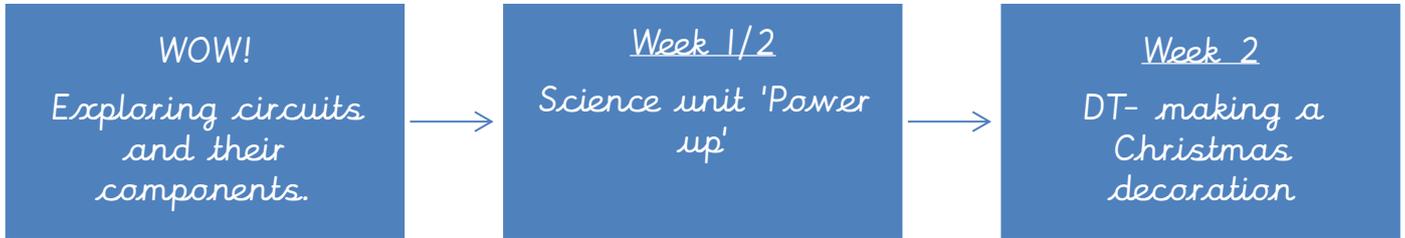


Year 3/4 Science Based topic - Electrifying Electricity (2 weeks)

**Topic overview** - Children explore components of an electrical circuit. They investigate different types of circuit, making them to match drawn circuits and drawing the ones they have made themselves. They investigate conductors and insulators by making a circuit. They also compare the effect of different components within a circuits - for example how to make bulbs brighter or dimmer. They record these findings and draw scientific conclusions. They then apply their knowledge to making a Christmas decoration with switches/circuits.



Science skills

<u>Thinking scientifically skills</u>	<u>Science knowledge skills</u>
<ul style="list-style-type: none"> <li>Ask relevant questions.</li> <li>Set up simple practical enquiries and comparative and fair tests.</li> <li>Gather, record, classify and present data in a variety of ways to help in answering questions - <b>scientific labelled diagrams</b></li> <li>Use straightforward, scientific evidence to answer questions or to support their findings.</li> <li>I suggest how I can make improvements to my work.</li> </ul> <p><b>Vocabulary:</b></p> <ul style="list-style-type: none"> <li>scientific labelled diagrams</li> <li>fair test</li> <li>enquiry</li> <li>record</li> </ul>	<ul style="list-style-type: none"> <li>Identify common appliances that run on electricity.</li> <li>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.</li> <li>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</li> <li>Recognise some common conductors and insulators and associate metals with being good conductors.</li> <li>Construct working series circuits and name the basic parts of a simple electrical circuit, including cells, wires, bulbs, switches and buzzers.</li> </ul> <p><b>Vocabulary:</b></p> <ul style="list-style-type: none"> <li>electricity</li> <li>simple circuit</li> <li>series circuit</li> <li>conductor</li> <li>insulator</li> <li>switch</li> </ul> <p>Previous knowledge: New learning</p>

DT skills

<u>Ongoing DT skills</u>	<u>Specific skills for this unit</u>
<ul style="list-style-type: none"> <li>Design with purpose by identifying opportunities to design.</li> <li>Make products by working efficiently (such as by carefully selecting materials).</li> <li>Refine work and techniques as work progresses, continually evaluating the product design.</li> </ul> <p><b>Vocabulary:</b></p> <ul style="list-style-type: none"> <li>reinforce</li> </ul>	<ul style="list-style-type: none"> <li>Choose suitable techniques to construct products or to repair items.</li> <li>Strengthen materials using suitable techniques.</li> <li>Select appropriate joining techniques.</li> <li>Understand and use electrical systems in their products [for example, series circuits incorporating</li> </ul>

<ul style="list-style-type: none"> <li>• <i>stiffen</i></li> </ul> <p>Previous knowledge: Textiles - Delightful Decorations (Celebrations) - Mechanisms and moving parts (Toys)</p>	<p><i>switches, bulbs, buzzers and motors</i>].</p> <p><b><u>Vocabulary:</u></b></p> <ul style="list-style-type: none"> <li>• <i>construct</i></li> <li>• <i>repair</i></li> <li>• <i>strengthen</i></li> <li>• <i>joining</i></li> <li>• <i>electrical systems</i></li> </ul>
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**Knowledge:**

- See scientific knowledge above.
- Children will learn the difference between series and parallel circuits and be able to construct their own.

**Planning notes:**

Wow to be used to learn about the different components of a circuit and explore how to make one. Then move onto the different types practically first. No coverage of electricity at all in KSI, so this is NEW LEARNING FOR ALL. Equipment needs to be ordered in enough time for DT to take place. Could do DT as a day/project in the last week of school before Christmas.