



TO LOVE GOD ABOVE ALL THINGS

BY

LEARNING TOGETHER

LOVING OURSELVES

LOVING EACH OTHER

LOVING ALL PEOPLE

LOVING LIFE ITSELF

AND

CONSTANTLY STRIVING FOR

EXCELLENCE

WORTHY OF OUR GOD GIVEN GIFTS.



Vision

Catholic vision and Catholic principles drive **the vision** of the school, at St. Mary's we aim: -

For every child to receive an outstanding education, so that they reach their full-human potential worthy of their God-given gifts.

For every child to leave St. Mary's equipped with the skills they need for the next stage of their education and lives, knowing their contribution makes a difference in our world.

Science Progression Grid and Coverage Document

Vision

At St Mary's, science nurtures curiosity about God's world and a desire to understand how it works. Children learn to explore carefully, ask thoughtful questions and use evidence to explain their ideas. Our Catholic ethos encourages wonder, respect for life and responsibility for the environment.

Intent

Our science curriculum builds connected knowledge in biology, chemistry and physics alongside the practical and intellectual skills of working scientifically. Children move from first-hand exploration and naming familiar features to explaining processes, selecting enquiries and evaluating evidence. Learning is revisited so that children can use earlier ideas confidently in new contexts.

Aims

- Develop secure understanding of living things, materials and physical processes, with accurate scientific vocabulary.
- Enable children to ask questions, observe, measure, classify and investigate in ways that fit the question.
- Support children to explain patterns, justify conclusions and recognise when further evidence is needed.
- Help children understand the uses of science in everyday life and recognise the contributions of different people to scientific knowledge.
- Develop care for living things, responsible use of resources and safe practical habits.

Implementation

Teaching follows the school's planned sequence and draws on PLAN resources, practical investigation, discussion, models and appropriate secondary sources. Lessons identify prior learning, introduce and revisit vocabulary, address misconceptions and provide opportunities to apply knowledge. Working scientifically is taught through the subject content rather than as a separate set of disconnected activities.

The plans include observation over time, identifying and classifying, pattern seeking, comparative and fair testing, and research using secondary sources. Seasonal and living-things observations are revisited outdoors. Teachers use discussion, practical tasks, drawings and end-of-unit activities to check understanding and inform subsequent teaching. Recording is adapted so that children can demonstrate scientific understanding through suitable forms of communication.

In Reception, science develops principally through Understanding the World, supported by Communication and Language, Mathematics, Physical Development and creative exploration. Developmental experiences are revisited through play and adult interaction; ELGs describe holistic end-of-Reception expectations.

Science Pathway at St Mary's

Units are shown by term. Seasonal observations and working scientifically continue across the year, and longer studies are revisited so children can observe change over time.

Year	Autumn	Spring	Summer
Reception	Throughout the year: exploring plants and animals; body parts and senses; comparing environments; materials and changing states; seasonal observation; movement, light and sound; asking questions and communicating discoveries.		
Year 1	Seasonal Changes Everyday Materials	Animals including Humans Plants — begins in spring	Plants — continued Seasonal Changes — revisited
Year 2	Living Things and their Habitats Animals including Humans — growth, needs and healthy living	Animals including Humans — healthy habits Uses of Everyday Materials	Plants
Year 3	Rocks Forces and Magnets	Light Animals including Humans	Plants
Year 4	States of Matter Living Things and their Habitats	Sound Electricity	Animals including Humans
Year 5	Living Things and their Habitats Animals including Humans	Properties and Changes of Materials Forces	Earth and Space
Year 6	Living Things and their Habitats Evolution and Inheritance	Light Electricity	Animals including Humans

Progression

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants and plant life cycles	Explore familiar plants and trees. Notice features of leaves, flowers and seeds; draw what is observed. Care for growing plants and describe changes over time. Bt5M: The world, Ranges 5–6; Mathematics: Measures, Ranges 5–6. ELG: The Natural World — observation, drawing and change.	Identify and name common wild and garden plants, including deciduous and evergreen trees. Identify basic structures of flowering plants and trees: roots, stem/trunk, leaves and flowers/blossom.	Observe and describe how seeds and bulbs grow into mature plants. Explain that plants need water, light and a suitable temperature to grow and remain healthy; observe growth over time.	Identify and describe the functions of roots, stems or trunks, leaves and flowers. Explore needs for air, light, water, nutrients from soil and space, including how requirements vary. Investigate water transport. Explain the roles of flowers in pollination, seed formation and seed dispersal.	Revisit plant identification when grouping living things and using classification keys. Use visible features to identify plants in local and wider environments. Explain how changes to the environment can threaten living things.	Describe reproduction in some plants. Explain sexual reproduction through flowering, pollination, fertilisation and seed formation; compare this with asexual reproduction through bulbs, tubers, runners or cuttings. Use observations and sources to compare life-cycle stages.	Apply plant knowledge in classification and evolution. Give reasons for grouping flowering and non-flowering plants by their characteristics. Explain examples of plant adaptations and inherited variation. Use evidence to connect survival and reproduction over generations.
Animals, including humans: bodies, nutrition and health	Name familiar animals and body parts. Observe how animals move and feed. Explore through available senses and describe similarities and differences. Notice growth and discuss everyday food, exercise, hygiene and care. Bt5M: The world; Health and self-care, Ranges 5–6. ELGs: The Natural World; Managing Self.	Identify and name fish, amphibians, reptiles, birds and mammals; group familiar animals as carnivores, herbivores or omnivores; compare body structures. Name basic human body parts and associate body parts with the senses.	Describe offspring growing into adults and the basic needs for water, food and air. Explain the importance of exercise, suitable amounts of different foods and hygiene. Revisit healthy habits through teeth and gum care, hygiene, suitable drinks and sleep.	Explain that animals, including humans, need the right types and amount of nutrition and obtain food rather than making it themselves. Identify skeletons and muscles and explain roles in support, protection and movement.	Describe the basic parts of the digestive system and their functions. Identify different types of teeth and explain their simple functions; construct and interpret food chains, identifying producers, predators and prey.	Describe changes from infancy through childhood, adolescence and adulthood to old age. Explain changes during puberty using accurate, age-appropriate vocabulary. Use secondary information to compare development while recognising that individuals grow and develop at different rates.	Identify the heart, blood vessels and blood and describe their functions in the circulatory system. Explain how nutrients and water are transported in animals, including humans. Recognise how diet, exercise, drugs and lifestyle affect the body; connect explanations to scientific evidence.

