



# Science Curriculum Overview

Year Group	Term					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS - Nursery	<p><b>Investigating Magnets (CP)</b></p> <p><b>Gloop-</b> Exploring the strange properties of this cross between a liquid and a solid.</p> <p>Career/ important person: Magnet Engineer</p>	<p><b>Floating and Sinking-</b> Begin to discuss different forces. (Row, Row, Row your boat)</p> <p><b>Basic Body Parts-</b> Can we name and find basic parts of the body (Head Shoulders Knees &amp; Toes)</p> <p><b>Discovering magnification-</b> link to woodlands.</p>	<p><b>Freezing and Melting-</b> Can you rescue the animals from the ice? Discuss the changes.</p> <p>Career/ important person: Glaciologist</p>	<p><b>Planting and Growing-</b> Grass heads/ cress.</p> <p><b>Life Cycles-</b> Chick, Caterpillar - linked to stories.</p>	<p><b>Investigating light &amp; dark using torches.</b></p> <p>Career/ important person: Lighting Engineer</p>	<p><b>Respecting and caring for the natural environment and living things.</b></p>
EYFS - Reception	<p>Topics: <b>Woodlands Marvellous Me</b></p> <p>(Autumn changes) (My Busy Body) Naming parts of the body</p> <p>Supporting Year 1 with relevant vocabulary.</p> <p>Career/ important person: Doctor</p>	<p>Topics: <b>Woodlands Terrific Tales</b></p> <p>Baking bread - change of state - linked to the Little Red Hen</p> <p>Changes in Autumn (PSTT - Autumn leaves)</p> <p>Career/ important person: Baker</p>	<p>Topics: <b>Woodlands Amazing Animals</b></p> <p>Hot &amp; Cold Animals habitats Pets - Vets</p> <p>(PSTT - Animals in my garden)</p> <p>Career/ important person: Vet</p>	<p>Topics: <b>Woodlands What Can Grow?</b></p> <p>(PSTT - Growing plants) (Changes as we grow) Observing tadpoles growing.</p> <p>Career/ important person: Meteorologist</p>	<p>Topics: <b>Woodlands Ticket To Ride</b></p> <p>Space (NUSTEM - Light/dark) How to catch a Star, Look Up, Black Rabbit (Shadow tubes)</p> <p>Career/ important person: Aerospace Engineer</p>	<p>Topics: <b>Woodlands Beach Combing</b></p> <p>(NUSTEM - Floating and sinking) Who sank the boat? Visit to beach</p> <p>Career/ important person: Lifeguard Marine Engineer</p>

