



## Learning in EYFS:

### What Science Subject Leaders Need to Know

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 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

In planning and guiding what children learn, practitioners must reflect on the different rates at which children are developing and adjust their practice appropriately, referring to the Characteristics of Effective Teaching and Learning. These are: **playing and exploring** - children investigate and experience things, and 'have a go'; **active learning** - children concentrate and keep on trying if they encounter difficulties, and enjoy their achievements for their own sake; **creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things. In addition, the Prime Areas of Learning (Personal, Social and Emotional Development, Communication and Language and Physical Development) underpin and are an integral part of children's learning in all areas.

Science		
Nursery	Communication and Language	<ul style="list-style-type: none"> <li>• Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"</li> </ul>
	Personal, Social and Emotional Development	<ul style="list-style-type: none"> <li>• Make healthy choices about food, drink, activity and tooth brushing.</li> </ul>
	Understanding the World	<ul style="list-style-type: none"> <li>• Use all their senses in hands-on exploration of natural materials.</li> <li>• Explore collections of materials with similar and/or different properties.</li> <li>• Talk about what they see, using a wide vocabulary.</li> <li>• Begin to make sense of their own life-story and family's history.</li> <li>• Explore how things work.</li> <li>• Plant seeds and care for growing plants.</li> <li>• Understand the key features of the life cycle of a plant and an animal.</li> <li>• Begin to understand the need to respect and care for the natural environment and all living things.</li> <li>• Explore and talk about different forces they can feel.</li> <li>• Talk about the differences between materials and changes they notice.</li> </ul>
Reception	Communication and Language	<ul style="list-style-type: none"> <li>• Learn new vocabulary.</li> <li>• Ask questions to find out more and to check what has been said to them.</li> <li>• Articulate their ideas and thoughts in well-formed sentences.</li> <li>• Describe events in some detail.</li> <li>• Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.</li> <li>• Use new vocabulary in different contexts.</li> </ul>
	Personal, Social and Emotional Development	<ul style="list-style-type: none"> <li>• Know and talk about the different factors that support their overall health and wellbeing:</li> </ul>

			<ul style="list-style-type: none"> <li>• regular physical activity</li> <li>• healthy eating</li> <li>• tooth brushing</li> <li>• sensible amounts of 'screen time'</li> <li>• having a good sleep routine</li> <li>• being a safe pedestrian</li> </ul>
	Understanding the World		<ul style="list-style-type: none"> <li>• Explore the natural world around them.</li> <li>• Describe what they see, hear and feel while they are outside.</li> <li>• Recognise some environments that are different to the one in which they live.</li> <li>• Understand the effect of changing seasons on the natural world around them.</li> </ul>
ELG	Communication and Language	Listening, Attention and Understanding	<ul style="list-style-type: none"> <li>• Make comments about what they have heard and ask questions to clarify their understanding.</li> </ul>
	Personal, Social and Emotional Development	Managing Self	<ul style="list-style-type: none"> <li>• Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</li> </ul>
	Understanding the World	The Natural World	<ul style="list-style-type: none"> <li>• Explore the natural world around them, making observations and drawing pictures of animals and plants.</li> <li>• 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.</li> <li>• Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</li> </ul>

### Understanding the World Rationale

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.

Autumn  
Understanding the World

<p><b>Nursery</b></p> <ul style="list-style-type: none"> <li>• Children will make observations about the weather, plants and trees during outdoor learning.</li> <li>• Children will be exposed to different seasons, plants and animals through story.</li> <li>• Children will explore a range of sensory 'messy play' opportunities.</li> <li>• Children will explore light and dark.</li> <li>• Children explore the materials used to create a Little Pig House.</li> </ul>	<p><b>Reception</b></p> <ul style="list-style-type: none"> <li>• Children will make observations about the weather, plants and trees during outdoor learning.</li> <li>• Children will be exposed to different seasons, plants and animals through story</li> <li>• Children will be able to talk about the changes that happen in the local environment during the night.</li> <li>• Children will be able to name and discuss different nocturnal animals.</li> <li>• Children will be able to name and discuss different diurnal animals.</li> <li>• Children will learn about nocturnal animals using stories e.g. Owl Babies.</li> <li>• Children will be able to carry out a simple experiment linked to melting ice.</li> </ul>
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**Science Skills**

<p><b>Researching using Secondary sources.</b></p> <p>Children will be able to use books, artefacts, the internet and videos to find out information.</p>	<p><b>Observing over time.</b></p> <p>Children will be able to see the changes in weather.</p> <p>Children will be able to see seasonal changes.</p> <p>Children will explore what happens to different messy play substances.</p> <p>Children will notice what happens in the daytime and night times.</p> <p>Children will observe changes in states of matter.</p> <p>Children will discuss changes when baking.</p>	<p><b>Comparative and fair testing.</b></p> <p>Children will conduct a simple experiment to observe melting ice.</p> <p>Children will begin to understand what 'fair' means.</p> <p>Children will conduct an experiment to find out what material is best for the little pigs house.</p>	<p><b>Identifying, classifying and grouping.</b></p> <p>Children will group materials, plants and animals according to different criteria.</p> <p>Children will be able to name a variety of nocturnal animals.</p> <p>Children can sort, group and discuss natural objects.</p>	<p><b>Pattern seeking.</b></p> <p>Children will see patterns in the weather.</p> <p>Children will look for similarities and differences.</p>
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Spring  
Understanding the World