Progression continued

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Living things, habitats, classification and interdependence	Observe plants and animals in the grounds. Compare the local natural world with a specific contrasting environment using experience, books and images. Show care for living things. Bt5M: The world, Ranges 5–6. ELG: The Natural World — observation and contrasting environments.	Recognise common animals and plants and describe visible features. Group animals by broad categories and diet; observe familiar organisms in their environments.	Distinguish living, dead and never alive. Describe how habitats meet the needs of plants and animals, including microhabitats. Identify local and less familiar organisms and explain simple interdependence. Build simple food chains and identify food sources.	Revisit habitats when exploring plant requirements and animal nutrition. Use observations and sources to explain what living things need. Apply earlier animal grouping and food-chain knowledge; there is no separate Year 3 habitats unit.	Recognise that living things can be grouped in different ways. Use and create classification keys to identify plants and animals in local and wider environments. Explain that environments can change and that this can create danger for living things.	Describe differences in the life cycles of mammals, amphibians, insects and birds. Describe reproduction in some plants and animals. Compare life-cycle stages and identify patterns using observations or reliable sources.	Describe classification into broad groups using shared observable characteristics, including micro-organisms, plants and animals. Give reasons for grouping plants and animals by specific features. Use keys and evidence to identify vertebrates, invertebrates, flowering and non-flowering plants. Recognise fungi and bacteria as examples encountered when studying micro-organisms.
Evolution inheritance and adaptation	Notice similarities and differences between familiar plants and animals, including young and adults. Describe observable features without formal evolutionary explanations. Bt5M: The world, Range 6. ELG contribution: The Natural World — observation and comparison.	Foundation for later learning: observe and describe similarities and differences between familiar organisms and their environments.	Foundation for later learning: describe how a habitat provides basic needs and how organisms depend on each other; identify simple effects when habitat conditions change.	Foundation for later learning: use examples of body structures and habitats to describe how living things survive in their environments.	Foundation for later learning: recognise that environmental change may pose danger to living things; compare organisms using classification features.	Foundation for later learning: compare life cycles and reproduction in plants and animals; recognise that offspring grow and develop, and that organisms show similarities and differences.	Recognise that living things have changed over time and fossils provide evidence of life millions of years ago. Explain that offspring are of the same kind but usually vary from their parents. Identify how plants and animals are adapted to their environments and how inherited variation and adaptation over generations can lead to evolution.

Progression continued

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Materials and their properties	Explore and compare everyday materials by appearance, texture, flexibility and use. Choose and try a material for a simple purpose; explain what was noticed. Bt5M: The world; Creating with materials, Ranges 5–6. ELG links: Creating with Materials; Speaking.	Distinguish an object from the material it is made from. Name common materials including wood, plastic, glass, metal, water and rock. Describe simple physical properties and group materials by properties.	Compare suitability of materials for particular uses, including wood, metal, plastic, glass, brick, rock, paper and cardboard. Explore changing the shape of solid objects by squashing, bending, twisting and stretching.	Apply material comparison to rocks: describe appearance, grains or crystals, hardness and absorption. Use observations and simple tests to group rocks and connect properties with uses.	Compare materials as solids, liquids or gases using observable properties. Recognise that solids keep their shape, liquids have a fixed volume but take the shape of their container, and gases spread to fill available space.	Compare hardness, solubility, transparency, thermal and electrical conductivity, and response to magnets. Use evidence from comparative and fair tests to justify uses of materials, including metals, wood and plastic. Distinguish properties from the purpose or name of an object.	Revisit and apply prior materials knowledge in new contexts, including electrical conductivity. Use evidence to justify a material choice and explain the strengths and limitations of a comparison. No separate Year 6 materials unit is specified.
States of matter, mixtures and changes	Explore water, ice, melting, freezing, drying and simple mixtures. Describe before-and-after observations and notice changes when conditions differ. Bt5M: The world, Ranges 5–6. ELG: The Natural World — changing states of matter.	Observe and describe materials and water in everyday contexts; use vocabulary for observable properties. Formal particle explanations are not expected.	Compare how materials are used and how their shapes can change when forces are applied. Observe everyday changes and describe them using simple language.	Revisit observation and comparison through rocks and soils. Describe what happens when materials are rubbed, mixed with water or allowed to settle. Formal study of states of matter follows in Year 4.	Group materials as solids, liquids or gases. Observe changes when materials are heated or cooled; measure temperatures in degrees Celsius. Explain evaporation and condensation within the water cycle and associate evaporation rate with temperature. Distinguish melting, freezing, evaporation and condensation.	Explain dissolving to form a solution and how a dissolved substance can be recovered. Choose filtering, sieving or evaporation to separate mixtures. Demonstrate reversible mixing, dissolving and state changes. Explain that some changes form new materials and are not usually reversible, including burning and acid reacting with bicarbonate of soda.	Apply Year 4 and Year 5 knowledge to interpret observations and explain familiar changes. Distinguish dissolving from melting, and separation of a mixture from formation of new materials. Select evidence to support an explanation rather than repeating a process name.

