

Science Progression Grid 2021-22



	F1	F2	Y1	Y2
Skills		<p>1. Ask questions Demonstrate curiosity about the world around them.</p> <p>2. Make predictions With support or prompting, talk about what they think might happen based on their own experiences.</p> <p>3. Decide how to carry out an enquiry Respond to prompts to say what happened to objects, living things or events.</p> <p>4. Take measurements Use senses and simple equipment to explore the world around them, e.g. binoculars and magnifying glasses.</p> <p>5. Record data Talk to an adult about what has been found/found out.</p> <p>6. Present data Talk to an adult about what has been found/found out.</p> <p>7. Answer questions using data With support, explain why some things occur.</p> <p>8. Draw conclusions With support, talk about what they have found out</p>	<p>1. Ask questions Ask simple questions stimulated by their exploration of their world.</p> <p>2. Make predictions Respond to suggestions to connect what has been observed with possible further actions or observations.</p> <p>3. Decide how to carry out an enquiry Perform simple tests to explore a question or idea suggested to them, with support.</p> <p>4. Take measurements Observe objects, living things, events and the world around them closely, using their senses and simple equipment. Make measurements using nonstandard units of measure.</p> <p>5. Record data Present evidence they have collected in simple templates provided for them to help in answering questions. Draw or photograph evidence and label with support.</p> <p>6. Present data Present findings in simple templates provided for them or orally. Draw or photograph evidence and label with support</p> <p>7. Answer questions using data Respond to suggestions to connect what has been observed with possible further actions or observations.</p> <p>8. Draw conclusions</p>	<p>1. Ask questions Ask simple questions about their experiences and observations and with support use these observations to suggest ways to discover an answer or solve a problem, recognising that some can be answered in a variety of ways.</p> <p>2. Make predictions Use their observations and ideas to make predictions. Use understanding of what has been observed or own experience to predict outcomes of further actions or observations.</p> <p>3. Decide how to carry out an enquiry Identify things to measure or observe that are relevant to the questions or ideas they are investigating using a simple test. Suggest a practical way of how to find things out, or collect data to answer a question or idea they are investigating</p> <p>4. Make measurements Observe closely and use equipment provided for observation and measuring correctly. Make measurements using non-standard and standard units of measure.</p> <p>5. Record data Gather and record data in appropriate ways with increasing independence to help in answering questions.</p> <p>6. Present data Report on and record findings as drawings, photographs, labelled diagrams, orally, as displays or in simple prepared tables or charts.</p> <p>7. Answer questions using data Use understanding of what has been observed or own experience/ideas to answer questions.</p>

		or what they think might happen next/ change based on their own experiences.	Use their ideas to suggest answers to questions. Say what has changed when observing objects, living things or events.	8. Draw conclusions Respond to suggestions to identify some evidence needed to answer a question.
Knowledge	<p>Talk about what they see, using a wide vocabulary.</p> <p>Explore how things work.</p> <p>Plant seeds and care for growing plants so children understand concepts of growth, change and decay with natural materials.</p> <p>Understand the key features of the life cycle of a plant and an animal.</p> <p>Begin to understand the need to respect and care for the natural environment and all living things.</p> <p>Suggestions: • plant seeds and bulbs so children observe growth and decay over time • observe an apple core going brown and mouldy over time • help children to care for animals and take part in first-hand scientific explorations of an-imal life cycles, such as caterpillars or chick eggs.</p>	<p>Explore the natural world around them.</p> <p>How we care for the natural world around us.</p> <p>How to draw pictures of the natural world, including animals and plants.</p> <p>Identify and describe some natural processes, such as ice melting, a sound causing a vibration, light travelling through transparent material, an object casting a shadow, a magnet attracting an object and a boat floating on water.</p> <p>Describe what they see, hear and feel whilst outside e.g. identify familiar plants and animals</p> <p>Understand the effect of changing seasons on the natural world around them e.g. weather, seasonal features and how animals behave differently as the seasons change.</p>	<p>Animals, including humans •</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <ul style="list-style-type: none"> 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) <p>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> <p>Plants</p> <ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Everyday materials</p> <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 	<p>Animals, including humans • Notice that animals, including humans, have offspring which grow into adults</p> <ul style="list-style-type: none"> Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Plants</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. <p>Everyday materials and their uses • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <ul style="list-style-type: none"> Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. <p>Living things and their habitats • 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</p>

	<p>Use all their senses in hands-on exploration of natural materials.</p> <p>Explore collections of materials with similar and/or different properties.</p> <p>Talk about the differences between materials and changes they notice.</p> <p>Explore and talk about different forces they can feel.</p>		<p>properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p>Seasonal changes</p> <ul style="list-style-type: none"> Observe changes across the four seasons <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p>and plants, and how they depend on each other</p> <ul style="list-style-type: none"> Identify and name a variety of plants and animals in their habitats, including micro-habitats <p>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>
Vocabulary		<p>General</p> <ul style="list-style-type: none"> Natural, wild, wildlife, native. Places Habitats <ul style="list-style-type: none"> Woodland, desert, ocean, jungle, Arctic. Microhabitats: <ul style="list-style-type: none"> Log, stone, tree, dead leaves, soil. Seaside. Objects British Autumn fruits and vegetables (e.g. apples, pears, beetroot, carrots, potatoes, butternut squash, sweetcorn, cauliflower). Bread: <ul style="list-style-type: none"> Mix, knead, prove, rise. Materials Object, material, properties, suitable, pipette, recycling. Properties 	<p>Animals, including humans • Examples of mammals, fish, reptiles, birds and amphibians.</p> <ul style="list-style-type: none"> Carnivore, herbivore, omnivore. <p>Leg, arm, elbow, head, ear, nose, back, wings, beak.</p> <p>Plants</p> <ul style="list-style-type: none"> Deciduous and evergreen trees and examples of these common to Britain (e.g. oak, ash, sycamore, horse chestnut, elder, pine, hawthorn, holly, yew, lime, cherry, birch, beech, willow). Examples of common British plants, e.g. daffodil, primrose, bluebell, tulip, snowdrop, dandelion, crocus, rose, wild garlic, cow parsley, foxglove, ivy, buttercup, poppy, lavender. Bulb, roots, stem, leaves, flower (blossom), petals, fruit, seeds, trunk, branches, twigs, crown. Tally <p>Species</p> <p>Everyday materials</p>	<p>Animals, including humans</p> <ul style="list-style-type: none"> Survival, water, air, food Reproduction, growth, adult, baby, offspring, kitten, calf, puppy <p>Exercise, hygiene</p> <p>Plants</p> <ul style="list-style-type: none"> Water, light, temperature, growth <p>Germination, reproduction</p> <p>Everyday materials and their uses</p> <ul style="list-style-type: none"> Translucent <p>Squashing, bending, twisting</p> <p>Living things and their habitats</p> <ul style="list-style-type: none"> Living, dead Habitat, microhabitat, woodland, seashore, ocean, pond, desert, rainforest <p>Energy, food chain, predator, prey</p>

- Waterproof, strong/weak, dense/less dense, hard/soft.

Materials

Bubble wrap, foil, plastic, fabric, paper, straw, sticks, bricks, metal, glass. **Living things –**

plants

- Grow
- Lifecycle:
 - Roots, shoots, stem, leaves, buds, flower
- Water, light, warmth, temperature, soil, compost **Living things – animals**
- Body parts.
- Backbone, skeleton, soft body, shell.
- Adapted, hibernate, migrate.
- Predator, prey.
- Nocturnal.
- Adult/parent, baby.
- Lifecycle:
 - Egg, caterpillar, chrysalis, butterfly.

Birds (owl, duck), insects/bugs/ minibeasts (lacewing, ladybird, woodlouse, bee, wasp, spider, tarantula, earthworm, snail, locust,

- Object, material, properties
- Wood, plastic, glass, paper, water, metal, rock, brick, fabric, elastic, foil, rubber, wool, clay

Hard/soft, bendy/not bendy, rough/bumpy/smooth, stretchy/squashy/brittle/stiff/rigid, shiny/ dull, waterproof/not waterproof, absorbent/not absorbent, opaque/transparent, absorbent

Seasonal changes

- Spring – Spring equinox, baby animals
 - Summer
- Autumn – fungi, migration, hibernation, deer, squirrel, swallow, osprey, woodmouse, dormouse, worm, salmon, goose, starlings, murmurate, hedgehog, bat
- Winter – adapt, Winter equinox
- Sun, sunrise, day, light
- Moon, sunset, night, dark
- Weather, wet, dry, wind
- Temperature, hot, cold, thermometer, degrees Celsius

		<p>cricket, millipede, butterfly, caterpillar), fish, reptiles (snake, tortoise, gecko), amphibians, mammals (mouse, shrew, vole, hare, fox).</p> <ul style="list-style-type: none"> • What animals give us – Meat, roast chicken, bacon/ham, milk/cheese/ butter, wool, hair, eggs, honeycomb, honey. <p>Environments</p> <ul style="list-style-type: none"> • Environment • Woodland, valley. • Playground. • <p>Recycling, compost.</p> <p>Changes</p> <ul style="list-style-type: none"> • Seasons: <ul style="list-style-type: none"> – Spring (growth, baby animals) – Summer – Autumn (Harvest) – Winter • Weather: <ul style="list-style-type: none"> – Sun, rain, wind, snow, ice, frost, sleet, hail. – Cold/warm/hot <p>Day length, day light.</p>		
Books				
Resources	Provide interesting natural environments for children to explore freely outdoors. Make collections of natural materials to investigate			

	<p>and talk about.</p> <p>Suggestions: • contrasting pieces of bark • different types of leaves and seeds • different types of rocks • different shells and pebbles from the beach</p> <p>Provide equipment to support these investigations.</p> <p>Suggestions: magnifying glasses or a tablet with a magnifying app.</p> <p>Provide mechanical equipment for children to play with and investigate.</p> <p>Suggestions: wind-up toys, pulleys, sets of cogs with pegs and boards.</p>			
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