

Science Curriculum

Rationale

Our science curriculum is designed to develop curious, confident learners who can think and work scientifically to understand the world around them. Rooted in carefully sequenced big enquiry questions, the curriculum ensures that pupils build both substantive knowledge and disciplinary skills progressively from EYFS through to Year 6.

At the heart of our approach is the belief that science should be coherent, meaningful, and enquiry-driven. Each year group is framed around a unifying question that provides purpose and context, enabling pupils to connect ideas across topics rather than experience science as isolated units. These questions promote curiosity and encourage pupils to ask their own questions, fostering a sense of ownership over their learning.

Our teaching of science is designed to ensure that all pupils develop secure scientific knowledge alongside the ability to think and work scientifically. Teaching is underpinned by evidence-informed practice, combining explicit instruction with enquiry-based learning.

Each year group is underpinned by clearly defined endpoints which specify what pupils should know and be able to do by the end of the year. These endpoints ensure clarity, consistency, and progression across the curriculum. They guide planning, teaching, and assessment, enabling teachers to focus on the most important knowledge and skills.

End points are deliberately aligned with the big enquiry questions, ensuring that by the end of each year, pupils have the knowledge and understanding needed to confidently respond to the overarching question. This creates a clear sense of purpose and progression, both within and across year groups.

Curriculum Design

The curriculum is structured to ensure that key scientific concepts are revisited and deepened over time. In the early years, pupils begin by observing the natural world and describing what they see. As they move through Key Stage 1 and into Key Stage 2, they develop a more secure understanding of biology, chemistry, and physics, including forces, materials, energy, and living systems. By Year 6, pupils are able to explain complex ideas such as evolution, inheritance, and the impact of human activity on the environment.

This progression ensures that pupils move from:

Concrete observation → Simple explanation → Abstract reasoning

Working Scientifically

Working scientifically is fully embedded throughout the curriculum, not taught in isolation. Pupils develop skills in:

- Observing over time
- Pattern seeking
- Identifying and classifying
- Comparative and fair testing
- Research using secondary sources

These skills are explicitly taught and revisited, with increasing levels of independence and sophistication. Sentence stems and structured talk support pupils in articulating their thinking, particularly for those developing language and confidence.

Inclusion

At Pensby Primary School, we ensure an inclusive approach to teaching by providing high-quality, accessible learning for all pupils, regardless of ability, background or need. We adapt teaching through appropriate scaffolding, differentiation and targeted support so that every child can access the curriculum and achieve success. Adaptive teaching strategies include: collaborative learning and peer support, assessment for learning strategies such as exit tickets, targeted questioning and 'no hands up', visual aids, hands-on materials, and clear instructions where needed

Our inclusive practice is underpinned by our school values of being Respectful, Resilient, Kind, Curious, Collaborative, and Ready to Learn. We promote a culture where all pupils are respected and valued, encouraged to show kindness to others, and supported to be resilient when faced with challenge. Pupils are encouraged to be curious learners who ask questions, work collaboratively with others, and approach learning with a positive 'ready to learn' attitude. Through these values, we ensure that every child feels a strong sense of belonging and is able to participate.

Teaching Approaches

Enquiry-Based Learning: Observing over time, pattern seeking, identifying and classifying, comparative and fair testing, research using secondary sources

Explicit Teaching of Knowledge: Breaking down complex ideas into manageable steps, using clear explanations, diagrams, and demonstrations, addressing misconceptions directly

Scientific Vocabulary: Pre-teaching key words, use of word banks and displays, structured talk using sentence stems

Talk for Learning: Model high-quality scientific explanations, use partner talk and discussion, provide sentence stems to scaffold responses

Practical, Hands-on Experiences: Investigations and experiments, use of equipment and materials, opportunities to observe real phenomena

Scaffolding and Gradual Release: I do, We do, You do

Questioning and Retrieval: Probe understanding, challenge misconceptions, encourage deeper thinking

Use of Models, Diagrams and Representations: Diagrams and visual models, physical representations, analogies where appropriate

Adaptive Teaching and Challenge: Scaffolded resources and adult support, flexible grouping, extension through deeper questioning and reasoning

Real-World Context and Meaningful Links: Use examples from everyday life, link science to environmental and global issues, encourage pupils to apply learning beyond the classroom

Build Independence and Evaluation: Plan and carry out investigations, select appropriate methods and equipment, evaluate reliability and accuracy of results

Progression of Knowledge and Skills

The science curriculum is carefully structured so that key concepts are revisited, built upon, and deepened through clearly sequenced units of work across each year group. These units are not taught in isolation; instead, they deliberately connect to prior learning and prepare pupils for future concepts, ensuring a coherent and cumulative journey through science.