Progression continued

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Rocks, soils and fossils	Explore stones, soil, sand and other natural materials. Compare size, texture, colour and weight and describe what is noticed. Bt5M: The world; Mathematics: Measures, Ranges 5–6. ELG contribution: The Natural World — exploration; Speaking.	Name rock as an everyday material and compare it with wood, metal, glass and other materials by observable properties.	Compare uses and suitability of rock and other everyday materials; observe natural materials in local environments.	Compare and group rocks by appearance and simple physical properties. Describe fossil formation in simple terms. Recognise that soil is made from rocks and organic matter.	Revisit Year 3 rock and soil knowledge when observing environments and explaining habitat change. Apply classification and recording skills without introducing a new statutory rocks unit.	Revisit rock properties when comparing and justifying material uses. Use previously learned vocabulary and evidence; the detailed link between fossils and evolution is developed in Year 6.	Use fossils as evidence of organisms that lived millions of years ago and of changes in living things over time. Connect Year 3 fossil formation with Year 6 evolution and inheritance, distinguishing an observation from an explanation based on evidence.
Light and seeing	Explore light and dark, reflections and shadows using safe resources. Notice how a shadow changes when an object or light source moves. Never look directly at the Sun. Bt5M: The world and Technology, Ranges 5–6. ELG support: Speaking; wider exploratory learning.	Develop foundations through the sense of sight and comparison of transparent and opaque everyday materials. Use observations to describe what can be seen. Formal light content is introduced in Year 3.	Apply material properties when selecting suitable materials for a purpose, including whether light passes through. Describe comparisons using evidence; this is a context for enquiry rather than a separate Year 2 light unit.	Recognise that light is needed to see and darkness is absence of light. Notice reflection from surfaces. Understand sunlight can harm eyes and identify protection. Explain shadows as formed when an opaque object blocks light; investigate shadow-size patterns.	Revisit Year 3 light and shadow knowledge when it supports observation and enquiry. Use clear records and explanations to describe patterns; no separate Year 4 light unit is specified.	Apply earlier shadow knowledge when observing changes during the day in Earth and Space. Use Earth's rotation to explain the Sun's apparent movement; keep the light-source, object and shadow relationship clear.	Recognise that light appears to travel in straight lines. Explain that objects are seen because they emit or reflect light into the eye. Describe paths from sources directly to eyes or via objects. Use straight-line travel to explain why shadows have the same outline shape as the objects casting them.

Progression continued

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sound	Listen to and compare sounds, including loud and quiet or high and low examples. Explore how actions produce sound and describe what changes. Bt5M: The world; Creating with materials, Ranges 5–6. ELG support: Listening, Attention and Understanding; Speaking.	Connect hearing with the ears in Animals including Humans. Compare familiar sounds and use descriptive language. These experiences provide foundations for the formal Year 4 sound unit.	Revisit careful listening and comparison during practical enquiry. Describe differences noticed without requiring formal explanations of vibration, pitch or volume.	Apply observation and comparison skills in familiar sound contexts where relevant. The formal National Curriculum sound content is taught in Year 4.	Identify sound sources and link sounds to vibration. Explain that vibrations travel through a medium to the ear. Find patterns between pitch and the features of sound sources, and between volume and vibration strength. Recognise that sound becomes fainter as distance from its source increases.	Revisit Year 4 sound knowledge when interpreting evidence or using equipment. Distinguish pitch from volume and justify comparisons. No separate Year 5 sound unit is specified.	Apply prior sound knowledge when comparing buzzer loudness in electrical circuits. Use evidence and accurate vocabulary to describe changes; do not confuse increased volume with increased pitch.
Electricity	Explore appropriate battery-operated toys and switches with adult support. Notice cause and effect and use equipment safely. Bt5M: Technology, Ranges 5–6. Supports enquiry and talk within the wider curriculum; there is no Technology ELG.	Recognise familiar uses of electrical devices in everyday life and practise safe habits. Formal circuit construction is not a statutory Year 1 objective.	Revisit safe use of everyday equipment and describe simple cause and effect. Formal electricity content begins in Year 4.	Apply careful observation and safe equipment handling in science. Distinguish electrical equipment from magnets when relevant; no separate Year 3 electricity unit is specified.	Identify appliances that use electricity. Construct simple series circuits and name cells, wires, bulbs, switches and buzzers. Decide whether a lamp will light by checking for a complete loop with a cell or battery. Explain opening and closing switches. Identify conductors and insulators and associate metals with conductivity.	Apply Year 4 circuit knowledge to compare electrical conductivity in Properties and Changes of Materials. Use controlled comparisons, appropriate low-voltage components and clear records.	Associate lamp brightness or buzzer volume with the number and voltage of cells. Compare and explain changes in how components function, including bulb brightness, buzzer loudness and switch position. Use recognised symbols to represent simple circuits and justify predictions using evidence.

