



# Harlington and Sundon Academy Trust

School: Sundon Lower School

## Curriculum Progression for: Science

<b>Intent</b>	We want our pupils to become inquisitive, curious and want to explore the world around them. We want them to extend their knowledge from the Early Years Understanding the World learning, and to love, respect and investigate their natural world, scientific forces and phenomena as well as themselves. We want to spark children's interest and love of Science so that they question intelligently, learn through discovery, and connect scientific knowledge to their world.
<b>EYFS</b>	<p><b>Children should come to Year 1 with the following skills and knowledge:</b></p> <p><b>Communication and Language Listening, Attention and Understanding</b></p> <ul style="list-style-type: none"><li>● Make comments about what they have heard and ask questions to clarify their understanding.</li></ul> <p><b>Personal, Social and Emotional Development Managing Self</b></p> <ul style="list-style-type: none"><li>● Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</li></ul> <p><b>Understanding the World The Natural World</b></p> <ul style="list-style-type: none"><li>● Explore the natural world around them, making observations and drawing pictures of animals and plants.</li><li>● 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.</li><li>● Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</li></ul>

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KS1 (A)	Animals including Humans - Amazing Me!	Seasonal Changes - Wild Weather!	Everyday Materials - Brilliant builders! Choosing the best materials	Plants - Growing Things	Animals, including humans - Wild and Wonderful Creatures	Animal Life Cycles - Food Chains
Vocabulary	Human body parts: e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet Human senses: sight, hearing, touch, smell, taste. Exploring senses: loud, quiet, soft, rough. Other: human, animal.	Seasons: spring, summer, autumn, winter, seasonal change. Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight.	Names of materials: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric. Properties of materials: hard, soft, shiny, dull, stretchy, rough, smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof, absorbent, not absorbent, sharp, stiff. Other: object.	Growth of plants: germination, shoot, seed dispersal, grow, food store, life cycle, die, wilt, seedling, sapling. Needs of plants: sunlight, nutrition, light, healthy, space, air. Name different types of plant: e.g. bean plant, cactus. Water, temperature, warm, hot, cold, habitat.	Names of animal groups: fish, amphibians, reptiles, birds, mammals. Animal diets: carnivore, herbivore, omnivore.	Living or dead: living, dead, never living, not living, alive, never been alive, healthy. Food chains: food sources, food, producer, consumer, predator, prey. Names of habitats and microhabitats: e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat. Previously introduced vocabulary: senses, carnivore, herbivore, omnivore, seed, water, names of materials.
Skills	Asking simple questions and recognising that they can be answered in different ways Observing closely, using simple equipment: magnifying glass, rulers, timers. Perform simple tests Identify and classify thinking about comment features. Using their observations and ideas to suggest answers to questions.	Observing closely, using simple equipment. Using observations and ideas to suggest answers to questions.	Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests. Identifying and classifying. Gathering and recording data to help in answering questions.	Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment: magnifying glass, rulers, timers. Perform simple tests. Identify and classify thinking about comment features. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions.	Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment: camera. Identify and classify thinking about comment features. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions.	Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment: camera. Identify and classify thinking about comment features. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions.

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	Gathering and recording data to help in answering questions.					
<b>Knowledge</b>	Identify, name, draw and label the basic parts of the human body, e.g: head, eyes, ears, mouth, teeth, leg; and say which part of the body is associated with each sense.	Recognise changes across the four seasons. Identify and describe weather associated with the seasons and how day length varies.	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.	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees, e.g: root, stem, leaves, flower.	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).	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.
<b>Working Scientifically Skills</b>	<p><b>PLAN</b></p> <ul style="list-style-type: none"> <li>❖ Ask simple questions</li> </ul> <p><b>DO</b></p> <ul style="list-style-type: none"> <li>❖ Observe closely, using simple equipment (magnifying glass, non-standard units of measure)</li> <li>❖ Perform simple tests in adult led groups</li> <li>❖ Identify, group and classify by their features</li> </ul> <p><b>RECORD</b></p> <ul style="list-style-type: none"> <li>❖ Gather and record data to help answer questions</li> <li>❖ Verbally discuss observations and results</li> <li>❖ Write down results in basic written sentences</li> </ul> <p><b>REVIEW</b></p> <ul style="list-style-type: none"> <li>❖ Use their observations and ideas to suggest answers to questions</li> </ul>					
<b>Visit/Special Occasions</b>						Whipsnade Zoo.