<p>One</p> <p>Topic: Seasonal changes and observations</p> <p>Skill: Observing over time</p> <p>Context: Link with local study- what seasonal changes do we see in local area.</p>	<p>Topic: <b>Animals including humans</b></p> <p>Skill: Use senses and simple equipment.</p> <p>Context: Five senses- practical investigations exploring the senses and learning body parts/uses.</p> <p>Career/ important person: <b>Optician</b></p>	<p>Topic: <b>Investigating materials</b></p> <p>Skill: Find information and answers using given sources (tables and graphs) Simple comparative tests: Which is the best material for...?</p> <p>Context: Material names, properties, uses- waterproof, magnetic etc. Practical investigations linking with toys topic.</p> <p>Career/ important person: <b>Product designer</b></p>	<p>Topic: <b>Animals including humans.</b></p> <p>Skill: Compare and contrast. Identify and classify using given sources.</p> <p>Context: Animal classification and types of animals.</p> <p>Career/ important person: <b>Ornithologist - zoologist looking at birds.</b></p>	<p>Topic: <b>Career focus</b></p> <p>Skill: Find information using given sources. Secondary research using given sources (tables and graphs).</p> <p>Context: Be a Paleontologist-Mary Anning</p> <p>Career/ important person: <b>Mary Anning Paleontologist</b></p>	<p>Topic: <b>Plants</b></p> <p>Skill: Conduct simple comparative tests eg what happens when plants don't get light?</p> <p>Context: Link with local study- How to grow a beanstalk linkin with 'Jim and the beanstalk', observing changes, what plants need to grow, types of plants/trees.</p> <p>Career/ important person: <b>Gardener</b></p>	<p>Topic: <b>Scientific questions</b></p> <p>Skill: Explain why a simple observation occurred. Ask and answer simple questions with support.</p> <p>Context: STEM week</p>
<p>Two</p>	<p>Topic: <b>Living things and their habitats.</b></p> <p>Skill: Understanding scientific terminology. Asking scientific questions Comparing and contrasting.</p> <p>Context: The Arctic - animal adaptation.</p> <p>Career/ important person: <b>Environmental engineer</b></p>	<p>Topic: <b>Animals</b></p> <p>Skill: Find information and answers using given sources.</p> <p>Skill: Classifying animals. Identifying offspring, food chains</p> <p>Context: Animal portion of 'animals including humans'</p> <p>Career/ important person: <b>Zoo veterinarian</b></p>	<p>Topic: <b>Roald Dahl</b></p> <p>Skill: Making simple predictions. Making simple estimations. Observing over time. Asking and answering simple questions. Recording simple data in a given table. Evaluate the effectiveness of observations (verbally)</p> <p>Context: Experiments - Willie Wonka's Inventing room -</p>	<p>Topic: <b>Animals including humans</b></p> <p>Skill: Knowledge building to describe how to stay healthy (hygiene)</p> <p>Context: human portion of 'animals including humans'</p> <p>Career/ important person: <b>Surgeon</b></p>	<p>Topic: <b>Uses of everyday materials</b></p> <p>Skill: Making simple predictions. Conduct simple comparative tests. Explain why a simple observation occurred.</p> <p>Context: Suitability of materials to build a dragon proof house – Dragons.</p> <p>Career/ important person: <b>John Dunlop, Charles Macintosh, John McAdam</b></p>	<p>Topic: <b>Plants</b></p> <p>Skill: Identify and classify using a range of given sources. Observing over time. Conduct simple comparative tests. Explain why a simple observation occurred. Measure change over time using non-standard measure.</p> <p>Context: Looking at plants in different habitats. Taking care</p>

			Roald Dahl Career/ important person: Colour technologist			of plants.  Career/ important person: Greenhouse Manager
Three	<p>Topic: <b>Light</b></p> <p>Skill: To identify scientific questions. To link two variables – the closer the light source, the bigger the shadow. To measure using standard units of measure (cm). To carry out comparative and fair tests. To make predictions. To show data in bar charts / tables.</p> <p>Context: Measuring shadows, experiments with reflections, finger puppets, absence of light investigation,</p> <p>Career/ important person: Optometrist</p>	<p>Topic: <b>Animals including humans</b></p> <p>Skill: To identify and classify animals. Use labelled diagrams and drawings. Explain observations in scientific terms.</p> <p>Context: To create muscles, identify muscles within the body. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>Career/ important person: Dietitian</p>	<p>Topic: <b>Magnets and forces</b></p> <p>Skill: To ask scientific questions and answer these by setting up simple practical enquiries, comparative and fair tests. To make predictions. To make observations.</p> <p>Context: Solving problems using magnets, how could a magnet help us separate items.</p> <p>Career/ important person: Recycling officer</p>	<p>Topic: <b>Plants</b></p> <p>Skill: Make observations over time by investigating how water is transported within plants. Explain an observation or event in scientific terms. Distinguish between what has been observed and why it happened. Begin to link information from secondary sources with primary sources (verbally).</p> <p>Context: Exploring the outdoor environment locating different habitats</p> <p>Career/ important person: Crop consultant</p>	<p>Topic: <b>North East Engineers</b></p> <p>Skill: To ask and answer scientific questions. Linking careers to scientific knowledge.</p> <p>Context: North East Science - links with Stephenson Museum</p> <p>Career/ important person: George Stephenson</p> <p>Mechanical engineer</p>	<p>Topic: <b>Rocks</b></p> <p>Skill: To identify and classify types of rock. To make careful observations. To conduct fair tests. To make predictions. To draw conclusions upon reasons for variation of soil. Explain observations in scientific terms.</p> <p>Context: Identify fossils and differences in rocks (using the Stone Age Boy text)</p> <p>Career/ important person: Geologist</p>
Four	<p>Topic: <b>Animals including humans</b></p> <p>Skill: To ask scientific questions</p>	<p>Topic: <b>Electricity</b></p> <p>Skill: To ask scientific questions Create electric</p>	<p>Topic: <b>States of matter</b></p> <p>Skill: To ask scientific questions</p>	<p>Topic: <b>Sound</b></p> <p>Skill: To ask scientific questions To take accurate</p>	<p>Topic: <b>Living things and their habitats</b></p> <p>Skill: To ask scientific questions</p>	<p>Topic: <b>STEM</b></p> <p>Skill: To ask scientific questions and find answers to these</p>