Progression continued

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces, magnets and mechanisms	Explore pushing, pulling, rolling and sliding. Compare movement on surfaces and investigate magnets with suitable objects and adult support. Describe an action and its effect. Bt5M: The world; Technology, Ranges 5–6. Supports explanation, comparison and wider exploratory learning.	Develop foundations by observing and describing movement during practical exploration. Use simple comparative tests; forces and magnets are not separate Year 1 statutory topics.	Investigate squashing, bending, twisting and stretching solid objects in Uses of Everyday Materials. Describe observable changes and compare how materials respond to actions.	Compare how objects move on different surfaces. Recognise contact and non-contact forces, including magnetism. Observe attraction and repulsion; identify magnetic materials, poles and predict whether poles attract or repel.	Revisit magnetic and contact forces when practising enquiry skills, using the Year 3 knowledge as a foundation. No separate Year 4 forces unit is specified.	Explain that unsupported objects fall because gravity acts between Earth and the object. Identify effects of friction, air resistance and water resistance. Recognise that levers, pulleys and gears can allow a smaller force to have a greater effect. Use measurements and controlled comparisons to investigate.	Apply Year 3 and Year 5 knowledge of forces and mechanisms in unfamiliar contexts. Explain a prediction, identify relevant variables and evaluate an explanation against evidence; this consolidates prior content.
Seasonal change and Earth and space	Revisit the same outdoor places across seasons. Observe weather, leaves and growth, using drawings and photographs to compare change. Notice the Sun and Moon safely. Bt5M: The world, Ranges 5–6. ELG: The Natural World — seasons and processes.	Observe changes across the four seasons. Describe associated weather and how day length varies. Revisit the same tree and outdoor environment through the year and compare weather and daylight records. Avoid treating one day's weather as a rule for a whole season.	Revisit Year 1 seasonal knowledge through plants and habitats. Observe growth and environmental change over time and use records to compare patterns.	Apply seasonal and weather knowledge when investigating plants and shadows. Compare observations across time; formal solar-system models are introduced in Year 5.	Connect observations of weather and environmental change to the Year 4 water cycle. Explain evaporation and condensation through States of Matter; use evidence to compare conditions.	Describe Earth's and other planets' movement relative to the Sun, and the Moon's movement relative to Earth. Describe the Sun, Earth and Moon as approximately spherical. Use Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	Revisit and apply Year 5 solar-system knowledge when interpreting evidence and evaluating models. Distinguish rotation from orbit and use accurate explanations of day and night. No separate Year 6 Earth and space unit is specified.

Working Scientifically

The National Curriculum specifies expectations across Years 1–2, Years 3–4 and Years 5–6. The steps below describe increasing independence within each phase and are developed through science topics.

Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Asking questions	Ask about what is noticed and respond to adult prompts. Bt5M: Speaking, Ranges 5–6; The world, Range 6. ELGs: Listening, Attention and Understanding; Speaking.	Ask simple questions about familiar objects, living things and events.	Recognise that questions can be answered in different ways; suggest looking, testing or asking a source.	Ask relevant questions linked to scientific ideas and suggest ways to find out.	Refine a question and choose a suitable type of enquiry with increasing independence.	Develop questions that can be answered through different scientific enquiries.	Refine questions to make the evidence needed clear; explain why the chosen enquiry is suitable.
Planning and carrying out enquiries	Choose what to explore, try an idea and repeat an action with support.	Follow a modelled simple test and help choose what to compare.	Carry out simple tests and suggest how to make comparisons consistent.	Set up simple practical enquiries and comparative tests; begin to recognise a fair test.	Plan a simple fair test, identifying what to change, observe or measure and keep the same.	Plan different enquiry types and recognise when variables need controlling.	Justify the method, controls and equipment; recognise when a fair test is not appropriate.
Predicting	Say what might happen using a familiar experience, without requiring a written prediction.	Share ideas about what might happen during exploration.	Connect a prediction with an observation or earlier experience; this supports learning rather than adding a KS1 statutory requirement.	Use earlier learning to predict what may happen.	Use results to make predictions for new values and suggest a further enquiry.	Use test results to predict outcomes and set up further comparative or fair tests.	Explain the scientific reasoning for a prediction and revise it when evidence warrants a change.

