Science

Haslingfield Endowed Primary School

Curriculum

Our Science Curriculum

Intent

Key Overview

At Haslingfield Primary, it is our intention to recognise the importance of Science in every aspect of daily life. We give the teaching and learning of Science the prominence it requires. Science is taught as a discrete subject.

Knowledge Building

The Scientific area of learning is concerned with increasing pupils' knowledge and understanding of our world, whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of Science, today and for the future. It will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence.

Skills Enquiry

Scientific enquiry skills are embedded in each topic the children study which are revisited and developed throughout their time at school. All children are encouraged to develop and use a range of skills including:

- observations,
- planning and investigations,
- question the world around them
- explore possible answers for their scientific based questions.

Concepts taught are reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

Oracy and Discussion

Specialist vocabulary for topics is taught and built up, and effective questioning is used to enable pupils to communicate their scientific ideas.

Implementation

Themes and Topics

Through our science curriculum we cover a range of topics to ensure a comprehensive scheme of learning. Topics are taught in Key Stage One and studied again in further detail throughout Key Stage Two.

Programme of Study

Our Science programme of study is organised into four phases. These are, Early Years, Key Stage 1 (Years 1 and 2), Lower Key Stage 2 (Years 3 and 4), and Upper Key Stage 2 (Years 5 and 6). Children in each phases follow the same skills and knowledge programme.

A clear and comprehensive scheme of teaching and learning should plan for practical investigative opportunities within Science lessons. Children will reflect on previous learning and cross curricular links will be made wherever possible.

Children will be able to build on prior knowledge and link ideas together, enabling them to question and become enquiry based learners. Attainment will be assessed each half term through related topic assessment tasks

Application

Children will use a range of resources to develop their knowledge and understanding that is integral to their learning and develop their understanding of working scientifically.

Children have access to key language and meanings in order to understand and readily apply to their written, mathematical and verbal communication of their skills.

Challenge questions are set for pupils to apply their learning in a philosophical and open manner. Trips and visits from experts are organised to enhance the children's learning experience;

Where applicable links to Science will be made during the children's topical learning.

Impact

Key Overview

Through our science curriculum, our children will leave primary school with a secure understanding of the natural world around them and scientific processes.

Knowledge Acquisition

Our children will learn about the different materials surrounding them, rocks and states of matter. They will learn about animals, plants and living things and their habitats and the development of species through evolution and inheritance. They will also learn about forces, light, sound, electricity, and Earth in space.

Skilled Learners

Our children will be able to question ideas and reflect on their knowledge. They will work collaboratively and practically to investigate and experiment, explaining the process they have taken whilst being able to reason scientifically.

Able and Compassionate Scientists

Our children will retain knowledge that is pertinent to Science with a real life context, allowing them to understand, respect and protect the world and environment they live in.

Science Programme of Study

YEAR 1 | YEAR 2

	Cycle A	Cycle B
	2022-23, 2025-26	2023-24, 2026-27
Autumn 1	Materials	Materials
Autumn 2	Materials	Materials
Spring 1	Animals Including Humans (Parts of the Body)	Animals Including Humans (Parts of the Body)
Spring 2	Animals Including Humans (Name and Compare Animals) *Sealife Animals*	Animals Including Humans (Name and Compare Animals) *Safari and Arctic Animals*
Summer 1	Plants *Plants not grow in the local environment / climate*	Plants *Plants grown in the local environment / climate*
Summer 2	Living Things and their Habitats *Food Chains*	Living Things and their Habitats *Habitats*

Seasonal Change (Cycle B Only)
In cycle B the children will look at seasonal change. This is a theme that will run throughout each half-term, where the children will observe the seasonal change in the school environment.

Science Programme of Study

LOWER KEY STAGE 2 – YEAR 3 & YEAR 4

	Cycle A 2024-25, 2026-27, 2028-29, 2030-31	Cycle B 2023-24, 2025-26, 2027-28, 2029-30
Autumn 1	Electricity	Forces and Magnets
Autumn 2	States of Matter	Light
Spring 1	Earth in Space	Rocks
Spring 2	Earth in Space	Rocks
Summer 1	Living Things and their Habitats	Plants
Summer 2	Animals including Humans	Animals including Humans

UPPER KEY STAGE 2 – YEAR 5 & YEAR 6

	Cycle A 2024-25, 2026-27, 2028-29, 2030-31	Cycle B 2023-24, 2025-26, 2027-28, 2029-30
Autumn 1	Forces	Electricity
Autumn 2	Sound	Light
Spring 1	Properties of materials	Evolution and Inheritance
Spring 2	Changing materials	Evolution and Inheritance
Summer 1	Living Things and their Habitats	Living Things and their Habitats
Summer 2	Animals including Humans	Animals including Humans

Science in the Early Years Profile

EARLY YEARS | SCIENCE SKILLS PROGRESSION

Children working within the Early Years Foundation Stage explore science themes by exploring the world around them. In the Reception year they should be given opportunity for both adult directed and child initiated scientific enquiry. Skilled practitioners will look for opportunities in the children's play to apply scientific themes.

