

Science Overview

Caring Learning Growing

The national curriculum for RE aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific
- disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through
- different types of science enquiries that help them to answer scientific questions about
- the world around them
- are equipped with the scientific knowledge required to understand the uses and
- implications of science, today and for the future.

National Curriculum Knowledge

EYFS

What do ELGs look like in this subject?

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... 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.

KS1

- 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

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Events	Key Events	Harvest Festival Black History Month (October) Mental Health Day Show Racism the Red Card	Remembrance Day Anti-bullying Week Christingle	Children's mental health week Safer Internet Day	World Book Day Science Week	Diversity day GRT Month

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Units Covered						
EYFS	Food and senses / Our body		Animals / Growing(plants) / Space / Our body		Animals	
Year 1	Animals including Humans The Human Body/ Seasonal Changes	Exploring Everyday Materials/ Seasonal Changes	Materials- Using Materials/ Seasonal Changes	Plants/ Seasonal Changes	Plants/ Seasonal Changes	Animals, including Humans/ Seasonal Changes
Year 2	Living Things and their Habitats	Materials	Animals including humans (growth)	Animal including human (Life Cycles)	Living Things and their habitats (around the world)	Plants

Progression of Skills and Knowledge			
	Reception	Year 1	Year 2
To ask scientific questions	Show a natural curiosity about things around them.	Be able to ask Yes/No questions to aid sorting. Ask one or two simple questions linked to a topic. Ask simple questions and recognise that they can be answered in different ways.	Identify a question to investigate from a scenario or choose a question from a range provided. Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum .
To plan an enquiry		Choose equipment to use and decide what to do.	Choose equipment to use and decide what to do and what to observe or measure in order to answer the question.
To make predictions	Children in EYFS/ KS1 are not expected to make scientific predictions, as they do not have the subject knowledge to do this. That does not mean that you should not ask children what they think may happen, but this will be based on experience or may simply be a guess.		
To observe closely	Show a natural curiosity about things around them.	Decide what to measure or observe. Decide how often to take a measurement. Use simple equipment to observe closely.	Use simple equipment to observe closely including changes over time. Decide what to measure or observe. Decide how often to take a measurement.
To take measurements		Take simple measurements on a standard scale, with support .	When appropriate, measure using standard units where all the numbers are marked on the scale .
To gather/record results		Sort objects into two group using a basic Venn diagram or simple table Record data in simple prepared tables, pictorially or by taking photographs.	Record data in simple, prepared tables and tally charts Sort objects and living things into two group using a basic Venn diagram or simple table.
To present results		Present what they have learnt verbally or using pictures Present what they learnt verbally, using pictures or block diagrams Record data in simple prepared tables,	

		pictorially or by taking photographs.	
To interpret results		Talk about the number of objects in each group i.e. which has more or less Be able to answer their questions using simple sentences.	Answer their question in simple sentences using their observations or measurements.
Classify and find patterns		Identify and classify	Identify, group and classify
Comparative and fair testing		Perform simple tests	Perform simple comparative tests
Conclude	Children in KS1 are not expected to draw conclusions. They are expected to make observations, which will help them to answer questions. They do not have the subject knowledge to give reasons for what they observe so they cannot draw scientific conclusions.		
Substantive Knowledge Progression			
Knowledge Progression - Plants	Explore the natural world around them, making observations and drawing pictures of animals and plants. Spring 1 and 2	Identify and describe the basic structure of a variety of common flowering plants, including trees Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and name a variety of plants in their habitats, including microhabitats. Spring 2 and Summer 1	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 Identify and name a variety of plants in their habitats, including microhabitats. (Y2 - Living things and their habitats) Summer 2
Knowledge Progression - Animals including humans	Explore the natural world around them, making observations and drawing pictures of animals, body parts and plants. Spring 1 and 2 Summer 1 and 2	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) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Summer 2	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 Spring 1 and 2
Knowledge Progression - Living things and their habitats	Explore the natural world around them, making observations and drawing pictures of animals and plants. Spring 1 and 2 Summer 1 and 2		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>Identify and name a variety of plants 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. Notice that animals, including humans, have offspring, which grow into adults (Y2 - Animals including humans)</p> <p>Autumn 1 and Spring 2</p>
<p>Knowledge Progression - materials</p>	<p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p> <p>Autumn, Spring, Summer</p>	<p>Everyday Materials Pupils should be taught to:</p> <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, 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>Spring 1</p>	<p>Uses of Everyday Materials Pupils should be taught to:</p> <ul style="list-style-type: none"> - 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>Autumn 2 and Spring 1</p>
<p>Knowledge Progression - Seasonal changes</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> - observe changes across the 4 seasons. - observe and describe weather associated with the seasons and how day length varies. <p>Autumn 1 and 2</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> - observe changes across the 4 seasons. - observe and describe weather associated with the seasons and how day length varies. <p>Autumn, Spring, Summer</p>	
<p>Knowledge Progression - Light</p>	<p>What happens at night? Children will be taught about day and night.</p> <p>Daily</p>		
<p>Knowledge Progression - Forces</p>	<p>What floats? Buoyancy. How does my toy work? What makes it move? Children will be taught about the forces of pull and push.</p> <p>Daily</p>		