



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding



Puttenham Church of England
Science Curriculum



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

Term	EYFS	Year 1	Year 2
<p>Autumn</p>	<p>Superhero Me</p> <p>Senses - Begin to describe what they see, hear and feel whilst outside – Autumn walk</p> <p>Seasons - Begin to understand the effect of changing seasons on the natural world around them – spotting signs of Autumn – Key text Leaf Man</p> <p>Light it up</p> <p>Light and dark – materials to make a shiny rocket. Materials to make a shadow puppet.</p>	<p>Working scientifically</p> <p>Identify and name the basic parts of the human body</p> <p>Senses</p> <p>Key vocabulary – hear, feel, smell, taste</p> <p>Investigating senses- observe, perform a simple test and CT model how to record an investigation.</p> <p>Senses-exploring our sense of sight and sense of touch</p> <p>Blindfold game, Kim’s Game</p> <p>Data collection e.g. Tally favorite taste, eye colour, tallest child etc.</p> <p>Senses- Exploring our sense of taste- experiment-sweet, salty, bitter, sour</p> <p>Senses - observe, experience, and record.</p> <p>Key vocabulary – hear, feel, smell, taste</p> <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>Everyday materials</p> <p>Describe the physical properties of simple everyday materials – observe closely the properties using simple equipment</p> <p>Pupils should be taught to:</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 properties of a variety of everyday materials 	<p><u>Animals, including humans</u></p> <p>Describe how animals change as they grow and their needs for survival. Discuss animal offspring, including humans, and their adults. Life cycle of a frog.</p> <p>Understanding the importance of staying healthy through exercise, balanced eating and good hygiene including hand washing and teeth care.</p> <p><u>Working scientifically</u></p> <p>Using skills such as questioning, observations, classifying, using simple equipment and performing simple tests – heart rate and breathing rate.</p>



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

		<ul style="list-style-type: none"> • compare and group together a variety of everyday materials Material Investigation- How can we keep Bunty (class soft toy) dry at Forest School? <p>Plants Trees– seasonal change identify and name a variety of deciduous and evergreen trees Seasonal change- Length of the day</p> <p>Seasonal changes Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies- Think about suitable clothes for Bunty to wear during the different seasons.</p>	
Spring	<p>Who are you going to call?</p> <p>Changing states of matter – ice experiment</p> <p>Hot and Cold – concept of hot and cold objects – fire fighter safety</p> <p>Once upon a time</p> <p>Materials – sorting materials and which material will be the best roof for the Three Little Pigs House – hair dryer experiment</p> <p>Changing states of matter – melting chocolate</p>	<p>Working scientifically-Animals- including humans – observing, classifying, investigating, same, different</p> <p>Animals 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) Key vocabulary – Carnivores and Herbivores, omnivores</p>	<p>Everyday materials Identify and compare the suitability of everyday materials. To find out about people who have developed useful new materials. (John Dunlop and John McAdam).</p> <p>RSPB Bird Watch - we are learning to be citizen scientists. Working scientifically – To gather and record data to help in answering questions. To identify and classify. To use their observations and ideas to suggest answers to questions. To observe closely, using simple equipment. To perform simple tests – absorbency test and magnetic materials.</p>



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

		<p>Plants Forest School and introduction before summer planting Identify and describe the basic structure of a variety of common flowering plants, including trees. Reinforce understanding of trees introduced last term.</p> <p>Seasonal changes Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length, measure and recording temperature</p>	
Summer	<p>At the bottom of my garden</p> <p>Life cycles – plant, butterfly</p> <p>Minibeasts – observing and comparing</p> <p>Gardening and growing – planting seeds and care for growing plants – key text A Secret Garden</p> <p>Ships Ahoy!</p> <p>Forces – floating and sinking</p>	<p>Working scientifically – observe, classifying, explore, investigate Wild Plants and Garden Plants</p> <p>Plants What garden plants can we find in our school environment? (Plant detectives) Identify, name, and compare a range of familiar garden plants in our school grounds, including wild flowers and trees. What wild plants are there in our school grounds? (Plant detectives) To identify and name a variety of common wild plants. Learn to take care of wild plants in the environment. Learn how important flowers are for bees.</p>	<p>Plants Observe and describe how seeds and bulbs grow into mature plants. To learn about the needs of a plant and learn more about germination and seed dispersal – <u>EXPERIMENT</u>.</p> <p>Living Things and Habitats Basic needs of animals and their food chains Habitats including microhabitats. What habitats are suitable and what learn more about survival.</p>