In the Early Years, learning is rooted in exploration of the natural world. Pupils develop foundational knowledge by observing, talking about, and describing what they see.

In Key Stage 1, units are designed to introduce and secure fundamental knowledge.

In Lower Key Stage 2, units become more structured and disciplinary knowledge is developed more explicitly.

In Upper Key Stage 2, units are designed to deepen conceptual understanding and introduce more abstract scientific ideas.

Science at Pensby Primary School

EYFS



Understanding the World
My environment, people, animals, weather and change

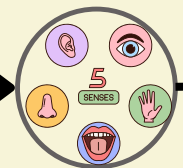
Year 1



Animals Including Humans
Identify and name common animals and plants



Seasons
Describe seasonal changes



Animals Including Humans
Understand basic senses and body parts



Materials
Identify materials and their uses



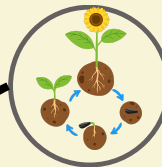
Plants
Parts of a plant

Year 2

Biology:
Year 1-Body Parts
Year 2-Survival and Health
Year 3-Nutrition and Skeletons
Year 4-Digestion and Food Chains
Year 5-Life Cycles and Growth
Year 6-Circulatory and Evolution

Chemistry:
Year 1-Everyday Materials
Year 2-Uses of Materials
Year 3-Rocks
Year 4-States of Matter
Year 5-Properties and Changes
Year 6-Electricity and Light

Physics:
Year 3-Light and Forces
Year 4-Electricity and Sound
Year 5-Space and Forces
Year 6-Electricity and Light



Plants
The life cycle of a plant



Animals Including Humans
Nutrition, skeletons and muscles

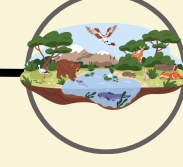


Rocks
Properties of rocks and their uses

Year 3



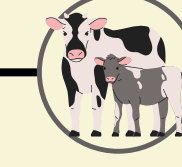
Plants
What do they need to grow?



Living Things and Habitats
Compare different habitats



Materials
Identify and classify by property

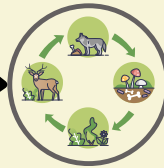


Animals Including Humans
Growth, survival and health

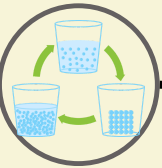
Light
The concept of light and shadow

Forces and Magnets
How do they work?

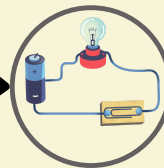
Year 4



Animals Including Humans
The digestive system and food chains



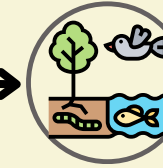
Materials
States of matter



Electricity
Construct a simple circuit



Sound
The properties of sounds



Living Things and Habitats
Compare habitats and classify living things

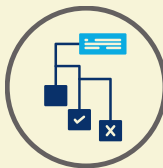
Year 5



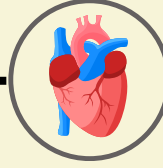
Earth and Space
The planets in our solar system



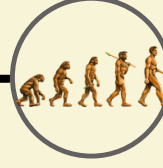
Forces
Gravity, friction and resistance



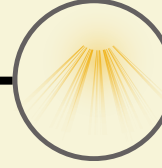
Living Things and Habitats
Classification by characteristics



Animals Including Humans
The circulatory system



Evolution and Inheritance
How do things change over time?

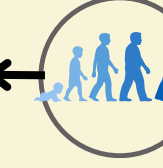


Light
How does light travel?

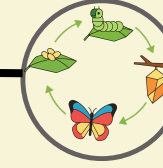


Electricity
Advanced circuits

Year 6



Animals Including Humans
Human growth and changes over time



Living Things and Habitats
The life cycle of animals



Materials
Properties and changes of materials

Science Endpoints EYFS and KS1

EYFS

How Does my World Grow and Change?

Me and My World

By the end of the autumn term, children will be able to explore and describe the outdoor environment using their senses, noticing seasonal changes and talking about what they see, hear and feel. They will begin to recognise and name some plants and animals, observe changes in the weather, and ask questions about the world around them using simple scientific vocabulary.



Change and Growth

By the end of the spring term, children in Nursery will be able to notice and talk about simple changes in the world around them, such as growth, weather and materials, and explore these changes through hands-on sensory experiences



Exploring Beyond

By the end of Reception, children will be able to explore, observe and describe the natural world around them using their senses. They will notice and talk about changes in seasons, weather, living things and their environments, and begin to recognise different habitats and natural processes. Children will ask questions, investigate their ideas and use their observations to explain what they have discovered in simple and developing detail.



