

Science Curriculum Map	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery & Reception	Following EYFS curriculum standards.					
Year 1	Animals including humans (Senses) Children will learn about their 5 senses. They will learn about parts of the body and their functions.	Seasons - Autumn Children will know the months that fall in autumn and describe the temperature changes. They will learn that deciduous trees lose their leaves, describe the days getting shorter and know about events that occur in autumn such as halloween and bonfire night. talk about their observations of objects, materials and living things	Seasons - Winter Children will learn that sometimes it will freeze overnight, know that deciduous trees become bare and that the days are shortest in winter. Animals including humans (Classification) Children will learn the differences between living and non-living things. They will learn how to group animals by their physical structures.	Seasons - Spring Children will know the months that fall in spring. They will describe the days getting longer, blossom on trees and baby animals that are born in spring. Animals including humans (What animals eat) Children will understand that different animals eat different things.	Seasons - Summer Children will know the months that fall in summer and be able to describe the weather in summer. Plants Children will learn the names of some common garden plants and some common wild plants. They will learn about deciduous and evergreen trees and know the parts of common trees and plants.	Materials Children will learn that objects are things that you can see or touch. They will use words to describe different materials and classify them based on their properties. Children will learn that some materials are natural while others are man-made.
Year 2	Living things and their habitats Children will learn that certain features of animals makes them suited to different habitats. They will look at what animals eat in their habitat and how the plants provide shelter. Children will start to construct food chains and be able to identify and name different sources of food. Children will learn to identify and name a variety of plants and animals in their habitats, including microhabitats.	Materials Children will learn to identify and compare the suitability of a variety of everyday materials. They will explore how the shapes of solid objects can be changed by squashing, bending, twisting and stretching.	Animals including humans (Basic needs) Children will learn that some animals give birth to live young and some animals lay eggs. They will learn that animals have three basic needs for survival and that all young animals change as they go through the different stages of their life cycle.	Plants What plants need to grow Children will learn what plants need to grow well. They will describe how plants grow from seeds and bulbs.		Animals including humans (Staying healthy) Children will learn to describe the importance of exercise, eating the right sorts of foods and hygiene. Recap and revisit life cycles - butterflies & caterpillars
Year 3	Magnets & forces Children will learn that a force can cause something to speed up, slow down, change shape and direction. They will learn about forces on different surfaces, friction and how magnets can be used as an invisible force.	Animals including humans (Nutrition, skeletons muscles) Children will know what omnivores, carnivores and herbivores eat. They will sort vertebrates and invertebrates and will be able to name and label some bones in the human skeleton. They will understand what a balanced diet is and be able to identify the main food groups.	Rocks & fossils Children will know the properties of different rock and know that they are a natural material. They will know what a fossil is and how it is formed. Children will know the different types of soil and be able to describe them.		Plants Children will know the functions of different parts of the plant, know what they need to grow well and how this can vary in different plants. They will learn how changing the environment can affect a plant's growth and they will be able to describe how water is transported in a plant.	Light and shadow Children will learn that we need light to be able to see things. They will learn that light travels in straight lines and that when it hits an object, it bounces off. Children will identify materials that reflect light well. They will know what a shadow is and how it is caused.
Year 4	All living things (Habitats) Children will learn about the life processes: movement, respiration, sensitivity, growth, reproduction, excretion and nutrition. They will use classification keys to group animals. Children will learn about how habitats change throughout the year and how this affects the animals that live there.	Electricity Children will learn where electricity comes from, which appliances run on electricity, and how a circuit works. They will understand what electrical conductors and electrical insulators are.	Sound Children will learn what a sound is, how it is made and how it travels. They will find out how we hear sounds and how sound can be measured.	States of matter (Changing states) Children will know the three states of matter and that materials can change between different states of matter. They will learn about boiling points, freezing points and reversible changes. Children will find out about the water cycle.	Animals including humans (The digestive system) Children will learn about the parts of the digestive system and that the different parts have a different role. They will learn about teeth and how to look after them.	
Year 5	Changing materials Children will learn about mixtures and solutions. They will learn about separating materials and reversible and irreversible changes.	Forces Children will learn that forces allow the movement of all objects around us. They will learn about weight, mass, gravity, water resistance and air resistance and how these forces can be helpful to us.	Space Children will be able to describe the movements of the Earth, Sun and Moon. They will know about the planets in the solar system.	Space Children will describe the seasons and why we have them and be able to talk about time zones around the world.	Life cycles of animals & plants Children will learn about sexual and asexual reproduction in plants. They will learn about the life cycles of different animals and be able to name the stages.	Life cycles of humans Children will learn the 8 stages of the human life cycle. They will learn about puberty and the changes that will occur during this stage.
Year 6	All living thing (Classification) Children will learn how to group living things according to different criteria. They will learn about the Linnsean system and how/why it was created.	Electricity Children will learn the symbols for electrical components and how to draw a circuit diagram. They will learn about amps, voltage and series and parallel circuits.	Evolution and inheritance Children will learn that evolution is a process of changes that takes place over many generations. They will learn about adaptations and describe the advantages and disadvantages of the adaptations of different species.		Animals including humans (The circulatory system) Children will learn about the parts of the circulatory system and how to look after it. They will learn about healthy choices and why exercise is important.	Light Children will learn about different kinds of light sources and light rays. They will explore refraction and explain why light bends in water.

