Science Curriculum: updated November 2025.

What will you find in this document?

Coleshill Primary School
Science Curriculum 2025- 2026

Curriculum Intent Statement:

In a World where science paves the way for 'better' ways to live, it is vital that we nurture and educate our young people, who could then become scientists in the not-so-distant future, to have **curious and enquiring minds**. We **inspire** our children to grow up with **a love for the natural world**; where they will **notice details** and will want to make a difference to our World. We guide our children to grow up with **an excitement for exploring processes** and **asking questions**; where answers lead them to **probe for more knowledge** and their enthusiasm leads them to be life-long independent learners. We are committed to fostering an inclusive environment where diversity is celebrated, disadvantaged pupils are supported, and **all learners** have **equal opportunities to thrive and succeed**.

Curriculum Implementation

Through the well-structured published Mastery scheme of work 'ARKCurriculum+', pupils' learning follows a systematic approach. This scheme makes cohesive links and is fully aligned to all three disciplines (biology, physics, and chemistry) in the National Curriculum objectives and is accessed through reading for information, discussion, and practical opportunities to work scientifically: **observing over time, pattern seeking, identifying, classifying and grouping, comparative and fair testing and researching using secondary sources**. Built on international evidence and best practice, this programme provides teachers with high-quality professional development and knowledge organisers that are tied to the carefully sequenced units. In each unit, across an academic year and from year-to-year, the units of work ensure pupils gain the knowledge and skills they need to discover, understand, and begin to explain the world and phenomena around them in their own lives and in the lives of others. Teachers follow the scheme with its high-quality visual resources and adapt 'how' they may present and teach elements to best suit their pupils' needs. Our current curriculum development (founded from monitoring findings) is to ensure '**Sc1' skills – scientific enquiry**- are being explicitly taught and applied: this enables pupils to realise they are 'being scientists' and a more practical element is supporting them in **understanding and retaining substantive and disciplinary knowledge**.

- Units of work are 8 - 12 hours dependent on year groups and units of work.
- Lessons are weekly and they comprise of

- Pre-typed date, LI and Inprint vocabulary.
    - ITF (interrupt the forgetting) quiz for teachers to recap language and concepts from previous lessons and assess pupils next steps and areas to revisit. *(These are tracked on the inside of the front cover, to support teachers in assessing pupils and providing support as required)*
    - Teacher's adapted ARK+ Powerpoints and how to present their science lessons most suitably
    - Elements of Investigation – 'Let's investigate'
    - Teachers make professional judgements on how lessons will be recorded:
    - Written responses in science books – purposeful reasons to write across the curriculum
    - Practical books – photos, group/ class data or observation data, pupil's verbal responses
    - Displays showing vocabulary and, where classroom display space allows, learning pathways through a unit.

Additional to our science units of work. Junior pupils work to achieve their CREST awards: CREST brings science, technology, engineering, and maths (STEM) to life for young people aged 3-19 of all abilities through hands-on activities and exciting projects. **CREST sparks curiosity, builds confidence, and connects students with real-world STEM**. Pupils work to achieve CREST awards by the end of Year 6.

School learning environment:

Our school grounds provide an excellent **outdoor environment** for pupils to take their learning 'out and about'. This particularly supports biology with a close link to Forest School. This is complemented by a **programme of annual visits to the local farm**, Southfields, where we work closely with the farmer to provide progressive learning year on year. Additionally, staff are encouraged to bring their pupils' science learning to life where visitors or other trips (a local beekeeper, the Science museum, The Planetarium…) can be planned to enhance the lessons.

Assessment: All science units of work support teachers in covering the curriculum objectives to reach at least expected standards. During teaching, staff use the lesson quiz discussions and scores; responses from open questioning; pupils' written responses and learning observations, to make formative judgements on their pupils' **substantive and disciplinary knowledge**. Unit assessments are recorded on FFT.

Resources: Many resources are suggested as part of our school's science scheme however teachers are given the flexibility to use their professional judgement on which resources would be best to teach their objectives. Science is taught through a huge range of resources: outdoors, practical, visual, video/ internet, digital, e.g. Digi-scope, data loggers, …photography including time-lapse, visits and visitors. **Staff are responsible for being organised and creative in their planning and preparation for teaching science lessons.** A resources document is available for staff to order items which enhance their science teaching.

Reading in Science: The **ARKcurriculum+ uses reading as it's core method to equip pupils** to master the three scientific disciplines. They do this by reading to understand its fundamental concepts in sufficient depth that they can apply subject knowledge in unfamiliar contexts and to engage pupils in their own investigative learning. Staff are encouraged to display relevant scientific texts related to their units to use in lessons and to recommend them for pupils to read independently, encouraging them to **probe for more knowledge**.

Transferable knowledge, Cultural Capital and Wider Curriculum: Opportunities to develop their understanding of how **science contributes hugely to our lives and society** and what makes a **good citizen are interwoven** into many aspects of the science and wider curriculum, namely the impact humans have on our World and **key figures in the Science World** to learn from. We hold science events and competitions during each academic year, for example, Science week, 'switch off fortnight', cycle to school, The Big Science Share… **Connections are made with our local community, for example, using the knowledge, experience and enthusiasm of local farmers, LeafEd, Warwickshire County Council, CREST awards, the Mayor, allotment holders…** to encourage pupils to care for our surrounding environment and make links to the wider aspects of their lives. Developing more sustainable practices and actioning Safe and Active Schools initiatives are continuously building further links across our curriculum.

Science Curriculum Impact Statement – Coleshill CE Primary School

At Coleshill CE Primary School, **our science curriculum equips** all pupils with the knowledge, skills, and curiosity to understand and explore the world around them. Through inclusive and engaging learning experiences, children develop scientific thinking, resilience, and a love of enquiry. We ensure that every pupil—including those from disadvantaged backgrounds—has equal access to high-quality science education, enabling them to achieve their full potential and become confident, independent learners.