Year 1

What makes animals, plants, and materials special?

Animals Including Humans

By the end of this unit, pupils will be able to identify and name common animals, describe their basic features and group them according to their characteristics.



Seasons

By the end of this unit, pupils will be able to identify and name common animals, describe their basic features and group them according to their characteristics.



Animals Including Humans

By the end of this unit, pupils will be able to identify, name and label basic body parts and recognise that humans use their eyes, ears, nose, mouth and skin for the five senses: sight, hearing, smell, taste and touch. Pupils will describe how senses help humans stay safe and learn about the world, compare similarities and differences between humans and other animals, and use simple scientific vocabulary to talk about observations and investigations.



Materials

By the end of this unit, pupils will be able to identify and describe everyday materials and explain why different materials are suitable for different objects.



Plants

By the end of this unit, pupils will be able to identify and name common plants and describe the basic parts of flowering plants and trees.



End of Year

Pupils can identify and describe basic features of animals, plants, the human body and senses, seasonal changes, and everyday materials, forming the foundational knowledge needed to understand the natural and physical world.

Year 2

How do living things survive and grow?

Animals Including Humans

By the end of this unit, pupils will be able to explain the basic needs of animals, including humans, and describe how humans grow and stay healthy.



Materials

By the end of this unit, pupils will be able to identify, compare and explain the uses of different materials and describe how materials can be changed by squashing, bending, twisting and stretching.



Living Things and their Habitats

By the end of this unit, pupils will be able to identify and describe living things, their habitats and simple food chains, explaining how animals and plants depend on each other and their environment to survive.



Plants

By the end of this unit, pupils will be able to identify and describe living things, their habitats and simple food chains, explaining how animals and plants depend on each other and their environment to survive.



End of Year

Pupils can explain the basic needs and life processes of living things, compare habitats, and identify and classify materials based on their properties to understand how living and non-living things interact in different environments.

Science Endpoints KS2

Year 3 How do forces, light, rocks, and living things shape our world?	Year 4 How do energy and materials move through our world?	Year 5 How do the forces of nature, space, and materials affect life on Earth?	Year 6 How has life on Earth evolved and how do humans affect it?
Rocks By the end of this unit, pupils will be able to identify and compare different types of rocks, describe how fossils are formed and explain how soils are made. 	Animals Including Humans By the end of this unit, pupils will be able to describe the function of the digestive system in humans and animals and identify different types of teeth and their roles. 	Earth and Space By the end of this unit, pupils will be able to describe the movement of the Earth, Moon and planets in space and explain how these movements cause day and night and the changing appearance of the Moon. 	Electricity By the end of this unit, pupils will be able to construct and represent complex electrical circuits using symbols and explain how changes in a circuit affect the brightness of bulbs or the speed of motors. 
Animals Including Humans By the end of this unit, pupils will be able to explain how humans and animals need nutrition, skeletons and muscles to survive, grow and stay healthy. 	Materials By the end of this unit, pupils will be able to compare and classify materials based on their properties and explain how materials change state through heating and cooling. 	Forces By the end of this unit, pupils will be able to explain how different forces act on objects and investigate the effects of gravity, friction, air resistance and water resistance. 	Light By the end of this unit, pupils will be able to explain how light travels and how it enables us to see objects, using scientific ideas about reflection, refraction and shadows. 
Plants By the end of this unit, pupils will be able to identify and describe the parts of flowering plants and explain how plants grow, survive and reproduce. 	Electricity By the end of this unit, pupils will be able to construct and explain simple electrical circuits, identifying the components needed for a circuit to work and recognising how switches control the flow of electricity. 	Materials By the end of this unit, pupils will be able to identify and compare the properties of different materials and explain how materials can change state or be used for particular purposes based on their properties. 	Evolution and Inheritance By the end of this unit, pupils will be able to explain how living things have changed over time through evolution and describe how characteristics are inherited and adapted to help organisms survive in their environments. 
Light By the end of this unit, pupils will be able to explain how light helps us see, describe how shadows are formed and investigate ways light can be reflected and blocked. 	Sound By the end of this unit, pupils will be able to explain how sounds are made and travel, and investigate how pitch and volume can be changed. 	Living Things and Habitats By the end of this unit, pupils will be able to describe the life cycles of different living things and explain the processes of reproduction and growth in plants and animals. 	Animals Including Humans By the end of this unit, pupils will be able to explain the functions of the circulatory system and describe how diet, exercise and lifestyle choices affect the human body. 
Forces and Magnets By the end of this unit, pupils will be able to explain how forces and magnets affect objects and investigate how magnetic materials interact. 	Living Things and Habitats By the end of this unit, pupils will be able to group and classify living things based on their observable characteristics and explain how environments can affect living things and habitats. 	Animals Including Humans By the end of this unit, pupils will be able to describe the stages of human growth and development and explain the changes that occur as humans age. 	Living Things and Habitats By the end of this unit, pupils will be able to classify living things using scientific systems and explain how living organisms are grouped based on shared characteristics. 
End of Year Pupils can explain how rocks, forces and magnets, light, and living systems (including nutrition, skeletons, muscles, and plant life cycles) function, and begin to make connections between these areas to understand how they shape the world around them.	End of Year Pupils can explain how matter changes, how energy (including sound and electricity) works, and how living things are structured and connected through systems such as digestion, classification, and habitats.	End of Year Pupils can explain how forces, space, materials, living things, and human development are interconnected, and how scientific concepts such as gravity, planetary movement, material change, life cycles, and growth help us understand the world and our place within it.	End of Year Pupils can explain how evolution and inheritance shape living things, how the human body and electrical systems function, how light behaves, and how classification, microorganisms, and human impact help us understand and evaluate the natural world and its systems.