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KS1 (B)	Animals including Humans - People and their Pets	Seasonal Changes - Weather Art	Everyday Materials Brilliant builders! - Comparing Materials	Plants - Art and Nature	Use of Everyday Materials - Exploring changes	Habitats - Habitats and Homes
<b>Vocabulary</b>	<p>Being born and growing: Young, offspring, live young, grow, develop, change, hatch, lay, fly, crawl, talk.</p> <p>Young and adult names: e.g. lamb and sheep, kitten and cat, duckling and duck.</p> <p>Life cycle stages: e.g. baby, toddler, child, teenager, adult; frogspawn, tadpole, froglet, frog.</p> <p>Survival and staying healthy: basic needs, survive, food, air, exercise, diet, nutrition, healthy, balanced diet, hygiene, germs.</p> <p>Food groups: fruit and vegetables, proteins, dairy and alternatives, carbohydrates, oil and spreads, fat, salt, sugar, water.</p>	<p>Seasons: spring, summer, autumn, winter, seasonal change.</p> <p>Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast.</p> <p>Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge.</p> <p>Day length: night, day, daylight.</p>	<p>Changing shape: squash, bend, twist, stretch.</p> <p>Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic.</p> <p>Other: suitability, recycle, pollution.</p> <p>Names of materials: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric.</p> <p>Properties of materials: hard, soft, shiny, dull, stretchy, rough, smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof, absorbent, not absorbent, sharp, stiff.</p> <p>Other: object.</p>	<p>Names of common plants: wild plant, garden plant, evergreen tree, deciduous tree, common flowering plant, weed, grass.</p> <p>Name some features of plants: e.g. flower, vegetable, fruit, berry, leaf/leaves, blossom, petal, stem, trunk, branch, root, seed, bulb, soil.</p> <p>Name some common types of plant e.g. sunflower, daffodil.</p> <p>Growth of plants: germination, shoot, seed dispersal, grow, food store, life cycle, die, wilt, seedling, sapling.</p> <p>Needs of plants: sunlight, nutrition, light, healthy, space, air.</p>	<p>Changing shape: squash, bend, twist, stretch.</p> <p>Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic.</p> <p>Other: suitability, recycle, pollution.</p>	<p>Living or dead: living, dead, never living, not living, alive, never been alive, healthy.</p> <p>Habitats including microhabitats: depend, shelter, safety, survive, suited, space, minibeast, air.</p> <p>Life processes: movement, sensitivity, growth, reproduction, nutrition, excretion, respiration.</p> <p>Food chains: food sources, food, producer, consumer, predator, prey.</p> <p>Names of habitats and microhabitats: e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat.</p> <p>Previously introduced vocabulary: senses, carnivore, herbivore, omnivore, seed, water, names of materials.</p>
<b>Skills</b>	<p>Asking simple questions and recognising that they can be answered in different ways.</p> <p>Identifying and classifying.</p> <p>Recognise some of the ways people change over time.</p>	<p>Observing closely, using simple equipment</p>	<p>Asking simple questions and recognising that they can be answered in different ways.</p> <p>Observing closely, using simple equipment: magnifying glass, rulers, timers.</p> <p>Perform simple tests.</p>	<p>Asking simple questions and recognising that they can be answered in different ways.</p>	<p>Asking simple questions and recognising that they can be answered in different ways</p> <p>Observing closely, using simple equipment: magnifying glass, rulers, timers.</p> <p>Perform simple tests</p>	<p>Asking simple questions and recognising that they can be answered in different ways</p> <p>Observing closely, using simple equipment: camera</p> <p>Identify and classify thinking about comment features.</p>