The **impact of our science curriculum is measured** through pupil voice, assessments, book looks, questionnaires, and learning walks. These approaches demonstrate that pupils have developed both substantive and disciplinary scientific knowledge—gaining the ability to question, investigate, build skills, and apply their learning meaningfully. Pupil voice is central to understanding their enthusiasm, engagement, and grasp of scientific concepts.

Ongoing monitoring throughout the academic year allows us to celebrate staff strengths and identify areas for development. We evaluate subject knowledge, confidence in teaching science, and adaptability, ensuring targeted CPD supports continuous improvement. As a result, our pupils leave Coleshill CE with a strong foundation in science, ready to thrive in their future learning and lives.

What science looks like in EYFS - Nursery

Ongoing throughout the year

The Learning Environment will naturally give rise to playing, exploring and teaching of scientific investigation and vocabulary such as in the areas exemplified below, *encouraging children to comment and ask questions about aspects of their familiar world, such as the place where they live or the natural world*.

• Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world

• Talks about why things happen and how things work

Healthy Eating	**Seasons/Environments**	**Living Things / Animals**
Discussions during snack/ lunch time, PE lessons Vocab**:** Healthy, unhealthy, balance, sleep, safe, bodies, exercise.	*Talk about what is happening outside. Introducing sounds and textures to represent the weather* Vocab**:** Weather (Sun/rain/cold/ warm/ice/frosty) Autumn, Winter, Spring, Summer. Same/different.	Looking after and caring for the guinea pigs Vocab**:** plants, flowers, animals, seeds, soil, grow, respect, minibeast, insect
My Body	**Materials/ Changing States**	**Investigations**
During self-care activities such as handwashing, toileting, care when hurt Vocab: body parts, including when being supported with intimate care show understanding of penis, vulva, bottom (link to safeguarding curriculum).	Explore through exploration of natural materials, making playdough for use during the week or through cooking activities e.g. learning about the characteristics of liquids and solids by encouraging curiosity during cooking activities or when observing ice outdoors. Vocab: rough, smooth, wet, dry,	Discussions through natural exploration of materials in the in/outdoor area (eg soil, ice, dough) • What has happened? • Why do you think that has happened? • What is the same/different? • What can you see/hear/feel? • I wonder if…

What science looks like in EYFS - Nursery

Educational Programme: Understanding of the World

Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them. Listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.

	Autumn		Spring 1	Spring 2 and Summer 1	Summer 2
The World	Identifying that we are all different, noticing similarities and differences such as hair and eyes compared to peers.	Developing an understanding of growth, decay and changes over time -**Autumn** What is happening to our trees? • How do the leaves look/ feel/ smell? • Caring for animals on bonfire night. • What do animals do when they are cold?	Developing an understanding of growth, decay and changes over time -**Winter** • What do we need to wear during this season? • How is winter affecting the animals/plants/ trees?	Developing an understanding of growth, decay and changes over time **-Spring** • Shows care and concern for living things and the environment • Begin to understand the effect their behaviour can have on the environment • Walks around the school grounds, listening walks and local area looking and listening. • How is spring affecting the animals/plants/trees?	Developing an understanding of growth, decay and changes over time **-Summer** • Begin to understand the effect their behaviour can have on the environment (showing respect for our environment e.g. through tidying, watering, caring for our garden)

Significant Figures of Focus:

• Shows interest in different occupations and ways of life indoors and outdoors

• Cooks		• The dentist	• Farmer Plumb	• Vet	

Significant Events of Focus: *(reviewed annually to reflect the cohort community)*

• Remembers and talks about significant events in their own experience

• Harvest	• Bonfire Night		• Easter		

Significant Events to be used as a learning opportunity during the year as they become relevant

• Differences between ourselves and others and how things are different/similar to how they were in the past e.g. going on holiday (link to geography: maps, cultures, weather)

• Changing Seasons: Autumn walk in the park to collect leaves, conkers, acorns • celebrating Harvest •Cooking: Making Soup	• Cooking: making cakes	• Local Walk: Listening walk • Bear Hunt around the school grounds •Cooking: Making pancakes •Taking Food for Chinese New Year	• Changing Seasons: Spring including Local walk for Farm Visit - New life/ Baby animals • Growing - planting veg/ salad in garden •Cooking: Making hot cross buns	•Cooking: making salad with items from the garden •Local Walk: visit to pet shop	•Local walk: Litter picking (Eco Council Members to support)

What science looks like in EYFS - Reception

	Autumn Baseline/ settling in		Spring 1	Spring 2	Summer 1	Summer 2
Big Question	**What makes me special and unique?**	**What does celebration mean to me?**	**Who is significant to me?**	**What does it mean to grow?**	**What is around me in Coleshill?**	**Why should we care for our planet?**
Theme & possible directions of child-led interest	**Marvellous Me**: Me, family, friends, diversity, animals, pets, feelings, school	**Celebrations**: Autumn seasonal changes, Harvest festival, light and dark, bonfire night, Remembrance, Diwali, stars, the moon, Christmas	**My Community:** Heroes, Jobs, Roles in community	**Growing & New Life** Plants, growing, senses, healthy eating, cooking, fruit and vegetables, insects, minibeast, weather	**Journeys**: Transport, trains, boats, buses, maps, tickets	**We've got the Whole World in our Hands:** Looking after our world, environment, maps

Educational Programme: Understanding of the World

Understanding the World provides a powerful, meaningful context for learning across the curriculum. It supports children to make sense of their expanding world and their place within it through nurturing their wonder, curiosity, agency and exploratory drive. This development requires regular and direct contact with the natural, built and virtual environments around the child and engaging children in collaborative activities which promote inquiry, problem-solving, shared decision making and scientific approaches to understanding the world. Active involvement in local community life helps children to develop a sense of civic responsibility, a duty to care, a respect for diversity and the need to work for peaceful co-existence. In addition, first-hand involvement in caring for wildlife and the natural world provides children with an appreciation of ecological balance, environmental care and the need to live sustainable lives. Rich play, virtual and real world experiences support learning about our culturally, socially, technologically and ecologically diverse world and how to stay safe within it. They also cultivate shared meanings and lay the foundation for equitable understandings of our interconnectedness and interdependence.

