



Class 1 YR/1/2 two year rolling Science Overview

Science Intent

Science provides the foundation for understanding the world around us. Engaging children's natural curiosity, imagination and excitement; science enables children to explore, learn and make sense of the world they live in. Our creative science curriculum will enable children to gain positive attitudes towards scientific knowledge and investigative processes; to understand both the uses and implications of science today, and in the future.

EYFS –see Development Matters 2021 for detailed examples of how to support learning in EYFS.

Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.

0-3 YEARS	3-4 YEARS	Reception Class
<ul style="list-style-type: none"> Explore materials with different properties. Explore natural materials, indoors and outside. Explore and respond to different natural phenomena in their setting and on trips(awe and wonder). 	<ul style="list-style-type: none"> Use all their senses in hands on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary. Explore how things work. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore and talk about different forces they can feel. 	<p>ELG: The Natural World Children at the expected level of development will:</p> <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. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Phase	Year	Autumn		Spring		Summer	
KS1	A (2021-2022, 2023-2024 etc) YR/1/2	‘EVERYDAY MATERIALS’ <ul style="list-style-type: none"> 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, rock (<i>and brick, paper and cardboard</i>). 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><i>Name: Object – material – property</i> <i>Y2 children to choose more than 2 properties for each material and say WHY it is useful</i> <i>Test best material for...see next column</i> <i>Older / more able to have more choices / make more decisions about what and how they test</i> <i>Older / more able to rank order their results and give a reason using the word ‘because’ (others to say what they found out)</i></p>	‘ANIMALS INCLUDING HUMANS’ (Humans: Basic Structure & Senses) <ul style="list-style-type: none"> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Notice that animals, including humans, have offspring which grow into adults. <p><i>Basic – head, body, arms, legs, feet, hair, facial features</i> <i>More detail – as above and add in facial features and link to senses, improve accuracy of drawing of their bodies</i> <i>Most detail – improve detail e.g. neck, jointed arms to show elbow and wrist, jointed legs to show knee and ankle, facial features with increased precision – eyelashes, eyebrows, nose, nostrils, lips, ears, hair line</i> <i>Health linked to Exercise and its effect on our bodies</i> <i>Growth (of humans) theme can be used to compare similarities and differences between themselves and how they have changed as they’ve grown from babies</i></p>	PLANTS (Introducing Common Names and Basic Structure & ongoing nature journals) <ul style="list-style-type: none"> 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. <p><i>Introducing Common Names and Basic Structure & ongoing nature journals</i> <i>Leaves, roots, trees, vegetable focus (& don’t forget weeds)</i> <i>Spotter sheets – (Woodland Trust Nature Detectives)</i> <i>Link to one of ...school habitat / local park / forest school</i></p>	‘ANIMALS INCLUDING HUMANS’ (Other Animals: Basic Structure) <ul style="list-style-type: none"> 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, and including pets). Notice that animals, including humans, have offspring which grow into adults. <p><i>Other Animals: Basic Structure – head, body (covering), how it moves, tail.</i> <i>Features of mammals, fish, birds, (reptiles, amphibian) etc.</i> <i>Omnivore/carnivore/herbivore</i> <i>Animals and their young / life cycles (growth) (butterfly, chick, frog)</i> <i>Observing first-hand how animals change as they grow</i></p>	‘USES OF EVERYDAY MATERIALS’ <ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force). <p><i>Y2 children discuss - Silly and Sensible materials</i> <i>Link to water and seasonal clothing – keeping a superhero/explorer/ adventurer warm, dry and safe at night OR best material for an astronaut suit for a space explorer OR looking after an animal – best material for a pet bed.</i> <i>Testing:</i> <ul style="list-style-type: none"> Absorbency Waterproofness <i>Reflectiveness</i></p>	‘PLANTS’ Theme continued with a block at end of year as well as throughout year <ul style="list-style-type: none"> 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. <p><i>Theme continued with a block at end of year for growing salad plants, vegetables and herbs as well as observing and comparing plants throughout year as part of nature journal</i> <i>Seeds and seed germination - Planting and observing seed growth.</i> <i>Growing healthy plants (Root and leaf varieties) – lettuces, herbs, carrots, radishes, potatoes (Potato Project)</i> <i>Looking at conditions for growth (light, water, temp).</i> <i>Growth diaries</i></p>