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	Recognise and use the vocabulary: compare, describe, similar, different, baby, adult, changes, growing.		Identify and classify thinking about comment features. Using their observations and ideas to suggest answers to questions.		Identify and classify thinking about comment features. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions	Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions
<b>Knowledge</b>	Understand that animals, including humans, have offspring which grow into adults. 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.	Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.	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 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.	Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Explore and compare the differences between things that are living, dead and things that have never been alive. Identify that most living things in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals, plants and how they depend on each other. Identify and name a variety of plants and animals in their habitats, including micro-habitats.
<b>Working Scientifically Skills</b>	<p><b>PLAN</b></p> <ul style="list-style-type: none"> <li>❖ Ask simple questions</li> <li>❖ Understand they can be answered in different ways</li> </ul> <p><b>DO</b></p> <ul style="list-style-type: none"> <li>❖ Observe closely, using simple equipment (rulers, timers, magnifying glass)</li> <li>❖ Perform simple tests in small groups sometimes with an adult</li> <li>❖ Identify, group and classify by their features</li> </ul> <p><b>RECORD</b></p> <ul style="list-style-type: none"> <li>❖ Gather and record data in tables and graphs to help answer questions</li> <li>❖ Verbally discuss observations and results as a class</li> <li>❖ Write down results in written form to help answer questions</li> </ul>					

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	<b>REVIEW</b> ❖ Use their observations and ideas to suggest answers to questions					
<b>Visit/Special Occasions</b>						Whipsnade Zoo / Animal Park

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KS2 (A)	Animals Including Humans (3AH) – Fit for Success	Forces and Magnets (3FM) - Magnetic Fun and Games	Sound (4S) - Sounds Spectacular!	States of Matter (4SM) - What's the Matter?	Living things and their habitats (4LvH) - A World of Living Things	Plants (3P) - A Feast of Flowers Fruits and Seeds
<b>Vocabulary</b>	<p>Digestive system: digest, digestion, tongue, teeth, saliva, salivary glands, oesophagus, stomach, liver, pancreas, gallbladder, small intestine, duodenum, large intestine, rectum, anus, faeces, organ.</p> <p>Types of teeth and dental care: molar, premolar, incisor, canine, wisdom teeth, tooth decay, plaque, enamel, baby (milk) teeth.</p> <p>Food chains and animal diets: decomposer, food web.</p>	<p>How things move: move, movement, surface, distance, strength.</p> <p>Types of forces: push, pull, contact force, non-contact force, friction.</p> <p>Magnets: magnetic, magnetic field, magnetic force, bar magnet, horseshoe magnet, ring magnet, magnetic poles (north pole, south pole), attract, repel, compass.</p> <p>Magnetic and non-magnetic materials: e.g. iron, nickel, cobalt.</p>	<p>Parts of the ear: eardrum.</p> <p>Making sound: vibration, vocal cords, particles.</p> <p>Measuring sound: pitch, volume, amplitude, sound wave, quiet, loud, high, low, travel, distance.</p> <p>Other: soundproof, absorb sound.</p>	<p>Properties of materials: thermal conductor/insulator, magnetism, electrical resistance, transparency.</p> <p>Mixtures and solutions: dissolving, substance, soluble, insoluble.</p> <p>Changes of materials: reversible change, physical change, irreversible change, chemical change, burning, new material, product.</p> <p>Separating: sieving, filtering, magnetic attraction.</p>	<p>Living things: organisms, specimen, species.</p> <p>Grouping living things: classification, classification keys, classify, characteristics.</p> <p>Names of invertebrate animals: snails and slugs, worms, spiders, insects.</p> <p>Invertebrate body parts: e.g. wing case, abdomen, thorax, antenna, segments, mandible, proboscis, prolegs.</p> <p>Environmental changes: environment, environmental dangers, adapt, natural changes, climate change, deforestation, pollution, urbanisation, invasive species, endangered species, extinct.</p>	<p>Water transportation: transport, evaporation, evaporate, nutrients, absorb, anchor.</p> <p>Life cycle of flowering plants: pollination (insect/wind), pollen, nectar, pollinator, seed formation, seed dispersal (animal/wind/water), reproduce, fertilisation, fertilise, stamen, anther, filament, carpel (pistil), stigma, style, ovary, ovule, sepal, carbon dioxide.</p>
<b>Skills</b> The following skills progress gradually from Autumn term to the Summer term. Whilst all are targeted throughout the topics, detail and depth develop through the	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate measurements using</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment</p>