Where do I live? What are the parts of my body?	What's happening outside at this time of year? *Look closely at similarities, differences, patterns and change in nature.* Why do we wear poppies?	Where are the important places around me? How can I help to look after my body (including teeth)?	How does the weather help growth? How do animals and plants change as they grow? How have I grown?	How has Coleshill changed? Where have my family travelled to/from? How did they travel? What is the weather like in those places? What do I notice about the plants and trees in the area? What animals and creatures do I see around me?	Is the temperature the same all over the world? Which animals live in hot/ cold places? What materials would we use to offer shelter to animals living in different temperatures? How do our guinea pigs stay warm in winter? How do they stay cool in the summer?

The Learning Environment will naturally give rise to playing, exploring and teaching of Scientific investigation and vocabulary such as in the areas exemplified below throughout the year.					
Identifying body parts, noticing things that are the same and different compared to peers Sequencing growth of a human Knowing about the 5 senses and the body parts that are used	What is happening to our trees and plants? • How do they look/feel/smell? • Caring for animals on bonfire night. • What do animals do when they are cold?	The Natural World • What has changed since we were last at school? • What do we need to wear during this season? • What impact has winter had on our environment? • How is winter affecting the animals/creatures/plants/trees?	The Natural World • Walks around the school grounds and local area looking for weather patterns. Daily use of weather chart adding to a pictogram to show weather patterns. • Observations of changes that take place to the caterpillars over time. • Sequence life cycles butterfly	The Natural World • Local walk to see what has grown and changed • What's happening in the allotments? • What's happening in the farm? • Continue to add to daily use of weather chart	What is happening outside now the weather is getting warmer? • What is happening in the allotments?
Investigations Discussions through natural exploration of materials in the in/outdoor area (eg soil, ice, dough) • What has happened? • Why do you think that has happened? • What is the same/different? • What can you see/hear/feel? • I wonder if…	**Healthy Eating** Discussions during snack/ lunch time, PE lessons Vocab**:** Healthy, unhealthy, balance, sleep, safe, bodies, exercise.	**Materials/ Changing States** • Explore similar/different properties. • Talk about changes they notice. eg through exploration of natural materials, making playdough for use during the week. Vocab: rough, smooth, wet, dry,	**Seasons/ Environments** *(Drawing on new knowledge and our own experiences)* Vocab**:** Weather (Sun/rain/cold/ warm/ice/frosty) Autumn, Winter, Spring, Summer. Same/different.	**My Body** During self-care activities such as handwashing, toileting, care when hurt • Labelling my body parts (including body parts linked to protective behaviours: penis, vulva) • Recognise that some parts of our body are private	**Living Things / Animals** • Finding and exploring minibeasts in the outdoor area, exploring their habitats. • Looking after and caring for the guinea pigs Vocab**:** plants, flowers, animals, seeds, soil, grow, respect, minibeast, insect
Significant Events of Focus: *(reviewed annually to reflect the cohort community)*					
• Harvest	• Bonfire Night	• Pancake Day/	• Easter • Mother's Day		
Significant Events to be used as a learning opportunity during the year as they become relevant • becoming a brother / sister • going on holiday (link to geography: maps, cultures, weather)					
Changing Seasons: Autumn • Contrasting environments • Celebrating Harvest (link between farm, food and Harvest Festival)		**Local Walks** • Number Hunt	**Farm Visit** • Changing Seasons: Spring • Growth • Baby animals • Growth of crops		**Local Walk** Litter picking (Eco Council Members to support)

What science looks like across KS1 and KS2 – building on the foundation:

POS themes	Coverage – unit and year group
Biology Biology is the natural science that studies life and living organisms, including their physical structure, chemical processes, molecular interactions, physiological mechanisms, development and evolution.	**Animals including humans (Y1,2,3,4,5,6)**
	Plants (Y1,2,3)
	Living things and their habitats (Y2,4,5,6)
	Evolution and inheritance (Y6)
Chemistry Chemistry is the scientific discipline involved with elements and compounds composed of atoms, molecules and ions: their composition, structure, properties, behaviour and the changes they undergo during a reaction with other substances.	**Materials (1,2,5)**
	Rocks (Y3)
	States of matter (Y4)
Physics Physics is the natural science that studies matter, its motion and behaviour through space and time, and that studies the related entities of energy and force.	**Seasonal Changes (Y1)**
	Light (Y3,6)
	Sound (Y4)
	Forces (and magnets) (Y3,Y5)
	Earth and Space (Y5)
	Electricity (Y4,6)

National Curriculum

Purpose of Study

A high-quality science education provides the foundations for **understanding the world through the specific disciplines of biology, chemistry and physics**. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

