



## Science Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Nursery</b>	<p><b>Autumn</b></p> <ul style="list-style-type: none"> <li>To observe seasonal changes and key features of trees.</li> </ul> <p><b>Outdoor</b></p> <ul style="list-style-type: none"> <li>To explore the outside classroom.</li> <li>To feel and use how things work and explore forces.</li> </ul>		<p><b>Their World (Pre 3)</b></p> <ul style="list-style-type: none"> <li>To observe and notice detailed features of objects in their environment.</li> </ul> <p><b>Spring</b></p> <ul style="list-style-type: none"> <li>To observe seasonal changes and key features of Spring.</li> <li>To look at new life and observe different animals.</li> </ul>		<p><b>Growing</b></p> <ul style="list-style-type: none"> <li>To observe and learn about fruits and their different properties.</li> <li>To plant seeds and care for growing plants.</li> </ul> <p><b>Minibeasts</b></p> <ul style="list-style-type: none"> <li>To explore minibeasts and their different habitats.</li> <li>To begin to understand the need to respect and care for the natural environment and all living things.</li> </ul>	
<b>Reception</b>	<p><b>Autumn</b></p> <ul style="list-style-type: none"> <li>To talk about and experience effects of Autumn: what they see, hear, smell and feel.</li> <li>To learn about Autumn features e.g. changing leaf colour and falling leaves.</li> <li>To observe, draw and name parts of a tree and some seeds e.g. conker, acorn.</li> <li>To learn about hens and ducks.</li> </ul>	<p><b>Bread</b></p> <ul style="list-style-type: none"> <li>To learn about the seeds to bread sequence.</li> <li>To observe and talk about the changing state of matter e.g. eggs in vinegar, yeast in bread and proving and baking bread.</li> </ul> <p><b>Halloween</b></p> <ul style="list-style-type: none"> <li>To observe and learn about spiders.</li> <li>To make spiders' web patterns.</li> </ul> <p><b>Winter</b></p> <ul style="list-style-type: none"> <li>To talk about and experience effects of Winter: what they see, hear, smell and feel.</li> <li>To learn about Winter weather e.g. snow and ice.</li> </ul>	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>To observe and describe wood, stone and metal.</li> <li>To explore magnets.</li> </ul>	<p><b>Spring</b></p> <ul style="list-style-type: none"> <li>To talk about and experience effects of Spring: what they see, hear, smell and feel.</li> <li>To learn about Spring features e.g. warmth and new life.</li> </ul> <p><b>Growth</b></p> <ul style="list-style-type: none"> <li>To observe, draw and name parts of flowers: snow drops and daffodils.</li> <li>To observe and learn about the process of growing foods e.g. turnips.</li> </ul> <p><b>Archimedes</b></p> <ul style="list-style-type: none"> <li>To learn and talk about the story of Archimedes and his bath.</li> </ul> <p><b>Boats</b></p> <ul style="list-style-type: none"> <li>To observe and describe parts of boats.</li> <li>Observe and describe floating materials and moving sails.</li> </ul>	<p><b>Minibeasts</b></p> <ul style="list-style-type: none"> <li>To observe, draw and name parts of a worm with accuracy.</li> <li>To explore and build wormeries: changes in matter e.g. earth, soil, gravel and sand.</li> <li>To learn about minibeasts' habitats: rocks, earth, wood and leaves.</li> <li>To observe, draw, name and group rocks.</li> <li>To learn facts about lots of different minibeasts.</li> <li>To learn how to sequence the lifecycle of a butterfly and a frog.</li> </ul>	<p><b>Summer</b></p> <ul style="list-style-type: none"> <li>To talk about and experience effects of Summer: what they see, hear, smell and feel.</li> <li>To learn about Summer weather e.g. sun and heat.</li> </ul> <p><b>Growth</b></p> <ul style="list-style-type: none"> <li>To observe and describe what a plant needs for growth.</li> <li>Explore how plants drink water.</li> </ul>
<b>Year 1</b>	<p><b>Materials</b> KLP:</p> <ul style="list-style-type: none"> <li>To name a variety of materials.</li> <li>To distinguish an object from the material from which it is made.</li> <li>To identify natural and man-made materials.</li> <li>To conduct a simple experiment.</li> <li>To compare and group materials based on their properties.</li> </ul>	<p><b>Seasonal Changes (Summer – Autumn)</b> KLP:</p> <ul style="list-style-type: none"> <li>To name the four seasons.</li> <li>To understand changes in the local environment.</li> <li>To understand the features of the four seasons.</li> <li>To understand weather changes depending on seasons.</li> </ul>	<p><b>Seasonal Changes (Winter – Spring)</b> KLP:</p> <ul style="list-style-type: none"> <li>To name sources of light.</li> <li>To understand how shadows are formed.</li> <li>Identify nocturnal and diurnal animals.</li> <li>To observe changes across the four seasons.</li> <li>To observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<p><b>Crest Stars Experiment</b> KLP:</p> <ul style="list-style-type: none"> <li>To conduct a simple experiment.</li> <li>To make a prediction.</li> <li>To record our results.</li> <li>To observe changes.</li> </ul>	<p><b>Animals (including Humans)</b> KLP:</p> <ul style="list-style-type: none"> <li>To label the features of an animal.</li> <li>To sort animals into classifications.</li> <li>To identify omnivores, herbivores and carnivores.</li> <li>To understand how to look after pets.</li> <li>To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li> </ul>	<p><b>Plants</b> KLP:</p> <ul style="list-style-type: none"> <li>Distinguish between coniferous and deciduous trees.</li> <li>To identify different types of trees in our local environment.</li> <li>To label the features of a plant.</li> <li>To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>To identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul>

