

# Bridging from EYFS into Year One - Science

Beginning in the **Early Years**, children use their senses to explore and investigate the world around them to develop their knowledge and skills, using cause and effect. Children have and develop their own ideas, make links between ideas and develop strategies for doing things. The principal focus of science teaching in **Key Stage 1** is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.

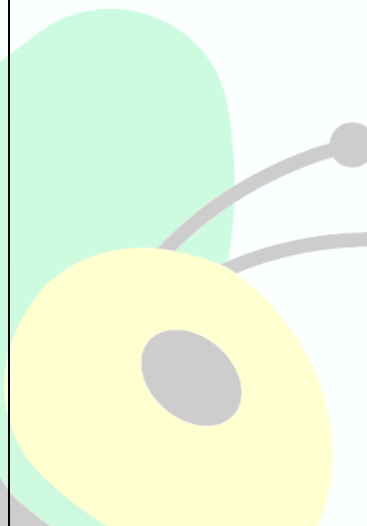
Most of the learning about science should be done through the use of first-hand practical experiences, but our curriculum ensures use of appropriate secondary sources, such as books, photographs and videos. The lower **key stage 2** science curriculum should enable pupils to broaden their scientific view of the world around them. Our curriculum enables this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. In **Upper Key Stage Two**, the principal focus of our science teaching is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. Our curriculum enables this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. Our curriculum supports pupils' ability to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Science Strands	End of Nursery	ELG End of Reception	Year One
<b>Work scientifically</b>	<ul style="list-style-type: none"> <li>* Explore materials (with different properties)</li> <li>* Use all their senses in hands on exploration of natural materials - collect, find natural materials, including twigs, sticks, pebbles, rocks, mud, dirt and contrasting leaf/plants shapes and textures.</li> <li>* Notice water in the environment – puddles, dew, frost, snow and ice.</li> <li>* Explore natural materials, indoors and outside.</li> <li>* Explore a wider range of materials with similar and/or different properties</li> <li>* To begin to use words to describe what they see, using simple descriptive vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>* To describe what they see, hear and feel outside, such as plants/animals</li> <li>* To identify and name common native, woodland, countryside creatures.</li> <li>* To use accurate/scientific language to describe features of weather</li> <li>* Explore through their senses and increasing range of materials and describe their characteristics</li> <li>* Record daily weather patterns and notice daily changes</li> <li>* Children notice how some materials/food change when cooked</li> </ul>	<ul style="list-style-type: none"> <li>• Ask simple questions.</li> <li>• Observe closely, using simple equipment.</li> <li>• Perform simple tests.</li> <li>• Identify and classify.</li> <li>• Use observations and ideas to suggest answers to questions</li> <li>• Gather and record data to help in answering questions.</li> </ul>

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	<p>* To talk about and name common fruits and vegetables          *Find and name a common range of minibeasts, noticing where they live.          * Suggest the differences between materials and changes they notice</p>	<p>*Ask and answer questions to help understand that vegetables grow, fruit comes from trees and other plants, flour comes from wheat.          * To describe and explore 'properties' of food          *Observe beans sprouting roots, find examples of roots and stems outside          * To name, observe and draw animals with common features.          *Explore the natural world around them, making observations and drawing pictures of animals and plants          *Use their senses outside to explore shadows, light and dark, bright and dull</p>	
<p><b>Biology</b></p>	<p style="text-align: center;"><b>Understand plants</b>              This concept involves becoming familiar with different types of plants, their structure and reproduction</p>		
	<p>* Explore natural materials, indoors and outside. This will include trees, conkers, acorns, leaves, grass, stones, common fruits and vegetables linked to harvest and autumn.          * To talk about and name common fruits and vegetables          * To plant seeds and care for growing plants and talk about how plants grow from seeds.          *To understand the key features of a lifecycle of a plant and animal</p>	<p>*To describe what they see, hear and feel outside, such as plants/animals          * To talk about the natural world around me (buds, new growth, puddles          * To name daffodils, snowdrops, dandelions, daisies, buttercups.          *Ask and answer questions to help understand that vegetables grow, fruit comes from trees and other plants, flour comes from wheat          * To name and investigate using my senses an increasing range of plants that give us food.          * To explain that seeds grow into plants.          *Observe beans sprouting roots, find examples of roots and stems outside</p>	<ul style="list-style-type: none"> <li>• identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>• identify and describe the basic structure of a variety of common flowering plants, including trees.</li> <li>• Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</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> </ul>
<p style="text-align: center;"><b>Understand animals and humans</b>              This concept involves becoming familiar with different types of animals, humans and the life processes they share.</p>			

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	<p>*Listen to and talk about stories and pictures involving themselves and familiar animals and pets (cat, dog, rabbit, hamster, fish, mice/rodents - family pets)            * To explain how parents care for babies.            *Find and name a common range of minibeasts, noticing where they live.            *Through stories, pictures and video widen their knowledge of common domestic animals (farm animals)            *Notice the simple features of animals as they grow from babies to adults in familiar animals (chick to hen, lamb to sheep, kitten to cat) and relate to human growth.            * Begin to understand the need to respect and care for the natural environment and all living things. Explain how parents care for babies            *To talk about pets in the family home</p>	<p>*To describe what they see, hear and feel outside, such as plants/animals            * To describe and explore 'properties' of food (runny, wobbly, fizzy, hot, cold, simple tastes; sweet, salty) Mashing, squashing, sloppy, liquid, stretch            *Through stories, pictures and first hand experiences name a wider range of animals including groups of animals such as birds, reptiles and animals from different habitats.            * To name, observe and draw animals with common features.            Explore the natural world around them, making observations and drawing pictures of animals and plants</p>	<ul style="list-style-type: none"> <li>• identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>•describe and compare the structure of a variety of common animals from above.               <ul style="list-style-type: none"> <li>• identify and name animals that are carnivores, herbivores and omnivores</li> </ul> </li> <li>•find out about and describe the basic needs of animals, including humans, for survival (water, food, air, sleep)               <ul style="list-style-type: none"> <li>• describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Main Focus)</li> </ul> </li> <li>•notice that animals, including humans, have offspring which grow into adults</li> </ul>
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## Investigate living things

This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.