KS1 POS:	LOWER KS2 POS:	UPPER KS2 POS:
The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them.	The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them.	The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas.
• **NCa To be curious and ask questions about what they notice.**	• **NCLa To explore, talk about, test and develop ideas** about everyday phenomena and the relationships between living things and familiar environments, and by **beginning to develop their ideas about functions, relationships and interactions**.	• **NCUa To explore and talk about their ideas; asking their own questions** about scientific phenomena; and **analysing functions, relationships and interactions more systematically**.
NCb To develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information.	• **NCLb To ask their own questions about what they observe and make some decisions** about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information.	• **NCUb To select the most appropriate ways to answer science questions** using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.
• **NCc To begin to use simple scientific language** to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.	• **NCLc To draw simple conclusions and use some scientific language**, first, to talk about and, later, to write about what they have found out.	• **NCUc To draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings**.
		• **NCUi Pupils should read, spell and pronounce scientific vocabulary correctly**.
• **NCi To read and spell scientific vocabulary** at a level consistent with their increasing word-reading and spelling knowledge at key stage 1.	• **NCLci To read and spell scientific vocabulary correctly** and with confidence, using their growing word-reading and spelling knowledge.	• **NCUe To encounter more abstract ideas** and begin to recognise how these ideas help them to understand and predict how the world operates.
• **NCd To use first-hand practical experiences**, but also use some appropriate **secondary sources**, such as books, photographs and videos.		• **NCUf** To begin to recognise that **scientific ideas change and develop over time**.
• **NC. 'Working scientifically'** (see next page)	• **NCL. 'Working scientifically'** (see next page)	• **NCU 'Working and thinking scientifically'** (see next page)

Across all topics, children will be learning to work scientifically, using and developing investigative skills, including observation, pattern-seeking, fair testing, classification and identification.

Working Scientifically

KS1

- During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:
- WS1 asking simple questions and recognising that they can be answered in different ways
- WS2 **observing** closely, using simple equipment and **measurement**
- WS3 performing simple **tests**
- WS4 identifying and classifying
- WS5a gathering, recording and communicating data and findings **to help in answering questions.**
- WS5b use scientific language and read and spell age-appropriate **scientific vocabulary**
- WS6 using their observations and ideas **to suggest answers to questions**
- WS7 begin to **notice patterns and relationships.**

Lower KS2

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

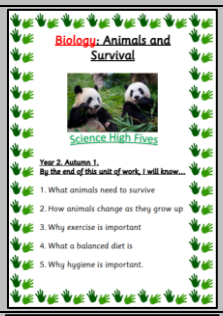
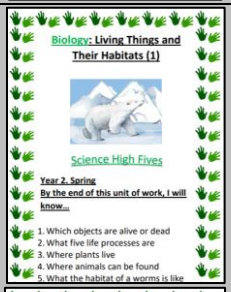
- WS1 making decisions, asking relevant **questions** and using different types of scientific enquiries to answer them
- WS2 **taking accurate measurements** using standard units, using a range of equipment, including thermometers and data loggers
- WS3 **setting up simple practical enquiries**, comparative and fair tests
- WS4 making systematic and careful **observations** using notes and simple tables
- WS5a **recording findings using simple scientific language**, drawings, labelled diagrams, keys, bar charts, and tables
- WS5b **reporting on findings** from enquiries, using relevant scientific language, including oral and written explanations, displays or presentations of results and conclusions
- WS6a gathering, recording, classifying and presenting data in a variety of ways **to help in answering questions**
- WS6b using straightforward scientific evidence **to answer questions or to support their findings**.
- WS7a **using results to draw simple conclusions**, make predictions for new values, suggest improvements and raise further questions
- WS7b **identifying** differences, patterns, similarities or changes related to simple scientific ideas and processes
- WS7c begin to look for naturally occurring **patterns and relationships**
- WS8 recognise when and how **secondary sources** might help them to answer questions that cannot be answered through practical investigations.

Upper KS2

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

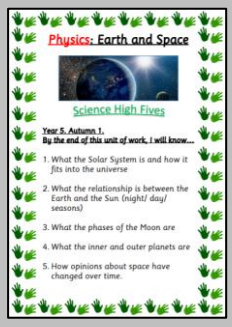
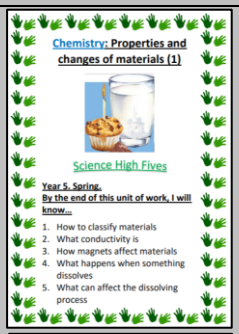
- WS1 planning different types of scientific enquiries to answer **questions**, including recognising and controlling variables where necessary
- WS2 **taking measurements**, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- WS3 using test results to make predictions to **set up further comparative and fair tests**
- WS4 **recording data** and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- WS5a **reporting 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
- WS5b Pupils should read, spell and pronounce **scientific vocabulary** correctly.
- WS6 identifying scientific evidence that has been used to **support or refute ideas or arguments.**
- WS7a explore and talk about their ideas; asking their own questions about scientific phenomena; and **analysing** functions, relationships and interactions more systematically.
- WS7b **draw conclusions** based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.
- WS8 recognise that **scientific ideas change and develop over time**.