Enquiry approaches: observing over time; identifying, grouping and classifying; pattern seeking; comparative and fair testing; research using secondary sources. Close observation supports all five approaches.

Working Scientifically continued

The National Curriculum specifies expectations across Years 1–2, Years 3–4 and Years 5–6. The steps below describe increasing independence within each phase and are developed through science topics.

Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Observing and measuring	Observe through available senses and use simple equipment with support. Compare length, weight and capacity. Bt5M: Measures, Ranges 5–6; The world, Range 6.	Observe closely using simple equipment such as magnifiers; use simple measurements.	Select useful observations and measurements to answer a question, with increasing accuracy.	Make systematic observations and use standard units with rulers, thermometers and suitable equipment.	Take careful measurements using a wider range of equipment, including data loggers where appropriate.	Choose suitable equipment and improve accuracy and precision; take repeat readings when appropriate.	Select suitable scales, ranges and intervals; repeat readings where useful and consider unexpected results.
Identifying grouping and classifying	Sort familiar objects by a visible feature and explain a choice.	Identify and classify using simple features.	Choose a grouping rule and explain similarities and differences using observations.	Gather and classify evidence using clear criteria; use simple keys with support.	Use and construct classification keys to identify living things or materials from their features.	Choose relevant characteristics and use classification keys to organise increasingly complex information.	Justify classification decisions, review ambiguous examples and use evidence to support groupings.
Recording	Show observations through drawings, photographs, marks or adult-scribed explanations. Bt5M: The world, Range 6. ELG: The Natural World; Fine Motor Skills where relevant.	Gather and record data using drawings, labels or simple tables.	Organise observations and simple measurements so that results can be compared.	Use notes, labelled drawings, tables and simple scientific language to record findings.	Record systematic measurements and observations with clear headings, labels and units.	Record increasingly complex data using diagrams, labels, keys and tables.	Choose records that preserve the detail needed to analyse results and evaluate the enquiry.

Working Scientifically continued

Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Presenting	Share a drawing or model and explain what was noticed; compare small groups.	Communicate findings through talk, pictures and simple displays.	Use an accessible display, such as a pictogram, to show gathered data with support.	Use tables, labelled diagrams and bar charts to help answer questions.	Choose suitable keys, tables, diagrams or bar charts and communicate the pattern shown.	Use tables, classification keys, bar charts and line graphs when appropriate to the data.	Select from diagrams, keys, tables, scatter graphs, bar and line graphs; justify the representation.
Drawing conclusions and explaining	Describe what happened and begin to link an explanation to an observation.	Use observations and ideas to suggest an answer.	Explain a simple pattern or comparison using evidence and relevant vocabulary.	Draw simple conclusions and identify differences, similarities or changes linked to science ideas.	Use straightforward scientific evidence to answer questions and support explanations.	Report conclusions and explain relationships using data and scientific knowledge.	Justify conclusions, explain causal relationships where supported and identify evidence that supports or challenges an argument.
Evaluating and reporting	Talk about an idea, try a change and listen to others' observations.	Describe what was done and found.	Discuss whether observations answered the question and what else could be found out.	Report findings orally and in writing; suggest improvements and further questions.	Explain an improvement and use findings to plan a further observation or test.	Report methods and findings, identify useful further tests and discuss confidence in the results.	Explain the degree of trust in results, identify limitations and justify improvements or further enquiry.

Scientific vocabulary

Vocabulary is introduced through concrete experiences, precise explanations and repeated use. Children retain earlier words and use them in increasingly demanding contexts; topic lists identify key additions rather than an exhaustive glossary.

Year	Key vocabulary by unit
EYFS	<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, tree, bush, herb, names of plants they see (Reception - Living things and their habitats) <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, 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>Evolution:</u> natural, plant, animal, leaves, seeds, conkers, acorns, twigs, bark, shells, feathers, pebbles, stones, same, different, pattern (Nursery - Living things and their habitats) plant, tree, bush, flower, vegetable, herb, weed, animal, names of plants and animals they see, name of a contrasting environment (e.g. beach, forest) (Reception - Living things and their habitats) <u>Seasonal Changes:</u> grow, shoot, die, dead (Nursery - Plants) egg, chick, bird, caterpillar, cocoon, chrysalis, butterfly, frog spawn, tadpole, froglet, frog, grow, change, die, names of animals and their young (Nursery - Animals, excluding humans) 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> 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, ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, 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>Rocks:</u> natural, shells, pebbles, stones <u>Light:</u> light, torch, bulb, lamp, spotlight, shiny, bright, brighter, brightest, Sun, shine, glow, mirror, Sun, sunny, light, shadow, shady, clouds, torch, see-through, not see-through, source, light source <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, 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, loud, quiet, high, low, music, bang, blow, pluck, soft, hard, fast, slow, names of instruments, sound, noise, listen, hear, music, voices, bird song, traffic, sirens, thunder, high, low, loud, quiet, soft, volume, crackle, thunder, hum, buzz, roar <u>Electricity:</u> battery, plug, socket, electricity, wire, sound, light, move <u>Earth and space:</u> Sun, Moon, Earth, star, planet, sky, day, night, space, round, bounce, float