Assessment

Assessment is embedded throughout teaching:

Formative assessment: Questioning, discussion, low-stakes quizzes, and retrieval practice

Summative assessment: End-of-unit tasks linked to the big enquiry question

Use of outcomes: Pupils demonstrate understanding through written work, presentations, debates, and projects

Teachers assess against clearly defined endpoints to ensure pupils are meeting expected standards. Our staff use ongoing assessment to identify and respond to individual learning needs, including those of pupils with SEND.

Working and Thinking Scientifically

The use of carefully structured stem sentences supports pupils in working scientifically by providing a clear framework for thinking, speaking, and reasoning. These stems enable pupils to articulate observations, ask questions, make predictions, and explain results using appropriate scientific language. As pupils progress through the curriculum, the complexity of the stem sentences increases, moving from simple descriptions (e.g. "I can see...") to more advanced reasoning (e.g. "The evidence suggests..." and "This can be explained by..."). This progression helps pupils develop confidence and precision in their communication, while also deepening their understanding of scientific concepts. By consistently embedding these structures, pupils are better able to organise their thinking, make connections between ideas, and apply both substantive knowledge and disciplinary skills with increasing independence.

Observing and Noticing-KS1

I can see that...
I notice that...
This is different because...
This is the same because...



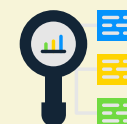
Describing and Naming-KS1

This is called a...
It is a type of...
It feels / looks / smells like...



Identifying and Classifying-KS1

I can group these by...
These belong together because...
This does not belong because...



Asking Questions-KS1

I wonder what would happen if...
Why does...?
How does...?



Predicting-KS1

I think... will happen because...
My idea is...



Simple Testing-KS1

First, we will...
We are changing...
We are keeping the same...



Recording and Sharing-KS1

I found out that...
This happened when...
I can show this by... (drawing/chart)



Explaining (early reasoning)-KS1

This happened because...
It works like this because...



Observing and Measuring-LKS2

I observed that...
The pattern I can see is...
This changed when...

**Classifying and Grouping-LKS2**

I grouped these based on...
They are similar because...
They are different because...

**Questioning-LKS2**

What would happen if we changed...?
How does ... affect ...?

**Predicting with Reason-LKS2**

I predict that... because...
Based on what I know...

**Fair Testing-LKS2**

The variable we are changing is...
The variables we are keeping the same are...
We will measure... using...

**Recording Data-LKS2**

I recorded my results by...
The results show that...
The highest/lowest result was...

**Explaining Results-LKS2**

This happened because...
This links to... (scientific idea)
The evidence suggests that...

**Drawing Conclusions-LKS2**

I can conclude that...
My prediction was correct/incorrect because...

**Observing Patterns and Trends-UKS2**

A clear pattern is...
As ... increases, ... decreases because...

**Enquiry and Hypothesis-UKS2**

My question is...
My hypothesis is... because...

**Predicting (Scientific Reasoning)-UKS2**

I predict that... based on...
This is supported by...

**Planning Investigations-UKS2**

The independent variable is...
The dependent variable is...
To ensure a fair test, I will...
I will take repeat readings to...

**Analysing Data-UKS2**

The data indicates that...
There is a relationship between...
An anomaly is...

**Explaining Scientifically-UKS2**

This can be explained by...
This happens due to... (scientific concept)
This links to the idea that...

