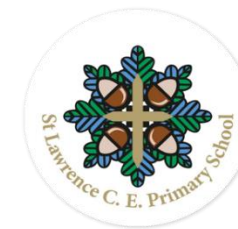


## Curriculum Subject: Science

Subject Lead: Mrs Rebecca Nash



### Curriculum Overview and Statement of Intent, Implementation, and Impact.

Motto	Our Core Christian Values
<p><b>“Being the best we can be, because with God all things are possible”</b></p> <p>‘For I know the plans for you,’ declares God, ‘plans to prosper you and not harm you, plans to give you hope and a future.’ Jeremiah 29:11</p>	<p>Compassion Courage Respect Honesty Thankfulness Forgiveness</p>
Vision & Intent	
<p>Together, through ‘The St Lawrence Way’ we will embrace the love of learning, be curious of, and be inspired by the endless possibilities that our wonderful world can offer.</p>	
Mission/Implementation	
<p><b>Through the ‘St. Lawrence Way’ we will.....</b></p> <ul style="list-style-type: none"><li>➤ Design a curriculum that: recognises children’s prior learning, providing first-hand learning experiences, allowing the children to build resilience and become creative, critical thinkers who have the <b>courage</b> to become lifelong learners fulfil their aspirations.</li><li>➤ Recognise every child as a unique individual. We teach the children to be tolerant of one another whilst understanding and <b>respecting</b> difference and diversity, knowing that all have been created in the image of God.</li><li>➤ Help pupils and adults to develop lifelong learning habits so that they can contribute successfully to their local community and navigate an increasingly complex national and global community so that they recognise their place in the world and show <b>thankfulness</b> for what they have.</li><li>➤ Foster a Christian community whereby everyone feels valued and has a strong sense of belonging building upon strong, caring relationships that are based on mutual <b>respect</b>; demonstrated through courtesy, <b>forgiveness</b> and reconciliation.</li><li>➤ Value the community to which we belong by listening, being <b>honest</b> with each other whilst showing <b>compassion</b>, and creating opportunities for the pupil voice to be heard, which will support good mental health and the wellbeing for all.</li></ul>	





## Science Intent, Implementation and Impact

<b>Intent</b>	<p>At St. Lawrence CE Primary School, our belief is that children are already SCIENTISTS! Our intent is to give every child a broad and balanced Science curriculum which enables them to confidently explore and discover what is around them, so that they have a deeper understanding of the world in which they live. We want our children to remember their involvement with exciting, practical hands-on experiences that encourage curiosity and questioning. Our aim is that these stimulating and challenging experiences help every child secure and extend their scientific knowledge and vocabulary, as well as promoting a love and thirst for learning. At St. Lawrence, we have a coherently planned and sequenced curriculum which has been carefully designed and developed with the need of every child at the centre of what we do. We want to equip our children with not only the minimum statutory requirements of the science National Curriculum but to prepare them for the opportunities, responsibilities, and experiences of later life.</p>
<b>Implementation</b>	<p>At St. Lawrence, Science topics are taught over a two-year cycle to cater for our mixed age year groups, in accordance with the National Curriculum. Topics are blocked to allow children to focus on developing their knowledge and skills, studying each topic in depth using 'Engaging Science' materials as our pedagogical approach.</p> <p>Every year group will build upon the learning from prior year groups therefore developing depth of understanding and progression of skills. Teachers promote enjoyment and foster interest of the scientific disciplines, Biology, Chemistry and Physics. Children explore, question, predict, plan, carry out investigations and observations as well as conclude their findings. Children present their findings and learning using science specific language, observations and diagrams. In order to support children in their ability to 'know more and remember more' there are regular opportunities to review the learning taken place in previous topics as well as previous lessons.</p> <p>At the start of each topic children will review previous learning and will have the opportunity to share what they already know about a current topic. Children are given a knowledge organiser at the start of each topic which details some key Science Curriculum Statement information, dates and vocabulary. This is not used as part of an assessment, but to support children with their acquisition of knowledge and are used as a reference document and prompt to secure key facts.</p> <p>Effective CPD and standardisation opportunities are available to staff to ensure high levels of confidence and knowledge are maintained. To support teaching sequences, teachers access the 'Engaging Science' materials for their pedagogical approach.</p> <p>Effective use of education visits and visitors are planned, to enrich and enhance the pupil's learning experiences within the Science curriculum. Teachers use highly effective assessment for learning in each lesson to ensure misconceptions are highlighted and addressed. Effective modelling by teachers ensures that children are able to achieve their learning intention, with misconceptions addressed within it. Through using a range of assessment tools, differentiation is facilitated by teachers, to ensure that each pupil can access the Science curriculum and feels that they are a successful learner.</p> <p>Children are given clear success criteria in order to achieve the learning intention with differing elements of independence.</p> <p>Pupils are regularly given the opportunity for self or peer assessment, which will then be used to inform planning, preparation, differentiation and address misconceptions within that lesson, or for the next lesson. Cross-curricular links are planned for, with other subjects such as Maths, English and Computing and wherever possible there is a context so that learning is meaningful.</p>
<b>Impact</b>	<p>The impact of this curriculum design will lead to outstanding progress over time, across key stages, relative to a child's individual starting point and their progression of skills. Through various workshops, trips and interactions with experts our Science curriculum will lead pupils to be enthusiastic Science learners and understand that science has changed our lives and that it is vital to the world's future prosperity. We want to empower our children, so they understand they have the capability to change the world. This is evidenced in a range of ways, including pupil voice, their work and their overwhelming enjoyment for science.</p>



