

Progression of skills: Science

Programme of study: Working scientifically		
Year 1	Year 2	Progression for Greater Depth and Mastery
<p>During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> • 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. 		<ul style="list-style-type: none"> • Asking relevant questions and using different types of scientific enquiries to answer them. • Using straightforward scientific evidence to answer questions or to support their findings. • Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. • Setting up simple practical enquiries, comparative and fair tests. • Identifying differences, similarities or changes related to simple scientific ideas and processes. • Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
<ul style="list-style-type: none"> • Make simple comparisons through observation • Use simple scientific language • Use ICT to show their working • Make accurate measurements • Record their finding using standard units • Show their work using pictures, labels and captions • Find out by watching, listening, tasting, smelling and touching 	<ul style="list-style-type: none"> • Explore and observe in order to collect data and describe and compare findings • With help, suggest some ideas and questions and predict what might happen • Use more complex scientific language • Record findings in various formats using standard units, drawings, diagrams, photographs, simple prepared formats such as tables and charts, tally charts, and displays • Say whether what happened was what was expected and draw simple conclusions to help answer questions • Organise things into groups • Find simple patterns (or associations) • Explain why it might not be fair to compare two things • Use see, touch, smell, hear or taste to help them answer questions • Measure accurately using simple equipment 	
<p>Vocabulary patterns, compare, measure, record, data, gather, predict, observe, test, classify, identify, notice, questions, answers</p>		<p>Vocabulary</p>

Awareness of EYFS links

Understanding of the World

3-4 years	<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.
Reception	<ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel whilst outside. • Understand the effect of changing seasons on the natural world around them.

The Natural World ELG

Early Learning Goals	<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
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Programme of study: Plants

Year 1	Year 2	Progression for Greater Depth and Mastery
<p>Pupils should be taught to:</p> <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. 	<p>Pupils should be taught to:</p> <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. 	<ul style="list-style-type: none"> • Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers. • Explore the part that flowers play in the life cycle of a flowering plant, including pollination, seed formation and seed dispersal. • Investigate the way in which water is transported within plants.

		<ul style="list-style-type: none"> Describe what plants need to survive and link it to where they are found. Explain that plants grow and reproduce in different ways.
Vocabulary plant, leaf/leaves, grow, weed, change, living, water, healthy, similar to, different from, different, seeds, garden centre, pollen, flower, deciduous, evergreen, roots, stem, trunk, bark	Vocabulary seed, disperse, wind, pollination, bulb, hydroponics, water, warmth, nutrients, warmth, light, water, dry, wet, moist, growth, germination, bean, leaves, stem, roots	Vocabulary

Awareness of EYFS links

Understanding of the World

3-4 years	<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.
Reception	<ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.

The Natural World ELG

Early Learning Goals	<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
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Programme of study: Animals including humans

Year 1	Year 2	Progression for Greater Depth and Mastery
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<p>Pupils should be taught to:</p> <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. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Construct and interpret a variety of food chains, identifying producers, predators and prey. • Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. • Identify that humans and some animals have skeletons and muscles for support, protection and movement.
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<p>Vocabulary centimetre, millimetre, ears, sense/s, hear/ing, tongue, taste, touch, sight, smell, behaviour, habitat, living things, damp, shady, dry, vertebrate, invertebrate, backbone, minibeast, mammals, fish, birds, reptiles, amphibians, classification, body part words e.g. leg, paw, antennae, carnivore, omnivore, herbivore, endangered, extinct</p>	<p>Vocabulary gather, young, old, change, adults, basic needs, water, food, air, breathing, survival, heart, beating, healthy, exercise, fruit, vegetables, bread, rice, potatoes, pasta, milk, dairy, food high in fat, sugar, meat, fish, egg, beans, clean, hygiene, germs</p>	<p>Vocabulary</p>
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Awareness of EYFS links

Understanding of the World

<p>3-4 years</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.
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<p>Reception</p>	<ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel whilst outside. • Understand the effect of changing seasons on the natural world around them.
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The Natural World ELG

Early Learning Goals	<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
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Programme of study: Living things and their habitats

Year 1	Year 2	Progression for Greater Depth and Mastery
Not covered	Pupils should be taught to: <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. 	<ul style="list-style-type: none"> • Recognise that environments can change and that this can sometimes pose dangers to living things. • Identify and name a variety of living things (plants and animals), in the local and wider environment, using classification keys to assign them to groups.
Vocabulary	Vocabulary Habitat, research, conditions, ocean, tropical rainforest, arctic, desert, adaptation, survive, adapt, depend, dependency, food chain, consumer, producer, predator, prey, herbivore, carnivore, omnivore, compost, anatomy, oesophagus, crop, clitellum, gizzard, intestine, living, dead, never been alive, categories, classification, needs air, feeds, grows, reproduces, gets rid of waste, microhabitat, damp/wet/dry, dark/light, features, savannah, rainforest, tundra, microhabitat,	Vocabulary

Awareness of EYFS links

Understanding of the World

3-4 years	<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.
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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel whilst outside. • Understand the effect of changing seasons on the natural world around them.
The Natural World ELG	
Early Learning Goals	<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

Programme of study: (Uses of (Y2)) Everyday materials

Year 1	Year 2	Progression for Greater Depth and Mastery
Pupils should be taught to: <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. 	Pupils should be taught to: <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. 	<ul style="list-style-type: none"> • Set up a simple test to explore the differences between materials • Set up a test to explore whether or not materials are attracted to magnets • Set up a test to explore whether or not a material will float or sink • Compare the properties of materials in different situations e.g. floating in salty water, magnetism in water
Vocabulary rough/smooth, flat/bumpy, sharp/blunt, wood, metal, plastic, glass, rock, materials, properties, magnetic, non-magnetic, waterproof, absorbent, lightweight, breaks/tears, water, ice, melts, frozen, observe, puddle, evaporation, bigger, smaller	Vocabulary shape, changed, twist/twisting, squash/squashing, bend/bending, stretch/stretching, material, properties, strong, weak, rigid, flexible, materials, burn, oxygen, fuel, heat	Vocabulary

Awareness of EYFS links

Understanding of the World

3-4 years	<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.
Reception	<ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel whilst outside. • Understand the effect of changing seasons on the natural world around them.

The Natural World ELG

Early Learning Goals	<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
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Programme of study: Seasonal changes

Year 1	Year 2	Progression for Greater Depth and Mastery
Pupils should be taught to: <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. 	Not covered	
Vocabulary rain, snow, storm, thunder, lightning, cloudy, clothing, warm, cold, forecast, summer, autumn, winter, spring, seasons, shadow, sun, earth, spin, day, night, light, dark, weather, rainfall, precipitation, data, wind, direction, gauge, patterns, temperature, thermometer	Vocabulary	Vocabulary

Awareness of EYFS links

Understanding of the World

3-4 years

- 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.

Reception

- Explore the natural world around them.
- Describe what they see, hear and feel whilst outside.
- **Understand the effect of changing seasons on the natural world around them.**

The Natural World ELG

Early Learning Goals

- **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**