



Filey C E Nursery & Infants Academy

'Inspiring Confident Learners, Reflecting Christian Values'

We endeavour to uphold Christian teaching to:

"Shine as lights in the world and love as Jesus loves us" (Philippians 2:15, John 13.34)

Our school is a Church of England School rooted in 'Compassion, Community and Friendship'.

SCIENCE PROGRESSION

Intent: To stimulate a child's curiosity in finding out why things happen in the way they do through being inquisitive, exploring using a hands on approach and through having the confidence to ask questions that puzzle them.

Working Scientifically Skills EYFS-KS1

EYFS (Early Learning Goal links)	Y1/2
Show curiosity about objects, events and people Playing & Exploring Questions and offers explanations for why things happen Speaking	I can explore the world around and raise my own simple questions
Engage in open-ended activity Playing & Exploring	I have experienced different types of science enquiries, including practical activities
Take a risk, engage in new experiences and learn by trial and error Playing & Exploring	I am beginning to recognise different ways in which I might answer scientific questions
Find ways to solve problems / find new ways to do things / test their ideas Creating & Thinking Critically	I can carry out simple tests
Develop ideas of grouping, sequences, cause and effect Creating & Thinking Critically Know about similarities and differences in relation to places, objects, materials and living things ELG: The Natural World	I can use simple features to compare objects, materials and living things and, with help, decide how to sort and group them (identifying and classifying)

Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world The Natural World	I can ask questions and use simple secondary sources to find answers
Closely observes what animals, people and vehicles do Understanding The World 8-20 months Use senses to explore the world around them Playing & Exploring	I can observe closely, using simple equipment with help, and observe changes over time.
Make links and notice patterns in their experience Creating & Thinking Critically	With help, I am starting to notice patterns and relationships.
Choose the resources they need for their chosen activities ELG: Managing Self Handle equipment and tools effectively ELG: Fine motor skills	I can use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data
Create simple representations of events, people and objects Being Imaginative & Expressive	I can record simple data in a table or tally chart
Answer how and why questions about their experiences ELG: Listening, Attention & Understanding Make observations of animals and plants and explain why some things occur, and talk about changes ELG: The Natural World	I can use my observations and ideas to suggest answers to questions I can talk about what I have found out and how I found it out
Offer explanations for why things might happen, making use of recently introduced vocabulary. ELG: Speaking Builds up vocabulary that reflects the breadth of their experience Listening, Attention & Understanding	With help, I can record and communicate my findings in a range of ways and begin to use simple scientific language
test question float sort observe sink measure magnifying glass	research thermometer tally chart data logger bar graph fair test

SCIENCE PROGRESSION- Conceptual Knowledge and Understanding

Understanding the world - 3-4 year olds	Understanding the world - Reception
<p>Understanding the world involves guiding children to make sense of their physical world and their community. To achieve this they will;</p> <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. • Talk about the differences between materials and changes they notice. 	<p>Understanding the world involves guiding children to make sense of their physical world and their community. To achieve this they 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. • Describe what they see, hear and feel whilst outside. • Understand the effect of changing seasons on the natural world around them. • Understand simple changing states of matter in the world around them.
<p>The number and quality of the conversations they have with adults and peers throughout the day in a language-rich environment is crucial. By commenting on what children are interested in or doing, and echoing back what they say with new vocabulary added, practitioners will build children's language effectively. Vocabulary will be introduced in response to the individual interests of the child and may include:</p> <p>head, eyes, nose, mouth, ears, hands, fingers, feet, toes, arm, leg, animal, insect, feathers, fur, skin, scales tree, leaf, flower, stem, seed material, wood, glass, paper, hard, soft Season, Summer, Spring, Autumn, Winter, day, dark, light, night, moon, sun, weather,</p>	<p>The number and quality of the conversations they have with adults and peers throughout the day in a language-rich environment is crucial. By commenting on what children are interested in or doing, and echoing back what they say with new vocabulary added, practitioners will build children's language effectively. Vocabulary will be introduced in response to the individual interests of the child and may include:</p> <p>face, hair, leg, human, knee, arm, elbow, back, head, toes, ear, hands, eye, fingers, mouth, nose animal, insect, feathers, fur, skin, scales, herbivore, carnivore, omnivore, fish, birds tree, petals, trunk, fruit, branch, roots, leaves, bulb, flowers, seed, stem material, metal, wood, rock, plastic, hard, glass, soft, paper, fabric, material, smooth, shiny, rough Season, Summer, Spring, Autumn, Winter, day, dark, light, night, moon, sun, weather, sunny, raining, windy, snowing, sleet, hail thunder, lightening</p>

Key Stage One	
Animals, including Humans	
Year 1	Year 2
<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, 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 	<ul style="list-style-type: none"> Understand that animals, including humans, have offspring which grow into adults 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>arm, leg, hand, foot, eyes, ears, mouth, nose see, hear, taste, smell, touch</p> <p>fish, amphibian, reptile, bird and mammal herbivore, carnivore, omnivore</p>	<p>offspring, adult, baby, parents dead, alive, never-alive</p>
Living things and their Habitats	
Year 1	Year 2

	<ul style="list-style-type: none"> • 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 • 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.
	<p>dead, alive, never alive</p> <p>habitat- desert, arctic, rainforest, ocean</p> <p>food chain, predator, prey, diet</p>
Plants	
Year 1	Year 2
<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 	<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
deciduous, evergreen, plant, tree, leaf, stem, flower, petals, roots	seed, bulb, germination, temperature, sunlight, water, healthy, root, shoot
Seasonal changes	
Year 1	Year 2
<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 	
autumn, winter, spring, summer, rain, snow, frost, wind, sun, fog, mist, clouds, temperature (warm/cold/freezing)	

day, night,

Materials

Year 1

- 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

object, material, wood, plastic, metal, water, rock, fabric
property- everyday language e.g hard/soft, stretchy, rough, bendy, see-through, strong etc
sort, waterproof

Year 2

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

squash, bend, twist, stretch