



KING'S ACADEMY MEADOW VALE



Curriculum Progression Map - Science

EYFS Expectations

UNDERSTANDING THE WORLD

The Natural World

- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.



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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Materials	<p>Identify and name a variety of everyday materials. Distinguish between an object and material it is made from. Describe the properties of everyday materials. Identify objects that are natural and those that are man-made. Predict and identify if an object will float or sink. Explore which materials are best for different objects. Build a structure strong enough to withstand wind. Build a waterproof structure.</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Explore how and why [rocks] might have changed over time (non-statutory)</p> <p>Compare and group together different kinds of rocks on the basis of their appearance</p>		<p>Compare and group materials based on hardness, solubility, transparency, conductivity (thermal/electrical) and magnetism.</p> <p>Know that some materials dissolve to form solutions and can be recovered by evaporation.</p> <p>Use filtering, sieving, and evaporating to separate mixtures.</p> <p>Explain that some changes are reversible (melting, freezing, dissolving).</p>	



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	<p>Understand the properties of glass and its uses.</p> <p>Understand that materials are used to create a variety of furniture.</p> <p>Explore a variety of fabrics and understand their different properties.</p> <p>Explain the uses of materials and why they are used.</p>		<p>and simple physical properties</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>Recognise that soils are made from rocks and organic matter</p>		<p>Recognise irreversible changes, such as burning, rusting and chemical reactions that create new materials.</p>	
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Plants	<p>Understand that seeds grow into plants.</p> <p>Identify the basic parts of a plant.</p> <p>Identify common wild plants.</p> <p>Know the difference between deciduous and evergreen trees.</p> <p>Know that fruit trees and vegetables are varieties of plants.</p> <p>Explain how plants change over time.</p>	<p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p>To identify and describe the functions of different parts of flowering plants.</p> <p>To explore the requirements of plants for life and growth.</p> <p>To observe and record findings using scientific language, diagrams and tables.</p> <p>To investigate the way water is transported within plants.</p> <p>To understand pollination and fertilisation.</p>		<p>Describe the life process of reproduction in some plants (flowering and non-flowering).</p>	



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			To explore the life cycle of flowering plants.			
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Animals including humans	<p>Discover the basic parts of the human body.</p> <p>Learn about your eyes and sight.</p> <p>Learn about your ears and hearing.</p> <p>Explore the tongue and taste.</p> <p>Explore your sense of touch.</p> <p>Discover how your nose smells.</p>	<p>Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>	<p>To know the different food groups and sort foods accordingly.</p> <p>To find out about the nutrients that different foods provide.</p> <p>To understand the structure of the human skeleton and how it protects our vital organs.</p> <p>Muscles and joints – movement in the human body.</p> <p>Sorting animal skeletons into groups – vertebrates and invertebrates.</p>	<p>Identify the organs in the digestive system</p> <p>Describe the functions of the main organs in the digestive system</p> <p>Identify the types of human teeth and their functions</p> <p>Investigate the effects of different liquids on the teeth</p> <p>Understand food chains</p> <p>Explore food webs</p>	<p>Describe the digestive system and how nutrients are transported in animals (including humans).</p> <p>Identify the main parts of the circulatory system: heart, blood and blood vessels.</p> <p>Understand the functions of the heart, blood and lungs.</p> <p>Explain how diet, exercise, drugs and lifestyle choices impact body function.</p> <p>Understand how nutrients, water, and oxygen are</p>	<p>Circulation</p> <p>Understand the function of the heart and its role in the circulatory system.</p> <p>Identify and compare blood vessels</p> <p>Explore the components of blood</p> <p>Learn how the body transports water and nutrition</p> <p>Investigate what affects your heart rate.</p> <p>Learn about the impact of drugs and alcohol on the body.</p>



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			What are Endoskeletons and exoskeletons?		transported around the body.	
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Electricity				<p>Explore electrical appliances and electrical safety</p> <p>Learn about electrical components in a series circuit</p> <p>Investigate electrical circuits</p> <p>Explore conductors and insulators</p> <p>Learn about electrical switches</p> <p>Apply knowledge of conductors</p>		<p>Describe the parts of an electrical circuit and recognise their symbols.</p> <p>Voltage</p> <p>Static electricity</p> <p>Apply knowledge to identify and correct problems in a circuit.</p> <p>Investigate what affects the output of a circuit.</p> <p>Build a set of traffic lights.</p>