					<ul style="list-style-type: none"> <li>To identify and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul>	
<b>Year 2</b>	<p><b>Living things and habitats</b> KLP:</p> <ul style="list-style-type: none"> <li>Explore and compare the differences between things that are living, dead, and things that have never been alive/</li> <li>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 (including 7 life processes).</li> <li>Importance of a suitable habitat and what it must provide for different animals and species.</li> </ul>	<p><b>Living things and habitats</b> KLP:</p> <ul style="list-style-type: none"> <li>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.</li> <li>Recognise and identify; herbivore, omnivore, carnivore and the differences between them.</li> <li>Animal food chains including predators and their prey</li> <li>How animals adapt to survive (hibernation etc.)</li> <li>How to set up a simple investigation to monitor animal survival.</li> <li>Identify and name a variety of plants and animals in their habitats, including micro- habitats.</li> </ul>	<p><b>Materials</b> KLP:</p> <ul style="list-style-type: none"> <li>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</li> <li>What materials our school is made of.</li> <li>Different materials and their uses.</li> <li>Comparing the suitability of everyday materials.</li> <li>Sorting the properties of materials.</li> <li>Recycling.</li> <li>Asking simple questions and recognising that they can be answered in different ways.</li> </ul>	<p><b>Materials</b> KLP:</p> <ul style="list-style-type: none"> <li>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> <li>How to make a prediction and draw a conclusion to an investigation.</li> <li>Suitable methods for an effective investigation.</li> <li>Independent and dependent variables.</li> <li>Identifying, classifying and performing simple tests.</li> <li>Observing closely, using simple equipment.</li> <li>Using their observations and ideas to suggest answers to questions.</li> </ul>	<p><b>Plants</b> KLP:</p> <ul style="list-style-type: none"> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> <li>Observation and recording the growth of a variety of plants through a comparative test.</li> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> <li>Suitable methods for an effective investigation.</li> <li>Independent and dependent variables.</li> <li>Identifying, classifying and performing simple tests.</li> <li>Gathering and recording data to help in answering questions.</li> </ul>	<p><b>Animals Including Humans</b> KLP:</p> <ul style="list-style-type: none"> <li>The basic needs of animals, including humans, for survival (water, food and air)</li> <li>The basic needs of animals for survival, as well as the importance of exercise and nutrition for animals.</li> <li>Notice that animals, including humans, have offspring which grow into adults.</li> <li>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> </ul>
<b>Year 3</b>	<p><b>Magnets - Are they attractive enough?</b> KLP:</p> <ul style="list-style-type: none"> <li>To understand what forces are.</li> <li>To notice that some forces need contact between two objects.</li> <li>To compare how things move on different surfaces.</li> <li>Explore how magnetic forces work.</li> <li>Identify magnetic materials.</li> <li>Investigate uses for magnets.</li> </ul>	<p><b>Rocks - What do rocks tell us about the way the Earth was formed?</b> KLP:</p> <ul style="list-style-type: none"> <li>To identify naturally occurring rocks and explore their uses.</li> <li>To group rocks according to their characteristics.</li> <li>Identify rocks that are used for particular purposes.</li> <li>To explore what fossils are and how they are formed.</li> </ul>	<p><b>Animals, including humans</b> KLP:</p> <ul style="list-style-type: none"> <li>Identify that humans get their nutrition they need from what they eat.</li> <li>Identify that a balanced diet is needed in order to stay healthy.</li> <li>Investigate which foods animals eat.</li> <li>Explore human and animal skeletons.</li> <li>Understand how the skeleton supports and protects the body.</li> <li>To understand what muscles are and how they help us to move.</li> </ul> <p><b>YEAR 3 - Crest Award Activities</b> <b>Camouflaged Creatures &amp; Discus Dilemma</b></p> <p>KLP:</p> <ul style="list-style-type: none"> <li>To complete a successful investigation</li> <li>To learn more about a new topic</li> </ul>	<p><b>Light - How far can you throw your shadow?</b> KLP:</p> <ul style="list-style-type: none"> <li>To recognise that we need light in order to see.</li> <li>Understand the terms transparent, translucent and opaque.</li> <li>Explain how we can see the Moon.</li> <li>Show how our shadow changes according to the position of the Sun.</li> <li>Investigate how different materials respond in the dark.</li> </ul>	<p><b>Plants - How did that blossom become an apple?</b> KLP:</p> <ul style="list-style-type: none"> <li>Name the main parts of a plant and their function.</li> <li>Understand how water is transported within the plants.</li> <li>Understand the effects of water temperature and light on plant growth.</li> <li>Dissect a flower and identify its parts.</li> <li>Understand the life cycle of a flowering plant (pollination, seed formation and seed dispersal)</li> </ul>	

