

Whole School Long Term Plan - Science



Science Intent

At Lymington Infants we aim to equip and guide our children to become ‘super scientists’ by encouraging them to explore everything around them. We are lucky to have a fantastic wild wood area which enhances and enriches science in our school, providing children with the opportunity to carry out longitudinal hands on experiments. Trips to the Treehouse centre, Hillier Gardens and the Science centre increases our children’s enjoyment for science through real life experiences and helps them to respect the world around us. Our broad and balanced science curriculum is fully inclusive and accessible for every child, whilst ensuring they become ‘well-rounded’, caring and responsible citizens.

We intend that all children will develop the ability to work scientifically and increase their vocabulary whilst gaining new knowledge. Children are taught the skill of problem solving where they ask their own decisions and have the opportunity to plan and investigate questions they have. We want to build their courage to question and not accept what seems obvious. It is our goal that all children leave KS1 as confident scientists who have developed their scientific knowledge in preparation for Key Stage 2 and beyond. We believe that the opportunities children have at Lymington Infants allow our children to have a passion for science and aspire to continue to explore and question the world around them.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Introduce Seasons changes	Animals including humans	Everyday Materials	Plants	Everyday Materials	Review of Longitudinal Study
	Animals including humans	Longitudinal Study- How does our environment change over the year? (linking to seasonal change)				
Year 2	Living things and their habitat (revisited in winter, spring and summer)	Plants (planning for growing seeds and bulbs outside)	Use of Everyday Materials (changing shapes of materials statement)	Use of Everyday Materials (properties and uses of materials statement)	Plants	Animals including humans

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EYFS- Understanding the world.	EYFS- Expressive Arts and Design		Year 1	Year 2
<p>ELG - 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 of matter.</p> <p>Animals</p>	<p>ELG: Creating with Materials Children at the expected level of development will: - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Share their creations, explaining the process they have used; - Make use of props and materials when role playing characters in narratives and stories</p> <p>Materials</p>	<p>Autumn 1</p>	<p><u>Seasons- Longitudinal study</u> How does our environment change over the year? (linking to seasonal change)</p> <p><u>Scientific Skills</u></p> <ol style="list-style-type: none"> 1. Observing closely, using simple equipment 2. Using their observations and ideas to suggest answers to questions <p><u>Animals including humans (senses)</u> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>	<p><u>Living things and their Habitats</u> Explore and compare the differences between things that are living, dead, and things that have never been alive 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><u>Scientific Skills</u></p> <ol style="list-style-type: none"> 1. To be able to ask simple questions and recognise that they can be answered in different ways 2. Observing closely, using simple equipment 3. Using their observations and ideas to suggest answers to questions

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<ul style="list-style-type: none"> To become familiar with a range of animals including pets, farm animals and the variety of animals that can be found in the school grounds. Understand that we should treat all animals carefully and with respect Understand that the owners of pets have a responsibility to meet the needs of their pet Recognise similarities and difference between animals Develop a variety of language to describe different animals Recognise that animals move in a variety of different ways Recognise that different animals eat different foods Recognise that, like us, animals have senses to find their way around Appreciate that the animals they are likely to see varies with the seasons Recognise that young animals are different to the adult animal 	<ul style="list-style-type: none"> A range of different materials that have different describable and properties. How materials that have similar properties can be grouped into metals, rocks, fabrics, wood, plastic and ceramics. Techniques for using a range of materials to build simple structures and vehicles as well as a variety of garments. How the properties of a material determine whether they are suitable for a purpose, and how these properties can be affected by adding water, being cooled, being warmed, being left outside for a prolonged period of time 	Autumn 2	<p><u>Animals including humans (animals)</u> Identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</p> <p><u>Scientific skills</u></p> <ol style="list-style-type: none"> Asking simple questions and recognising that they can be answered in different ways (Generating criteria for sorting animals). Identifying and classifying <p>*Seasons- Longitudinal study</p>	<p><u>Plants</u></p>
<p>Habitats</p> <ul style="list-style-type: none"> Different plants and animals prefer different places to live and grow... Somewhere sunny – somewhere shady, Somewhere wet – somewhere dry, In the soil, In the pond On a tree ... and so on. The variety of different habitats 		Spring 1	<p><u>Everyday Materials</u> Distinguish between an object and the material from which it is made Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock Describe the simple physical properties of a variety of everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p><u>Scientific skills</u></p> <ul style="list-style-type: none"> performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions 	<p><u>Use of Everyday Materials</u> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p><u>Scientific skills</u></p> <ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. <p>Revisit- properties of materials</p>

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<p>you use will depend on the nature of your school grounds but, it is important that children experience these different conditions and begin to notice that different plants and animals can be found in different these different places.</p> <ul style="list-style-type: none"> • That these habitats change with the seasons. Children will need to experience the range of habitats available in your school grounds and observe the changes that occur over the year. They might also notice that the variety of plants and animals they see in each habitat also varies over the year <p>Plants</p> <ul style="list-style-type: none"> • Explore the variety of plants that grow in the school grounds – this should include a wide range of different plants including trees, shrubs, and flowering plants. • Observe some of these plants closely (perhaps using hand lenses) and notice how their appearance changes with the seasons. For example, looking at how leaves change in the autumn, and at how buds unfurl in the spring • Grow a variety of plants both inside and outside the classroom, looking at some of the conditions that help 		Spring 2	<p>Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Identify and describe the basic structure of a variety of common flowering plants, including trees SC1 – Gather evidence to describe how things change over time as a result of something happening (e.g. plants wilt without water) Gather evidence to describe the relationships between the variables and patterns (cause and effect) by identifying what must be changed and what measured. Record using results tables with the independent variable increasing in one column and decreasing in the other. Upside down seeds</p> <p><u>Scientific skills</u></p> <ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • Gathering and recording data to help in answering questions. <p><i>*Seasons- Longitudinal study</i></p>	<p>Materials Titanic Floating and sinking DT</p>
		Summer 1	<p>Materials?</p>	<p>Plants Observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p> <p><u>Scientific skills</u></p> <ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions. <p>Revisit- where do plants come from? How do plants survive? How do plants get what they need to survive?</p>

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<p>them grow and observing them closely – particularly the roots, stem, leaves and flowers.</p> <ul style="list-style-type: none">• Grow some of the plants that we use for food.• Explore variety of bulbs, a variety of seeds (some of fast growing plants like cress, and some of plants that grow more slowly, like acorns) and explore what conditions allow different seeds to germinate.		Summer 2	<p>Review of Longitudinal study Seasonal Changes</p>	<p>Animals including humans Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Scientific Skills</p> <ul style="list-style-type: none">• Ask simple questions and recognise that they can be answered in different ways.• Observe closely, using simple equipment.• Use their observations and ideas to suggest answers to questions.• Gather and record data to help answer questions.• Perform simple tests.• Identify and classify.
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