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

	Working Scientifically	Seasons	Materials	Plants	Animals, including humans
Reception <i>Please see Development Matters for areas in Physical and UTW.</i>	Ask questions Talk about changes Compare and contrast similarities and differences ELG: (Communication and Language) Make comments about what they have heard and ask questions to clarify their understanding.	ELG: (Understanding the World) <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. ELG: (Personal, Social and Emotional Development) Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.			
Reception Vocabulary	changes, question, observe, find out, describe, sort, similar, different, name, explore.	spring, summer, autumn, winter Cold, hot, windy, rainy, snowing, icy, freezing. Leaves, trees, branches, colours, sunny, moon, day, night	Everyday materials: wood, plastic, glass paper, fabric, straw, brick, hard, soft, rough, smooth, strong, shiny Changes state of matter: float, sink, change, water, ice. Hot, cold, cooling, heating, un, Melt, freeze, solid	leaves, petals, soil, roots, stem, flower, bulbs, seeds. Identify trees: horse chestnut, hawthorn Local plants/flowers: onions, potatoes, tomatoes, strawberries, sunflowers,	babies, growing, facial features – eyes, nose, mouth, ears. Pets, cats, dogs, guinea pigs, hamsters, water, shelter, food, air. Minibeasts, pond, homes, living, wings, eggs, compare, sort. Lifecycle – Butterfly – egg, chrysalis, caterpillar, butterfly



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

	Working Scientifically	Seasonal changes	Materials	Plants	Animals, including humans
Year 1	<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, teaching how to use simple equipment (links to Maths – Shape, space and measure, to Computing) • asking questions, planning and performing simple tests led by the teacher, predicting and discussing the results • identifying, sorting and describing • 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"> • observe changes across the 4 seasons • observe and describe weather associated with the seasons and how day length varies 	<p>Everyday materials Pupils should be taught to:</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 properties of a variety of everyday materials • compare and group together a variety of everyday materials on the basis of their simple physical properties 	<ul style="list-style-type: none"> • identify and name a variety of common wild and garden plants, including deciduous and evergreen trees around the school environment (forest school). • identify and describe the basic structure of a variety of common flowering plants, including trees 	<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



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

Year 1 Vocabulary	<p>Working scientifically: changes, question, observe, find out, describe, sort, similar, different, name, explore. compare, sort, group, identify, classify, record, test, time, measure, temperature, table, weather chart, properties,</p>	<p>Seasonal changes: Spring, summer, autumn, winter Cold, hot, windy, rainy, snowing, icy, freezing. Leaves, trees, branches, colours, sunny, moon, day, night</p> <p>months, year, dark, light, day, length, hail, cloud, cloudy, warm, mild, sleet, thunder, lightning, rainbows, wet, damp, temperature, dry deciduous, evergreen, coniferous (link to plants).</p> <p>Month of the year song.</p>	<p>Everyday materials: Wood, plastic, glass, metal, water, rock, brick, paper, card, wool, foil, cotton.</p> <p>absorbent/not absorbent, bending, bendy/not bendy, glass, hard/soft, liquid, property, , rough/smooth, shiny/dull, solid, transparent/not transparent, sticky/not sticky</p> <p>squashing, bending, stretching, stretchy/stiff, twisting, waterproof/not waterproof, opaque/see- through.</p>	<p>Plants: leaves, petals, soil, roots, stem, flower, bulbs, seeds. branches, bud, bulb, deciduous tree, evergreen tree, flowers, fruit, garden/flowering plants, trunk, wild plants, twig, blossom,</p> <p>Identify trees: oak, ash, spruce, silver birch, sycamore, pine, holly, blackberry</p> <p>Local plants/flowers: hops, daffodils, poppies, buttercup, dandelions, snowdrops, beans, mint etc.</p>	<p>Animals, including humans: Babies, growing, facial features – eyes, nose, mouth, ears. Pets, cats, dogs, guinea pigs, hamsters, water, shelter, food, air. Minibeasts, pond, homes, living, wings, eggs, compare, sort. head, face, hair, teeth, cheek, chin, neck, body, arms, hands, fingers, knees, elbows, carnivores, omnivores, herbivores paws, fins, wings, legs, feet, toes, tail, skin, scales, fur, feathers, senses, smell, sound, taste, sight and touch. Grouping and comparing.</p> <p>Animals, including humans: for example... Food fish (cod, trout, tuna) clownfish, shark; fish: goldfish, koi. Amphibians: frog, toad, newt. Birds: blackbird, robin, starling, sparrow, tit, pigeon,</p>
------------------------------	--	--	--	--	---