<p><b>Nursery</b></p> <ul style="list-style-type: none"> <li>• Children will be able to discuss yearly changes.</li> <li>• Children can discuss what we would be worn in different weather.</li> <li>• Children can discuss winter animals.</li> <li>• Children can observe winter birds.</li> <li>• Children can explore ice.</li> <li>• Children can think about animal habitats.</li> <li>• Children can name animals that live in cold places.</li> <li>• Children can play in the snow.</li> </ul>	<p><b>Reception</b></p> <ul style="list-style-type: none"> <li>• Children can name the 4 seasons.</li> <li>• Children will be able to carry out a simple experiment</li> <li>• Children will have the opportunity to investigate which material is best for different uses.</li> <li>• Children will be able to investigate floating and sinking during outdoor learning.</li> <li>• Children will be able to discuss animals that live in different places.</li> <li>• Children will be able to discuss similarities and differences between animals.</li> <li>• Children will be able to discuss seasonal changes and how this affects animals.</li> <li>• Children will discuss and name different animal babies.</li> <li>• Children will have the opportunity to explore forces and friction.</li> </ul>
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**Science Skills**

<p><b>Researching using Secondary sources.</b></p> <p>Children will be able to use books, artefacts, the internet and videos to find out information.</p>	<p><b>Observing over time.</b></p> <p>Children will be able to see the changes in weather.</p> <p>Children will be able to see seasonal changes.</p> <p>Children will observe changes in states of matter.</p> <p>Children will discuss changes when baking.</p>	<p><b>Comparative and fair testing.</b></p> <p>Children will conduct a simple experiment to observe melting ice.</p> <p>Children will begin to understand what 'fair' means.</p> <p>Children will conduct an experiment to find the right material for a purpose.</p> <p>Children will use a range of vocabulary to discuss different objects.</p>	<p><b>Identifying, classifying and grouping.</b></p> <p>Children will group materials, plants and animals according to different criteria.</p> <p>Children will be able to sort objects according to whether they float or sink.</p> <p>Children can sort, group and discuss natural objects.</p> <p>Children can compare animals.</p>	<p><b>Pattern seeking.</b></p> <p>Children will see patterns in the weather.</p> <p>Children will look for similarities and differences.</p>
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**Summer  
Understanding the World**

<p><b>Nursery</b></p> <ul style="list-style-type: none"> <li>• Children can talk about changes or differences in seasons.</li> <li>• Children can name and discuss a variety of minibeasts.</li> <li>• Children go on a senses walk through the outdoors.</li> <li>• Children will be able to name different farm animals.</li> <li>• Children will be able to name different fruit and vegetables</li> <li>• Children will be able to grow simple vegetables.</li> </ul>	<p><b>Reception</b></p> <ul style="list-style-type: none"> <li>• Children will carry out a simple experiment growing different seeds.</li> <li>• Children can name different plants, flowers and trees.</li> <li>• Children will be able to discuss what plants need to grow.</li> <li>• Look at, discuss and explore farm animals.</li> <li>• Discuss the life cycles of living things.</li> <li>• Identify and discuss a variety of minibeasts.</li> </ul>
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**Science Skills**

<p><b>Researching using Secondary sources.</b></p> <p>Children will be able to use books, artefacts, the internet and videos to find out information.</p>	<p><b>Observing over time.</b></p> <p>Children will be able to see the changes in weather.</p> <p>Children will be able to see seasonal changes.</p> <p>Children will observe changes in the life cycle of a living thing.</p> <p>Children will observe a plant growing from seed.</p> <p>Children will discuss changes when baking.</p>	<p><b>Comparative and fair testing.</b></p> <p>Children will begin to understand what 'fair' means.</p> <p>Children will conduct an experiment growing seeds.</p> <p>Children will use a range of vocabulary to discuss different objects.</p>	<p><b>Identifying, classifying and grouping.</b></p> <p>Children will group materials, plants and animals according to different criteria.</p> <p>Children can sort, group and discuss natural objects.</p> <p>Children can compare animals.</p>	<p><b>Pattern seeking.</b></p> <p>Children will see patterns in the weather.</p> <p>Children will look for similarities and differences.</p>
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**Assessment**

Can children talk about and draw what they can see?  
 Can children describe their environment and comment on contrasting environments from books?  
 Can children describe what changes in each season?

**Vocabulary**

head eyes nose mouth ears hands fingers feet toes arm leg animal fish bird  
 tree leaf flower stem seed petals roots bulb trunk  
 material wood glass paper fabric hard soft smooth shiny rough  
 Summer day Spring dark Autumn light Winter night Season Moon sun  
 Earth Moon Sun star nocturnal diurnal  
 loud quiet

## **Areas of Continuous Provision Examples**

### **Indoors**

Construction Area - Building using different materials - discuss the variety of materials. Building different structures and moving vehicles for a purpose.

Creative seasonal craft and activities, bird houses, exploring materials.

Role Play - garden centre, vets, shops.

Malleable/Playdoh - loose parts with natural materials

Baking - discussions around changes of state.

Small World - play animals and using appropriate language

Mark Making/Writing - writing cards, letters, posters etc about people, objects, places.

Reading - range of fiction and non-fiction books about scientific concepts

Large Construction - making a variety of dens to recreate homes.