**Concluding-UKS2**

In conclusion...
The evidence supports/does not support my prediction because...

**Evaluating-UKS2**

One limitation of this investigation is...
To improve this, I would...
The results may not be reliable because...



Science Long Term Planning

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit of Work	Me and My World	Animals Including Humans	Animals Including Humans	Rocks	Animals Including Humans	Earth and Space	Electricity
National Curriculum Links	Linked to the Early Years Foundation Stage Framework -Understanding of the World 	Linked to the UK National Curriculum through identifying and naming animals 	Linked to the UK National Curriculum through understanding the basic needs of living things 	Linked to the UK National Curriculum through studying rocks 	Linked to the UK National Curriculum through investigating food chains 	Linked to the UK National Curriculum through exploring Earth and space 	Linked to the UK National Curriculum through studying electricity 
Learning Objectives	- I can explore the outdoor environment. - I can talk about what I can see, hear and feel outside. - I can notice changes in the weather. - I can identify some plants and animals. - I can ask questions about the world around me. - I can use simple words to describe what I observe.	- I can identify and name common animals, including fish, amphibians, reptiles, birds and mammals. - I can describe the basic parts of different animals. - I can identify whether an animal is a carnivore, herbivore or omnivore. - I can compare similarities and differences between animals. - I can use simple scientific vocabulary to talk about animals and their features.	- I can explain what animals, including humans, need to survive. - I can describe the importance of exercise, healthy eating and hygiene. - I can explain how humans change as they grow. - I can identify offspring and describe how they grow into adults. - I can use scientific vocabulary to describe observations about animals and humans.	- I can identify and compare different types of rocks. - I can describe the properties of different rocks. - I can explain how fossils are formed. - I can describe how soil is made from rocks and organic matter. - I can use scientific vocabulary to describe and explain observations about rocks and soils.	- I can identify and name the main parts of the human digestive system. - I can describe the function of each part of the digestive system. - I can identify different types of teeth and explain their functions. - I can construct and explain simple food chains. - I can use scientific vocabulary to describe and explain how animals, including humans, get nutrition.	- I can describe the movement of the Earth relative to the Sun. - I can explain how day and night are caused. - I can describe the movement of the Moon relative to the Earth. - I can explain how the phases of the Moon occur. - I can describe the movement of planets in our solar system.	- I can draw and interpret circuit diagrams using standard symbols. - I can explain how voltage affects the components in a circuit. - I can investigate how adding or changing components affects a circuit. - I can explain how electrical components function within a circuit. - I can use scientific vocabulary to describe and explain electrical circuits and their behaviour.
Key Vocabulary	see, hear, feel, rain, wind, sun, plant, animal, outside, inside	fish, mammal, reptile, bird, carnivore, herbivore, omnivore	habitat, microhabitat, living, dead, never alive, food chain, shelter, survive	rock, stone, soil, fossil, sedimentary, igneous, metamorphic	digestive system, mouth, teeth, oesophagus, stomach, intestine, digestion, nutrients, food chain, predator, prey	Earth, Sun, Moon, planet, orbit, rotate, axis, solar system	circuit, voltage, current (simple introduction), component, series circuit, bulb, buzzer, motor
Endpoint	By the end of the autumn term, children will be able to explore and describe the outdoor environment using their senses, noticing seasonal changes and talking about what they see, hear and feel. They will begin to recognise and name some plants and animals, observe changes in the weather, and ask questions about the world around them using simple scientific vocabulary.	By the end of this unit, pupils will be able to identify and name common animals, describe their basic features and group them according to their characteristics.	By the end of this unit, pupils will be able to explain the basic needs of animals, including humans, and describe how humans grow and stay healthy.	By the end of this unit, pupils will be able to identify and compare different types of rocks, describe how fossils are formed and explain how soils are made.	By the end of this unit, pupils will be able to describe the function of the digestive system in humans and animals and identify different types of teeth and their roles.	By the end of this unit, pupils will be able to describe the movement of the Earth, Moon and planets in space and explain how these movements cause day and night and the changing appearance of the Moon.	By the end of this unit, pupils will be able to construct and represent complex electrical circuits using symbols and explain how changes in a circuit affect the brightness of bulbs or the speed of motors.

