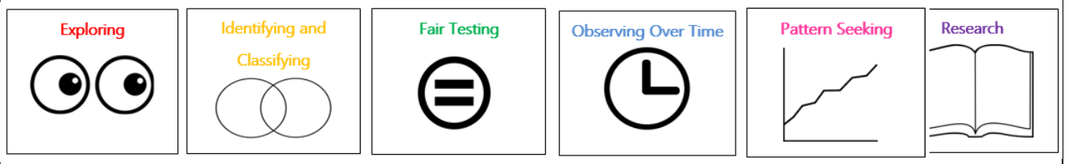
**Year 6 Science Medium Term Plan** **Topic: Electricity** **Year group: 6** **Term: Spring**

**Working scientifically objectives which are covered in this unit**




**delete areas above not covered*

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments

**National Curriculum Objectives for science unit**

- 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.

**Key Learning**

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.

| **Lesson sequence**<br><br>**include WALTs/LOs and key concept:** | **Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. (Y4)**<br><br>Complete Topic starter page. Highlight the key vocabulary.<br><br>Before starting the topic, the children given some equipment to explore. The challenge is to light a bulb using only one wire. Opportunity for children to engage their previous learning and for the teacher to ensure that all children were able to make a complete circuit. | **Use recognised symbols when representing a simple circuit in a diagram**<br><br>Re-cap over symbols. children given further pictorial diagrams and asked to predict whether the circuits would work or not, based on their knowledge from Year 4. Then asked to draw circuit diagrams for each of the circuits corrected to make them work. | **Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit**<br><br>**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.**<br><br>chn discuss the concept cartoon. Following on from this, the children take one of the statements and gather evidence to support or refute it.<br><br>chn carry out an investigation to gather evidence to support or refute their prediction<br><br>extended this work to explore adding more cells to a circuit/ take measurements to explore how a motor or extra cells can impact the circuit | **Assessment**<br><br>**compare and give reasons for variations in how components function**<br><br>**use recognised symbols when representing a simple circuit in a diagram**<br><br>Children asked to investigate what happened when they changed components in a circuit, recording each circuit and what they noticed. | https://www.bbc.co.uk/teach/terrific-scientific/KS2/zmqv92p<br><br>Plan an investigation around a Big Question. What do the pupils already know about using electricity?<br><br>What appliances use the most?<br>How would you reduce energy use?<br>Why is it important to reduce our energy use?<br><br>How will the group explore the question? Prompt pupils to explain their ideas, qualify them and refine them based on views expressed by other people. What is their plan for the investigation?<br><br>Ask the class to imagine they had to present their investigation at a school assembly or to their family, how would they show their action plan? |
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| **Key vocabulary to be explicitly taught** | Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage | | | | |
| **Cross-curricular links** | | | ICT<br>Maths | ICT<br>Maths | Maths<br>ICT<br>English |