

## Science

### Working Scientifically



Year One and Two	Year Three and Four
<p>WS1: asking simple questions and recognising that they can be answered in different ways</p> <p>WS2: observing closely, using simple equipment</p> <p>WS3: performing simple tests</p> <p>WS4: identifying and classifying</p> <p>WS5: using their observations and ideas to suggest answers to questions</p> <p>WS6: gathering and recording data to help in answering questions</p>	<p>WS1: asking relevant questions and using different types of scientific enquiries to answer them</p> <p>WS2: setting up simple practical enquiries, comparative and fair tests</p> <p>WS3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>WS4: gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>WS5: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>WS6: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p> <p>WS7: using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>WS8: identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p>WS9: using straightforward scientific evidence to answer questions or to support their findings</p>

## Science

### Plants Overview



Knowledge and understanding of the world				Year One	
Nursery		Reception		National curriculum objectives:	
<b>EYFS Objectives (22-36)</b> • Notices detailed features of objects in their environment. <b>(30-50):</b> <ul style="list-style-type: none"> <li>Can talk about some of the things they have observed such as plants, natural and found objects.</li> <li>Developing an understanding of growth, decay and changes over time.</li> <li>Shows care and concern for living things and the environment.</li> </ul>		<b>40-60</b> Looks closely at similarities, differences, patterns and change. <b>Early Learning goal:</b> <ul style="list-style-type: none"> <li>Children know about similarities and differences in relation to living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of plants and explain why some things occur, and talk about changes.</li> </ul>		<ul style="list-style-type: none"> <li>identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</li> <li>identify and describe the basic structure of a variety of common flowering plants, including trees</li> </ul> <p>WS2: observing closely, using simple equipment</p> <p>WS4: identifying and classifying</p> <p>WS5: using their observations and ideas to suggest answers to questions</p>	
<b>Key Knowledge:</b> Plants are living things Plants grow and they die		<b>Key Knowledge:</b> Plants are the same and different Cause and effect – I water a plant and it grows		<b>Key Knowledge:</b> Basic structure of a plant/tree: <b>Plant Structure</b> Name common trees/plants: <b>identifying and naming</b>	
<b>Key Vocabulary:</b> Tree, living, dead, flower, season, texture, mud, colour, sharp, spiky, smooth, crunchy, sticky, rough, soft, hard, smell	<b>Topic/½ term:</b> Aut 2- Tricks and Sticks	<b>Key Vocabulary:</b> Fruit, grow, plant, vegetable, seed, plant, decay, leaves, earth, flowers	<b>Topic/½ term:</b> Sum 1- Be Happy, Be Healthy	<b>Key Vocabulary:</b> Deciduous, evergreen, environment, leaf, petals, blossom, fruit, roots, bulb, seed, trunk, branches, stem, conker, bark <b>Trees:</b> Oak, Sycamore, Lime, Spruce, Cypress, Holly, Horse chestnut, pine <b>Plants:</b> Primrose, strawberry, Red Campion, daffodil, Bluebell, wild garlic, bramble, snowdrop, foxglove, buttercup, wood sorrel, gorse	<b>Topic/½ term:</b> Sum 1- Enchanted Woods Sc P 1 & 2 WS 2, 4, 5
Year Two		Year Three		Year Four	

<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>observe and describe how seeds and bulbs grow into mature plants</li> <li>find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> WS2: observing closely, using simple equipment WS3: performing simple tests WS4: identifying and classifying WS5: using their observations and ideas to suggest answers to questions WS6: gathering and recording data to help in answering questions		<b>National curriculum objectives:</b> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant investigate the way in which water is transported within plants explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. WS1: asking relevant questions and using different types of scientific enquiries to answer them WS2: setting up simple practical enquiries, comparative and fair tests WS4: gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS5: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS6: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions WS7: using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions			
<b>Key Knowledge:</b> How seeds and bulbs grow into plants: <b>germination and growth</b> What plants need to grow: <b>Survival</b>		<b>Key Knowledge:</b> Key functions of plant parts: <b>Structure and function</b> How water is transported in plants: <b>Transportation</b> Plant life cycle		<b>Key Knowledge:</b>	
<b>Key Vocabulary:</b> germination, growth and survival, seed, bulb, reproduction, <b>bud</b> , foliage, germinate, herb, poisonous, rainforest, scent, <b>seed</b> , shoot, weed	<b>Topic/½ term:</b> Spr 2- Habitats Sc p 1 & 2 WS: 2, 4, 5, 6	<b>Key Vocabulary:</b> Nutrients, pollination, seed formation, seed dispersal, transportation, nutrition, air, light, water, soil, trunk	<b>Topic/½ term:</b> Aut 1 Stones and Bones: Sc P 4 WS: 1, 5 Spr 2- Predatory animals and plants: Sc P 1, 3 WS: 4, 5, 6 Sum 2- The World of Rivers : Sc P 2 WS: 6, 4, 2, 7	<b>Key Vocabulary:</b>	<b>Topic/½ term:</b>

## Science

### Materials, Rocks and States of Matter Overview



Knowledge and Understanding of the World				Year One	
Nursery		Reception			
<b>EYFS Objectives (22-36)</b> <ul style="list-style-type: none"> <li>Notices detailed features of objects in their environment.</li> </ul> <b>EYFS Objectives (30-50):</b> <ul style="list-style-type: none"> <li>Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world.</li> <li>Can talk about some of the things they have observed such as plants, animals, natural and found objects.</li> </ul>		<b>EYFS Objectives 40-60</b> <ul style="list-style-type: none"> <li>Looks closely at similarities, differences, patterns and change.</li> </ul> <b>Early Learning goal:</b> Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another.		<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>distinguish between an object and the material from which it is made</li> <li>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>describe the simple physical properties of a variety of everyday materials</li> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul> WS1: asking simple questions and recognising that they can be answered in different ways WS3: performing simple tests WS5: using their observations and ideas to suggest answers to questions WS6: gathering and recording data to help in answering questions	
<b>Key Knowledge:</b> Know the names of a variety of different familiar objects Say what they have observed in their natural environment		<b>Key Knowledge/skills:</b> Be able to name different natural and man-made objects Say how materials are similar and different from one another		<b>Key Knowledge/skills:</b> Name what material things are made from (inc. wood, plastic, glass, metal, rock etc.) Sort and group materials on the basis of scientific properties Use simple adjectives to describe a material – <b>Describing</b>	
<b>Key Vocabulary:</b> Similar, different, big – small, hard-soft, bumpy – smooth, round-straight, round, squishy, wet, dry, cold, hot, crunchy, smooth	<b>Topic/½ term:</b> Aut 2- Tricks and Sticks Spr 2- Tbc	<b>Key Vocabulary:</b> Similar, different, gigantic – tiny, firm-soft, bumpy – smooth, curved-straight, squishy, damp, crispy, arid, cold, hot, crunchy, smooth, floating, sinking, heavy light	<b>Topic/½ term:</b> Spr 2- One the Farm Sum 1- Be Happy, Be Healthy Sum 2- Beside the Seaside	<b>Key Vocabulary:</b> Wood, metal, plastic, glass, water, plastic, smooth, rough, hard, soft, clear, bendy, not bendy, material, object, properties	<b>Topic/½ term:</b> Aut 1- Take Off: Sc Em 3, EM 2, EM 4. WS: 1, 3, 5, 6 Spr 1- Lively London: SC EM 1. WS: 5
Year Two		Year Three		Year Four	

<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> </ul> <p>WS2: observing closely, using simple equipment WS3: performing simple tests WS4: identifying and classifying WS5: using their observations and ideas to suggest answers to questions WS6: gathering and recording data to help in answering questions</p>		<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>describe in simple terms how fossils are formed when things that have lived are trapped within rocks</li> <li>recognise that soils are made from rocks and organic matter.</li> </ul> <p>WS2: setting up simple practical enquiries, comparative and fair tests WS4: gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS5: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS6: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions WS7: using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions WS8: identifying differences, similarities or changes related to simple scientific ideas and processes</p>		<b>National curriculum objectives:</b> <p>compare and group materials together, according to whether they are solids, liquids or gases observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature WS2: setting up simple practical enquiries, comparative and fair tests WS3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS5: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS6: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions WS7: using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p>	
<b>Key Knowledge:</b> Know the property of a material can change when it is squashed, bent, twisted or stretched Explain how a material is suitable/not suitable for its purpose: <b>Suitability</b>		<b>Key Knowledge:</b> Know the three different types of rock: <b>Igneous, metamorphic, sedimentary</b> Be able to explain the process of how fossils are formed Know and describe how soil is made: <b>decomposition</b>		<b>Key Knowledge:</b> Know what a solid, liquid and a gas are: <b>matter</b> Be able to measure temperature in (°C): <b>Temperature</b> Know and describe the terms <b>evaporation</b> and <b>condensation</b> in relation to the water cycle	
<b>Key Vocabulary:</b> <b>Suitability, change, squash, bend, stretch, twist, solid, waterproof,</b> durability, insulation, <b>Opaque, translucent, transparent,</b> malleable	<b>Topic/½ term:</b> Aut 2- Marvellous Mixtures: Sc EM 2. WS: 2, 3, 5, 6 Spr 1- Tunnels and Towers: Sc EM 1 WS: 4, 3	<b>Key Vocabulary:</b> Grains, crystals, fossils, sedimentary, rock, igneous, metamorphic, decomposition, decay, micro	<b>Topic/½ term:</b> Sum 1- Natural Disasters: Sc R 1 WS: 2, 8 Sum 2- The World of Rivers: Sc R 3 WS: 2, 4, 6, 7 Spr 2- Predatory Animals and Plants: Sc R2 WS: 4, 5, 6,	<b>Key Vocabulary:</b> Condense, evaporate, boil, bubble, evaporate, freeze, gas, liquid, heat, cool, melt, molecule, process, properties, solid, state, temperature, thermometer, viscosity.	<b>Topic/½ term:</b> Spr 2- Perfect Potions: Sc SM1 WS: 2, 3, 5, 6, 7 Spr 1- Mighty Mountain: Sc sm2, sm3 WS: 2, 5

## Science

### Animals including humans Overview



Knowledge and understanding of the world		Year One
Nursery	Reception	
<b>EYFS Objectives (22-36):</b> <ul style="list-style-type: none"> <li>Notices detailed features of objects in their environment</li> </ul> <b>EYFS Objectives (30-50):</b> <ul style="list-style-type: none"> <li>Can talk about some of the things they have observed such as plants, animals, natural and found objects.</li> </ul> <p>Talks about why things happen and how things work. Shows care and concern for living things and the environment.</p>	<b>EYFS Objectives 40-60</b> Looks closely at similarities, differences, patterns and change <b>Early Learning goal:</b> <ul style="list-style-type: none"> <li>ELG—Children know about similarities and differences in relation to places, objects, materials and living things.</li> </ul> <b>Exceeding ELG</b> <ul style="list-style-type: none"> <li>Children know that the environment and living things are influenced by human activity.</li> </ul>	<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>identify and name a variety of common animals that are carnivores, herbivores and omnivores Science</li> <li>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</li> <li>identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul> <p>WS2: observing closely, using simple equipment WS3: performing simple tests WS4: identifying and classifying WS5: using their observations and ideas to suggest answers to questions WS6: gathering and recording data to help in answering questions</p>
<b>Key Knowledge:</b> Be able to name some familiar animals: (including farm animals, domestic animals and birds) Name basic animal and human parts: (including head, eyes, ears, nose, mouth, shoulders, neck, stomach, legs, elbows, hands, knees, feet, toes, fingers)	<b>Key Knowledge/skills:</b> Compare and name a range of animals (e.g jungle animals, animals that live in the ocean, safari animals, types of birds etc.) Name animals and their offspring (including cow – calf, pig – piglet, mother-baby, cat – kitten etc.) Know how we can treat animals carefully and be safe/hygienic around them too	<b>Key Knowledge/skills:</b> Identify an animal is a carnivore, herbivore or omnivore from their physical appearance. Group animals into different species using classification data Name the senses used by human and their associated body part