			<ul style="list-style-type: none"> <li>To understand an experiment can be completed in more than one way</li> <li>To collaborate with peers</li> <li>To understand the reasons for different results.</li> </ul>			
<b>Year 4</b>	<b>States of Matter</b> KLP: <ul style="list-style-type: none"> <li>Materials can exist as a solid, liquid or gas.</li> <li>Some materials change state when they are heated or cooled.</li> <li>What temperature is and how to make accurate measurements using a thermometer.</li> <li>The part played by evaporation and condensation in the water cycle.</li> </ul>	<b>Electricity</b> KLP: <ul style="list-style-type: none"> <li>Identify common appliances that run on electricity.</li> <li>Construct a simple series electrical circuit, identifying and naming basic components.</li> <li>Identify complete and incomplete circuits.</li> <li>Recognise how switches can be used in a circuit.</li> <li>Recognise common conductors and insulators.</li> </ul>	<b>Sound</b> KLP: <ul style="list-style-type: none"> <li>Identify how sounds are made.</li> <li>Recognise that sounds travel through a medium to the ear.</li> <li>Find patterns between the pitch of a sound and features of the object that produced it.</li> <li>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>Recognise that sounds get fainter as the distance from the source increase.</li> </ul>	<b>Animals including Humans</b> <b>Digestive system &amp; teeth</b> KLP: <ul style="list-style-type: none"> <li>Describe the simple functions of the basic parts of the digestive system in humans.</li> <li>Identify the different types of teeth in humans and their functions.</li> </ul>	<b>All Living Things and their habitats</b> <b>Food Chains</b> KLP: <ul style="list-style-type: none"> <li>Recognise that living things can be grouped in a variety of ways.</li> <li>Explore and use classification keys to help group, identify and name a variety of living things.</li> <li>Construct and interpret a variety of food chains.</li> <li>Recognise that environments can change and that this can sometimes pose dangers and have an impact on living things.</li> </ul>	
<b>Year 5</b>	<b>Materials and their properties</b> KLP: <ul style="list-style-type: none"> <li>Know that some materials will dissolve in a liquid to form a solution and describe how to recover a substance from a solution.</li> <li>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and heating.</li> <li>Understand that some changes result in the formation of new materials and that this is not usually reversible, including burning.</li> <li>Demonstrate that dissolving, mixing and changes of state are reversible changes.</li> </ul>	<b>Materials and change of state</b> KLP: <ul style="list-style-type: none"> <li>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and heating.</li> <li>Give reasons based on evidence from comparative and fair tests for the particular uses of everyday materials including metals, wood and plastic.</li> <li>Report and present findings from enquiries, including conclusions, causal relationships and explanations of a degree of trust in results.</li> </ul>	<b>Space</b> KLP: <ul style="list-style-type: none"> <li>Describe the movements of the earth and other planets relative to the sun in the solar system.</li> <li>Describe the movement of the moon relative to the earth.</li> <li>Describe the sun, earth and moon as approximately spherical bodies.</li> <li>Use the idea of the earth's rotation to explain day and night and the apparent movement of the sun across the sky.</li> <li>Explain the effect of the moon on our oceans (tides).</li> <li>Discuss the force of gravity on planets within our solar system.</li> <li>Compare and contrast size and mass of planets within our solar system.</li> <li>Research and understand the role of the ISS and life on board.</li> </ul>	<b>Working scientifically – Crest investigations</b> KLP: <ul style="list-style-type: none"> <li>Plan investigations to answer questions, including recognising and controlling variables.</li> <li>Use test results to make predictions to set up further comparative and fair tests.</li> <li>To identify acids and alkalis using a universal indicator.</li> <li>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and heating.</li> <li>Discover the process of cheese-making.</li> <li>Discover the effect of enzymes on proteins.</li> <li>Understand that some changes result in the formation of new materials and that this is not usually reversible.