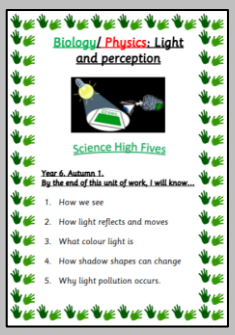
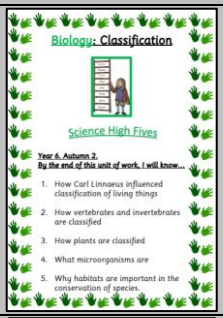
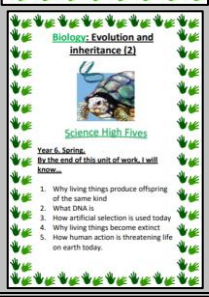
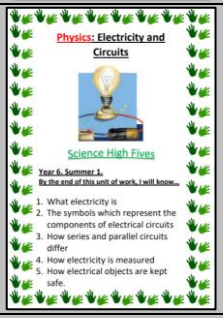
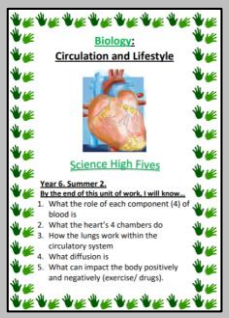
Y1 Science Topics	Curriculum Map Content	Working Scientifically
	• distinguish between an object and the material from which it is made • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • describe the simple physical properties of a variety of everyday materials • compare and group together a variety of everyday materials on the basis of their simple physical properties.	• WS1 • WS3 • WS4 • WS5a • WS6
	• observe changes across the four seasons ▪ observe and describe weather associated with the seasons and how day length varies. ▪ Use their own observations to describe the changes that take place in vegetation and animal life across the year ▪ Use everyday terms to describe simple features living things or events they observe	• WS1 • WS2 • WS3 • WS5a • WS6
 	• 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. ▪ Know how to respect and handle living things in their environment	• WS1 • WS2 • WS4 • WS5a • WS6
	• know the names of the four seasons and the characteristics we can use to identify each. • identify how the weather changes from winter to spring. • identify what happens to plants and animals in spring and summer. • describe the changes we can see in the weather from spring to summer. • recognise how the changing weather impacts humans.	• WS1 • WS2 • WS3 • WS5a • WS6
	• 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.	• WS2 • WS4 • WS6

Y2 Science Topics	Curriculum Map Content	Working Scientifically
	• notice that animals, including humans, have offspring which grow into adults • find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	• WS2 • WS5a • WS6
	• 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.	• WS1 • WS3 • WS4 • WS5a • WS6
 	• Describe the changes that take place in vegetation and animal life in a habitat and a micro-habitat across the four seasons • explore and compare the differences between things that are living, dead, and have never been alive • describe the characteristics of living things • know that plants are living things • identify and name a variety of plants and animals in their habitats, including micro-habitats • describe how animals obtain their food from plants and other animals • understand a simple food chain, and identify and name different sources of food. • identify that most living things live in habitats to which they are suited • describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other	• WS1 • WS2 • WS4 • WS6 • WS5a
	• Know how to respect living things in their environment	•
	• 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.	• WS1 • WS2 • WS4 • WS5a • WS6

Y3 Science Topics	Curriculum Map Content	Working Scientifically
	• 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 animals have skeletons and muscles for support, protection and movement.	• WS1 • WS4 • WS2 • WS5b • WS7a, b • WS6a, b • WS8
	• compare and group together different kinds of rocks (including those in the locality) on the basis of appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter.	• WS1 • WS3 • WS4 • WS6a • WS5a • WS7b • WS6b
 	• recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by a solid object • find patterns in the way that the size of shadows change.	• WS3 • WS4 • WS2 • WS5a • WS5b • WS7a • WS6b
	• 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. • know that plants make their own food	• WS3 • WS4 • WS2 • WS5a • WS5b • WS7a • WS6b
	• compare how things move on different surfaces • notice that some forces need contact between two objects, but magnetic forces can act at a distance • observe how magnets attract or repel each other and attract some materials and not others • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • describe magnets as having two poles • predict whether two magnets will attract or repel each other, depending on which poles are facing.	• WS3 • WS6a • WS5a • WS5b • WS7a

Y4 Science Topics	Curriculum Map Content	Working Scientifically
	• describe the simple functions of the basic parts of the digestive system in humans • identify the different types of teeth in humans and their simple functions • construct and interpret a variety of food chains, identifying producers, predators and prey.	• WS1 • WS5a • WS5b • WS6b • WS7b
	• explore a variety of everyday materials and develop simple descriptions of the 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.	• WS1 • WS3 • WS5a • WS5b • WS7a • WS7b
 	• recognise that living things (including those in the locality) 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 • Identify where humans have had an impact on and/ or damage an environment • Identify ways in which humans can protect and improve environments	• WS1 • WS4 • WS5a • WS7b
	• identify how sounds are made, associating some of 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.	• WS1 • WS3 • WS4 and WS2 • WS5a • WS5b • WS7a • WS6b
	• identify common appliances that run on electricity • construct a simple series circuit, identifying/naming its basic parts, including cell, wire, bulb, switch and buzzer • use their circuits to create simple devices • draw the circuit as a pictorial representation (not necessarily using conventional circuit symbols) • about precautions for working safely with electricity. • identify whether or not a lamp will light in a simple series circuit/ • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors.	• WS1 • WS3 • WS4 • WS6a • WS5a • WS5b • WS7a • WS7b • WS6b

Y5 Science Topics	Curriculum Map Content	Working Scientifically
	• describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. • learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). • understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).	• WS2 • WS5a • WS6
	• 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. • explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. • explore the effects of friction on movement and find out how it slows or stops moving objects. • find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.	• WS1 • WS2 • WS3 • WS4 • WS5a
 	• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • 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, including changes associated with burning and the action of acid on bicarbonate of soda. • explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. • explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda.	• WS1 • WS3 • WS5a • WS6
	• 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. • raise questions about their local environment throughout the year. • find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall. • find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals	• WS1 • WS5a • WS6
	• describe the changes as humans develop to old age. • draw a timeline to indicate stages in the growth and development of humans. • learn about the changes experienced in puberty.	• WS5a • WS6