## Yearly Science Overview Cycle A

Cycle A/Cycle B	Autumn		Spring		Summer	
Class 1 Reception	Key Concepts over the term linked to UW:  Marvellous Materials		Key Concepts over the term linked to UW:  Terrific Transport (Pushes and pulls)		Key Concepts over the term linked to UW:  Precious Plants	
	Seasonal Change (runs throughout all the year)					
Class 2 - Y1/2	Cycle A Environment 1:1 Seasonal Change	Cycle A Materials 1.3	Cycle A Local Habitats 2.1 Seasonal Change	Cycle A Habitats 2.6	Cycle A Plants 2.4 Seasonal Change	
	Cycle B Animal Kingdom 1.2 Animals and their needs 2.3	Cycle B Materials 2.5 Seasonal Change	Cycle B Habitats 2.6	Cycle B Weather 1.5	Cycle B Living Things 2.2	Cycle B Plants 1.4 Seasonal Change
Class 3 - Y3/4	Cycle A States of Matter 4.6	Cycle A Light 3.5	Cycle A Digestion 4.3	Cycle A Electricity 4.4	Cycle A Sound 4.5	Cycle A Rocks 3.6
	Cycle B Magnets 3.3	Cycle B Classification 4.2	Cycle B Animals and Skeletons 3.2	Cycle B Respecting our Environment 4.1	Cycle B Plants 3.4	
Class 4 - Y5/6	Cycle A Earth & Space 5.3	Cycle A Light 6.5	Cycle A Field Studies 6.1	Cycle A Electricity 6.4	Cycle A Heart and Lungs 6.2	Cycle A Classification 6.3
	Cycle B Mixtures and Reactions 5.4	Cycle B Forces 5.6	Cycle B Life Cycles 5.2	Cycle B Evolution and Inheritance 6.6	Cycle B Decaying and Recycling 5.1	Cycle B Human Development 5.5

Red – Physics

Green – Biology

Blue – Chemistry

### Biology Strand Progression- EYFS to Year 6

Biology Strand Progression- EYFS to Year 6					
Content	EYFS	YEAR 1	YEAR 2	YEAR 3 & 4	YEAR 5 & 6
PLANTS Key Knowledge Progression	The life cycle of a creature. Eg butterfly	Plants (names and structure of plants)	Plants (conditions for growing)	Plants (Requirements for growth, function of parts & life cycle)	<i>Plants Part of ‘Life Cycles and life process of reproduction in plants)</i>
	what plants need to survive.	identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	Observe and describe how seeds 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.	describe the life process of reproduction in some plants
	From seed to flower			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.	
	The life cycle of a plant e.g, sunflowers	identify and describe the basic structure of a variety of common flowering plants, including trees		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.		
LIVING THINGS Key Knowledge Progression	explain the life cycle of a plant and an animal (Eg a sunflower and a seahorse)	Living things and their habitats (suitable habitats/ simple food chains)		Classification 4.2 Unit	<i>(From Classification topic classifying plants. From evolution topic how plants have adapted to suit their environment)</i> (Evolution and inheritance)
	say what plants need to survive.	Explore and compare the differences between things that are living, dead, and things that have never been alive		Living things and their habitats (grouping/ simple classifying/changes to habitats) (from living things grouping/classifying plants & benefits e.g. green spaces in cities& dangers e.g. deforestation)	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.
	talk about different life cycles.	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		Recognise that living things can be grouped in a variety of ways.	
	show understanding of the need to respect and care for the natural environment and all living things.	Identify and name a variety of plants and animals in their habitats, including micro-habitats		Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	
		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 environments can change and that this can sometimes pose dangers to living things.	Give reasons for classifying plants and animals based on specific characteristics.
				(Evolution and inheritance)	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

