



# St John Fisher RC Primary School

## Year 6 Knowledge Organiser – Autumn Two – Science - Electricity

| What we will be learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Electricity - Key Facts to Remember                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <p><b>I know:</b></p> <ul style="list-style-type: none"> <li><b>Week 1</b> - How to tell the difference between batteries and mains electricity and understand how each one is used.</li> <li><b>Week 2 &amp; 3</b> - How to make a working circuit with components like lights and switches and can change parts around to see different effects.</li> <li><b>Week 4</b> – How to use special symbols to draw a diagram of my circuit so others can understand how it works.</li> <li><b>Week 5</b> – How to test materials to see if they let electricity pass through and can identify them as conductors or insulators.</li> </ul>                                           | <ul style="list-style-type: none"> <li>I can distinguish between batteries and mains electricity, explaining their uses in daily life.</li> <li>I can construct basic circuits using a range of components and alter the components to observe changes.</li> <li>I can draw accurate circuit diagrams using standard electrical symbols to represent different components.</li> <li>I can test various materials to classify them as conductors or insulators, demonstrating understanding of these properties through practical experiments.</li> <li>I understand the significance of safety when working with electricity and recognise the appropriate precautions to take.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>Key Vocabulary and Glossary</b></p> <ul style="list-style-type: none"> <li><b>Electricity</b> - A form of energy resulting from the existence of charged particles.</li> <li><b>Mains Electricity</b> - A type of electricity supplied through wires from power stations, usually at 230 volts in the UK.</li> <li><b>Battery</b> - A device that stores chemical energy and converts it into electrical energy.</li> <li><b>Circuit</b> - A complete path that electricity can flow around, often including a power source, wires, and electrical components.</li> <li><b>Component</b> - An individual part of a circuit, such as a light bulb, switch, or battery.</li> <li><b>Conductor</b> - A material that allows electricity to flow through it, e.g., metals like copper or aluminium.</li> <li><b>Insulator</b> - A material that does not allow electricity to flow through it, e.g., rubber or glass.</li> <li><b>Switch</b> - A device that can open or close an electrical circuit, controlling the flow of electricity.</li> <li><b>Voltage</b> - The measure of electrical potential difference between two points in a circuit, measured in volts (V).</li> <li><b>Ammeter</b> - An instrument used to measure the flow of electric current in a circuit, measured in amperes (A).</li> <li><b>Voltmeter</b> - A device used to measure the voltage across two points in a circuit.</li> <li><b>Symbol</b> - A simple drawing or letter that represents an electrical component in a circuit diagram.</li> </ul> |
| Key Knowledge: Electricity Facts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Electrical Components                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li><b>Electricity travels at nearly the speed of light!</b> In wires, the actual movement of electrons is slow, but the effect of electricity is instantaneous.</li> <li><b>Thomas Edison</b> invented the first practical incandescent light bulb in 1879, revolutionising the use of electricity in homes.</li> <li><b>Electricity is a major source of energy</b>, powering everything from our homes to entire cities.</li> <li><b>Static electricity</b> is the result of electric charges accumulating on surfaces, often leading to that fun shock we experience when touching a metal doorknob after walking on a carpet!</li> </ul> | <p>The diagram illustrates several common electrical components. At the top left is a glowing yellow lightbulb. Next to it is a battery cell with a '+' sign. To the right is a rectangular switch with a sliding lever. Below these are a small electric motor, a bundle of colorful insulated wires, and a circular buzzer with a central dome.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |