



Science Curriculum Overview

Resilience

Curiosity

Respectfulness

Creativity

Independence

Confidence

Science in EYFS

Understanding the World: Science – The Natural World	Overview	Key Learning	Vocabulary
	Development Matters		
	Nursery (3-4 year olds): • 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 • Show interest in different occupations. • Invite different people to visit from a range of occupations, such as a plumber, a farmer, a vet, a member of the emergency services or an author. • Plan and introduce new vocabulary related to the occupation and encourage children to use it in their speech and play. • Consider opportunities to challenge gender and other stereotypes. • Explore how things work. • Provide mechanical equipment for children to play with and investigate. Suggestions: wind-up toys, pulleys, sets of cogs with pegs and boards. • 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.	Sticky Knowledge: By the end of EYFS the children will know... Knowledge: • I know some foods that are healthy and not healthy. • I know why we need to wash our hands and brush our teeth. • I know how to use the toilet. • I know how to get myself dressed. • I know some body parts and can say what they do. • I know who is in my family, including pets. • I know the difference between animals and plants. • I know the names of different animals: from our country and far away. • I know the names of the four seasons. • I know what the weather is like in each of the seasons. • I know the main changes that happen in Autumn, Winter, Spring and Summer. • I know that ice melts when it gets hot. • I know that water turns into ice when it freezes. • I know that some animals sleep during the winter. • I know that animals live in different places. • I know that the weather is different in different parts of the world. • I know that a plant needs light, soil and water to grow. • I know that plants die if they don't have enough water. • I know that some food grows on trees and some comes from plants on and under the ground. • I know that a tadpole becomes a frog and a caterpillar becomes a butterfly. • I know that some materials float and some sink. • I know that some materials are more suited to jobs than others. • I know that my actions affect the world. • I know the name of some insects.	<u>Working Scientifically:</u> look closely, observe, watch, touch, feel, smell, listen, same, different, compare, ask questions, record, sort, group <u>Plants:</u> plant, leaf, stem, branch, root, bark, flower, petal, seed, berry, fruit vegetable, bulb, plant, hole, dig, water, weed, grow, shoot, die, dead, soil, names of plants they grow. <u>Living things and their habitats:</u> natural, plant, animal leaves, seeds, conkers, acorns, twigs, bark, shells, feathers, pebbles, stones, same, different, pattern <u>Animals, including humans:</u> egg, chick, bird, caterpillar, cocoon, chrysalis, butterfly, frog spawn, tadpole, froglet, frog, grow, change, die, names of animals and their young, fur, feathers, scales, tail, wings, beak, claws, paws, hooves, swim, walk, run, jump, fly, patterns, spots, stripes, grow, change, baby, toddler, child, adult, old person, smell, taste, touch, feel, hear, see, blind, deaf <u>Materials:</u> mix, stir, cook, hot, oven, microwave, change, burn, melt, hard, runny, set, freeze, freezer, cold, blended, hard, soft, bendy, stiff, wobbly, wood, plastic, paper, card, fabric <u>Light:</u> light, torch, bulb, lamp, spotlight, shiny, bright, brighter, brightest, Sun, shine, glow, mirror <u>Forces:</u> object, float, sink, water, up, down, top, bottom, push, pull, magnet, spring, squash, bend, twist, stretch, turn, spin, smooth, rough, fast, slow <u>Sound:</u> sound, noise, loud, quiet, high, low, music, bang, blow, pluck, soft, hard, fast, slow <u>Electricity:</u> battery, plug, socket, electricity, wire, sound, light, move