KS1	B (2022-2023, 2024 – 2025 etc) YR/1/2	Throughout the year (every half term) Seasonal Changes <ul style="list-style-type: none"> Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies. <i>Pupils should observe and talk about changes in the weather and the seasons.</i> <i>Make tables and charts about the weather; and make displays of what happens in the world around them, including day length, as the seasons change.</i>					
		‘LIVING THINGS & THEIR HABITATS’ this creative context including key learning for ‘ANIMALS INCLUDING HUMANS’ (Animal survival and growth) <ul style="list-style-type: none"> 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. Explore and compare the differences between things that are living, dead, and things that have never been alive. <ul style="list-style-type: none"> Basic needs of animals Features of a good homes/habitat Bug of the month Spotter sheet / Identification charts <i>Common Plants – identify and name from their leaves and flowers – extend variety exposed to.</i> <i>Link to one of ...school habitat / local park / forest school</i>	HEALTH ‘ANIMALS, INCL HUMANS’ (Humans: Grow & Stay Healthy) <ul style="list-style-type: none"> 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. <i>Health linked to Nutrition and hygiene – Eat Well Plate)</i> <i>In addition to health remind children through songs and rhymes of the main body parts of humans.</i>	‘EVERYDAY MATERIALS’ (Different context to year A) <ul style="list-style-type: none"> 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, rock (and brick, paper and cardboard). 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. <i>Name: Object – material – property</i> <i>Y2 children to choose more than 2 properties for each material and say WHY it is useful</i> <i>Test best material for...see next column</i> <i>Older / more able to have more choices / make more decisions about what and how they test</i> <i>Older / more able to rank order their results and give a reason using the word ‘because’ (others to say what they found out)</i> <i>Find out how the shapes of solid objects made from some materials can be changed</i>	‘USES OF EVERYDAY MATERIALS’ (Different context to year A) <ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force). <i>Y2 children discuss - Silly and Sensible materials</i> <i>Link to designing, building, making and testing</i> <i>Testing:</i> <ul style="list-style-type: none"> Transparency Stretchiness Flexibility Strength <i>e.g. 3 Little Pigs story, The Crunch ‘It’s a Wrap’ – keeping fruit safe or keeping an egg safe, Bridge Building, (Design their own), outfit for a superhero – stretchy tights, transparent safety glasses /sunglasses (or best material for curtains as superhero sleeps in the day and works at night), can they make them a strong bride to cross a river?</i>	‘PLANTS’ (Growing Plants) <ul style="list-style-type: none"> 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 (and how changing these affects the plant). <i>Growing Plants – bulbs and seeds (linked with seasons) and growing and caring for bedding plants</i> <i>BULBS - Daffodil & snowdrops</i> <i>SEEDS – Beans, grass, sunflower</i> <i>Keeping bedding plants healthy and further testing of conditions for growth (light, water, temp).</i> <i>Growth diaries</i>	‘LIVING THINGS & THEIR HABITATS’ Revisited <ul style="list-style-type: none"> Identify and name a variety of plants and animals in their habitats, including micro-habitats. 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. <i>Pupils should observe and talk about changes in the weather and the seasons.</i> <i>Make tables and charts about the weather; and make displays of what happens in the world around them, including day length, as the seasons change.</i> <ul style="list-style-type: none"> Introducing different habitats and the animals from different habitats (e.g. through story) Features of a good homes/habitat Alive / not alive Comparing real and not real animals Researching other habitats further afield (e.g. seashore, woodland, in the ocean, in the rainforest) Food chains (repeat learning on omnivore, carnivore, herbivore) <i>Visit a different habitat</i>