <i>is</i> measured in volts ● <i>Compare</i> battery and bulb ratings ● <i>Recognise that</i> resistance, measured in ohms, <i>is</i> the ratio of potential difference (p.d.) to current ● <i>Investigate</i> differences in resistance between conducting and insulating components (quantitative). 	Year 7, 8 or 9
	<p>Static electricity</p> <ul style="list-style-type: none"> ● <i>Observe and describe the</i> separation of positive or negative charges when objects are rubbed together: transfer of electrons, forces between charged objects ● <i>Investigate</i> the idea of electric field: forces acting across the space between objects not in contact. 	