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Asking Questions	<p>Be able to ask Yes/No questions to aid sorting.</p> <p>Ask one or two simple questions linked to a topic.</p>	<p>Identify the question to investigate from a scenario or choose a question from a range provided.</p> <p>Ask a question about what might happen in the future based on an observation.</p> <p>Ask a question that is looking for a pattern based on observations.</p>	<p>Ask a range of Yes/No questions to aid sorting.</p> <p>Ask a range of questions linked to a topic, using sentence stems or prior knowledge for support.</p> <p>Ask their own questions about what they observe, and answer questions posed by the teacher.</p>	<p>Use prior knowledge when asking questions, with growing independence from sentence stems.</p> <p>Ask questions about what they observe, identifying which types of scientific enquiry are most suitable to answer them.</p> <p>Make simple decisions about how to answer their own questions, not just the teacher's.</p>	<p>Ask a range of Yes/No questions to aid sorting and decide which ways of sorting will give useful information.</p> <p>Ask a range of questions, recognising that some can be answered through research and others may not.</p> <p>Identify the type of enquiry that will help to answer a given question (with some scaffold).</p>	<p>Independently ask scientific questions, deciding which type of scientific enquiry to use.</p> <p>Ask further questions based on results to extend or refine the investigation.</p> <p>Select between research, fair testing, pattern seeking, classification, and observations over time as appropriate.</p>
Plan an enquiry	<p>Identify simple groups using given headings (e.g. "it is..." / "it is not...").</p> <p>Use equipment provided by the teacher to carry out simple tests.</p> <p>Sort and group objects, materials or living things, sometimes using teacher-provided criteria.</p> <p>Use simple secondary sources (e.g. identification sheets) to name living things.</p>	<p>Choose equipment to use and decide what to do in order to answer a question.</p> <p>Decide what to observe or measure during a simple test.</p> <p>Sort and group objects, materials or living things, identifying their own criteria for sorting.</p> <p>Describe the characteristics used to identify or classify a living thing.</p> <p>Use practical resources and simple tests to gather evidence to answer their own or teacher's questions.</p>	<p>Select practical resources from a range provided to gather evidence for a question.</p> <p>Choose a source from a range provided when research is more suitable than practical work.</p> <p>Decide what to change and what to measure or observe in a simple comparative or fair test (with support).</p> <p>Identify the type of enquiry they are using (e.g. comparative, fair test, research, classification).</p> <p>Put appropriate headings onto intersecting Venn and Carroll diagrams for classification tasks.</p>	<p>Set up simple practical enquiries, including comparative and fair tests, with increasing independence.</p> <p>Decide how often to take a measurement and what level of precision or observation is needed.</p> <p>Recognise when secondary sources will answer questions more effectively than practical work.</p> <p>Make more confident decisions about variables (what to change, keep the same and measure) when appropriate.</p>	<p>Identify clear questions that will help to sort or investigate without ambiguity.</p> <p>Select suitable sources (practical or secondary) to gather evidence.</p> <p>Recognise variables in an investigation and decide which ones to change, measure, or keep the same.</p> <p>Choose the type of enquiry that will answer a question, with some justification.</p>	<p>Independently plan investigations, including comparative and fair tests, pattern seeking, and research enquiries.</p> <p>Justify the type of enquiry chosen and the methods for gathering evidence.</p> <p>Recognise, control, and record variables effectively where necessary.</p> <p>Use secondary sources confidently to answer questions that cannot be tested practically.</p> <p>Refine investigations by identifying improvements or further questions based on prior results.</p>

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Observe closely	<p>Use senses to make observations – children explore the world around them using sight, touch, etc.</p> <p>Compare objects based on obvious, observable features – such as size, shape, colour, and texture.</p>	<p>Make observations linked to answering questions – children plan observations more purposefully and connect them to specific questions.</p> <p>Use simple equipment to support observations – e.g., magnifying glasses or digital microscopes.</p>	<p>Be able to compare objects based on more sophisticated, observable features.</p> <p>Make observations linked to answering questions.</p>	<p>Making systematic and careful observations – children help decide what to observe, for how long, and what simple equipment to use.</p> <p>Present observations in labelled diagrams.</p>	<p>Be able to compare objects based on more sophisticated, observable features.</p> <p>Make observations linked to answering questions.</p> <p>Present observations in labelled diagrams.</p>	<p>Decide what observations or measurements to make over time and for how long – children plan and conduct more independent investigations.</p> <p>Make observations linked to answering questions (applied in longer-term, more complex investigations).</p>
Take measurements	<p>Use simple measurements and equipment – for example, hand lenses or egg timers, to gather data.</p> <p>Begin taking measurements by comparisons (e.g., longer/shorter, heavier/lighter).</p>	<p>Measure using non-standard units when appropriate (e.g., cubes, paper clips, or hand spans).</p>	<p>Use a range of equipment for measuring length, time, temperature, and capacity.</p> <p>Measure using standard units (e.g., cm, m, seconds, °C, litres).</p>	<p>Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>When appropriate, measure using standard units where all the numbers are marked on the scale (ensuring precision).</p>	<p>Take measurements using a range of scientific equipment with increasing accuracy and precision.</p> <p>Use standard units, even when not all numbers are marked on the scale.</p> <p>Take repeat readings when necessary to ensure fairness and accuracy.</p> <p>Use data loggers to measure changes over time.</p>	<p>Select measuring equipment to give the most precise results (e.g., ruler, tape measure, trundle wheel, force meter with a suitable scale).</p> <p>Make decisions during investigations to improve accuracy, such as:</p> <ul style="list-style-type: none"> -Taking repeat readings (fair testing) -Increasing sample size (pattern seeking) -Adjusting observation period/frequency (observing over time) -Checking further secondary sources (researching)