	<p>*To understand the key features of a lifecycle of a plant and animal</p>	<p>* To identify and name common native, woodland, countryside creatures. Talking about where they live, what they might eat.            * To tell you about some creatures that are active at night and that some go to sleep in the winter.            * I understand very simple features of the life cycle of creatures hatching from eggs (birds – chicken, frogs).            * To talk about the features of animals that live in similar places and suggest reasons why.            * I understand very simple features of the life cycle of creatures hatching from eggs (reptiles – dinosaurs)</p>	<ul style="list-style-type: none"> <li>• identify living, dead, and things that have never been alive</li> <li>• Identify that most living things live in habitats to which they are suited</li> <li>• describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</li> </ul>
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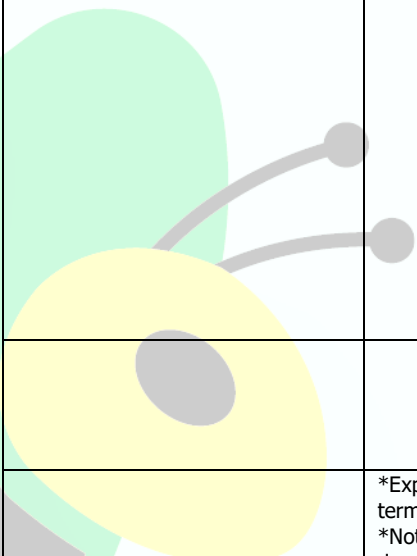
# Bridging from EYFS into Year One - Science

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<p><b>Chemistry</b></p>	<p align="center"><b>Investigate materials</b></p> <p>This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.</p>		
	<p>* Explore materials (with different properties) Provision to include experiences with dough, water/foam and sand, boxes of 'junk', jelly/foods. Toys, including wooden blocks, plastic cars</p> <p>*Use all their senses in hands on exploration of natural materials - collect, find natural materials, including twigs, sticks, pebbles, rocks, mud, dirt and contrasting leaf/plants shapes and textures.</p> <p>* Explore a wider range of materials with similar and/or different properties including sponges, pine cones, metals, bottles (plastic, glass), fabrics, wool and string.</p> <p>* To begin to use words to describe what they see, using simple descriptive vocabulary. For example, soft, hard, see through, bendy, rough, smooth, wet and dry.</p> <p>* Suggest the differences between materials and changes they notice, including, melting in the sun and 'drying up', growing up, squashing and squeezing to change a materials form.</p>	<p>*Explore through their senses and increasing range of materials and describe their characteristics</p> <p>*Children notice how some materials/food change when cooked (soften – veg, harden – cake mix, set – jelly)</p> <p>* To describe and explore 'properties' of food (runny, wobbly, fizzy, hot, cold, simple tastes; sweet, salty)</p> <p>Mashing, squashing, sloppy, liquid, stretch</p>	<ul style="list-style-type: none"> <li>• distinguish between an object and the material from which it is made</li> <li>• identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>• describe the simple physical properties of a variety of everyday materials</li> <li>• compare and group together a variety of everyday materials on the basis of their simple physical properties</li> <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>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>
<p align="center"><b>Understand movement, forces and magnets</b></p> <p align="center">This concept involves understanding what causes motion.</p>			
<p><b>Physics</b></p>	<p>* To explore and explain different forces using toys and equipment and common experiences. Children to use words push, pull, floating/sinking, dropping, bounce, throwing/flying</p>		<ul style="list-style-type: none"> <li>• compare how things move on different surfaces</li> <li>• notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li> </ul>

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			<ul style="list-style-type: none"> <li>• observe how magnets attract or repel each other and attract some materials and not others</li> <li>• compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</li> <li>• describe magnets as having two poles</li> <li>• predict whether two magnets will attract or repel each other, depending on which poles are facing</li> </ul>
	<p><b>Seasonal Change</b> This concept involves understanding what causes seasonal changes, day and night.</p>		
	<p>*Experience seasonal weather and introduce the term Autumn and Winter                  *Notice water in the environment – puddles, dew, frost, snow and ice.                  * Seasonal weather - Winter into spring, notice differences and changes.                  *Children to notice how spring changes into Summer and name a variety of different weather and seasons</p>	<p>* To recall common weather patterns and notice patterns/clusters in weekly weather.                  *Through stories and first hand experiences notice the effect of changing seasons on the natural world around me (frosty grass, bare trees)                  * To use accurate/scientific language to describe features of weather (mostly cloudy, heavy rain, hot sunshine, light breeze, stormy winds)                  * To talk about how Summer changes into Autumn.                  *Record daily weather patterns and notice daily changes                  * To talk about how Winter changes into Spring.</p>	<ul style="list-style-type: none"> <li>• observe changes across the four seasons</li> <li>• observe and describe weather associated with the seasons and how day length varies</li> </ul>