Science Long Term Planning

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit of Work	N/A	Seasons 	Materials 	Animals Including Humans 	Materials 	Forces 	Light 
National Curriculum Links	N/A	Linked to the UK National Curriculum through describing seasonal changes using simple scientific vocabulary	Linked to the UK National Curriculum through identifying and comparing materials and their properties	Linked to the UK National Curriculum through studying animal nutrition and movement	Linked to the UK National Curriculum through investigating states of matter	Linked to the UK National Curriculum through exploring forces	Linked to the UK National Curriculum through studying light
Learning Objectives	N/A	- I can name the four seasons. - I can describe the weather in different seasons. - I can observe changes in plants and animals across the seasons. - I can describe how day length changes throughout the year. - I can use simple scientific vocabulary to talk about seasonal changes.	- I can identify and compare the properties of different materials. - I can explain why materials are used for particular purposes. - I can investigate how materials can change shape. - I can describe whether a material can be squashed, bent, twisted or stretched. - I can use scientific vocabulary to describe and compare materials.	- I can identify the nutrients humans and animals need to stay healthy. - I can explain the importance of a balanced diet. - I can identify and describe the functions of skeletons in humans and animals. - I can explain how muscles help the body move. - I can use scientific vocabulary to describe nutrition, skeletons and muscles.	- I can compare and group materials based on their properties. - I can identify solids, liquids and gases. - I can explain how materials change state when heated or cooled. - I can investigate evaporation and condensation. - I can use scientific vocabulary to describe and explain the properties and changes of materials.	- I can explain how gravity acts on objects. - I can identify the effects of friction, air resistance and water resistance. - I can investigate how different forces affect movement. - I can explain how mechanisms such as levers, pulleys and gears work. - I can use scientific vocabulary to describe and explain forces and their effects.	- I can explain that light travels in straight lines. - I can describe how light is reflected into our eyes so we can see objects. - I can explain how shadows are formed and changed. - I can investigate how light behaves using scientific evidence. - I can use scientific vocabulary to explain reflection, refraction and the behaviour of light.
Key Vocabulary	N/A	spring, summer, autumn, winter, weather, hot, cold, rain, sun, day, night	material, suitable, unsuitable, property, bend, stretch, squash, twist	nutrition, skeleton, muscles, bones, joints, movement	solid, liquid, gas, particles, melt, freeze, evaporate, condense, water cycle	gravity, friction, air resistance, water resistance, force, mechanism, lever, pulley, gear	light, ray, reflect, reflection, refract, refraction, shadow, spectrum
Endpoint	N/A	By the end of this unit, pupils will be able to identify and describe the four seasons and explain how weather, plants, animals and day length change throughout the year.	By the end of this unit, pupils will be able to identify, compare and explain the uses of different materials and describe how materials can be changed by squashing, bending, twisting and stretching.	By the end of this unit, pupils will be able to explain how humans and animals need nutrition, skeletons and muscles to survive, grow and stay healthy.	By the end of this unit, pupils will be able to compare and classify materials based on their properties and explain how materials change state through heating and cooling.	By the end of this unit, pupils will be able to explain how different forces act on objects and investigate the effects of gravity, friction, air resistance and water resistance.	By the end of this unit, pupils will be able to explain how light travels and how it enables us to see objects, using scientific ideas about reflection, refraction and shadows.