<b>Key Vocabulary:</b> Animal, tail, wing, head, ears, snout, eyes, hoof, claw, paw, beak, fin, trunk, mane, mouth, neck, arms, shoulders, knees, toes, nose,	<b>Topic/½ term:</b> Spr 2- Habitats	<b>Key Vocabulary:</b> Similar, different, teeth, jaws, claws, chew, parent, baby, goat – kid, cow-calf, pig-piglet, gentle, care	<b>Topic/½ term:</b> Spr 2- On the Farm Sum 2- Beside the Seaside	<b>Key Vocabulary:</b> Carnivore, herbivore, omnivore, fish, amphibian, reptile, bird, mammal, pet, physical, appearance, classification, species, size, pattern, colouring, features, variation, camouflage, Senses: Smell, sight, touch, hearing, taste	<b>Topic/½ term:</b> Spr 2- Astonishing Animals: Sc A1, 2, 3 WS: ,3 4, 6 Sum 2- To the Rescue : Sc a4 WS: 5
<b>Year Two</b>		<b>Year Three</b>		<b>Year Four</b>	
<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>notice that animals, including humans, have offspring which grow into adults</li> <li>find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> <li>describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> </ul> WS2: observing closely, using simple equipment WS3:performing simple tests WS4: identifying and classifying WS5: using their observations and ideas to suggest answers to questions		<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>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</li> <li>identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul> WS4:gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS5:recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables		<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>describe the simple functions of the basic parts of the digestive system in humans</li> <li>identify the different types of teeth in humans and their simple functions</li> <li>construct and interpret a variety of food chains, identifying producers, predators and prey.</li> </ul> WS2: setting up simple practical enquiries, comparative and fair tests WS3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS4:gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS5:recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS8:identifying differences, similarities or changes related to simple scientific ideas and processes	
<b>Key Knowledge:</b> Know the basic needs of animals: <b>water, food, air</b> Know that animals grow and change and describe a basic life cycle Be able to describe how to keep our bodies healthy		<b>Key Knowledge:</b> Know and describe different animals nutritional needs: <b>Diet</b> Recognise and describe the function of a skeleton:		<b>Key Knowledge:</b> Describe the digestive system using key vocabulary Be able to name the different types of teeth and their functions Know what would happen to a food chain if one of the parts became unavailable:	
<b>Key Vocabulary:</b> <b>Water, food, air, offspring, child, adult, nutrition, exercise, breathe, food, hygiene, holometabolous, egg, larval, pupa,</b>	<b>Topic/½ term:</b> Spr 2- TBC: Sc a1, Sc a2 WS: 2, 3,4, 5 Sum 1- Movers and Groovers: Sc a3 WS: 3, 4, 5, 6	<b>Key Vocabulary:</b> Nutrition, diet, skeleton, muscle, support, protection, movement, domestic, wild, predatory, digestive, abdomen, skull, ribs, spine, vertebrae, pelvis, femur, tibia, humerus, ulna, radius, organs, blood	<b>Topic/½ term:</b> Spr 2- Predatory Animals and Plants: Sc a1, a2 WS: 4, 5	<b>Key Vocabulary:</b> Endoskeleton, exoskeleton, milk teeth, adult teeth, molars, incisors, calcium carbonate, enamel, decay, canines, premolars, pulp, blood vessels, dentine, nerve, Maxilla, Mandible, papillae, uvula, saliva, amylase, lipase, chopping, tearing, grinding, filling, floss, gum, nerve, oesophagus, rectum, abdomen, absorb, bolus, bowel, colon, dissolve, enzyme, faeces, saliva, amylase, lipase, gizzard, large and small intestine, producers, predators, prey, consumer	<b>Topic/½ term:</b> Sum 1- Our Brilliant Bodies: Sc a1, a2 WS: 2, 3, 4, 5,9, 8, Sum 2- The Deep Blue Sea: SC a3 WS: 5

## Science

### Physics: Light, sound, forces and electricity



<b>Year Three Light</b>	<b>Year Three Forces and Magnets</b>
<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>Recognise that they need light in order to see things and that dark is the absence of light</li> <li>notice that light is reflected from surfaces</li> <li>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>recognise that shadows are formed when the light from a light source is blocked by an opaque object</li> <li>find patterns in the way that the size of shadows change.</li> </ul> WS3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS4:gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS5:recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS7:using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions WS8:identifying differences, similarities or changes related to simple scientific ideas and processes WS9:using straightforward scientific evidence to answer questions or to support their findings	<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>Compare how things move on different surfaces</li> <li>Notice that some forces need contact between two objects, but magnetic forces can act at a distance</li> <li>Observe how magnets attract or repel each other and attract some materials and not others</li> <li>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</li> <li>Describe magnets as having two poles</li> <li>Predict whether two magnets will attract or repel each other, depending on which poles are facing</li> </ul> WS1: asking relevant questions and using different types of scientific enquiries to answer them WS2: setting up simple practical enquiries, comparative and fair tests WS3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS6: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions WS7:using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions WS8:identifying differences, similarities or changes related to simple scientific ideas and processes WS9:using straightforward scientific evidence to answer questions or to support their findings

<b>Key Knowledge:</b> Know that Darkness is the absence of light Be able to explain how UV rays from the sun can damage your eyes Know that shadows are formed when the light is blocked by an opaque object		<b>Key Knowledge:</b> Understand what 'magnetic means' and be able to sort magnetic and non-magnetic materials Know what a force is Can describe magnetic attraction	
<b>Key Vocabulary:</b> Light source, light reflector, long exposure, dim, bright, dark, high visibility, reflection, shadow, solar, ultraviolet, opaque	<b>Topic/½ term:</b> Aut 1 Stones and Bones: SC L 1-5 WS: 3,4,5,7, 8,9	<b>Key Vocabulary:</b> Push, pull, gravity, friction, contact force, non-contact force, magnetic, datalogger, magnetic attraction, poles, repulsion, opposites, same, magnetic field.	<b>Topic/½ term:</b> Aut 2 – Forces, Magnets and Metals : FM 1-6 WS: 1,2,3,6,7,8,9
<b>Year Four Sound</b>		<b>Year Four Electricity</b>	
<ul style="list-style-type: none"> <li>identify how sounds are made, associating some of them with something vibrating recognise that vibrations from sounds travel through a medium to the ear</li> <li>find patterns between the pitch of a sound and features of the object that produced it</li> <li>find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>recognise that sounds get fainter as the distance from the sound source increases</li> </ul> WS3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS5: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS7: using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions WS8: identifying differences, similarities or changes related to simple scientific ideas and processes		<ul style="list-style-type: none"> <li>identify common appliances that run on electricity</li> <li>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</li> <li>recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul> WS2: setting up simple practical enquiries, comparative and fair tests WS3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS4: gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS5: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS6: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions WS7: using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions WS8: identifying differences, similarities or changes related to simple scientific ideas and processes WS9: using straightforward scientific evidence to answer questions or to support their findings	
<b>Key Knowledge:</b> Demonstrate and describe how pitch can be altered (link to music) Know how sound travels through the inner ear Understand that sounds are vibrations		<b>Key Knowledge:</b> Know how to make a simple circuit Know and understand what a conductor and insulator is Knows the role of a switch in opening and closing a circuit	
<b>Key Vocabulary:</b> Acoustic, ballad, beat, volume, pitch, sound, decibel, sound meter, vibration, larynx, stereo, tympanic membrane, ear canal, pinna, cochlea, outer ear, ossicles, sound insulation	<b>Topic/½ term:</b> TBC SC S 1-4 WS: 3,5, 7,8	<b>Key Vocabulary:</b> Electrical, cells, batteries, wires, circuits, lamp, conductor, insulator, LED, buzzers, switch	<b>Topic/½ term:</b> Aut 2- Awesome America: SC E 1- 5 WS: 2,3,4,5,6,7 8