	<p>To conduct scientific enquiries Draw simple conclusions, explaining why they have observed what they have Make careful observations</p> <p>Context: Digestive system (Human Body)</p> <p>Career/ important person: Dentist</p> <p>The Tooth About Dentists workshop</p>	<p>circuits Make careful observations</p> <p>Context: Electricity</p> <p>Career/ important person: Electrician</p>	<p>Make careful observations To set up practical enquiries with more independence To make predictions, considering the variables Report on findings from enquiries Draw simple conclusions, explaining why they have observed what they have.</p> <p>Context: States of Matter</p> <p>Career/ important person: Hydrologist Chemist</p>	<p>measurements To show data using graphs To create labelled scientific diagrams and drawings to show abstract phenomena such as sound.</p> <p>Context: Sound</p> <p>Career/ important person: Sound engineer</p> <p>Focus - Ed Carter - project</p>	<p>To use simple classification keys To select information to support findings Make careful observations Gather and record data Draw diagrams Report on findings from enquiries</p> <p>Context: Living Things and Habitats</p> <p>Career/ important person: Conservation Research Assistant</p>	<p>To set up practical enquiries with more independence To make predictions, considering the variables To make accurate measurements To show data using graphs</p> <p>Context: Scientific Inventors STEM Week Animals including humans recap</p>
Five	<p>Topic: <b>Space and Earth</b></p> <p>Skill: Asking scientific questions Drawing diagrams Set up practical enquiries Report on findings Make careful observations Explore relevant information by using a range of secondary sources Explore how scientific ideas have changed</p>	<p>Topic: <b>Materials and their properties</b></p> <p>Skill: Asking scientific questions Take accurate and precise measurements To identify when and how to use scientific tests Make predictions based upon previous enquiries Set up practical enquiries Report on findings from enquiries Draw conclusions,</p>	<p>Topic: <b>Forces</b></p> <p>Skill: Asking scientific questions Take accurate and precise measurements Draw scientific diagrams to show abstract phenomena such as forces using arrows. Identify causal relationships Draw conclusions, explaining why something has happened Show data in line</p>	<p>Topic: <b>Forces</b></p> <p>Skill: Asking scientific questions Take accurate and precise measurements Draw scientific diagrams to show abstract phenomena such as forces using arrows. Identify causal relationships Make predictions based upon previous enquiries Draw conclusions, explaining why</p>	<p>Topic: <b>Living things and their habitats</b></p> <p>Skill: Asking scientific questions Use more complex classification keys Make careful observations Draw scientific diagrams to show parts of a plant Set up practical enquiries with increased independence Report on findings from enquiries Draw simple</p>	<p>Topic: <b>Animals, including humans</b></p> <p>Skill: Asking scientific questions Draw scientific diagrams Use a range of secondary sources to conduct research</p> <p>Context: Animals, including humans</p> <p>Career/ important</p>

