

<b>SUBJECT:</b>	Science	<b>YEAR GROUP:</b>	6
<b>PURPOSE OF STUDY</b>			
<p>A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.</p>			
<b>THE NATIONAL CURRICULUM FOR SCIENCE AIMS TO ENSURE THAT ALL PUPILS:</b>		<b>NATIONAL CURRICULUM LINKS</b>	
<ul style="list-style-type: none"> <li>• Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.</li> <li>• Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.</li> <li>• Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.</li> </ul>		<ul style="list-style-type: none"> <li>• Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>• Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> <li>• Recognise that light appears to travel in straight lines.</li> <li>• Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</li> <li>• Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</li> <li>• Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li> <li>• Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.</li> <li>• Give reasons for classifying plants and animals based on specific characteristics. Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</li> </ul>	

- Recognise the impact of diet, exercise, drugs and lifestyle on the way their body's function.
- Describe the ways in which nutrients and water are transported within animals, including humans.
- 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.
- 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.

#### Cross Curricular links

- English – writing for a range of purposes, reading comprehension, speaking and listening skills through presenting information and findings.
- History – scientists throughout history, scientific discoveries, evolution over time
- DT – Selecting and using appropriate tools and materials to make models and products.
- Maths - statistics, measurement
- Computing – using technology to research and present.
- RSHE – Healthy lifestyles.

<b>TOPICS COVERED:</b>	
<ul style="list-style-type: none"> <li>• Evolution and inheritance</li> <li>• Light</li> <li>• Living things and their habitats</li> <li>• Animals, including humans.</li> <li>• Electricity</li> <li>• Scientists and Inventors.</li> </ul>	
<b>INTENT OF SUBJECT:</b>	
<p>Within science, pupils will develop an understanding of scientific vocabulary and will use this appropriately and accurately. They will develop an understanding of work completed by famous scientist and key theories across a range of topics, applying their knowledge of this to their own investigations. Pupils will develop awareness of the impact that these theories have had on everyday life and how life has changed over time as a result of this. Pupils will develop their own investigation skills including planning, setting up and carrying out their own investigations, including predictions, recording observations and findings and making conclusions. Pupils will develop awareness of 'degrees of trust' and how they can ensure these within their own investigations. Pupils will develop skills to record observations and present findings in a variety of ways and explain what they have found out through completing investigations.</p>	
<b>SKILLS OVERVIEW BY HALF TERM:</b>	
<b>AUTUMN ONE</b>	<b>AUTUMN TWO</b>
<ul style="list-style-type: none"> <li>• Identify how aspects within science have changed over time.</li> <li>• Identify how scientific discoveries provide information about the world.</li> <li>• Use research skills.</li> <li>• Present information in a variety of ways.</li> <li>• Develop understanding of technical vocabulary</li> <li>• Use scientific vocabulary accurately.</li> <li>• Identify and explain scientific theories.</li> <li>• To identify famous scientists</li> <li>• Explain the key work and theories of famous scientists.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand stages of scientific investigations.</li> <li>• Set up and complete scientific investigations.</li> <li>• Explain what scientific investigations show.</li> <li>• Understand and explain scientific theories.</li> <li>• Make predictions and conclusions about investigations.</li> <li>• Research famous scientists and their theories.</li> <li>• Present information in a variety of ways.</li> <li>• Develop understanding of technical vocabulary.</li> <li>• Use scientific vocabulary accurately.</li> <li>• Develop group work skills.</li> <li>• Develop speaking and listening skills.</li> </ul>

<b>SPRING ONE</b>	<b>SPRING TWO</b>
<ul style="list-style-type: none"> <li>• Describe scientific theories.</li> <li>• Make comparisons.</li> <li>• Apply scientific theories to own work, justifying reasons for choices.</li> <li>• Research using technology.</li> <li>• Identify famous scientists.</li> <li>• Explain the work of famous scientists and the impact this has had.</li> <li>• Present information in a variety of ways.</li> <li>• Develop speaking and listening skills.</li> <li>• Develop understanding of scientific vocabulary and use this appropriately.</li> </ul>	<ul style="list-style-type: none"> <li>• Plan and carry out scientific investigations.</li> <li>• Identify how scientific investigations support work of famous scientists.</li> <li>• Explain how different components work.</li> <li>• Explain how components can be affected by different factors.</li> <li>• Make predictions and conclusions.</li> <li>• Present information in a variety of ways.</li> <li>• Explain how scientific findings impacts everyday life.</li> <li>• Understand scientific vocabulary.</li> <li>• Use scientific vocabulary accurately.</li> </ul>
<b>SUMMER ONE</b>	<b>SUMMER TWO</b>
<ul style="list-style-type: none"> <li>• Draw diagrams.</li> <li>• Select an appropriate scientific enquiry.</li> <li>• To be able to plan and conduct an investigation and decide which variables to control while planning an investigation.</li> <li>• To plan an investigation based on the results of a previous investigation.</li> <li>• To make new predictions based on the previous results.</li> <li>• To decide how to record data and how to report findings.</li> <li>• To explain how major discoveries impact life today.</li> <li>• To explain understanding of scientific topics have changed over time.</li> <li>• To present information in a variety of ways.</li> <li>• Can explain the effect of variables in an investigation.</li> <li>• Can explain how they have ensured a high degree of trust in their results.</li> <li>• To identify scientific components.</li> <li>• To be able to explain how components can be affected by different factors.</li> <li>• Develop understanding of scientific theories and famous scientists.</li> <li>• Research skills using IT and written texts.</li> <li>• Understand and use scientific vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>• Research work of famous scientist.</li> <li>• Present findings from research and inquiries in a variety of ways.</li> <li>• Plan, set up and carry out scientific inquiries.</li> <li>• Draw accurate diagrams and symbols.</li> <li>• Describe and explain observations making links to scientific theories.</li> <li>• Use description within writing and speaking.</li> <li>• Record findings using graphs.</li> <li>• Describe the impact of scientific work on life today.</li> <li>• sort facts about Mary Leakey's life and work</li> <li>• Discuss how the attitudes of people at different times may have presented obstacles to scientists and inventors.</li> <li>• To understand and use scientific vocabulary.</li> <li>• Develop speaking and listening skills.</li> <li>• To make predictions and conclusions about inquiries and investigations.</li> </ul>