</li> <li>Research the work of a famous Georgian scientist,</li> </ul>	<b>Forces</b> KLP: <ul style="list-style-type: none"> <li>Explain that unsupported objects fall towards the earth because of the force of gravity.</li> <li>Identify the effects of air resistance, water resistance and friction that act between moving surfaces.</li> <li>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</li> <li>Take measures using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where appropriate.</li> <li>Identify scientific evidence that has been used to support or refute ideas or arguments.</li> <li>RSE – Learn about body changes that are a preparation for sexual maturity.</li> </ul>	<b>Living and Growing</b> KLP: <ul style="list-style-type: none"> <li>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</li> <li>Describe the life process of reproduction in some plants and animals.</li> <li>Find out about the work of naturalists and animal behaviourists such as David Attenborough and Jane Goodall.</li> <li>Ask pertinent questions and suggest reasons for similarities and differences (gestation).</li> <li>Record data and results of increasing complexity using scientific diagrams and labels, tables and scatter graphs.</li> <li>RSE – Know the names of the main body parts, including internal and external genitalia and why it's important to keep them private.</li> </ul> <p style="text-align: right;"><b>Crest: Can you feel the force?</b></p>

		<ul style="list-style-type: none"> <li>Research the life of the first woman in space – Helen Sharman.</li> </ul>	e.g. Louis Pasteur or Edward Jenner.	<ul style="list-style-type: none"> <li>RSE – Understand the ways males and females grow and develop during puberty, physically and emotionally.</li> <li>RSE – Discuss and ask questions about changing bodily needs.</li> <li>RSE – Develop ways to deal with feelings towards themselves, family and friends in a positive way.</li> </ul>	
	<p><b>A journey through your body</b> KLP:</p> <ul style="list-style-type: none"> <li>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</li> <li>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</li> <li>Describe the ways in which nutrients and water are transported within animals, including humans.</li> </ul> <p><b>Working scientifically</b></p> <ul style="list-style-type: none"> <li>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</li> <li>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</li> <li>Use test results to make predictions to set up further comparative and fair tests.</li> <li>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.</li> <li>Identifying scientific evidence that has been used to support or refute ideas or arguments</li> </ul>	<p><b>Classifying Living things</b> KLP:</p> <ul style="list-style-type: none"> <li>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</li> <li>Give reasons for classifying plants and animals based on specific characteristics.</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</li> <li>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.</li> <li>Report and present findings from enquiries, including conclusions, causal relationships and</li> </ul>	<p><b>Evolution and inheritance</b> KLP:</p> <ul style="list-style-type: none"> <li>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> <li>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> </ul> <p><b>Working scientifically</b></p> <ul style="list-style-type: none"> <li>Identify scientific evidence that has been used to support or refute ideas or arguments</li> </ul>	<p><b>How can you light up your life?</b> KLP:</p> <ul style="list-style-type: none"> <li>Recognise that light appears to travel in straight lines.</li> <li>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.</li> <li>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</li> <li>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</li> <li>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</li> <li>Use test results to make predictions to set up further comparative and fair test</li> </ul> <p><b>Sex and Relationships Education</b> KLP:</p>	<p><b>Electricity</b> KLP</p> <ul style="list-style-type: none"> <li>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</li> <li>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.</li> <li>Use recognised symbols when representing a simple circuit in a diagram.</li> </ul> <p><b>Working Scientifically</b></p> <ul style="list-style-type: none"> <li>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</li> <li>Record data and results of increasing complexity.</li> <li>Use test results to make predictions to set up further comparative and fair tests</li> <li>Report and present findings from enquiries, including conclusions. presentations.</li> </ul>

		<p>explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <ul style="list-style-type: none"> <li>Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>		<ul style="list-style-type: none"> <li>Puberty</li> <li>How babies are made</li> <li>How babies are born</li> </ul>	<ul style="list-style-type: none"> <li>Identify scientific evidence that has been used to support or refute ideas or arguments</li> </ul>
--	--	---	--	---	---