	<p>over time Use diagrams to show the solar system</p> <p>Context: Link Black History Month– Katherine Johnson and careers</p> <p>Career/ important person: Katherine Johnson</p>	<p>explaining why something has happened</p> <p>Context: Changes in material</p> <p>Career/ important person: Structural engineer</p>	<p>graphs</p> <p>Context: Forces</p> <p>Career/ important person: Isaac Newton</p>	<p>something has happened Show data in line graphs</p> <p>Context: Forces</p> <p>Career/ important person: Isaac Newton</p>	<p>conclusions</p> <p>Context: Living things and their habitats</p> <p>Career/ important person: Environmental scientist</p>	<p>person: Health visitor</p>
Six	<p>Topic: <b>Evolution</b></p> <p>Skill: Develop classification keys Identify scientific evidence that has been used to support or refute ideas or arguments. Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs</p> <p>Context: Evolution and Inheritance -present information about evolution Scientists.</p> <p>How might offspring vary?</p> <p>Career/ important person: Charles</p>	<p>Topic: <b>Electricity</b></p> <p>Skill: Taking measurements (voltage), using a range of scientific equipment, with increasing accuracy and precision Identify when and how to use tests Make predictions based on previous test results</p> <p>Context: Electricity</p> <p>Does wire length affect the brightness of a bulb?</p> <p>Career/ important person: Electrical engineer</p>	<p>Topic: <b>Animals, including humans</b></p> <p>Skill: Take accurate and precise measurements Take repeat readings when appropriate Using simple models to describe scientific ideas.</p> <p>Context: Animals including humans NUSTEM workshop</p> <p>Career/ important person: Haematologist</p>	<p>Topic: <b>Light</b></p> <p>Skill: Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Using simple models to describe scientific ideas. Use test results to make predictions to set up further comparative and fair tests Use models or diagrams to show abstract phenomena such as light</p> <p>Context: Light - experiment to investigate how light travels and what</p>	<p>Topic: <b>Living things and their habitats</b></p> <p>Skill: Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs Using test results to make predictions to set up further comparative and fair tests (Microorganisms) Develop classification keys</p> <p>Context: Living things in their habitats</p> <p>Career/ important person: Cancer research scientist</p>	<p>Topic: <b>STEM</b></p> <p>Skill: Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations Reach appropriate conclusions and begin to identify how reliable the data collected is</p> <p>Context: STEM Week</p>

	Darwin		colour light is. Career/ important person: Isaac Newton	Carl Linnaeus	
Scientific enquiry	Year 1 and 2	Year 3 and 4	Year 5 and 6		
	<p>During Years 1 and 2 pupils should be taught to use the following practical scientific methods, processes and skills through teaching:</p> <ul style="list-style-type: none"> <li>-Asking simple questions and recognising they can be answered in different ways (question walls and concept maps on flip charts with class teacher).</li> <li>-Observing closely, using simple equipment.</li> <li>-Performing simple tests.</li> <li>-Identifying and classifying.</li> <li>-Using their observations and ideas to suggest answers to questions.</li> </ul>	<p>During Years 3 and 4 pupils should be taught to use the following practical scientific methods, processes and skills through teaching:</p> <ul style="list-style-type: none"> <li>-Asking relevant questions and using different types of scientific enquiry. Concept maps and question walls.</li> <li>-Setting up simple practical enquiries, comparative and fair tests.</li> <li>-Making careful and systematic observations and taking accurate measurements using standard units, using a range of equipment.</li> <li>- Gathering, recording, classifying and presenting data.</li> <li>-Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</li> <li>-Reporting on findings from enquiries through answering with Tweets / emails.</li> <li>-Using results to draw simple conclusions.</li> <li>-Identifying differences, similarities or changes related to simple scientific ideas and processes.</li> <li>-Using straightforward scientific evidence to answer questions.</li> </ul>	<p>During Years 5 and 6 pupils should be taught to use the following practical scientific methods, processes and skills through teaching:</p> <ul style="list-style-type: none"> <li>-Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>-Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</li> <li>-Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</li> <li>-Using test results to make predictions.</li> <li>-Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms.</li> <li>-Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>		