Year	Key vocabulary by unit
Year 1	<u>Plants:</u> leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, names of trees in the local area, names of garden and wild flowering plants in the local area <u>Animals including humans:</u> 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 human body including those within the school's RSE policy, senses, touch, see, smell, taste, hear, fingers, skin, eyes, nose, ears, tongue <u>Evolution:</u> leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud (Y1 - Plants) <u>Seasonal Changes:</u> 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 <u>Materials:</u> object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through <u>Rocks:</u> object, material, rock, brick, clay, hard, soft, waterproof, absorbent, rough, smooth, shiny, dull, see-through, not see-through (Y1 - Everyday materials) <u>Light:</u> senses, see, eyes (Y1 - Animals, including humans), shiny, dull, see-through, not see-through (Y1 - Materials) <u>Sound:</u> senses, hear, ear (Y1 - Animals, including humans)
Year 2	<u>Plants:</u> light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling , names of plants in local habitats and micro-habitats (Y2 - Living things and their habitats) <u>Animals including humans:</u> offspring, reproduction, growth, baby, toddler, child, teenager, adult, old person, names of animals and their babies (e.g. chick/chicken, 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) living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival (Y2 - Living things and their habitats) <u>Evolution:</u> light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling (Y2 - Plants) living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival, conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold (Y2 - Living things and their habitats) <u>Materials:</u> opaque, transparent, translucent, reflective, non-reflective, flexible, rigid, shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching <u>Rocks:</u> opaque, transparent, translucent, reflective, non-reflective (Y2 - Uses of everyday materials) <u>Light:</u> opaque, transparent, translucent, reflective, non-reflective (Y2 - Uses of everyday materials) <u>Forces:</u> flexible, rigid, shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching (Y2 - Uses of everyday materials)

Year	Key vocabulary by unit
Year 3	<u>Plants:</u> photosynthesis, pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), air, nutrients, minerals, soil, absorb, transport <u>Animals including humans:</u> nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine <u>Evolution:</u> photosynthesis, pollen, insect/wind pollination, male, female, seed formation, seed dispersal (e.g. wind dispersal, animal dispersal, water dispersal), air, nutrients, minerals, soil (Y3 - Plants) soil, fossil, bone, flesh, minerals (Y3 - Rocks) <u>Materials:</u> rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorbs water, fossil, bone, flesh, minerals, marble, chalk, granite, sandstone, slate, types of soil (e.g. peaty, sandy, chalky, clay) (Y3 - Rocks) magnetic force, magnet, attract, magnetic material, metal, iron, steel (Y3 - Forces and magnets) <u>Rocks:</u> rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorbs water, fossil, bone, flesh, minerals, marble, chalk, granite, sandstone, slate, types of soil (e.g. peaty, sandy, chalky, clay) <u>Light:</u> light, light source, dark, absence of light, surface, shadow, reflect, mirror, Sun, sunlight, dangerous <u>Forces:</u> force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole <u>Earth and Space:</u> light, light source, Sun, sunlight, dangerous (Y3 - Light)
Year 4	<u>Plants:</u> classification, classification keys (Y4 - Living things and their habitats) <u>Animals including humans:</u> digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, large intestine, rectum, anus, incisor, canine, molar, premolar, herbivore, carnivore, omnivore, producer, predator, prey <u>Evolution:</u> environment, habitat, human impact, positive, negative, migrate, hibernate (Y4 - Living things and their habitats) herbivore, carnivore, omnivore, producer, predator, prey (Y4 - Animals, including humans) <u>Materials:</u> solid, liquid, gas, heating, cooling, state change, melting, freezing, melting point, boiling, boiling point, evaporation, condensation, temperature, water cycle, electrical conductor, electrical insulator, metal, non-metal (Y4 - Electricity) <u>Sound:</u> sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, quiet, loud, insulation <u>Electricity:</u> electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol
Year 5	<u>Plants:</u> life cycle, reproduce, sexual, fertilises, asexual, plantlets, runners, tubers, cuttings (Y5 - Living things and their habitats) <u>Animals including humans:</u> puberty, the vocabulary to describe sexual characteristics in line with the school's RSE policy life cycle, foetus, baby, child, adolescent, adult, reproduce, sexual, sperm, fertilises, egg, live young (Y5 - Living things and their habitats) <u>Evolution:</u> life cycle, reproduce, sexual, fertilises, asexual, plantlets, runners, tubers, cuttings (Y5 - Living things and their habitats) <u>Materials:</u> thermal insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material <u>Forces:</u> force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears <u>Earth and Space:</u> Sun, Moon, Earth, planets (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, Solar System, rotate, star, orbit

Year	Key vocabulary by unit
Year 6	<u>Plants</u>: flowering, non-flowering, mosses, ferns, conifers (Y6 - Living things and their habitats) <u>Animals including humans</u>: heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, cycle, circulatory system, diet, drugs, lifestyle <u>Evolution</u>: offspring, sexual reproduction, vary, characteristics, adapted, inherited, species, evolve, evolution <u>Light</u>: straight lines, light rays <u>Electricity</u>: circuit diagram, circuit symbol, voltage

National Curriculum Coverage

Key Stage 1 — Years 1 and 2. Statements are grouped by statutory topic; the descriptions show where the content is made explicit in the school's planning.