Areas of the EYFSP that explicit connections can be made	Listening Attention and Understanding	Speaking	Building Relationships	Fine Motor	Comprehension	Word Reading
How Early Learning Goals can be demonstrated through Science	✔ Listen to and ask questions about the on a scientific theme ✔ Make comments about what they have seen to show an understanding of cause and effect	✔ Use new scientific vocabulary to show understanding ✔ Express their ideas and feelings about what they have heard, seen, participated in.	✔ Explore scientific themes alongside peers, taking turns with resources, building on ideas, and develop collaborative thinking on what to do next/reasons for what they have observed.	✔ Use a range of scientific equipment and resources carefully and accurately.	✔ Demonstrate an understanding of newly taught scientific vocabulary vocabulary	✔ Through science themed vocabulary and text, children can ➢ Read words consistent with their phonic knowledge through blending ➢ Read aloud some simple sentences
	Writing	**Number and Numerical Patterns**	**The Natural World**	**Past and Present**	**Creating With Materials**	**Being Imaginative and Expressive**
	✔ Through science themed vocabulary and knowledge learning, children can ➢ Spell words by identifying sounds in them and representing the sounds with a letter or letters ➢ Write simple phrases and sentences that can be read by others	✔ Within science themed learning, children can apply their counting skills to 20, compare quantities, and addition and subtraction facts to 10. ✔ Children can group and organise objects, counting how many objects are in a group. ✔ Spot patterns in simple data collection	✔ Explore the natural world around them, making observations and drawing pictures of animals and plants ✔ Know some similarities between the natural world around them and contrasting environments ✔ Understand some important processes and changes in the natural world around them, including the seasons	✔ Learn about some scientist in the past ✔ Learn about some scientists in the present (eg a special visitors)	✔ Explore a range of materials and techniques to create and represent their understanding of their surrounding environment and the scientific knowledge they have been taught. ✔ Share their creations, explaining the process and meaning.	✔ Think of own ways to investigate ✔ Begin to think of ways that may change the outcome to what they already know / have seen

Progression of Scientific Enquiry Skills

	EYFS	KEY STAGE 1		LOWER KEY STAGE 1		UPPER KEY STAGE 1	
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ask Questions	Ask relevant questions during whole class discussions and small group interactions.	Asking simple questions and recognising that they can be answered in different ways.		Ask relevant questions and use different types of scientific enquiries to answer them.		Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	
Make Careful Observations	Make simple observations	Observing closely, using simple equipment		Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.		Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.	
Identify and Classify	Group objects that are similar and be able to explain how and why they grouped them	Begin to use classified terms to group and identify		Use classification accurately in written work and also to help identify		Confidently use scientific classification and vocabulary in written work and classification tasks.	
Use a range of equipment	Explore scientific equipment through play (ie magnifying glasses, magnets etc)	Know that specific equipment can be used for specific enquiries. Begin to know the names of some scientific equipment and their purpose.		To be able to explain why some equipment would be better suited to the investigation than others.		Independently select the correct equipment that would be best suited to the investigation and use effectively.	
Perform fair tests	Opportunities to experiment through cause and effect opportunities during play	Perform simple tests using a clear method (fair test not necessary at this stage)		Understand the factors that constitute a fair test. Set up simple practical enquiries, comparative and fair tests.		Use test results to make predictions to set up further comparative and fair tests. Use test results to make predictions to set up further comparative and fair tests.	
Gather, record, and present data		Gather and recording data in simple formats to help in answering questions		Gather, record, classifying and present data in a variety of ways to help in answering questions		Depending on the type of investigation and the questions to be answered, begin to suggest and make choices on the best method to gather data, and also the most useful ways in which to collect and record.	

Skills and Knowledge Coverage KS2

	EYFS	KEY STAGE 1		LOWER KEY STAGE 1		UPPER KEY STAGE 1	
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Record findings	Draw or photograph changes	Begin to use tables and charts to record data		Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.		Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	
Report findings		Be able to verbally report findings to peers and adults		Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.		Report and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.	
Draw conclusions	Begin to use their understanding of the world to offer ideas on how and why things may change	Using their observations and ideas to suggest answers to questions.		Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings.		Identify scientific evidence that has been used to support or refute ideas or arguments. Identify factors that may have influenced the results and also what the results could indicate for further tests and investigations on the same theme.	