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<p><b>year. This progresses from being guided by the teacher through scaffolding approaches to becoming independent in showing these skills during investigations.</b></p>	<p>measurements using standard units, using a range of equipment including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>measurements using standard units, using a range of equipment including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>standard units, using a range of equipment including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>
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<p><b>Knowledge</b></p>	<p>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. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. 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. Describe magnets as having two poles. Understand that two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Recognise patterns between the pitch of a sound and features of the object that produced it. Recognise patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.</p>	<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.</p>	<p>Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>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 and how they vary from plant and 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.</p>
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<b>Working Scientifically Skills</b>	<p><b>PLAN</b></p> <ul style="list-style-type: none"> <li>❖ Ask relevant questions and conduct enquiries in a range of ways to answer them.</li> <li>❖ Set up simple practical enquiries, comparative and fair tests in small table groups or pairs.</li> <li>❖ Set up a fair practical enquiry guided by an adult.</li> </ul> <p><b>DO</b></p> <ul style="list-style-type: none"> <li>❖ Make systematic and careful observations</li> <li>❖ Take accurate measurements using standard units,</li> <li>❖ Use a range of equipment, including: tape measures, rulers, timers,</li> </ul> <p><b>RECORD</b></p> <ul style="list-style-type: none"> <li>❖ Gather, record, classify and present data in a variety of ways to help in answering questions</li> <li>❖ Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> </ul> <p><b>REVIEW</b></p> <ul style="list-style-type: none"> <li>❖ Write what I have found out in a report.</li> <li>❖ Present what I have found to the class</li> <li>❖ Use the results I have found to draw simple conclusions.</li> <li>❖ Tell you what is different, what has stayed the same and what has changed in an experiment.</li> <li>❖ Use the evidence from my own and other people's experiments to support what I have found.</li> </ul>					
<b>Visit/Special Occasions</b>						

