

Electricity Progression map Year 6

<u>Previous Year: Year 4</u>	<u>Current Year: Year 6</u>		<u>Next Year: KS3</u>
<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. 	<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. 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. 		<ul style="list-style-type: none"> Electric current, measured in amperes, in circuits, series and parallel circuits, currents add where branches meet and current as flow of charge. Potential difference, measured in volts, battery and bulb ratings; resistance, measured in ohms, as the ratio of potential difference (p.d.) to current. Differences in resistance between conducting and insulating components (quantitative). Static electricity.
<p style="text-align: center;"><u>How this learning could be applied</u></p> <ul style="list-style-type: none"> Explain how a circuit operates to achieve particular operations, such as to control the light from a torch with different brightnesses or make a motor go faster or slower. Make circuits to solve particular problems, such as a quiet and a loud burglar alarm. • Carry out fair tests exploring changes in circuits. Make circuits that can be controlled as part of a DT project. 	<p><u>Learning Values:</u></p> <ul style="list-style-type: none"> -respect -responsible -resourceful -resilient -risk taker 	<p>Physical education links:</p> <p style="text-align: center;">-</p>	<p style="text-align: center;"><u>Key learning for the topic:</u></p> <p>Adding more cells to a complete circuit will make a bulb brighter, a motor spin faster or a buzzer make a louder sound. If you use a battery with a higher voltage, the same thing happens. Adding more bulbs to a circuit will make each bulb less bright. Using more motors or buzzers, each motor will spin more slowly and each buzzer will be quieter. Turning a switch off (open) breaks a circuit so the circuit is not complete and electricity cannot flow. Any bulbs, motors or buzzers will then turn off as well. You can use recognised circuit symbols to draw simple circuit diagrams.</p>
	<p style="text-align: center;"><u>Possible stimulus:</u></p> <p>The Boy who Harnessed the Wind (Young Readers' Edition) by William Kamkwamba</p> <p>Energy Island by Allan Drummond</p> <p>Goodnight Mr Tom by Michelle Magorian</p>		