Science in EYFS

Understanding the World: Science – The Natural World	Overview Development Matters	Key Learning	Vocabulary
	Reception: - Learn new vocabulary - 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 work out problems and organise thinking and activities. Explain how things work and why they might happen - Use new vocabulary in different contexts - Know and talk about different factors that support overall health and wellbeing such as: regular physical activity, healthy eating, toothbrushing, sensible amounts of screen time, having a good sleep routine - Being a safe pedestrian. - Explore the natural world around them - Describe what they see, hear and feel whilst 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.	Sticky Knowledge: By the end of EYFS the children will know... Knowledge: - I know some foods that are healthy and not healthy. - I know why we need to wash our hands and brush our teeth. - I know how to use the toilet. - I know how to get myself dressed. - I know some body parts and can say what they do. - I know who is in my family, including pets. - I know the difference between animals and plants. - I know the names of different animals: from our country and far away. - I know the names of the four seasons. - I know what the weather is like in each of the seasons. - I know the main changes that happen in Autumn, Winter, Spring and Summer. - I know that ice melts when it gets hot. - I know that water turns into ice when it freezes. - I know that some animals sleep during the winter. - I know that animals live in different places. - I know that the weather is different in different parts of the world. - I know that a plant needs light, soil and water to grow. - I know that plants die if they don't have enough water. - I know that some food grows on trees and some comes from plants on and under the ground. - I know that a tadpole becomes a frog and a caterpillar becomes a butterfly. - I know that some materials float and some sink. - I know that some materials are more suited to jobs than others. - I know that my actions affect the world. - I know the name of some insects.	<u>Working Scientifically:</u> look closely, observe, watch, touch, feel, smell, listen, same, different, compare, ask questions, record, sort, group <u>Living things and their habitats:</u> plant, tree, bush, flower, vegetable, fruit, herb, weed, animal, names of plants and animals they see, name of a contrasting environment e.g. beach, forest) <u>Animals including humans:</u> Names of animals, live, on land, in water, jungle, desert, North Pole, South Pole, sea, hot, cold, wet, dry, snow, ice, hair e.g. black, brown, dark, light, blonde, ginger, grey, white, long, short, straight, curly), eyes, (e.g. blue, brown, green, grey), skin (e.g. black, brown, white), big/tall, small/short, bigger/smaller, baby, toddler, child, adult, old person, old, young, brother, sister, mother, father, aunt, uncle, grandmother, grandfather, cousin, friend, family, boy, girl, man, woman. <u>Seasonal change:</u> spring, summer, autumn, winter, seasons, sunny, cloudy, hot, warm, cold, shower, raining, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, windy, rainbow, animals, young, plants, flowers <u>Materials:</u> ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, small, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy, not waterproof, best, change, change back <u>Light:</u> sun, sunny, light, shadow, shady, clouds, torch, see-through, not see-through, source, light source <u>Forces:</u> float, sink, up, down, top, bottom, surface, move, roll, drop, fly, turn, spin, fall, fast, slow, faster, slower, fastest, slowest,

			further, furthest, wind, air, water, blow, bounce <u>Sound</u>: sound, noise, listen, hear, music, voices, bird song, traffic, sirens, thunder, high, low, loud, quiet, soft, volume, crackle, hum, buzz, roar <u>Earth and space</u>: Sun, Moon, earth, star, planet, sky, day, night, space, round, bounce, float • Healthy, unhealthy, germs, head, legs, arms, hands, feet, shoulders, face, eyes, ears, mouth, tongue, teeth heart, brain, bones, skin. • Dog, cat, fish, hamster, rabbit cow, horse, sheep, goat, elephant. tiger, lion, crocodile, giraffe. • weather, hot, cold, snowing, freezing, warm, wet, cloudy, harvest, farming, leaves, light, dark, desert, polar. • Life cycle, grow, change, tadpole, froglet, frog, larva, caterpillar, chrysalis, cocoon. • Material, float, sink, plastic, fabric, wood, strong, waterproof, bendy, light, • Pollution, recycle, rubbish, environment, community. Minibeast, ant, spider, worm, snail, habitat.
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Science in Year 1