## Science

### Living things and their habitats and seasonal changes overview



Nursery	Reception	Year One
<b>EYFS Objectives (22-36):</b> <ul style="list-style-type: none"> <li>Notifies detailed features of objects in their environment</li> </ul> <b>EYFS Objectives (30-50):</b> <ul style="list-style-type: none"> <li>Shows care and concern for living things and the environment</li> <li>Comments and asks questions about aspects of their familiar world ie the natural world</li> <li>Can talk about some of the things they have observed such as plants, animals</li> </ul>	<b>EYFS Objectives (40-60):</b> <ul style="list-style-type: none"> <li>Looks at similarities, differences, patterns and change.</li> </ul> <b>Early Learning goal:</b> <ul style="list-style-type: none"> <li>Children will talk about features of their own environment and how they might vary...they make observations of animals and plants and explain why some things occur, and talk about changes.</li> </ul>	<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>Observe changes across the four seasons</li> <li>Observe and describe weather associated with the seasons and how day length varies.</li> </ul> WS2: observing closely, using simple equipment WS3: performing simple tests WS5: using their observations and ideas to suggest answers to questions WS6: gathering and recording data to help in answering questions
<b>Key Knowledge:</b> Know that plants and animals are alive Know that animals and humans live differently	<b>Key Knowledge:</b> Can name different environments where animals in the UK live Can talk about which animals live alone and which live in groups	<b>Key Knowledge:</b> Name and describe key weather features associated with each season To describe how seasonal changes affect humans and animals.

<b>Key Vocabulary:</b> Alive, dead, flower, grow, plants, animal, egg, mud, seed, wood, forest, water, pond, lake, sea, weather, wind, sun, rainbow, rain	<b>Topic/½ term:</b> Aut 2- Tricks and Sticks Spr 2- TBC	<b>Key Vocabulary:</b> Bulb, soil, farm, forest, trees, sea, pond, house, burrow, hive, badger set, ant hill , change, seasons, seashore, forest, home, nest, windmill	<b>Topic/½ term:</b> Aut 2- Sweet Dreams Spr 1- Once Upon a Time Spr 2- On the Farm Sum 1- Be Happy Be Healthy Sum 2- Beside the Seaside	<b>Key Vocabulary:</b> Drought, flood, lightning, temperature, sunshine, thermometer, thunder, anemometer, aerial, hibernation	<b>Topic/½ term:</b> TBC: Sc 1, SC2 WS: 2 5, 6 3
<b>Year Two</b>		<b>Year Three</b>		<b>Year Four</b>	
<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</li> <li>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.</li> <li>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.</li> </ul> WS1: asking simple questions and recognising that they can be answered in different ways WS2: observing closely, using simple equipment WS3: performing simple tests WS4: identifying and classifying WS5: using their observations and ideas to suggest answers to questions				<b>National curriculum objectives:</b> <ul style="list-style-type: none"> <li>Recognise that living things can be grouped in a variety of ways.</li> <li>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</li> <li>Recognise that environments can change and that this can sometimes pose dangers to living things.</li> </ul> WS1: asking relevant questions and using different types of scientific enquiries to answer them WS2: setting up simple practical enquiries, comparative and fair tests WS3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS4: gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS5: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS6: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	
<b>Key Knowledge:</b> Describe how each animal is suited to their <b>habitat</b> (seashore, woodland, ocean, rainforest, desert, polar, urban, costal, pond) Describe how animals and plants depend on each other - <b>food chains</b> Can sort and classify items into <b>living, dead</b> or were never <b>alive</b>				<b>Key Knowledge:</b> Group living things using scientific classification (including: vertebrate, invertebrate, flowering plants, non- flowing plants) Describe how the local environment (including animal habitats) changes throughout the year Describe how environmental change impacts positively and negatively on animal habitats	
<b>Key Vocabulary:</b> <b>Mirco habitats</b> , classification, <b>food chain</b> , <b>habitat</b> , hive, colony, metamorphosis, <b>life cycle</b> , minibeast, microscope, <b>species</b> , <b>living</b> , <b>dead</b> , specimen, burrow, mammal, ocean, pollution	<b>Topic/½ term:</b> Spr 2- Habitats - LT 2, 3 and 4. WS: 1,2,3,4,5 Spr 1 God and Mortals LT2, LT3 WS: 4,3			<b>Key Vocabulary:</b> Environment, abyss, adaptation, algae, annelid, aquarium, aquatic, arthropod, bioluminescent, cnidarian, consumer, coral, crustacean, current, diversity, echinoderm, marine, mollusc, oceanography, polyp, specimen, tide, tropical, reef, amphibians, reptiles, birds and mammals, invertebrates snails, slugs	<b>Topic/½ term:</b> The Deep Blue Sea Sum 2 LT1,2 and 3