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

Year 1 Vocabulary Cont.....					<p>duck, penguin, ostrich, swan, chicken.</p> <p>Mammals: Humans, wild animals such as primates, (ape, gorilla, orangutan, chimpanzee) monkey, lion, tiger, elephant, zebra, giraffe etc.</p> <p>Farm animals: cow, horse, sheep, goat, donkey.</p> <p>Pet animals: cat, dog, hamster, mouse, guinea pig: Woodland animals: badger, fox, deer, squirrel owl, eagle, hawk.</p> <p>Herbivores-plant eaters- rabbit, zebra, sheep, horse, cow</p> <p>Omnivores-plant and meat eaters- Human, bear, badger, ape.</p> <p>Carnivores- meat eaters- lion, wolf, polar bear, cheetah</p> <p>Body - head, neck, shoulders, arms, elbows, wrist, fingers, chest, abdomen, legs, thighs, knees, shins, feet, toes.</p>
--	--	--	--	--	--



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

	Working Scientifically	Living things and their habitats	Materials (uses)	Plants	Animals, including humans
Year 2	<ul style="list-style-type: none"> • asking simple questions based on their prior knowledge and understanding. To recognise that they can be answered in different ways • observing closely, teaching how to use simple equipment (links to Maths – Shape, space and measure, to Computing) using standard measurements • asking questions, planning and performing simple tests independently introducing fair testing, predicting and discussing the results • identifying, sorting, observing, describing, comparing and classifying into categories and giving reasons • using their observations and ideas to suggest answers 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 microhabitats • describe how animals obtain their food from 	<p>Uses of everyday materials</p> <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"> • 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"> • 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



Puttenham CofE Infant School
Science Progression of Knowledge, Skills and understanding

	<p>questions and making conclusions</p> <ul style="list-style-type: none"> gathering and recording data to help in answering questions and independently recording their findings 	<p>plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</p>			
Vocabulary	<p>Year 1 vocabulary plus:</p> <p>contrast, data/results,, equipment, grouping, observations, predict, fair test, length, height, gathering</p>	<p>Living, non-living, dead, never been alive, habitat, micro-habitat, pond, meadow, field, forest school, woodland, sea, sea shore, ocean, rainforest, characteristics, conditions, basic need, food-chain, food sources, life processes, environment, compare, human, grass, cow, (Use pond, forest school and fields in the environment)</p>	<p>Words to describe why certain materials are suitable for particular uses.</p> <p>Year 1 vocabulary plus:</p> <p>characteristics, classification, man-made, natural, properties</p> <p>transparent, translucent, malleable, suitability</p>	<p>Year 1 vocabulary plus:</p> <p>germination, insect pollination, seed dispersal, shoot, wind pollination, reproduction, nutrition, growth, compare, record, temperature, predict, measure, diagram, changes, height, mature, classify,</p>	<p>Year 1 vocabulary plus:</p> <p>Offspring, reproduction, growth, respiration basic needs, survival, water, food, air, shelter, exercise, fit, healthy, unhealthy, diet, hygiene, nutrition, life cycle, invertebrates, baby, child, teenager, adult, classifying.</p> <p>Lifecycles – Frogs, eggs, frogspawn, frog let, tadpole</p>