

Learning and Teaching in the EYFS - What Science Subject Leaders Need to Know

School Readiness Intent: At St Francis CE Primary School, we believe that science provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's prosperity and our children will be taught the essential aspects of knowledge, methods, processes and the uses of science. Delivering the science curriculum and embedding investigative enquiry skills will be developed alongside exploring a wider variety of 'possibilities,' resulting in pupils having a greater understanding of what they can achieve and therefore raising pupil's aspirations for their future.

EYFS Intent: Children in the Early Years Foundation Stage will be given the opportunity to develop their natural curiosity to find out about things. We will foster this through shared exploration, investigation and observation. Children will be encouraged to be curious and question their environment, both natural and man-made, in order to find out more about why things happen and how things work.

The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The aim of this document is to help subject leaders to understand how the skills taught across EYFS feed into national curriculum subjects. This document demonstrates which statements from the 2020 Development Matters are prerequisite skills for science within the national curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Birth to Three, Three and Four-Year-Olds and Reception to match the programme of study for science. The most relevant statements for science are taken from the following areas of learning: **• Communication and Language • Personal, Social and Emotional Development • Understanding the World**

Science Skills Progression Map.



EYFS Stage	Areas of Learning	Development Matters	Implementation/ Context
Birth to Three Year Olds Nursery 	Understanding the World: The World	• Repeat actions that have an effect. • Explore materials with different properties. • Explore natural materials, indoors and outside. • Explore and respond to different natural phenomena in their setting and on trips	Opportunities to handle objects and sort them according to different properties such as like/dislike, colour, shape, size, feel, smell etc. Opportunities to explore photographs and objects relating to themselves and their home lives will be provided in the environment to support their curiosity. Opportunities to handle familiar objects and small world resources which relate to a pupil's immediate experiences and interests to embed observations that they have made about their own world.
	Communication and Language:	• Understand simple questions about 'who' 'what' and 'where.'	Exposure to scientific equipment such as torches, magnifying lenses, magnets, measuring jugs, electronic toys and making observations and exploring their ideas.

Science Skills Progression Map.



EYFS Stage	Areas of Learning	Development Matters	Implementation/ Context
Three-four year olds Nursery 	Understanding the World: The Natural World	• 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. • Begin to make sense of their own life-story and family's history. • 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.	Pupils will develop an understanding of questioning and how it can lead to learning new information and knowledge. They will have opportunities to share their own personal experiences and compare them to the lives of their peers. <i>I can understand and respond appropriately to a why? Question.</i> First hand experiences with animals and plants will be provided to enable children to discuss observations and changes over time. Pupils will be given responsibility of looking after their environment e.g. planting and looking after bulbs, creating an environment which attracts minibeasts and small birds into our Sensory Garden. Continuous access to scientific equipment such as torches, magnifying glasses, magnets and measuring jugs will allow children to make scientific observations and develop a sense of task-appropriate equipment. <i>I enjoy exploring and talking about the changes that I see, e.g. melting and freezing activities, or magnetic forces etc.</i> Children will learn the importance of good oral hygiene, healthy eating and exercise through on-going cross-curricular activities, Jigsaw PSED activities and stand-alone activities.
	Personal, Social and Emotional Development	• Make healthy choices about food, drink, activity and toothbrushing.	The children can notice and talk about changes e.g. such as melting chocolate or dissolving milkshake powder into milk, changes in the weather daily, changes in the seasons etc.
	Communication and Language	• Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"	<i>It is well worth noting that until a child can speak or make themselves understood, it can be very hard for them to achieve the objectives as it relies heavily on children being able to talk about their findings. Children who do not communicate verbally still show a sense of awe and wonder but find it hard to talk about it!</i>

