Kelvedon Hatch Community Primary School

Science Progression

EYFS
EYFS The Natural World Educational Programme (Statutory) *Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.* **ELG: Communication and Language (Listening, Attention and Understanding)** Make comments about what they have heard and ask questions to clarify their understanding. **ELG: Personal, Social and Emotional Development (Managing Self)** Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. **ELG: Understanding the World (The Natural World)** Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states ofmatter.

Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working scientifically	Ask simple questions and recognise that they can be answered in different ways Use simple equipment to observe closely Perform simple tests Identify and classify	Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum Use simple equipment to observe closely	Ask relevant questions and use different types of scientific enquiries to answer them (Year 3 focus) Set up simple practical enquiries, comparative and fair tests (Year 3 focus)	Ask relevant questions and use different types of scientific enquiries to answer them (Year 4 focus) Set up simple practical enquiries, comparative and fair tests (Year 4 focus)	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	Working scientifically concepts from previous year groups continue. 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

	Use his/her observations and ideas to suggest answers to questions Gather and record data to help in answering questions	including changes over time Communicate his/her ideas, what he/she does and what he/she finds out in a variety of ways Perform simple comparative tests Identify, group and classify Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns Gather and record data to help in answering questions including from secondary sources of information	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (Year 3 focus) Gather, record, classify and present data in a variety of ways to help in answering questions (Year 3 focus) Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables (Year 3 focus) Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions (Year 3 focus) Use results to draw simple conclusions, make predictions for new values, suggest	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (Year 4 focus) Gather, record, classify and present data in a variety of ways to help in answering questions (Year 4 focus) Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables (Year 4 focus) Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions (Year 4 focus) Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions (Year 4 focus)	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 and fair tests 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 Identify scientific evidence that has been used to support or refute ideas or arguments	Group and classify things and recognise patterns Find things out using a wide range of secondary sources of information Use appropriate scientific language and ideas from the national curriculum to explain, evaluate and communicate his/her methods and findings

			improvements and raise further questions (Year 3 focus) Identify differences, similarities or changes related to simple scientific ideas and processes (Year 3 focus) Use straightforward scientific evidence to answer questions or to support his/her findings (Year 3 focus)	Identify differences, similarities or changes related to simple scientific ideas and processes (Year 4 focus) Use straightforward scientific evidence to answer questions or to support his/her findings (Year 4 focus)		
Biology						
Understand animals and humans	Name and label different parts of the body - specifically those associated with the senses. Use the senses to explore the world and recognise which parts of my body allow me to do this. Identify groups of animals: amphibians, mammals, fish, birds, reptiles and invertebrates. Group carnivores, herbivores and omnivores.	Describe the basic needs of animals and humans. Understand how animals change as they grow. Understand why humans need to exercise and have an understanding of how to improve diet.		Identify the digestive system and its parts. Construct food chains and relate them to herbivores, carnivores and omnivores. Identify why teeth should be kept healthy. Identify parts of the human skeleton.	Understand sexual and asexual reproduction.	Understand and explain the functions of the heart, lungs and circulatory system. Test and record ideas about healthy diet and exercise. Ensure that investigations identify variables and suitable predictions and conclusions are drawn from presented data.
Investigate living things		Identify living things and their life processes.			Understand life cycles of different animals: Insects, amphibians (metamorphosis),	

		Understand habitats and identify the plants and animals within those habitats. Draw a simple food chain and understand how the relationships between living things.			marsupials and monotremes, and birds.	
Understand plants		Understand plants and their lifecycles. Understand the roles of different parts of a flowering plant.			Understand how flowers are pollinated.	
Understand evolution and inheritance						Understand the development of evolutionary ideas. Understand human evolution and where the evidence comes from to support this. Understand inherited traits, adaptation and artificial and natural selection. Understand genes and DNA.
Chemistry						
Investigate materials	Identify and name different materials and their properties. Test different materials and observe changes.		Understand and compare the different uses of rocks. Know the terms igneous, sedimentary and metamorphic.		Identify solids, liquids and gases and identify how materials change from one state to another. Identify the different stages of the water cycle.	

	Test materials and draw conclusions about how they could be used. Understand recycling.		Understand how soil is formed and know different types of soil. Understand the process of fossilisation.		Describe and test the properties of materials, including solubility and conductivity. Understand reversible and irreversible changes. Understand how to separate mixtures.	
Physics						
Understand movement, forces and magnets			Identify forces as push and pulls. Understand gravity. Understand the difference between weight and mass. Identify friction as a force and to identify air resistance and water resistance as related forces. Identify simple mechanisms and explain them. Understand magnets.			
Understand light and seeing			Understand that light is required to see. Understand how light is reflected.			Understand how light allows us to see. Understand refraction and colours within light. Investigate shadows.

			Know that light can be dangerous. Understand how shadows are formed.			
Investigate sound and hearing				Identify the properties of sound and how we are able to hear. Set up enquiries regarding sound and record findings in a variety of scientific ways. Understand how sound can be prevented from traveling.		
Understand electrical circuits				Understand mains and battery power and identify common electrical appliances. To create and draw simple series circuits. Investigate changes that can be made to circuits using different components. Understand conductors and insulators.		
Understand the Earth's movement in space	Understand how seasons affect changes in the weather. Understand how animals and humans adapt to seasonal changes.				Describe the shape of the Sun, the Moon and the Earth. Name the planets in our solar system in the correct order. Understand ideas of planetary movement.	

	Understand how changes in the seasons affect plants.				Explain day and night and the different seasons.	