Year 1	Overview	Key Learning	Vocabulary
Autumn	Forces and Space: Seasonal changes. - Autumn	- Observe changes across the four seasons. - Observe and describe weather associated with the seasons and how day length varies.	Weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length.
	Materials: Everyday materials	- Distinguish between an object and the material from which it is made. - Identify and name a variety of everyday materials, including wood, plastic, glass, 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 physical properties.	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/carboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through.
	Seasonal change- winter	- Observe changes across the four seasons. - Observe and describe weather associated with the seasons and how day length varies.	Weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length.
Spring	Animals: Sensitive bodies	- Identify and name a variety of common animals that are birds, fish, amphibians, reptiles 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 (birds, fish, amphibians, reptiles and mammals, and including pets. - Identify, name, draw and label the basic parts of the human body and say which parts of the body is associated with each sense.	Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, names of animals experienced first-hand from each vertebrate group, parts of the boy including those within the school's RSE policy, senses, touch, see, smell, taste, hear, fingers, skin, eyes, nose, ear, tongue.
	Plants: Introduction to plants	- Identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen. - Identify and describe the basic structure of a variety of common plants including roots, stem/trunk, leaves and flowers.	Leaf, flower, blossom, petal, fruit, berry, root, seeds, bulb, trunk, branch, twig, stem, bark, stalk, bud, deciduous, ever green, names of trees, garden and wild flowering plants in the local area.
	Seasonal change- Spring	- Observe changes across the four seasons. - Observe and describe weather associated with the seasons and how day length varies.	Weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length.

Summer	Animals: Compare animals	- Name and describe the physical features of a range of animals - Sort animals into groups based on their similarities and differences. - Identify characteristics specific to mammals, birds, reptiles, amphibians and fish. - Recall the diets of carnivores, herbivores and omnivores.	Amphibian, bird, carnivore, compare, diet, difference, fish, group, herbivore, mammal, observe, omnivore, reptile, scientist, similarity.
	Making connections: Investigating science through stories.	- Identify the typical weather associated with each season. - Describe animal features. - Recognise similarities and differences between animals in the same animal group. - Build an animal home with natural materials. - Explain the difference between carnivores, herbivores and omnivores.	Amphibian, bird, carnivore, compare, diet, difference, fish, group, herbivore, mammal, material, object, omnivore, pattern, reptile, season, similarity, trunk, waterproof, weather.
	Seasonal change- Summer	- Observe changes across the four seasons. - Observe and describe weather associated with the seasons and how day length varies.	Weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length.

Science in Year 2

Year 2	Overview	Key Learning	Vocabulary
Autumn	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 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.	Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival, names of local habitats (e.g. pond, woodland etc.), names of micro-habitats (e.g. under logs, in bushes etc.), conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold, names of living things in the habitats and micro-habitats studied.

	Animals Including Humans	• 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.	Offspring, reproduction, growth, baby, toddler, child, teenager, adult, old person, names of animals and their babies (e.g. chick/hen, kitten/cat, caterpillar/butterfly), survive, survival, water, food, air, exercise, heartbeat, breathing, hygiene, germs, disease, food types (e.g. meat, fish, vegetables, bread, rice, pasta, dairy)
Spring	Materials: Uses of Everyday Materials	• 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.	Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard. Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid. Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching.
	Living things: Micro habitat	• Identify and name a variety of plants and animals. • Recall that minibeasts live in microhabitats. • Describe microhabitats and their conditions. • Describe how microhabitats provide for the basic needs of animals and plants • Describe the job of a botanist.	Food chain, microhabitat, minibeast, research, results, test.
	Plants	• 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.	Light, shade, sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling
Summer	Making connections: Plant based materials.	• Identifying how materials can be reduced, reused and recycled. • Identifying human-made and natural materials • Identify a material that would help plant growth. • Choose a material that is suitable for an eco-friendly plant pot.	Alive, dead, fabric, flexible, germinate, growth, invention, life processes, materials, plastic, property, results, seed, suitable, test, waterproof, wood