



Learning in EYFS:

Science

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		
Three and Four-Year-Olds (Not on track – working below ARE)	Communication and Language	<ul style="list-style-type: none">• Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"
	Personal, Social and Emotional Development	<ul style="list-style-type: none">• Make healthy choices about food, drink, activity and toothbrushing.
	Understanding the World	<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.• 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.



Reception	Communication and Language		<ul style="list-style-type: none"> • Learn new vocabulary. <ul style="list-style-type: none"> • Ask questions to find out more and to check what has been said to them. • Articulate their ideas and thoughts in well-formed sentences. • 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.
Reception	Personal, Social and Emotional Development		<ul style="list-style-type: none"> • Know and talk about the different factors that support their overall health and wellbeing: <ul style="list-style-type: none"> - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian
	Understanding the World		<ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel while they are 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.
ELG (On track – meeting ARE)	Communication and Language	Listening, Attention and Understanding	<ul style="list-style-type: none"> • Make comments about what they have heard and ask questions to clarify their understanding.
	Personal, Social and Emotional Development	Managing Self	<ul style="list-style-type: none"> • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
	Understanding the World	The Natural World	<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.



EYFS End Points

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

All About Me and My Wonderful Body
Tales from Long Ago

Spring

People Who Help Us
The World Around Me

Summer

Amazing Animals
Water

Science Skills

Autumn

Animals, including humans

Children know how to keep their bodies healthy, e.g. eating healthy food, exercising, screen-time, etc.

Children know the names of body parts, e.g. head, arms, legs, heart, lungs

Children understand why they need a healthy, balanced diet.

Children know why they need to exercise.

Children know that we have a skeleton.

Children can explore their five senses.

Children can observe their own features using a mirror.

Children can manage their toileting routines and know that the importance of hand washing.

Children are confident to try new activities and they can ask for help if they need it.

Children can describe a simple lifecycle, e.g. of a butterfly or a hen

Children can name a variety of baby animals

Living things and their Habitats

Children will make observations of different animals and be able to use specific vocabulary to describe them.

Children know how to take care of a pet.

Children understand the importance of keeping our local area safe for animals

Children know that different animals live in different habitats and can name some of the features of them.

Energy (Seasons, light and sounds)

Children can observe changes in the local environment throughout the year.

Children know that there are four seasons.

Children can name the seasons and discuss features of each.

Children know and can describe different weathers.

Children know that weather can be different in different countries.

Children will explore light travelling through different objects. They will be able to describe what is happening.

Plants

Children know that plants grow from a seed.

Children know that plants need water, soil and sun to grow.



Children can name different parts of a plant.
Children will grow their own plant from a seed.

Materials

Children can use their senses to describe different materials.
Children know that some things can change, e.g. water into ice, chocolate can be melted, etc. Children will be able to explain and describe these changes.
Children can explore and describe some different materials.
Children will explain why they have chosen the materials they have.
Children will be able to discuss mirrors, magnifying glasses and magnets. They will be able to say what they are used for.
Children will explore a variety of materials/objects that float and sink.

Ask questions: Demonstrate curiosity about the world around them.

Make predictions: With support or prompting, talk about what they think might happen based on their own experiences.

Decide how to carry out an enquiry: Respond to prompts to say what happened to objects, living things or events.

Take measurements: Use senses and simple equipment to explore the world around them, e.g. binoculars and magnifying glasses. Record data: Talk to an adult about what has been found/found out.

Present data: Talk to an adult about what has been found/found out.

Answer questions using data: With support, explain why some things occur.

Draw conclusions: With support, talk about what they have found out or what they think might happen next/change based on their own experiences.

Autumn	Energy (Seasons, light and sounds) Animals, including humans
Spring	Energy (Seasons, light and sounds) Plants
Summer	Energy (Seasons, light and sounds) Living things and their Habitats Materials

Vocabulary

Plants: tree, petals, trunk, fruit, branch, roots, leaves, bulb, flowers, seed, stem

Animals including humans: human, face, hair, leg, elbow, arm, head, toes, ear, hands, eye, fingers, ankle, wrist, hips, back, knee, mouth, nose, animal, fish, birds

Energy (Seasons, light and sounds): Summer, Spring, Autumn, Winter, day, dark, light, night, season, moon, sun, loud, quiet, volume, sound

Living Things and their Habitats: hot, cold, forest, desert, arctic, ocean, woodland, jungle, log, stone, tree, soil

Materials: object, material, strong/weak, waterproof, hard/soft, bubble wrap, foil, plastic, fabric, paper, straw, sticks, bricks, metal, wood, glass

Continuous Provision – available throughout the day for both focussed and self-chosen learning

Areas of Continuous Provision

Construction Area – Building using different materials

Creative – range of opportunities to explore, observe and talk about materials and their properties – man made or natural. Materials: soft, hard, rough, smooth, fluffy, bumpy, slimy, sticky, wet, dry, stiff, bendy, crunchy. Possible activities: feely boxes, collections in pots/boxes, sorting by criteria, treasure baskets,

Role Play – senses in Home Corner. Different smelling flowers, fruit and vegetables to try at the kitchen table, different musical instruments for lullabies

Malleable/Playdoh – make own malleable materials and encourage to change how they appear (e.g. add glitter to homemade playdoh)



Snack –

Small World – interact with objects that move by pulling, pushing, wheeled vehicles, toys with moving parts. Discuss how they move and why they move

Mark Making/Writing – recording observations and findings – 'being a scientist'

Reading – Use books, photographs and technology to find out about the world in which they live

Sand – explore the texture of wet and dry sand. What is the best for making patterns in? What is best for a toy truck to lift? Explore real sand compared to mouldable sand, water resistant sand, etc. Explore the movement of sand using different equipment. Explore separating sand mixed with different objects e.g. sequins, rice, buttons or pebbles

Water/Mud Kitchen – Explore different ways in which water moves. Explore how water changes when different things are added e.g. oil, Geli Baff, food colouring, etc. Test a variety of objects made from different materials to see if they sink or float. Can children predict and then experiment which they think will sink or float.

Key Questions – provide opportunities to develop curiosity, where adults can model questions and children can ask questions.

Describe

What is it like?

How does ____ look, taste, feel, sound, smell?

Can you show me...?

Can you tell me about...?

Can you tell me which...?

Can you describe...?

What's happening?

What's happening here?

What happens when you...?

Can you tell me what...?

How does that work?

What did you notice when you...?

Compare and contrast:

What is the same about...?

What is different...?

Which ones...?

Why?

Why it happened?

Why did...?

Why do you think...?

Why do you think... is

happening/happened?

Can you tell me why...?

Tell me why...?

I Wonder

What could we do next?

I wonder if...?

What if...?

What will happen if we...?

How can you make...?

How can you show...?

How could we find out if...?

Can you find another way that will...?

Can you think of another way...?

How could we improve...?

Can you create/invent/design...?