

Science	Year 6	Electricity	Summer 2018 Term 6
<p>Key vocabulary: Electricity, Thomas Edison, Nikola Tesla, Alessandro Volta, Michael Faraday, home, alternating current, direct current, battery, cell, Bulb, battery, cell, wires, switch, motor, buzzer, scientific, informal, circuit, diagram, Voltage, brightness, loudness, increase, decrease, investigation, plan, fair test, comparative test, practical enquiry, wire, length.</p>			
<p>Factual knowledge: Children will know:</p> <ul style="list-style-type: none"> • That Thomas Edison invented the lightbulb • Alessandra Volta invented the first battery • Benjamin Franklin was the first to store electricity • That two types of electric current can be generated – direct current and alternating current. • The scientific symbols for the main parts of a circuit • How use differing volts affects a circuit • How to plan an investigation to test variation in component function • What degrees of trust are • How to improve their degrees of trust 	<p>Skills: Children will be able to:</p> <ul style="list-style-type: none"> • Plan different types of scientific enquiries to answer their own or other questions, including recognising and controlling variables where necessary • Take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat measurements when appropriate. • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. • Use test results to make predictions to set up further comparative tests • Describe and evaluate their own and other people’s scientific ideas related to the topics in the national curriculum using evidence from a range of sources. • Report and present finding from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results in oral and written forms such as displays and other presentations. • Identify scientific evidence that has been used to support or refute ideas or arguments. • 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. 	<p>Possible Activities:</p> <ul style="list-style-type: none"> • Reading Comprehension on the history of electricity • Create circuit diagrams and learn the correct scientific symbols • Children build circuits and observe the effects of differing volts. • Children to plan and carry out an investigation. • Children to discuss how to establish a higher degree of trust in their results 	
<p>Spiritual, Moral, Social and Cultural Education and Promotion of British Values Spiritual - Encouraging pupils to reflect on what effect electricity has on the world. What would life be like without it? Moral - Provide a clear moral code as a basis for behaviour which is promoted consistently through all aspects of the school. Discuss the idea of paying for electricity. Should companies make a huge profit for providing us with electricity? What should this profit be used for? Encourage pupils to take responsibility for their actions; for example, respect for property, care of environment, and developing codes of behaviour. Social - Help pupils develop personal qualities which are valued in a civilised society, for example, showing respect for differing opinions Work together co-operatively when investigating. Discussion of what life would be like in places where there is no electricity. Cultural – Children will look at the how electricity was discovered and how circuits work. British Values – Work together to help one another – children will work in groups and share results when researching; We treat one another with respect. Children will show respect for each other’s thoughts and ideas during discussions; We know that our behaviour affects our rights and the rights of others - children will behave in a way that allows everyone to learn and achieve their potential; We know that we need to work in boundaries to make safe choices – Children will follow safety and health and safety regulations</p>			

<ul style="list-style-type: none"> • Know the main circuit symbols and use them to draw circuit drawings • Be able to plan and conduct an investigation • Plan an investigation based on the results of a previous investigation • Decide how to record data. 	<ul style="list-style-type: none"> • Explain how our understanding of electricity has changed over time • Draw circuit diagrams using the correct symbols and label the voltage correctly • Decide which variables to control while planning an investigation • Decide how to report their findings • Make new predictions based on their previous results • Select an appropriate scientific enquiry 	<ul style="list-style-type: none"> • Explain how major discoveries led to the widespread use of electricity • Explain the effect of increasing or decreasing the voltage on different parts of a circuit • Explain how they have ensured a high degree of trusts in their results • Identify variations in component function
<p><i>Initials of children working below the expected level, with details of attainment:</i></p>	<p><i>Initials of children broadly reaching the expected level of attainment:</i></p>	<p><i>Initials of children exceeding the expected level with details of attainment:</i></p>
<p>Evaluation against attitudes to learning:</p> <ul style="list-style-type: none"> • Showing curiosity about objects, events and people – • Maintaining focus on their activity for a period – • Showing high levels of energy, fascination – • Not easily distracted – • Paying attention to details – • Thinking of ideas – • Making links and noticing patterns in their experience – 		