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Gather/record results	<p>Record data in simple, prepared tables and tally charts.</p> <p>Record data pictorially or by taking photographs.</p>	<p>Record measurements using prepared resources, e.g., tables, pictograms, block graphs, and sorting rings.</p>	<p>Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Use templates with headings provided to help present data.</p>	<p>Sometimes decide how to record and present evidence independently.</p> <p>Prepare own tables to record data.</p>	<p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar graphs, and line graphs.</p> <p>Decide how to record and present evidence.</p>	<p>Prepare own tables to record data, including columns for taking repeat readings to ensure accuracy and reliability.</p>
Present results	<p>Present what they have learnt verbally or using pictures or block diagrams.</p> <p>Begin to use simple scientific language to describe findings.</p>	<p>Sort objects and living things into two groups using a basic Venn diagram or simple table.</p> <p>With help, record and communicate findings in a range of ways.</p>	<p>Present what they have learnt verbally or using labelled diagrams, bar charts, and time graphs.</p> <p>Use ICT packages to present data as a scattergram.</p>	<p>Sometimes decide how to record and present evidence independently.</p> <p>Sort objects and living things into groups using intersecting Venn and Carroll diagrams.</p>	<p>Present what they have learnt in a range of ways, including line graphs and scatter graphs.</p> <p>Decide how to record and present evidence.</p>	<p>Report and present findings from enquiries, including conclusions and causal relationships, in oral and written forms, such as displays and other presentations.</p> <p>Create classification keys, branching databases (tree diagrams), and keys to enable others to identify living things and objects.</p>

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Draw conclusions	<p>Make observations that help answer questions.</p> <p>Recognise simple comparisons from data, such as 'biggest and smallest' or 'best and worst'.</p> <p>Begin to relate answers to the evidence they have collected.</p>	<p>With support, suggest answers to questions using observations, measurements, or information from secondary sources.</p> <p>Begin to link answers explicitly to the evidence they have gathered.</p>	<p>Use straightforward scientific evidence to answer questions or support findings.</p> <p>Interpret data to generate simple comparative statements based on evidence.</p> <p>Draw simple conclusions, for example when patterns are obvious.</p> <p>Where appropriate, provide oral or written explanations for findings.</p>	<p>Identify differences, similarities, or changes related to simple scientific ideas and processes.</p> <p>Begin to identify naturally occurring patterns and causal relationships.</p> <p>Draw conclusions based on evidence and current subject knowledge.</p>	<p>Use data to show that living things and materials grouped together have more in common than with things in other groups.</p> <p>Provide oral or written explanations for their findings.</p> <p>Discuss whether other evidence (from other groups, secondary sources, or prior scientific understanding) supports or refutes their answer.</p>	<p>Report and present findings from enquiries, including conclusions and causal relationships, in oral and written forms such as displays and other presentations.</p> <p>Identify causal relationships and patterns in the natural world from evidence.</p> <p>Identify results that do not fit the overall pattern.</p> <p>Explain findings using subject knowledge.</p>
Make a prediction	<p>Children may be asked what they think may happen, based on experience or prior observations.</p> <p>Predictions are informal guesses, not based on scientific knowledge.</p>	<p>Same as Year 1: children can suggest what might happen, but this is based on experience or simple reasoning, not formal scientific understanding.</p>	<p>Use results from an investigation to make a prediction about a further result.</p> <p>Suggest values for items tested using the same method, e.g., how far a toy car might travel on a new surface.</p>	<p>Begin to use evidence systematically to make predictions about outcomes in similar situations.</p> <p>Apply results from one part of an investigation to predict results for another part.</p>	<p>Use test results to make predictions for further investigations.</p> <p>Apply scientific knowledge gained from enquiries to suggest outcomes that can be tested using comparative or fair tests.</p>	<p>Use test results to make predictions for further investigations in a systematic way.</p> <p>Make predictions based on scientific reasoning, linking evidence from previous enquiries to set up fair and comparative tests.</p>