Science Skills Progression Map



EYFS Stage	Areas of Learning	Development Matters	Implementation/ Context
Reception 	Understanding the World: The Natural World	- Explore the natural world around them. - Describe what they see, hear and feel whilst outside. - Recognise some environments that are different to the one in which they live. - Understand the effect of changing seasons on the natural world around them	Children will be given the opportunity to research key people that have made a scientific impact on the world. They will begin to consolidate their understanding of what it means to think scientifically by looking into the lives of note-worthy scientists, explorers, mathematicians and engineers. Children will be encouraged to observe and talk about similarities, differences, patterns and change through a variety of activities both indoors and outdoors. The children will ask and answer challenging questions, giving clear reasons why something has occurred or changed. Children will learn different types of investigative skills, such as evidence collection and evidence classification. Key scientific vocabulary will be taught to help pupils use task appropriate language.
	Communication and Language	- Learn new vocabulary. - Ask questions to find out more and to check what has been said to them. - Articulate their ideas and thoughts in well-formed sentences. - Connect one idea or action to another using a range of connectives. - Describe events in some detail. - Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. - Use new vocabulary in different contexts.	Children will investigate materials and objects and ask and answer questions about what they can see, whilst channelling their 5 senses to enable them to do so. Children will look closely at plants and animals whilst showing care and concern for their environment. Children will think about how they use, reuse and recycle objects in their classroom and at home. Children will have opportunities to explore growth and living things in order to develop comparison skills to help them make observations about changes over time. This includes plants, animals, seasons and their own timeline. Children will use a variety of scientific equipment to collect evidence and test out their findings.
	Personal, Social and Emotional Development	- Know and talk about the different factors that support their overall health and wellbeing: - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian	Children will talk about their locality/their local environment and compare with other environments, whilst looking for similarities and differences. They will name some of the plants and animals they have in their locality. Clear labelling and identification of scientific equipment such as torches, magnifying glasses, magnets and measuring jugs and their purposes will enable children to explore scientifically using task appropriate equipment. Children will learn the importance of good oral hygiene, healthy eating, minimal screen time, exercise, sleep routine, safety when walking through on-going cross-curricular activities, Jigsaw PSED activities and stand-alone activities. .

Science Skills Progression Map



EYFS Stage	Areas of Learning	Development Matters	Implementation/ Context
Early Learning Goals 	Understanding the World: 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.	Children will be given the opportunity to research key people that have made a scientific impact on the world. They will begin to consolidate their understanding of what it means to think scientifically by looking into the lives of note-worthy scientists, explorers and engineers. Children will be encouraged to observe and talk about similarities, differences, patterns and change through a variety of activities both indoors and outdoors. The children will ask and answer challenging questions, giving clear reasons why something has occurred or changed. Children will learn different types of investigative skills, such as evidence collection and evidence classification. Key scientific vocabulary will be taught to help pupils use task appropriate language. Children will investigate materials and objects and ask and answer questions about what they can see, whilst channelling their 5 senses to enable them to do so. Children will look closely at plants and animals whilst showing care and concern for their environment. They will think about how they use, reuse and recycle objects in their classroom and at home. Children will have opportunities to explore growth and living things in order to develop comparison skills to help them make observations about changes over time. Children will use a variety of scientific equipment to collect evidence and test out their findings. Clear labelling and identification of scientific equipment such as torches, magnifying glasses, magnets and measuring jugs and their purposes will enable children to explore scientifically using task appropriate equipment. Children will talk about their locality/their local environment and compare with other environments, whilst looking for similarities and differences.
	Communication and Language: Listening, Attention and Understanding	Make comments about what they have heard and ask questions to clarify their understanding.	
	Communication and Language: Speaking	Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate.	
	Personal, Social and Emotional Development: Managing Self	Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.	

The Characteristics of Effective Learning and Teaching

Engagement: Playing and exploring - Finding out and exploring - Playing with what they know - Being willing to 'have a go' 	Motivation: Active Learning - Being involved and concentrating - Keeping trying - Enjoying achieving what they set out to do  	Thinking: Creating and thinking critically - Having their own ideas - Making links - Choosing ways to do things 
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F. Coates/UW/Science/Jan 2026