Science Long Term Planning

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit of Work	Change and Growth	Animals Including Humans	Living Things and Habitats	Plants	Electricity	Materials	Evolution and Inheritance
National Curriculum Links	Linked to the Early Years Foundation Stage Framework - Understanding of the World 	Linked to the UK National Curriculum through identifying body parts 	Linked to the UK National Curriculum through exploring habitats 	Linked to the UK National Curriculum through exploring plant function 	Linked to the UK National Curriculum through investigating electricity 	Linked to the UK National Curriculum through exploring properties and changes of materials 	Linked to the UK National Curriculum through studying evolution and inheritance 
Learning Objectives	- I can explore and talk about the natural world around me. - I can describe what I see in nature using new vocabulary. - I can observe changes in seasons and weather. - I can talk about the needs of plants and animals. - I can compare different environments. - I can use tools such as magnifiers or containers to investigate.	- I can name parts of the human body. - I can name the five senses. - I can explain which body part is linked to each sense. - I can talk about how my senses help me.	- I can identify things that are living, dead and never alive. - I can describe different habitats and the plants and animals that live there. - I can explain how animals and plants depend on each other in a habitat. - I can describe a simple food chain using scientific vocabulary such as producer, prey and predator. - I can observe and record findings about living things and their habitats using simple scientific language.	- I can identify and name the different parts of a flowering plant. - I can explain the functions of roots, stems, leaves and flowers. - I can investigate what plants need to grow and stay healthy. - I can describe how water is transported within a plant. - I can explain the life cycle of a flowering plant, including pollination and seed formation.	- I can identify and name the components of a simple electrical circuit. - I can construct a simple circuit using wires, bulbs, buzzers, switches and cells. - I can explain why a circuit works or does not work. - I can identify conductors and insulators through investigations. - I can use scientific vocabulary to record and explain my observations about electricity.	- I can identify and compare different materials based on their properties. - I can explain whether a material is solid, liquid or gas. - I can investigate how materials change when they are heated or cooled. - I can describe why certain materials are used for specific purposes. - I can use scientific vocabulary to record, describe and explain my observations about materials.	- I can explain that living things have changed over time through evolution. - I can describe how fossils provide evidence for evolution. - I can explain how offspring inherit characteristics from their parents. - I can identify adaptations that help plants and animals survive in their habitats. - I can use scientific evidence and vocabulary to explain ideas about evolution and inheritance.
Key Vocabulary	Autumn, spring, summer, winter, grow, change, bigger, smaller, food, water, baby, adult	animal, human, head, arms, legs, eyes, ears, nose, mouth, touch, taste, sight, smell, hear	habitat, microhabitat, living, dead, never alive, food chain, shelter, survive	grow, healthy, water, light, temperature, seed, bulb, germination	electricity, circuit, cell, battery, wire, bulb, switch, conductor, insulator	property, hardness, transparency, solubility, dissolve, solution, reversible, irreversible, change	evolution, inheritance, variation, adaptation, fossil, offspring, characteristics
Endpoint	By the end of the spring term, children in Nursery will be able to notice and talk about simple changes in the world around them, such as growth, weather and materials, and explore these changes through hands-on sensory experiences	By the end of this unit, pupils will be able to identify, name and label basic body parts and recognise that humans use their eyes, ears, nose, mouth and skin for the five senses: sight, hearing, smell, taste and touch. Pupils will describe how senses help humans stay safe and learn about the world, compare similarities and differences between humans and other animals, and use simple scientific vocabulary to talk about observations and investigations.	By the end of this unit, pupils will be able to identify and describe living things, their habitats and simple food chains, explaining how animals and plants depend on each other and their environment to survive.	By the end of this unit, pupils will be able to identify and describe the parts of flowering plants and explain how plants grow, survive and reproduce.	By the end of this unit, pupils will be able to construct and explain simple electrical circuits, identifying the components needed for a circuit to work and recognising how switches control the flow of electricity.	By the end of this unit, pupils will be able to identify and compare the properties of different materials and explain how materials can change state or be used for particular purposes based on their properties.	By the end of this unit, pupils will be able to explain how living things have changed over time through evolution and describe how characteristics are inherited and adapted to help organisms survive in their environments.

Science Long Term Planning

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit of Work	N/A	Materials 	Plants 	Light 	Sound 	Living Things and Habitats 	Animals Including Humans 
National Curriculum Links	N/A	Linked to the UK National Curriculum through identifying and naming materials	Linked to the UK National Curriculum through exploring habitats	Linked to the UK National Curriculum through studying light	Linked to the UK National Curriculum through investigating sound	Linked to the UK National Curriculum through exploring life cycles and living things	Linked to the UK National Curriculum through studying the circulatory system
Learning Objectives	N/A	- I can name everyday materials such as wood, plastic, metal, glass, fabric and paper. - I can describe the properties of different materials using simple scientific vocabulary. - I can identify what objects are made from. - I can explain why certain materials are used for particular objects. - I can compare and group materials based on their properties.	- I can identify things that are living, dead and never alive. - I can describe different habitats and the plants and animals that live there. - I can explain how animals and plants depend on each other in a habitat. - I can describe a simple food chain using scientific vocabulary such as producer, prey and predator. - I can observe and record findings about living things and their habitats using simple scientific language.	- I can explain that we need light in order to see things. - I can identify sources of light and distinguish them from objects that reflect light. - I can explain how shadows are formed. - I can investigate how the size of a shadow changes. - I can use scientific vocabulary to describe and explain observations about light and shadows.	- I can explain that sounds are made by vibrations. - I can describe how sound travels through a medium to the ear. - I can investigate how pitch can be changed. - I can investigate how volume can be changed. - I can use scientific vocabulary to explain observations and investigations about sound.	- I can describe the life cycles of mammals, amphibians, insects and birds. - I can compare the life cycles of different living things. - I can explain the process of reproduction in some plants and animals. - I can identify changes that happen as living things grow and develop. - I can use scientific vocabulary to record and explain observations about life cycles and living things.	- I can identify and explain the functions of the heart, blood vessels and blood. - I can describe how nutrients and water are transported around the body. - I can explain how the circulatory system works. - I can describe the effects of diet, exercise, drugs and lifestyle on the body. - I can use scientific evidence and vocabulary to explain ideas about the circulatory system and human health.
Key Vocabulary	N/A	wood, plastic, metal, glass, fabric, water, rock, hard, soft, smooth, rough	habitat, microhabitat, living, dead, never alive, food chain, shelter, survive	light, dark, shadow, reflect, surface, source	sound, vibration, pitch, volume, travel, ear	life cycle, reproduce, offspring, metamorphosis, adult	heart, blood, circulation, oxygen, nutrients, arteries, veins, lifestyle
Endpoint	N/A	By the end of this unit, pupils will be able to identify and describe everyday materials and explain why different materials are suitable for different objects.	By the end of this unit, pupils will be able to identify and describe living things, their habitats and simple food chains, explaining how animals and plants depend on each other and their environment to survive.	By the end of this unit, pupils will be able to explain how light helps us see, describe how shadows are formed and investigate ways light can be reflected and blocked.	By the end of this unit, pupils will be able to explain how sounds are made and travel, and investigate how pitch and volume can be changed.	By the end of this unit, pupils will be able to describe the life cycles of different living things and explain the processes of reproduction and growth in plants and animals.	By the end of this unit, pupils will be able to explain the functions of the circulatory system and describe how diet, exercise and lifestyle choices affect the human body.

Science Long Term Planning

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit of Work	Exploring Beyond 	Plants 	N/A	Forces and Magnets 	Living Things and Habitats 	Animals Including Humans 	Living Things and Habitats 
National Curriculum Links	Linked to the Early Years Foundation Stage Framework -Understanding of the World	Linked to the UK National Curriculum through identifying and naming plants	N/A	Linked to the UK National Curriculum through studying forces and magnets	Linked to the UK National Curriculum through classification of living things	Linked to the UK National Curriculum through exploring life cycles of living things	Linked to the UK National Curriculum through studying classification of living things
Learning Objectives	- I can explore, observe and describe the natural world around me. - I can explain changes that happen in seasons, weather and living things. - I can talk about different habitats and environments. - I can describe plants, animals and natural processes in more detail. - I can ask questions and investigate to find out more. - I can use my observations to explain what I have discovered.	- I can identify and name common wild and garden plants. - I can identify and name deciduous and evergreen trees. - I can label the basic parts of a plant, including roots, stem, leaves and flowers. - I can describe the basic structure of trees and flowering plants. - I can use simple scientific vocabulary to talk about plants I observe.	N/A	- I can identify different types of forces, including pushes and pulls. - I can explain how magnets attract and repel each other. - I can identify magnetic and non-magnetic materials. - I can investigate how magnets work through practical enquiries. - I can use scientific vocabulary to describe and explain observations about forces and magnets.	- I can group living things in different ways. - I can use classification keys to identify living things. - I can recognise that environments can change over time. - I can explain how changes to environments can affect living things. - I can use scientific vocabulary to describe and classify living things and habitats.	- I can describe the stages of the human life cycle. - I can explain how humans change from birth to old age. - I can identify physical and developmental changes that happen as humans grow. - I can compare different stages of human development. - I can use scientific vocabulary to describe human growth and life cycles.	- I can classify living things into broad groups based on similarities and differences. - I can use classification keys to identify living things. - I can explain why scientists use classification systems. - I can describe how living things have been classified over time. - I can use scientific vocabulary to explain and justify how organisms are grouped.
Key Vocabulary	habitat, world, land, sea, sky	plant, tree, flower, leaf, root, stem, petal, trunk	N/A	force, push, pull, magnet, attract, repel, magnetic, pole	classification, group, vertebrate, invertebrate, environment, habitat	growth, development, puberty, ageing, lifespan	classification, classify, microorganism, bacteria, fungi, species, taxonomy
Endpoint	By the end of Reception, children will be able to explore, observe and describe the natural world around them using their senses. They will notice and talk about changes in seasons, weather, living things and their environments, and begin to recognise different habitats and natural processes. Children will ask questions, investigate their ideas and use their observations to explain what they have discovered in simple and developing detail.	By the end of this unit, pupils will be able to identify and name common plants and describe the basic parts of flowering plants and trees.	N/A	By the end of this unit, pupils will be able to explain how forces and magnets affect objects and investigate how magnetic materials interact.	By the end of this unit, pupils will be able to group and classify living things based on their observable characteristics and explain how environments can affect living things and habitats.	By the end of this unit, pupils will be able to describe the stages of human growth and development and explain the changes that occur as humans age.	By the end of this unit, pupils will be able to classify living things using scientific systems and explain how living organisms are grouped based on shared characteristics.