

Year 4 Progression map – Electricity		
National curriculum objectives:	Scope:	Coherence:
<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>Misconceptions:</p> <ul style="list-style-type: none"> • batteries store charge • that a single cell is a battery • that everyone can access electricity • electricity just comes out of plugs • bigger batteries are more powerful • A bulb has no connections 	<p>HEP Science lesson titles:</p> <ol style="list-style-type: none"> 1. The different types of electricity 2. How electricity can be produced for our homes 3. The different parts of a circuit 4. What is meant by conductors and insulators 5. How to use electricity safely 6. How electricity has affected different parts of the world <p>Working scientifically:</p> <ul style="list-style-type: none"> • Observe over time - effects of static electricity • Observe how foods can power a circuit • Predict what will happen in different circuits • Predict properties of different materials • Suggest solutions to electrical problems <p>Key scientists and inventors:</p> <ul style="list-style-type: none"> • Benjamin Franklin • Luigi Galvani • Thomas Edison • Nikola Tesla 	<p>Literacy: Advantages and disadvantages, matching activity, comprehension questions.</p> <p>Key vocabulary: charge, electrostatic forces, static, flow, appliances, circuit, current, fossil fuels, nuclear, renewable, components, voltage, generator, hazards, conductor, insulator, electric shock.</p> <p>Maths: Matching, taking accurate measurements using standard units, interpret a pie chart, percentages, using symbols to represent components in circuit diagrams, supplying electricity activities.</p> <p>History: History of electricity, Historical figures.</p> <p>DT: Electrical systems.</p>

Builds on:	Future learning:	Further reading:
<p>Year 2: Uses of everyday materials KS2: Animals including humans – electricity in animals – muscles, nerves, platypus Forces and magnets Year 3: HEP Science unit – The Bee project</p>	<p>Year 4: HEP Science unit - The History of science Year 5: Properties and changes of materials Year 6: Associate brightness of bulb or loudness of buzzer with the number of cells used in a circuit. Electrical symbols KS3: Electric current and potential difference, how to generate electricity using electromagnets, energy resources</p>	<p>Charging About: The Story of Electricity (Science Works) by Jacqui Bailey</p> <p>You Wouldn't Want to Live Without Electricity! Graham and Walker</p>