National Curriculum statement	Year group	Unit covered	How it is covered
Identify and name common wild and garden plants, including deciduous and evergreen trees; identify and describe the basic structures of flowering plants and trees.	Year 1	Plants	Local plant and tree identification; comparison of leaves; labelled drawings and models of plant and tree parts.
Identify and name common fish, amphibians, reptiles, birds and mammals; identify carnivores, herbivores and omnivores; describe and compare animal structures; identify, draw and label human body parts and link them to senses.	Year 1	Animals including Humans	Animal grouping by features and diets; body-part labelling; sensory exploration and explanations.
Distinguish objects from materials; name everyday materials including wood, plastic, glass, metal, water and rock; describe, compare and group materials by simple physical properties.	Year 1	Everyday Materials	Object–material comparisons, material naming, feely boards, sorting and simple comparisons of properties.
Observe changes across the four seasons; describe associated weather and variation in day length.	Year 1	Seasonal Changes	Repeated outdoor observations, a recurring tree record, weather information and comparisons of daylight.
Compare living, dead and never-alive things; explain how habitats meet needs and how living things depend on one another; identify plants and animals in habitats and microhabitats; describe food sources and simple food chains.	Year 2	Living Things and their Habitats	Local habitat and microhabitat studies, grouping by living status, needs-based explanations and food-chain construction.
Observe seeds and bulbs growing into mature plants; investigate and describe needs for water, light and suitable temperature for healthy growth.	Year 2	Plants	Seed and bulb observations, growing studies and comparisons of conditions, supported by information from seed packets.
Notice offspring growing into adults; describe needs for water, food and air; explain the importance of exercise, suitable amounts of different foods and hygiene.	Year 2	Animals including Humans	Growth and basic-needs learning in autumn; practical comparisons and follow-up work on healthy habits in spring.
Compare the suitability of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard; explore changing shapes by squashing, bending, twisting and stretching.	Year 2	Uses of Everyday Materials	Material-purpose comparisons, sorting by properties and investigations of stretching and other shape changes.
Ask simple questions; observe closely using equipment; perform simple tests; identify and classify; use observations and ideas to suggest answers; gather and record data.	Years 1–2	Across KS1 units	Embedded in identification, sensory and material comparisons, seasonal records, habitat studies and plant growth enquiries.

National Curriculum Coverage continued

Key Stage 2 — Year 3. The coverage matrix makes the statutory content explicit while the progression grid shows how earlier learning prepares children for it.

National Curriculum statement	Year group	Unit covered	How it is covered
Describe functions of plant parts; explore requirements for life and growth and variation between plants; investigate water transport; explore flowers' roles in pollination, seed formation and dispersal.	Year 3	Plants	Growing-condition enquiries, roots and leaves, water transport and flowering-plant life-cycle work.
Explain appropriate types and amounts of nutrition and that animals obtain food rather than making it; identify the roles of skeletons and muscles in support, protection and movement.	Year 3	Animals including Humans	Nutrition and food comparisons; skeleton and muscle models; explanations of body support, protection and movement.
Compare rocks by appearance and simple physical properties; describe fossil formation; recognise soil as rock material and organic matter.	Year 3	Rocks	Rock sorting and property comparisons, fossil models and sources, and close observation of soils.
Recognise the need for light and darkness as its absence; notice reflection; recognise dangers of sunlight; explain shadows formed by opaque objects; investigate shadow-size patterns.	Year 3	Light	Investigating visibility, reflective materials, shadow formation and size, and protecting eyes from sunlight.
Compare movement on surfaces; distinguish contact and magnetic forces; observe attraction and repulsion; classify magnetic materials; describe poles and predict interactions between poles.	Year 3	Forces and Magnets	Surface comparisons, magnetic-material sorting, attraction and repulsion investigations, and pole-based predictions.

National Curriculum Coverage continued

Key Stage 2 — Year 4 and lower KS2 enquiry. The coverage matrix makes the statutory content explicit while the progression grid shows how earlier learning prepares children for it.