Y6 Science Topics	Curriculum Map Content	Working Scientifically
	• 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. • work scientifically by: deciding where to place rear-view mirrors on cars; designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works. • look at a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters (they do not need to explain why these phenomena occur).	• WS1 • WS2 • WS4 • WS3 • WS5a
	• describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • give reasons for classifying plants and animals based on specific characteristics. • know that broad groupings, such as micro-organisms, plants and animals can be subdivided. • should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). • find out about significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.	• WS1 • WS4 • WS5a • WS6
 	• 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. • be introduced to the idea that characteristics are passed from parents to their offspring, i.e. different breeds of dogs, and what happens when, for example, labradors are crossed with poodles. • appreciate that variation in offspring over time can make animals more or less able to survive in particular environments, for example, by exploring how giraffes' necks got longer. • find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.	• WS6 • WS8
	• 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. • construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. • learn how to represent a simple circuit in a diagram using recognised symbols	• WS1 • WS2 • WS4 • WS5a
	• 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. • explore questions to understand how the circulatory system enables the body to function. • learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body. • explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.	• WS2 • WS4 • WS5a

Science Vocabulary Progression Map

This progression map shows the progression of statements and vocabulary across the national curriculum's science programme of study requirements from year EYFS to year 6. Statements here are taken directly from the programme of study and have been organised into topics.

	Nursery	Reception
Animals including Humans	head eyes nose mouth ears hands fingers feet toes arm leg animal	herbivore carnivore omnivore human animal fish birds head ear eye mouth nose face hair leg knee arm elbow back toes hands fingers
Plants	tree leaf flower stem seed	tree trunk branch leaves flowers stem petals fruit roots bulb seed
Materials	material wood glass paper hard soft	material wood plastic glass paper material shiny metal rock hard soft fabric smooth rough
Seasonal Changes	Summer Spring Autumn Winter Season Sun day dark light night Moon	Summer Spring Autumn Winter Season Sun day dark light night Moon
Forces, Earth & Space	Earth Moon Sun star	Earth Moon Planet space Sun star
Sound, Light & Electricity	loud quiet	loud quiet volume sound

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans. Pupils should be taught to:	• 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.	• notice that animals, including humans, have offspring which grow into adults; • find out about and describe the basic needs of animals, including humans, for survival (water, food and air); • describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	• 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 simple 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.
Vocabulary progression	• Names of animal groups: **fish, amphibians, reptiles, birds, mammals.** • Animal diets: **carnivore, herbivore, omnivore.** • Human and animal body parts: e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills. • Human senses: **sight, hearing, touch, smell, taste.** • Exploring senses: loud, quiet, soft, rough. • Other: human, animal, pet.	• Being born and growing: **Young, offspring, live young**, grow, **develop**, change, hatch, lay, fly, crawl, talk. • Young and adult names: e.g. lamb and sheep, kitten and cat, duckling and duck. • **Life cycle** stages: e.g. baby, toddler, child, teenager, **adult;** frogspawn, tadpole, froglet, frog. • Survival and staying healthy: basic needs, survive, food, air, **exercise, diet, nutrition**, healthy, balanced diet, **hygiene, germs.** • Food groups: fruit and vegetables, proteins, dairy and alternatives, carbohydrates, oil and spreads, fat, salt, sugar. • Previously introduced vocabulary: **water**.	• Food groups and **nutrients**: fibre, fats **(saturated and unsaturated**), vitamins, minerals. • Skeletons and muscles: skeleton, **muscles, tendons, joints,** protection, support, organs, voluntary muscles, involuntary muscles, biceps, triceps, contract, relax, bone, cartilage, shell, **vertebrate, invertebrate,** endoskeleton, exoskeleton, hydrostatic skeleton. • Names of human bones: e.g. skull, spine, backbone, vertebral column, ribcage, pelvis, clavicle, scapula, humerus, ulna, pelvis, radius, femur, tibia, fibula. • Other: **energy**. • Previously introduced vocabulary: movement.	• Digestive system: **digest**, digestion, tongue, teeth, saliva, salivary glands, **oesophagus, stomach,** liver, pancreas, gall bladder, **small intestine,** duodenum**, large intestine, rectum,** anus, faeces, organ. • Types of teeth and dental care: **molar**, **premolar**, **incisor**, **canine**, wisdom teeth, tooth decay, plaque, enamel, baby (milk) teeth. • Food chains and animal diets: decomposer, food web. • Previously introduced vocabulary: **producer,** consumer**, prey, predator,** excretion**,** habitat.	• Process of reproduction: **gestation, asexual reproduction, sexual reproduction,** sperm, egg, cells, clone. • Changes and **life cycle:** embryo, foetus, uterus, **prenatal, adolescence, puberty, menstruation, adulthood,** menopause**, life expectancy,** old age, hormones, sweat. • Changing body parts: e.g. breasts, penis, larynx, ovaries, genitalia, pubic hair. • Previously introduced vocabulary: reproduction, **reproduce,** types of animals and animal groups, **fertilisation.**	• **Circulatory system**: circulation, **heart**, pulse, heartbeat, heart rate, lungs, breathing, **blood vessels**, blood, pump, transported, **oxygenated blood, deoxygenated blood,** oxygen, arteries, veins, capillaries, chambers, plasma, platelets, white blood cells, red blood cells. • Lifestyle: **drug, alcohol,** smoking, disease, calorie, energy input, energy output. • Other: water transportation, nutrient transportation, waste products. • Previously introduced vocabulary: carbon dioxide.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants. Pupils should be taught to:	• 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.			•
Vocabulary progression	• Names of common plants: **wild plant, garden plant, evergreen** tree, **deciduous** tree, common flowering plant, **weed,** grass. • Name some features of plants: e.g. **flower**, vegetable, **fruit**, berry, **leaf/leaves**, blossom, **petal**, **stem**, trunk, branch, **root**, **seed, bulb,** soil. • Name some common types of plant e.g. sunflower, daffodil.	• Growth of plants: **germination**, **shoot, seed dispersal,** grow, food store, life cycle, die, wilt, seedling, sapling. • Needs of plants: **sunlight, nutrition,** light, healthy, space, air. • Name different types of plant: e.g. bean plant, cactus. • Names of different habitats: e.g. rainforest, desert. • Previously introduced vocabulary: **water**, **temperature**, warm, hot, cold, habitat.	• Water transportation: transport, **evaporation, evaporate, nutrients,** absorb, anchor. • Life cycle of flowering plants: **pollination** (insect/wind), pollen, nectar, pollinator, seed formation, **seed dispersal** (animal/wind/water), reproduce, **fertilisation,** fertilise, **stamen,** anther, filament, **carpel (pistil),** stigma, style, ovary, ovule, **sepal**, carbon dioxide. • Previously introduced vocabulary: life cycle**.**	•	•	•