						<p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</p>	
<p>ANIMALS INCLUDING HUMANS</p> <p>Key Knowledge Progression</p>		<p>Animals, including humans (naming animals &amp; body parts)</p> <p>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>identify, name, draw and label the basic parts of the human body and say which part is associated with each sense.</p>	<p>Animals, including humans (health and growth)</p> <p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Animals, including humans (skeletons)</p> <p>identify and describe the functions of different parts of flowering plants: roots, stem/trunk leaves and flowers</p> <p>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</p> <p>explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p>Animals, including humans (Health: teeth, eating and digestion)</p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>Animals, including humans (part of the human development topic)</p> <p>Describe the changes as humans develop to old age.</p> <p>describe the difference in the life cycles of a mammal, an amphibian an insect and a bird describe the life process of reproduction in some animals</p>	<p>Animals, including humans (health and circulation)</p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p> <p>STAR project</p>

### Chemistry Strand Progression- EYFS to Year 6

Content	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5 & YEAR 6
<b>MATERIALS</b> Key Knowledge Progression	<p>Materials</p> <p>that I can use my 5 senses to explore.</p> <p>how to explore collections of materials, identifying similar and different properties.</p> <p>that materials are different and can change.</p>	<p>Everyday materials distinguish between an object and the material from which it is made</p> <p>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</p> <p>describe the simple physical properties of a variety of everyday materials</p> <p>compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>Using everyday materials</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Rocks</p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>	<p>States of matter</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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).</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Mixtures and Reactions</p> <p>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.</p> <p>Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>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.</p>

**Physics Strand Progression- EYFS to Year 6**

	EYFS	YEAR 1 & 2	YEAR 3 & 4	YEAR 5 & 6
<b>FORCES</b> Key Knowledge Progression	<u><i>Terrific Transport Theme</i></u>  To know how things work.  That there are different forces that can be felt (push and pull)  That there are different forces that can be felt (push and pull)  That there are non-contact forces. that some materials sink and some materials float.		<b>Forces and Magnets</b> 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.	<b>Forces</b>  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.
<b>LIGHT and SOUND</b> Key Knowledge Progression	That light only travels through some materials, but not others.		<b>Light</b> 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 an opaque object. • Find patterns in the way that the size of shadows change.  <b>Sound</b>	<b>Light</b> 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.

			<p>Identify how sounds are made, associating some of them with something vibrating  recognise that vibrations from sound travel through a medium to the ear  recognise that sounds get fainter as the distance from the sound source increases</p> <p>find patterns between the pitch of a sound and features of the object that produced it</p> <p>find patterns between the volume of a sound and the strength of the vibrations that produced it.</p>	<p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>
<b>ELECTRICITY</b> Key Knowledge Progression			<b>Electricity</b> that run on electricity. <ul style="list-style-type: none"> <li>• Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</li> <li>• 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.</li> <li>• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</li> <li>• Recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul>	<b>Electricity</b> Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit <ul style="list-style-type: none"> <li>• 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.</li> <li>• Use recognised symbols when representing a simple circuit in a diagram.</li> </ul>
<b>EARTH and SPACE/ SEASONAL CHANGES</b> Key Knowledge Progression	<b>Seasonal Changes</b> Explores the world around them, asking how and why questions.  Notices links between cause and effect.  Identify seasonal weather patterns.	<b>Seasonal Changes</b> observe changes across the four seasons  observe weather associated with the seasons and how day length varies  Observe how seasonal changes effect the living world e.g. hibernating animals, plants in drought areas, monsoon periods		<b>Earth and Space</b> 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.



## Mapping Progression in Scientific Enquiry Skills

This document is based on [The National Curriculum Framework in England](#), working scientifically statements [Sciences in Curriculum for Excellence](#), Scotland. [Science in the national curriculum for Wales](#) (starts at age 7) [Council for the curriculum, Examinations and Assessment in Northern Ireland](#).

<b>Scientific Enquiry and Investigation Skills</b>			
<b>5-7 year olds (P2-P3)</b>	<b>7-9 year olds P3/P4</b>	<b>9-11 year olds P5/6</b>	<b>11-14 year olds P7, S1-S2</b>
Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of relevant scientific content	Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of relevant scientific content	Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of relevant scientific content	Through the content of biology, chemistry and physics, pupils should be taught to develop their scientific enquiry skills and .....
<b>Scientific attitudes:</b>			
			Pay attention to objectivity and concern for <b>accuracy, precision, repeatability</b> and <b>reproducibility</b>
			Understand that scientific methods and theories develop as scientists modify earlier explanations to take account of new evidence and ideas, together with the importance of publishing results and peer review
Identifies obvious risks and takes appropriate steps to protect themselves and others.	Identifies risks and hazards and ensures safe use of all tools, equipment and procedures.	Anticipates some risks and hazards	Anticipates most risks and hazards Evaluate risks
<b>Experimental skills and investigations:</b>			
Ask questions arising from play activities Asking simple questions and recognising that they can be answered in different ways	asking relevant questions and using different types of scientific enquiries to answer them		Ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience

