



Science Knowledge and Skills Progression Document

Key Areas	EYFS	Year 1 and 2	Year 3 and 4	Year 5 and 6
Working Scientifically	<ul style="list-style-type: none"> •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. 	<ul style="list-style-type: none"> •Ask simple questions and recognise that they can be answered in different ways. •Observe closely, using simple equipment and perform simple tests. •Identify and classify. •Use their observations and ideas to suggest answers to questions. •Gather and record data to help in answering questions. 	<ul style="list-style-type: none"> •Ask relevant questions and use different types of scientific enquiries to answer them. •Set up simple practical enquiries, comparative and fair tests. •Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. •Gather, record, classify and present data in a variety of ways to help in answering questions. •Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. •Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. •Use results to draw simple conclusions, 	<ul style="list-style-type: none"> •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. •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 a 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

			<p>make predictions for new values, suggest improvements and raise further questions.</p> <ul style="list-style-type: none"> •Identify differences, similarities or changes related to simple scientific ideas and processes. •Use straightforward scientific evidence to answer questions or to support their findings. 	arguments
Plants	<p>How do plants grow?</p> <p>Keeping plants healthy</p> <p>Knowing parts of plants and trees</p>	<ul style="list-style-type: none"> •Know and name a variety of common wild and garden plants •Know and name the petals, stem, leaves and root of a plant •Know and name the roots, trunk, branches and leaves of a tree •Know and explain how seeds and bulbs grow into plants •Know what plants need in order to grow and stay healthy (water, light and suitable temperature) 	<ul style="list-style-type: none"> •Know the function of different parts of flowering plants and trees •Know how water is transported within plants •Know the plant life cycle, especially the importance of flowers 	
Animals including humans	<p>Classifying animals</p> <p>Life cycles of animals</p> <p>Exercising and keeping healthy</p>	<p>Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds</p> <p>Know and classify animals by what they eat (carnivore, herbivore and omnivore)</p> <ul style="list-style-type: none"> •Know how to sort by living and non-living things •Know why exercise, a balanced diet and good hygiene are important for humans •Know the basic stages in a life cycle for animals, (including humans) 	<p>Know about the importance of a nutritious, balanced diet</p> <p>Know how nutrients, water and oxygen are transported within animals and humans</p> <ul style="list-style-type: none"> •Know about the skeletal and muscular system of a human •Identify and name the parts of the human digestive system •Know the functions of the organs in the human digestive system •Identify and know the different types of human teeth •Know the functions of different human teeth •Use and construct food chains to identify producers, predators and prey 	<p>Identify and name the main parts of the human circulatory system</p> <p>Know the function of the heart, blood vessels and blood</p> <ul style="list-style-type: none"> •Know the impact of diet, exercise, drugs and lifestyle on health •Know the ways in which nutrients and water are transported in animals, including human

Living things and their habitats	Habitats Food Chains	<ul style="list-style-type: none"> • Know how a specific habitat provides for the basic needs of things living there (plants and animals) • Match living things to their habitat • Name some different sources of food for animals • Know about and explain a simple food chain 	<ul style="list-style-type: none"> • Use classification keys to group, identify and name living things • Know how changes to an environment could endanger living things 	<ul style="list-style-type: none"> • Classify living things into broad groups according to observable characteristics and based on similarities and differences • Know how living things have been Classified • Give reasons for classifying plants and animals in a specific way • Know the life cycle of different living things e.g. mammal, amphibian, insect and bird • Know the differences between different life cycles • Know the process of reproduction in Plants • Know the process of reproduction in animals
Seasonal Changes	Knowing about seasonal changes	Name the seasons and know about the type of weather in each season		
Evolution and Inheritance				<ul style="list-style-type: none"> • Know how the Earth and living things have changed over time • Know how fossils can be used to find out about the past • Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents) • Know how animals and plants are adapted to suit their environment • Link adaptation over time to evolution • Know about evolution and can explain what it is
Uses of everyday	Naming different materials	<ul style="list-style-type: none"> • Know the name of the materials an object is made from 		

Materials	Using materials for different tasks	<ul style="list-style-type: none"> • Know about the properties of everyday materials • Know how materials can be changed by squashing, bending, twisting and stretching • Know why a material might or might not be used for a specific job 		
States of Matter			<ul style="list-style-type: none"> • Know the temperature at which materials change state • Know about and explore how some materials can change state • Know the part played by evaporation and condensation in the water cycle • Group materials based on their state of matter (solid, liquid, gas) 	
Rocks			<ul style="list-style-type: none"> • Compare and group rocks based on their appearance and physical properties, giving reasons • Know how soil is made and how fossils are formed • Know about and explain the difference between sedimentary, metamorphic and igneous rock 	
Properties and changes of materials				<ul style="list-style-type: none"> • Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets) • Know and explain how a material dissolves to form a solution • Know and show how to recover a substance from a solution • Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating) • Know and demonstrate that some changes are reversible and some are not

				<ul style="list-style-type: none"> • Know how some changes result in the formation of a new material and that this is usually irreversible
Light and Sound			<ul style="list-style-type: none"> • Know that dark is the absence of light • Know that light is needed in order to see and is reflected from a surface • Know and demonstrate how a shadow is formed and explain how a shadow changes shape • Know about the danger of direct sunlight and describe how to keep protected • Know how sound is made, associating some of them with vibrating • Know how sound travels from a source to our ears • Know the correlation between pitch and the object producing a sound • Know the correlation between the volume of a sound and the strength of the vibrations that produced it • Know what happens to a sound as it travels away from its source 	<ul style="list-style-type: none"> • Know how light travels • Know and demonstrate how we see objects • Know why shadows have the same shape as the object that casts them • Know how simple optical instruments work e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.
Forces and Magnets			<ul style="list-style-type: none"> • Know about and describe how objects move on different surfaces • Know how a simple pulley works and use to on to lift an object • Know how some forces require contact and some do not, giving examples • Know about and explain how magnets attract and repel 	<ul style="list-style-type: none"> • Know what gravity is and its impact on our lives • Identify and know the effect of air and water resistance • Identify and know the effect of friction • Explain how levers, pulleys and gears allow a smaller force to have a greater effect

			<ul style="list-style-type: none"> •Predict whether magnets will attract or repel and give a reason 	
Electricity			<ul style="list-style-type: none"> •Identify and name appliances that require electricity to function •Construct a series circuit •Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers) •Predict and test whether a lamp will light within a circuit •Know the function of a switch •Know the difference between a conductor and an insulator; giving examples of each 	<ul style="list-style-type: none"> •Compare and give reasons for why components work and do not work in a circuit •Draw circuit diagrams using correct symbols •Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer
Earth and Space				<ul style="list-style-type: none"> •Know about and explain the movement of the Earth and other planets relative to the Sun •Know about and explain the movement of the Moon relative to the Earth Know and demonstrate how night and day are created •Describe the Sun, Earth and Moon (using the term spherical)