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Living Things and their habitats. Pupils should be taught to:	•	• explore and compare the differences between things that are living, dead, and things that have never been alive; • identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other; • identify and name a variety of plants and animals in their habitats, including microhabitats; • describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	•	• 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 micro-organisms, plants and animals; • give reasons for classifying plants and animals based on specific characteristics.
Vocabulary progression	•	• Living or dead**: living, dead, never living,** not living, alive, never been alive, healthy. • **Habitats** including **microhabitats**: **depend,** shelter, safety, **survive**, suited, space, minibeast, air. • **Life processes:** movement, sensitivity, growth, reproduction, nutrition, excretion, respiration. • **Food chains: food sources,** food, producer, consumer, predator, prey. • Names of habitats and microhabitats: e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat. • Previously introduced vocabulary: senses, **carnivore**, **herbivore**, **omnivore**, **seed**, **water**, names of materials.	•	• Living things: **organisms, specimen,** species. • Grouping living things: **classification,** classification keys, classify, **characteristics**. • Names of invertebrate animals: snails and slugs, worms, spiders, insects. • Invertebrate body parts: e.g. wing case, abdomen, thorax, antenna, segments, mandible, proboscis, prolegs. • Environmental changes: **environment,** environmental dangers, adapt, natural changes, climate change, deforestation, pollution, urbanisation, invasive species, **endangered species, extinct.** • Previously introduced vocabulary: carbon dioxide, **fish, bird, mammal, amphibian, reptile**, skeleton, bone, **vertebrate, invertebrate,** backbone, names for animal body parts, names of common plants, photosynthesis.	• **Reproduction**: **asexual reproduction, sexual reproduction**, **gestation, metamorphosis,** gametes, tuber, runners/side branches, plantlet, cuttings, embryo, adolescent, penis, vagina, egg, pregnancy, gestation. • Previously introduced vocabulary: **life cycle, pollination,** offspring, **fertilise,** fertilisation, sepal, filament, anther, stamen, pollen, petal, stigma, style, ovary, carpel, ovule, stem, bulb, roots, mammal, adult, baby, sperm, cells, live young.	• Classifying: Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation. • **Microorganisms**: **bacteria,** single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, **microscope**, decompose.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evolution and inheritance. Pupils should be taught to:		•		•			• 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.
Vocabulary progression		•	•	•	•	•	• **<u>Evolution</u>** and **<u>inheritance:</u>** evolve, **adaptation,** inherit, **natural selection, adaptive traits, inherited traits,** mutations, theory of evolution, ancestors, biological parent, chromosomes, genes, Charles Darwin. • <u>Other:</u> selective breeding, artificial selection, breed, cross breeding, genetically modified food, cloning, DNA. • Previously introduced vocabulary: classification, **offspring, characteristics, habitat, environment,** adapt, **variations**, human, **fossil,** suited, cells, names of different habitats, names of animals and their body parts, species, **sedimentary rock**, lava, **igneous rock**, **metamorphic rock**, **magma**, heat, **fossilisation**.

2025- 2026 Science Curriculum and Skills Progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal Changes. Pupils should	• observe changes across the 4 seasons; • observe and describe weather associated with the seasons and how day length varies.		•			•
Vocabulary progression	• **Seasons**: **spring, summer, autumn, winter**, seasonal change. • **Weather**: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. • Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. • Day length: night, day, **daylight.**	•	•	•	•	•

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces. Pupils should be taught to:			Forces and Magnets • compare how things move on different surfaces; • notice that some forces need contact between 2 objects, but magnetic forces can act at a distance; • observe how magnets attract or repel each other and attract some materials and not others; • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials; • describe magnets as having 2 poles; • predict whether 2 magnets will attract or repel each other, depending on which poles are facing.		Forces • 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.	•
Vocabulary progression	•	•	• How things move: move, movement, **surface**, distance, strength. • Types of **forces**: push, pull, contact force, non-contact force, **friction**. • **Magnets: magnetic, magnetic field,** magnetic force, bar magnet, horseshoe magnet, ring magnet, magnetic **poles** (north pole, south pole), **attract, repel,** compass. • Magnetic and non-magnetic materials: e.g. iron, nickel, cobalt. • Previously introduced vocabulary: metal, names of materials.	•	• Types of forces: **air resistance, water resistance, buoyancy, upthrust,** Earth's **gravitational pull, gravity**, opposing forces, driving force. • **Mechanisms:** levers, pulleys, gears/cogs. • Measurements: **weight, mass,** kilograms (kg), Newtons (N), scales, speed, fast, slow. • Other: **streamlined**, Earth. • Previously introduced vocabulary: air, heat, moon.	•

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Physics: Light. / Sound/ Earth and Space			• recognise that they need light in order to see things and that dark is the absence of light;	• identify how sounds are made, associating some of them with something vibrating; • recognise that vibrations from	• describe the movement of the Earth and other planets relative to the Sun in the solar system;	• recognise that light appears to travel in straight lines; • use the idea that light travels in straight lines to explain that objects

