

Science Progression of Knowledge and Skills – Nursery to end of KS1 – Updated September 2021

	Nursery Range 4/5	Reception Range 6	Key Stage 1 Cycle A	Key Stage 1 Cycle B
Working Scientifically	<p>Curious and interested to explore. Notices detailed features of objects. Talk about observations. Comments and asks questions. Talk about why things happen and how things work. Engage in open-ended activity. Find ways to solve simple problems. Develop ideas of grouping, sequences and cause and effect. Use senses to explore the world around them. Make links and notice patterns.</p>	<p>Knows about and looks closely at similarities, differences, patterns and changes. Makes observations. Explains why some things occur. Talks about changes.</p> <p>ELG: The Natural World Explore the natural world around them, making observations and drawing pictures of plants and animals. Know some similarities and differences between the natural world around them and contrasting environments. Understand some important processes and changes in the natural world around them, including seasons and changing states of matter.</p>	<p>Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum. Use simple equipment to observe closely including changes over time. Perform simple comparative tasks. Identify, group and classify. Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns . Gather and record data to help in answering questions including from secondary sources of information.</p>	<p>Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum. Use simple equipment to observe closely including changes over time. Perform simple comparative tasks. Identify, group and classify. Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns. Gather and record data to help in answering questions including from secondary sources of information.</p>
Seasons	<p>Think about day and night and organise what activities are done when. Consider nocturnal animals. Notice the effects of some weathers e.g. that puddles are formed by rain, that rainbows are formed by rain and sunshine. Know that when the weather is cold I need to wear a coat.</p>	<p>Describing the weather that I experience day to day where I live. Know how the weather changes over the seasons. Describing the weather that I might experience in places other than Norwich. Matching suitable clothing to associated weather conditions. Know some ways to stay safe when it is sunny. Identify some seasonal features such as:</p> <ul style="list-style-type: none"> ▪ the leaves fall in Autumn; ▪ plants such as trees and flowers begin to grow in Spring; ▪ birds have young in spring; ▪ fruit is on trees in the summer and autumn; ▪ crops are harvested in autumn time; ▪ Some animals hibernate over the winter time; ▪ The night time becomes longer over the winter time. 	<p>Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.</p>	<p>Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.</p>

<p>Ani ma ls incl udi ng hu ma ns</p>	<p>Know some of the things that make them unique, and can talk about some of the similarities and differences in relation to friends or family.</p> <p>Name and identify some parts of the human body.</p> <p>Please see 'Living things and their habitat.'</p>	<p>Describe the animals that I see in the natural world around me.</p> <p>Know some of the names of some animals that I find in my environment.</p> <p>Describe and compare how the animals found in my environment are the same or different from each other.</p> <p>After close observation, draw pictures of the natural world including animals.</p> <p>Know about some important changes in the natural world such as: how People change as they grow from babies to adults; how young animals change as they grow into an adult – including those that change dramatically as they grow such as caterpillars into butterflies and tadpoles into frogs.</p>	<p>Identify, name, draw and label the basic parts of the human body/skeleton and which part of the body is associated with each sense.</p> <p>Describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p>	<p>Understand that animals, including humans, have offspring which grow into adults.</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p>
<p>Pla nts</p>	<p>I can plant seeds and care for growing plants.</p> <p>I understand the key features of the life-cycle of a plant and an animal.</p> <p>I am beginning to understand the need to respect and care for the natural environment and all living things.</p> <p>Please see 'Living things and their habitat.'</p>	<p>Describe the plants that I see in the natural world around me.</p> <p>Know some of the names of some plants that I find in my environment.</p> <p>Describe and compare how the plants found in my environment are the same or different from each other.</p> <p>After close observation, draw pictures of the natural world including plants.</p> <p>Know about some important changes.</p> <p>How a seed will grow into a plant; how some of the fruits and vegetables that I eat are grown.</p>	<p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Grow plants and record in a daily diary.</p> <p>Change the variables to see the effects.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p> <p>Explore the plants and trees found in the school grounds and in the local area.</p>