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Forces			<p>To know different types of forces</p> <p>To plan an experiment to investigate friction</p> <p>To carry out an investigation on friction</p> <p>To investigate magnetic and non-magnetic objects</p> <p>To investigate the magnetic field and the north and south poles</p> <p>To observe how magnetic attract and repel each other in a designed and created game</p>		<p>Explain that gravity pulls objects towards the Earth; recognise the work of Newton.</p> <p>Identify the effects of air resistance, water resistance and friction as forces that oppose motion.</p> <p>Understand how the shape of objects affects how they move through air or water.</p> <p>Recognise that levers, pulleys and gears can make a smaller force have a greater effect.</p>	



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Living things and their habitats	<p>Discover animal families.</p> <p>Learn about the differences between mammals and birds.</p> <p>Learn about the differences between amphibians, reptiles and fish.</p> <p>Discover the type of food living things eat.</p> <p>Explore the difference between wild animals and pets.</p> <p>Explain the characteristics of an animal.</p>	<p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p>Identify and name a variety of plants</p>		<p>Explore different habitats</p> <p>Research a habitat</p> <p>Explore how animals can be classified</p> <p>Create a classification key</p> <p>Adaptations and classifications within species</p> <p>Explore and classify pond plants</p> <p>Describe ecosystems and how they are affected by changes in the seasons</p>	<p>Describe the life cycles of a mammal, amphibian, insect and bird.</p> <p>Compare life cycles across the animal groups.</p> <p>Explore how living things reproduce (sexual and asexual reproduction).</p> <p>Understand how environments influence life cycles and reproduction success.</p>	<p>Classification</p> <p>Classify living things</p> <p>Understand the Kingdoms of Life</p> <p>Classify living things using the Linnean System.</p> <p>Identify the Characteristics of different types of microorganisms.</p> <p>Investigate asexual reproduction through spore dispersal.</p> <p>Classify and describe a living organism.</p>



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		<p>and animals in their habitats, including microhabitats</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</p>		<p>Understand human impact on the environment through deforestation</p> <p>Explore air pollution</p> <p>Explore methods that can be used to conserve water</p> <p>Understand that humans can have a positive impact on nature</p>		
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Evolution and inheritance						Understand how offspring vary. Learn about animal adaptations. Learn about plant adaptations. Explore what we can learn from fossils. Explore the theory of evolution by natural selection. Explore human evolution.



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Light & Shadow			<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Recognise that light from the sun can be dangerous and there are ways to protect your eyes.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p>			<p>Investigate how light travel</p> <p>Understand reflection</p> <p>Investigate reflection and explain how it can help us to see.</p> <p>Investigate how shadows can change.</p> <p>Investigate how the shape of an object influences the shape of a shadow.</p> <p>Explore light phenomena</p>



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			Find patterns in the way that the size of shadows change.			
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Earth and Space					<p>Describe the movement of the Earth and other planets relative to the Sun in the solar system.</p> <p>Know that the Sun is a star at the centre of our solar system.</p> <p>Explain how the Moon moves relative to the Earth.</p> <p>Understand why we have day and night—caused by the Earth's rotation.</p> <p>Use the idea of the Earth's rotation to explain the apparent</p>	



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					movement of the Sun across the sky.	
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Seasons	<p>Understand there are four seasons.</p> <p>Understand the changes that take place in autumn.</p> <p>Understand the changes that take place in winter.</p> <p>Understand the changes that take place in spring.</p> <p>Understand the changes that take place in summer.</p> <p>Investigate how you can measure rainfall.</p>					



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Sound				Identify how sounds are made Explore how vibrations from sounds travel through a medium to the ear Explore sound insulation Explore volume Explore pitch Explore sounds from near and from far		



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States of Matter				<p>Compare and group the 3 states of matter</p> <p>Explore how particles behave in solids, liquids and gases</p> <p>Investigate melting points</p> <p>Explore freezing and boiling points</p> <p>Explore evaporation and condensation</p> <p>Understand the water cycle</p>		