			• notice that light is reflected from surfaces; • recognise that light from the sun can be dangerous and that there are ways 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.	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.	• describe the movement of the Moon relative to the Earth; • describe the Sun, Earth and Moon as approximately spherical bodies; use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	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.
Vocabulary progression	•	•	• **Light** and seeing: **dark,** absence of light, **light source,** illuminate, visible, **shadow, translucent,** energy, block. • **Light sources:** e.g. candle, torch, fire, lantern, lightning. • **Reflective light: reflect, reflection,** surface, **ray**, scatter, reverse, beam, angle, mirror, moon. • Sun safety: dangerous, glare, damage, UV light, UV rating, sunglasses, direct. • Previously introduced vocabulary: **opaque, transparent,** sunlight, sun.	• Parts of the **ear**: **eardrum.** • Making sound: **vibration,** vocal cords, **particles.** • Measuring sound: **pitch**, **volume, amplitude, sound wave,** quiet, loud, high, low, travel**, distance.** • Other: **soundproof, absorb sound.**	• Solar system: **star, planet.** • Names of planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus. • Shape: **spherical bodies, sphere.** • Movement: **rotate, axis, orbit, satellite.** • Theories: **geocentric model, heliocentric model, astronomer.** • Day length: sunrise, sunset, midday, time zone. • Previously introduced vocabulary: **Sun, moon, shadow**, day, night, heat, **light**, **reflect**.	• Reflection: periscope. • Seeing light: **visible spectrum, prism.** • How light travels: light waves, wavelength, straight line, **refraction.** • Previously introduced vocabulary: names and properties of materials, absorb.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electricity. Pupils should be taught to:	•		•	• 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 or not the lamp is part of a complete loop with a battery; • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series 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.
Vocabulary progression	•	•	•	• **Electricity:** mains-powered, battery-powered, **mains electricity,** plug, **appliances**, devices. • Circuits: **circuit,** simple series circuit, complete circuit, incomplete circuit. • Circuit parts: bulb, cell, wire, buzzer, switch, motor, **battery.** • Materials: **electrical conductor, electrical insulator.** • Other: safety. • Previously introduced vocabulary: names of materials.	•	• Flow and measure of electricity: **voltage, amps, resistance, electrons**, volts (V), **current.** • Circuits**: symbol,** circuit diagram, component, function, filament. • Variations: dimmer, brighter, louder, quieter. • Types of electricity: natural electricity, human-made electricity, solar panels, power station. • Other: positive, negative.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Materials. Pupils should be taught to:	Everyday Materials • distinguish between an object and the material from which it is made; • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock; • describe the simple physical properties of a variety of everyday materials; • compare and group together a variety of everyday materials on the basis of their simple physical properties.	Use of Everyday Materials • 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.	Rocks • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties; • describe in simple terms how fossils are formed when things that have lived are trapped within rock; • recognise that soils are made from rocks and organic matter.	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.	Properties and Changes of Materials • compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets; • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution; • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating; • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic; • 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, including changes associated with burning and the action of acid on bicarbonate of soda.	•
Vocabulary progression	• Names of **materials**: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric. • Properties of materials: **hard, soft, shiny, dull, stretchy**, **rough**, **smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof**, **absorbent, not absorbent,** sharp, stiff. • Other: **object.**	• Changing shape: squash, bend, twist, stretch. • **Properties** of **materials:** e.g. strong, flexible, light, hard-wearing, elastic. • Other: **suitability**, recycle, pollution.	• Types of rock**: sedimentary rock, igneous rock, metamorphic rock.** • **Properties of rocks: permeable,** semi-permeable, **impermeable,** durable. • Names of rocks: e.g. marble, chalk, granite, sandstone, slate. • Formation of rocks and fossils: natural, human-made, **magma, lava,** molten rock, **sediment, erosion, fossilisation,** layers, bone, fossil. • Soil: sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost. • Other: **palaeontology.** • Previously introduced vocabulary: soil, **water**, air.	• **States of matter: solids, liquids, gases,** particles. • State change: **evaporate, condense, melt, freeze**, heat, cool, melting point, freezing point, boiling point, **water vapour**. • Water cycle: **precipitation**, evaporation, condensation, ground run-off, collection, underground water, bodies of water (sea, river, stream), water droplets, hail. • Other: atmosphere. • Previously introduced vocabulary: temperature, rain, cloud, snow, wind, sun, hot, cold, absorb, carbon dioxide.	• Properties of **materials**: thermal **conductor/insulator,** magnetism, electrical resistance, **transparency**. • Mixtures and solutions: dissolving, substance, soluble, insoluble. • Changes of materials: reversible change, physical change, irreversible change, chemical change, burning, new material, product. • Separating: sieving, filtering, magnetic attraction. • Previously introduced vocabulary: electrical **conductor/insulator,** bulb, **translucent.**	•

Progression of vocabulary: working scientifically			
EYFS	KS1	Lower KS2	Upper KS2
TBC	aim answers block diagrams changes compare describe difference different enquiry equipment experience explore findings gather group identify (name) investigate measure notice observe patterns pictograms questions record same similarity simple tables sort sorting diagrams tally charts test What will we do? (plan) What do you think will happen? (prediction) What happened? (results) What have we found out? (conclusion)	accurate bar chart chart classify comparative test conclusion (What have we found out?) criteria data develop diagram evaluate evidence explanation key making a test fair method observations plan (What will we do?) practical enquiry prediction (What do you think will happen?) primary sources questioning reasoning relationships results (What happened?) secondary sources standard units table What do we change, what do we keep the same, what are we measuring?	accuracy and precision bar graphs causal relationship degree of trust dependent variable independent variable justify line graphs refute repeat results scatter graphs support variables (what do we change, what do we keep the same, how and what are we measuring?)