<p>Living things and their habitats</p>	<p>Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world. Can talk about some of the things they have observed such as plants, animals, natural and found objects. Shows care and concern for living things and the environment Developing an understanding of growth, decay and changes over time.</p>	<p>Describe the plants and animals that I see in the natural world around me. Know some of the names of some plants and animals that I find in my environment. Describe and compare how the plants and animals found in my environment are the same or different from each other and how they differ from contrasting environments. Looks closely at similarities, differences, patterns and change in nature. Can compare and knows how living things are similar and different. Make observations of animals and plants and explain why some things occur. Talk about changes.</p>	<p>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.</p>	<p>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.</p>
<p>Everyday Materials</p>	<p>Interested in and able to describe the texture of things. Talk about the differences between materials and the changes that I notice. Know the properties of some materials and can suggest some of the purposes they are used for. Explore how things work such as wind-up toys, pulleys, sets of cogs and pegs with boards.</p>	<p>Talk about the changes of state that I notice, eg.</p> <ul style="list-style-type: none"> ▪ water turning into ice; ▪ ice melting ▪ a runny cake mixture turning into a solid cake ▪ malleable salt dough turning hard in the oven ▪ Wax melting and then setting <p>Understand some important processes such as:</p> <ul style="list-style-type: none"> ▪ Sound being felt as a vibration; ▪ light being able to travel through transparent objects but not opaque objects; ▪ Objects casting shadows; ▪ Magnets being attracted to some materials and not others; ▪ That some objects are able to float whilst others sink; ▪ That some objects will be changed when they are burned; ▪ That most objects will fall to the ground when they are dropped; ▪ That some things need power (e.g. batteries, plugging them in) to make them work. 	<p>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.</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>

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Day, night, rain, cold, warm, wind, leaf, tree, flower, bush, berry, food, pond, mountain, forest
basic body parts – head, legs, arms, belly, eye, ears, nose, mouth, fingers, feet, animals, people,
Material, wood, plastic, glass, metal, water, rock, paper, card/cardboard,

Leaf, shape, tree, bush, berry, poisonous, safe to eat, food, grow
Animals names (e.g. spider, lion, penguin), basic body parts – shoulders, necks, knees, elbows, hand, fingers, chin, shin, ankle, wrist, material, rubber, wool, iron, stone, hard, soft, bendy, floppy, rough, smooth, shiny, burns, does not burn, squash, roll, fold, twist, cut
weather (sunny, rainy, windy, snowy, ice ..), seasons (Winter, Summer, Spring, Autumn), Home, food, water, clothes, cleanliness, parts of the home e.g. bed, bed clothes etc. Nest, den, pond.

Blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves
Names of animals experienced first-hand from each vertebrate group. The children need to be able to name and identify a range of animals in each group e.g. name specific birds and fish.
Reptile, mammal, amphibian, bird, fish,
If children use the words carnivore, herbivore and omnivore, ensure that they understand that carnivores eat other animals not just meat.
Senses, touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue
Although we often use our fingers and hands to feel objects the children should understand that we can feel with many parts of our body.
Object, rock, brick, paper, fabric, elastic, foil, clay,
sunrise, sunset, day length
Living, dead, never been alive,
exercise, heartbeat, breathing, hygiene, germs, disease, food type examples

Names of trees in the local area.
Names of garden and wild flowering plants in the local area.
hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see through, not see through opaque, transparent and translucent, reflective, non-reflective, flexible, rigid, shape, push/pushing, pull/puling, twist/twisting, squash/squashing.
Bend/bending, stretch/stretching
light, shade, sun, warm, cool, water, grow, healthy, suited, suitable, basic needs, food, food chain, shelter, move, feed,
Names of local habitats e.g. pond, woodland etc., names of micro-habitats e.g. under logs, in bushes etc.
Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly),