



Science Progression Document

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Comparative/ Fair testing	- Interact with natural processes – ice melting, shadows, floating, magnets and vibration. - Explore and investigate a range of equipment e.g. wind-up toys, pulleys etc. - Opportunities to change materials from one state to another e.g. cooking, melting. - Investigate light and dark. - Investigate different forces they can feel:- water wheel, sand wheel, push, pull, stretch, bend, magnetic. Sinking, floating, melting, ice balloons, transparent, shadows, baking, magnets, opposites - Take part in first hand explorations of animal lifecycles e.g. caterpillars and/or chick eggs.	- Perform simple tests - Comparing and contrasting different animals using videos, photographs and observations - Performing simple tests and activities relating to the senses - Perform simple tests on different materials	- Perform simple comparative tests - Experiments about how germs can spread - Compare the use of different materials in and around the school, at home, outside - Carry out experiments using different materials for the same purpose e.g. cups made of paper - Comparative tests to show how plants grow differently according to conditions	- Set up simple practical enquiries, comparative and fair tests - Begin to report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - Begin to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions - Grow plants using dye in the water - Test the size of shadows at different times of the day - Experiments with different types of materials and shining a torch - Experiments with sunglasses - Compare and record how different things move on different materials and surfaces - Carry out simple experiments using magnets	- Set up simple practical enquiries, comparative and fair tests - Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions - Using results to draw simple conclusions. - Explore the effect of temperature on different substances - Make food through melting such as crispy cakes. - Explore the effect of temperature on substances such as chocolate, ice cream crisps - Create simple electrical circuits with different components and different variables - Explore how sound is made - Explore how distance affects sound	- Use test results to make predictions to set up further comparative and fair tests - Confidently report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations - Explore falling objects using different parachutes and a range of variable - Explore resistance in water by making and testing a variety of boats - Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution - Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating - Demonstrate that dissolving, mixing and changes of state are reversible changes	- Confidently use test results to make predictions to set up further comparative and fair tests - Confidently report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations - Planning different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary - 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. - Know how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc. - Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
Research	- Name and describe plants and animals - Understand how we grow and change e.g. from baby, toddler to child. - Understand how plants grow and what they need to grow. - Show and begin to explain the concept of growth, change and decay	- Gather and record data to help in answering questions - Begin to ask simple questions - Begin to find things out through using secondary sources of information - Asking questions about the parts of the body	- Gather and record data to help in answering questions including from secondary sources of information. - Observing using videos different animals and what they eat - Asking simple questions - Finding things out through using secondary sources	- Begin to use straightforward scientific evidence to answer questions or to support his/her findings - Begin to report on findings from secondary sources - Research and discuss the different kinds of living things whose fossils are found - Independent research on facts about the sun or other related topics	- Use straightforward scientific evidence to answer questions or to support his/her findings - Reporting on findings from secondary sources - Research the temperature at which different materials change e.g. iron - Take temperature readings and research the temperature	- Identify scientific evidence that has been used to support or refute ideas or arguments - Visit to a planetarium or Jodrell Bank - Identify the different stages of gestation - Research that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and	- Describe and evaluate their own and other people's scientific ideas related to topics in the national curriculum (including ideas that have changed over time), using evidence from a range of sources - Researching the relationship between diet, lifestyle, exercise and health - Analysing the impact of adaptations such as long and short beak - Identify and name the main parts of the human



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			of information			the action of acid on bicarbonate of soda Describe the movement of the Earth and other planets relative to the sun in the solar system.	circulatory system, and describe the functions of the heart, blood vessels and blood. - Describe the ways in which nutrients and water are transported within animals, including humans - Recognise that light appears to travel in straight lines.
Pattern seeking	- Compare and contrast environments - Explore how different materials sink and float. - Understand and describe seasonal changes	Making displays of what happens in the world around them as the seasons change	- Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns - Noticing patterns	- Begin to identify differences, similarities or changes related to simple scientific ideas and processes - Explore different types of soil and the similarities and difference between them	- Identify differences, similarities or changes related to simple scientific ideas and processes - Find patterns between the pitch of a sound and features of the object that produced it. - Find patterns between the volume of a sound and the strength of the vibrations that produced it.	- Find patterns within the gestation period of different mammals. - Describe similarities and differences between planets in our solar system. - Look for patterns within the human life cycle.	- Find patterns for how animals and plants can adapt to live in different environments e.g. polar bears, camels, penguin, cacti - 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.
Observation over time	- Observe plants and animals - Observe plants and animals and how they behave differently as the seasons change. - Show an understanding of the changes to seasons and weather in their play. - Opportunities to observe plants and animals e.g. garden area, chicks and caterpillars.	- Use simple equipment to observe closely - Use his/her observations and ideas to suggest answers to questions - Observing closely and gathering and recording data to help in answering questions - Use his/her observations and ideas to suggest answers to questions about different materials - Observe and draw a range of flowers, plants and trees - Gather and observe a range of plants and make charts of their features	- Use simple equipment to observe closely including changes over time - Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns	- Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - Identifying differences, similarities or changes related to simple scientific ideas and processes - Observe rocks used in buildings and gravestones and how they change over time - Observe the effect of dye in a plant over time	- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - Confidently record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - Making systematic and careful observations of the local environment to identify and classify plants and animals - Record observations of water evaporating e. putting a wet object on the window sill and a similar one in a dark place and record the effects - Observe and record evaporation and melting	- Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - Observe how plants reproduce asexually	- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - Confidently record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs - Observing local animals and how they adapt to their environment



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Identifying, grouping and classification	• Know what their senses are and how to use them • Name and describe the plants and animals • Know the seasons • Be aware of the difference between plants and animals.	• Identify and classify • Identifying and classifying a range of different animals • Grouping and ordering different animals • Sort and classify different materials • Making charts and tables about the weather	• Identify, group and classify • Grouping and classifying the different animals according to their diet • Sorting and classifying things that are alive, dead or have never been alive • Classify different materials • Label the different parts of trees, plants and flowers • Sort flowers into wild and garden plants	• Begin to gather, record, classify and present data in a variety of ways to help in answering questions • Identifying and grouping animals with and without skeletons and compare their movement • Classify and record materials as magnetic and non-magnetic	• Gather, record, classify and present data in a variety of ways to help in answering questions	• Models of the solar system • Identify the different milestones in a life cycle of a human • Describe the differences in the life cycles of a mammal, an amphibian, a bird and an insect. • Dissecting plants to discover the different parts • Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets	• Group and classify things and recognise patterns • 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. • Give reasons for classifying plants and animals based on specific characteristics
Problem solving	• Comment and ask questions • Talk about changes and explain why some things occur. • Use new vocabulary in their discussions to show an understanding.	• Ask simple questions and recognise that they can be answered in different ways.	• Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum • Creating habitats for insects	• Ask relevant questions and use different types of scientific enquiries to answer them	• Ask relevant questions and use different types of scientific enquiries to answer them • Draw a pictorial representation of the circuit	• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.	• Plan different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary • Use recognised symbols when representing a simple circuit in a diagram