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KS2 (B)	Light (3L) - Shining the Light!	Electricity (4E) - Electric Personalities	Rocks and Fossils (3R) - This Planet Rocks!	Animals Including Humans (4AH) - The Circle of Life	Plants (3P) - Greatly Green Growers	Living things and their habitats (4LvH) - Habitat Helpers
<b>Vocabulary</b>	<p>Light and seeing: dark, absence of light, light source, illuminate, visible, shadow, translucent, energy, block.</p> <p>Light sources: e.g. candle, torch, fire, lantern, lightning.</p> <p>Reflective light: reflect, reflection, surface, ray, scatter, reverse, beam, angle, mirror, moon.</p> <p>Sun safety: dangerous, glare, damage, UV light, UV rating, sunglasses, direct.</p>	<p>Electricity: mains-powered, battery-powered, mains electricity, plug, appliances, devices.</p> <p>Circuits: circuit, simple series circuit, complete circuit, incomplete circuit.</p> <p>Circuit parts: bulb, cell, wire, buzzer, switch, motor, battery.</p> <p>Materials: electrical conductor, electrical insulator.</p> <p>Other: safety.</p>	<p>Types of rock: sedimentary rock, igneous rock, metamorphic rock.</p> <p>Properties of rocks: permeable, semi-permeable, impermeable, durable.</p> <p>Names of rocks: e.g. marble, chalk, granite, sandstone, slate.</p> <p>Formation of rocks and fossils: natural, human-made, magma, lava, molten rock, sediment, erosion, fossilisation, layers, bone, fossil.</p> <p>Soil: sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost.</p> <p>Other: palaeontology.</p>	<p>Digestive system: digest, digestion, tongue, teeth, saliva, salivary glands, oesophagus, stomach, liver, pancreas, gallbladder, small intestine, duodenum, large intestine, rectum, anus, faeces, organ.</p> <p>Types of teeth and dental care: molar, premolar, incisor, canine, wisdom teeth, tooth decay, plaque, enamel, baby (milk) teeth.</p> <p>Food chains and animal diets: decomposer, food web.</p>	<p>Water transportation: transport, evaporation, evaporate, nutrients, absorb, anchor.</p> <p>Life cycle of flowering plants: pollination (insect/wind), pollen, nectar, pollinator, seed formation, seed dispersal (animal/wind/water), reproduce, fertilisation, fertilise, stamen, anther, filament, carpel (pistil), stigma, style, ovary, ovule, sepal, carbon dioxide.</p>	<p>Living things: organisms, specimen, species.</p> <p>Grouping living things: classification, classification keys, classify, characteristics.</p> <p>Names of invertebrate animals: snails and slugs, worms, spiders, insects.</p> <p>Invertebrate body parts: e.g. wing case, abdomen, thorax, antenna, segments, mandible, proboscis, prolegs.</p> <p>Environmental changes: environment, environmental dangers, adapt, natural changes, climate change, deforestation, pollution, urbanisation, invasive species, endangered species, extinct.</p>
<b>Skills</b> The following skills progress gradually from Autumn term to the Summer term. Whilst all are targeted throughout the topics, detail and depth develop through the	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate measurements using</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them</p> <p>Setting up simple practical enquiries, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment</p>

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<p><b>year. This progresses from being guided by the teacher through scaffolding approaches to becoming independent in showing these skills during investigations.</b></p>	<p>measurements using standard units, using a range of equipment including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>measurements using standard units, using a range of equipment including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>standard units, using a range of equipment including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>including thermometers, rulers and data loggers Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Reporting on findings from enquiries, including oral, written explanations, displays or presentations of results and conclusions Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings.</p>
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<b>Knowledge</b>	<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>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.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>Explore the requirement of plants for life and growth and how they vary from plant and plant.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>
<b>Working Scientifically Skills</b>	<p><b>PLAN</b></p> <ul style="list-style-type: none"> <li>❖ Ask relevant questions</li> <li>❖ Independently or in small groups use different types of enquiries to answer questions.</li> </ul> <p><b>DO</b></p> <ul style="list-style-type: none"> <li>❖ Make systematic and careful observations</li> </ul>					

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	<ul style="list-style-type: none"> <li>❖ Take accurate measurements using standard units,</li> <li>❖ Use a range of equipment, including thermometers, rulers, timers and data loggers</li> </ul> <p><b>RECORD</b></p> <ul style="list-style-type: none"> <li>❖ Gather, record, classify and present data clearly in a variety of ways to help in answering questions</li> <li>❖ Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> </ul> <p><b>REVIEW</b></p> <ul style="list-style-type: none"> <li>❖ Complete a written report, display or presentation to report on findings with increasing use of scientific language.</li> <li>❖ Deliver an oral report on my findings.</li> <li>❖ Use results to draw simple conclusions, make predictions for new values,</li> <li>❖ Use straightforward scientific evidence to answer questions or to support their findings</li> <li>❖ Evaluate the enquiry and suggest improvements and raise further questions</li> <li>❖ Identify differences, similarities or changes related to simple scientific ideas and processes</li> </ul>					
Visit/Special Occasions						