National Curriculum statement	Year group	Unit covered	How it is covered
Group living things in different ways; use classification keys to identify local and wider examples; recognise that environmental change can endanger living things.	Year 4	Living Things and their Habitats	Keys, grouping by features, seasonal or natural change, human impacts and dangers to habitats.
Describe basic digestive-system functions; identify teeth and functions; construct and interpret food chains with producers, predators and prey.	Year 4	Animals including Humans	Teeth and digestion models, labelled explanations and food-chain construction and interpretation.
Group solids, liquids and gases; observe heating and cooling changes and measure or research temperatures in degrees Celsius; explain evaporation and condensation in the water cycle and the effect of temperature on evaporation.	Year 4	States of Matter	State classification, temperature and change investigations, evaporation and condensation demonstrations and water-cycle models.
Associate sound with vibration; explain transmission through a medium to the ear; relate pitch to source features and volume to vibration strength; recognise that sounds fade with distance.	Year 4	Sound	Vibration and transmission exploration, pitch and volume comparisons, and distance-from-source investigations.
Identify electrical appliances; construct and name parts of series circuits; predict whether a lamp will light in a complete loop with a battery; explain switches; identify conductors and insulators and link metals with conductivity.	Year 4	Electricity	Circuit building and troubleshooting, switches, material conductivity tests and purposeful circuit design.
Ask relevant questions; set up practical enquiries, comparative and fair tests; make systematic observations and measurements with standard units and equipment; gather, record, classify and present data using scientific language, drawings, diagrams, keys, bar charts and tables.	Years 3–4	Working Scientifically	Applied through the units above, including plant, rock, force, light, sound, circuit and state-change investigations.
Report findings orally and in writing; use results for conclusions, predictions for new values, improvements and further questions; identify differences, similarities or changes; use straightforward scientific evidence to support findings and answers.	Years 3–4	Working Scientifically	Structured explanations and comparisons, evidence-based conclusions and review of practical methods and next questions.

National Curriculum Coverage continued

Key Stage 2 — Year 5. The coverage matrix makes the statutory content explicit while the progression grid shows how earlier learning prepares children for it.

National Curriculum statement	Year group	Unit covered	How it is covered
Compare life cycles of a mammal, amphibian, insect and bird; describe reproduction in some plants and animals.	Year 5	Living Things and their Habitats	Life-cycle comparisons, animal reproduction, flowering plants and asexual reproduction.
Describe changes as humans develop to old age.	Year 5	Animals including Humans	Life-stage sequencing, infancy and growth, puberty, adulthood and ageing, linked sensitively with RHE.
Compare hardness, solubility, transparency, thermal and electrical conductivity, and response to magnets; explain dissolving and recovery from solution; choose filtering, sieving and evaporation to separate mixtures.	Year 5	Properties and Changes of Materials	Property comparisons, insulation and conductivity, solutions, separation and recovery of dissolved substances.
Justify material uses from comparative and fair tests; demonstrate reversible dissolving, mixing and state changes; explain formation of new materials in changes that are not usually reversible, including burning and acid with bicarbonate of soda.	Year 5	Properties and Changes of Materials	Evidence-based material choices, reversible-change examples and comparison with changes forming new materials.
Describe planetary movement relative to the Sun and the Moon's movement relative to Earth; describe Sun, Earth and Moon as approximately spherical; explain day and night and apparent Sun movement through Earth's rotation.	Year 5	Earth and Space	Models of shapes, rotation and orbits, solar-system work, shadow observations and Moon movement.
Explain falling objects through gravity acting between Earth and objects; identify friction, air and water resistance; recognise how levers, pulleys and gears can increase the effect of a smaller force.	Year 5	Forces	Force-meter work, gravity, friction and resistance enquiries, and investigations of mechanisms.

National Curriculum Coverage continued

Key Stage 2 — Year 6 and upper KS2 enquiry. The coverage matrix makes the statutory content explicit while the progression grid shows how earlier learning prepares children for it.

National Curriculum statement	Year group	Unit covered	How it is covered
Classify living things using shared observable characteristics, including micro-organisms, plants and animals; justify classification of plants and animals using specific characteristics.	Year 6	Living Things and their Habitats	Animal and plant classification, micro-organisms, keys and the development of classification systems.
Identify the main circulatory-system parts and functions; recognise effects of diet, exercise, drugs and lifestyle; describe transport of nutrients and water within animals, including humans.	Year 6	Animals including Humans	Heart, vessel and blood explanations; circulation models; transport and evidence-based health discussion.
Recognise change in living things over time and fossil evidence of ancient life; recognise variation between offspring and parents; explain adaptations and how these can lead to evolution.	Year 6	Evolution and Inheritance	Inherited and acquired characteristics, adaptation examples, natural-selection models and fossil evidence.
Recognise straight-line light travel; explain seeing through light emitted or reflected into the eye; describe source–eye and source–object–eye paths; explain matching shadow outlines.	Year 6	Light	Light-path investigations, reflection, shadow formation and application through a shadow performance.
Relate lamp brightness or buzzer volume to number and voltage of cells; explain variations in component function; use recognised circuit symbols.	Year 6	Electricity	Comparing cells and components, investigating switches, drawing symbolic diagrams and evaluating a circuit.
Plan different enquiry types and control variables where necessary; measure with increasing accuracy and precision and repeat readings when appropriate; record complex data with diagrams, labels, keys, tables, scatter graphs, bar and line graphs.	Years 5–6	Working Scientifically	Applied through materials, forces, living things, light and electrical investigations; choose methods and representations suited to the question.
Use results to predict and set up further comparative or fair tests; report findings, conclusions, causal relationships and degree of trust; identify scientific evidence supporting or refuting ideas and arguments.	Years 5–6	Working Scientifically	Evidence-based explanations, evaluation of methods and confidence in findings, and comparison of scientific evidence and claims.