Enquiry Skills Coverage Key Stage 1

	Ask questions	Observe, identify and classify	Use simple equipment	Perform simple tests	Gather and record data	Find answers to questions	Scientific Specific Vocabulary
Materials	✓	✓	✓	✓	✓	✓	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, suitable/unsuitable, use/useful, rigid/flexible, strong/weak, transparent/opaque, shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching.
Animals including Humans		✓					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 body including those linked to PSHE teaching Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)
Plants	✓	✓	✓	✓	✓	✓	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud Names of trees in the local area- Oak, Hawthorn, Ash, Beech, Willow Names of garden and wild flowering plants in the local area – Bluebell, buttercup, daisy, Goose grass, dandelion, daffodil, tulip, snowdrop, primrose, hollyhock, Light, shade, sun, warm, cool, water, grow, healthy
Living things and their habitats	✓	✓				✓	Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, carnivore, herbivore and omnivore Names of local habitats e.g. pond, woodland etc. Names of micro-habitats e.g. under logs, in bushes etc.
Seasonal Change		✓	✓		✓		Weather (sunny, rainy, windy, snowy etc.) Seasons (winter, summer, spring, autumn) Sun, sunrise, sunset, day length

Enquiry Skills Coverage Lower KS2 | Cycle A

	Ask relevant questions	Make careful observations	Identify and classify	Use a range of equipment	Perform fair tests	Gather, record and present data	Record findings	Report findings	Draw conclusions	Scientific specific Vocabulary
Electricity	✓	✓		✓	✓			✓	✓	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, circuit diagram, circuit symbol, voltage
States of Matter		✓	✓							Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle
Earth in Space	✓								✓	Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets
Living things and their habitats		✓	✓							Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings
Animals (including Humans)	✓	✓	✓	✓	✓	✓	✓	✓	✓	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain Puberty – the vocabulary to describe sexual characteristics Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle

Enquiry Skills Coverage Lower KS2 | Cycle B

	Ask relevant questions	Make careful observations	Identify and classify	Use a range of equipment	Perform fair tests	Gather, record and present data	Record findings	Report findings	Draw conclusions	Scientific specific Vocabulary
Forces	✓	✓		✓	✓	✓	✓	✓	✓	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, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears
Light	✓	✓		✓	✓	✓	✓	✓	✓	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous, straight lines, light rays
Rocks		✓	✓							Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil
Plants		✓	✓							Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)
Animals (including Humans)	✓	✓	✓	✓	✓	✓	✓	✓	✓	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain Puberty – the vocabulary to describe sexual characteristics Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle

Enquiry Skills Coverage Upper KS2 | Cycle A

	Ask relevant questions	Make careful observations	Identify and classify	Use a range of equipment	Perform fair tests	Gather, record and present data	Record findings	Report findings	Draw conclusions	Scientific specific Vocabulary
Forces	✓	✓		✓	✓	✓	✓	✓	✓	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, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears
Sound	✓	✓		✓	✓	✓	✓	✓	✓	Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation
Materials	✓	✓	✓	✓	✓	✓	✓	✓	✓	Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material
Living things and their habitats		✓	✓							Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings
Animals (including Humans)	✓	✓	✓	✓	✓	✓	✓	✓	✓	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain Puberty – the vocabulary to describe sexual characteristics Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle

Enquiry Skills Coverage Upper KS2 | Cycle B

	Ask relevant questions	Make careful observations	Identify and classify	Use a range of equipment	Perform fair tests	Gather, record and present data	Record findings	Report findings	Draw conclusions	Scientific specific Vocabulary
Electricity	✓	✓		✓	✓			✓	✓	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, circuit diagram, circuit symbol, voltage
Light	✓	✓		✓	✓	✓	✓	✓	✓	Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous, straight lines, light rays
Evolution and Inheritance	✓	✓	✓						✓	Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils
Living things and their habitats		✓	✓							Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings
Animals (including Humans)	✓	✓	✓	✓	✓	✓	✓	✓	✓	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain Puberty – the vocabulary to describe sexual characteristics Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Materials	Observe and group materials from the natural world around them and materials not from the natural world around them. Identify the name of some materials e.g. wood, plastic.	Distinguish between an object and the material it is made from. 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 compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.			Compare and group everyday materials on their properties, including: hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Give reasons, based on evidence, for the particular uses of everyday materials, including metals, wood and plastic. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Separate mixtures through filtering, sieving and evaporating. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, e.g. changes associated with burning and the action of acid on bicarbonate of soda.	

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals (Including Humans)	Explore the natural world around them by identifying, making observations and drawing pictures of animals. Identify and conduct their own personal hygiene and personal needs. Understand the importance of healthy food choices.	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	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. Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.		Describe the changes as humans develop to old age. Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.	

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	Explore the natural world around them by identifying, making observations and drawing pictures of plants.	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.	Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Living Things and their Habitats	Know some similarities and differences between the natural world around them and contrasting environments.	Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants. Identify and name a variety of plants and animals in their habitats, including microhabitats. 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		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. 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.		Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.	

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electricity				Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple series circuit, based on whether it is complete or not. Recognise that a switch opens and closes a circuit. Recognise some common conductors and insulators, and associate metals with being good conductors.		Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram.	

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces				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 everyday materials as to whether they are magnetic or not, and identify some magnetic materials Describe magnets as having two poles and predict whether they will attract or repel, depending on which poles are facing.		Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
States of Matter				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.			

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sound						Identify how sounds are made, associating them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find 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.	

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Light				Recognise we need light to see things and dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous and learn how to protect their eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows change.		Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	

Science Knowledge Progression by Theme

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Rocks				Compare and group together different kinds of rocks by appearance and simple physical properties. Describe how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter.			

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evolution & Inheritance						Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	