Measures using simple equipment and non-standard units performing simple tests	setting up simple practical enquiries, comparative and fair tests	planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	Plan and design investigations and experiments to make observations and to test predictions, including identifying independent, dependent and control
---	---	---	---

Scientific Enquiry and Investigation Skills			
			variables and their intrinsic nature and other factors to be taken into account when collecting evidence and data
5-7 year olds	7-9 year olds	9-11 year olds	11-14 year olds
observing closely, using simple equipment	making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.	Make and record observations and measurements using a range of methods for different investigations;
			Evaluating the reliability of methods and suggest possible improvements.
			Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety.
			Apply sampling techniques
			Make predictions using scientific knowledge and understanding
Analysis and Evaluation:			
Provides oral descriptions of what was done and what happened gathering and recording data to help in answering questions	gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	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	Present observations and data using appropriate methods, including tables and graphs

identifying and classifying	identifying differences, similarities or changes related to simple scientific ideas and processes	identifying scientific evidence that has been used to support or refute ideas or arguments	Apply mathematical concepts and calculate results
Presents and sorts data/information using displays, photographs, simple charts and drawings	recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	Evaluate data, showing awareness of potential sources of random and systematic error

Scientific Enquiry and Investigation Skills			
	using straightforward scientific evidence to answer questions or to support their findings.		Identify further questions arising from their results
5-7 year olds	7-9 year olds	9-11 year olds	11-14 year olds
Using their observations and ideas to suggest answers to questions	using results to draw simple conclusions, make predictions for new values and suggest improvements and raise further questions	using test results to make predictions to set up further comparative and fair tests	Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions
	reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	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	Present reasoned explanations, including explaining data in relation to predictions and hypotheses
Measurement			
	Use standard measures and SI Units		Understand and use SI units and IUPACC chemical nomenclature
			Use and derive simple equations and carry out appropriate calculations
			Undertake basic data analysis including simple statistical techniques

Skills and attributes of scientifically literate citizens			
<p>Talks about science, showing developing understanding of risks and benefits, and listens to the views of others.</p> <p>Demonstrates awareness of the importance of respecting living things and the environment and of managing the Earth's resources responsibly. Demonstrates a developing</p>	<p>Expresses informed views of scientific issues, both orally and in writing, and respects the views of others.</p> <p>Makes connections between science and their own health and wellbeing.</p> <p>Demonstrates awareness of their own impact on the world. Demonstrates awareness of how people use science in their</p>	<p>Presents a reasoned argument based on evidence, demonstrating understanding of underlying scientific concepts, and engages with the views of others.</p> <p>Demonstrates understanding of the relevance of science to their future lives and the role of science in an increasing range of careers and occupations.</p>	<p>Demonstrates understanding of the impact of science on society and debates and discusses the moral and ethical implications of some scientific developments, demonstrating respect for the views of others.</p> <p>- Expresses informed views about topical scientific issues, including those featured in the media, based on evidence and demonstrating</p>
Scientific Enquiry and Investigation Skills			
<p>understanding of science in the world around them.</p> <p>Explores the ways in which people use science and science skills as part of their job</p>	<p>everyday lives and in a variety of jobs and careers.</p> <p>Discusses science topics in real-life contexts including those appearing in the media.</p>	<p>Demonstrates increased awareness of creativity and inventiveness in science the use of technologies in the development of sciences and the impact of science on society.</p> <p>Expresses informed views about scientific and environmental issues based on evidence</p>	<p>understanding of underlying scientific concepts.</p> <p>- Demonstrates increased awareness of creativity and inventiveness in science and the use of technologies in the development of sciences. - Demonstrates understanding of the relevance of science to their future lives and the role of science in an increasing range of careers and occupations, including science, technology, engineering and mathematics (STEM) careers</p>

## Science Curriculum Key Vocabulary Progression Chart

Year 1 & 2		Year 3 & 4		Year 5 & 6	
<p><b>Working Scientifically</b> question, answer, observe, observing, equipment, identify, sort, group, compare, differences, similarities, describe, measurements, test, results, secondary sources <b>record</b> – diagram, chart</p>		<p><b>Working Scientifically</b> oral and written explanations, conclusion, predictions, criteria, classify, changes, data, contrast, evidence, improve, secondary sources, guides, keys, construct, interpret <b>research</b> – relevant question <b>equipment</b> – thermometer, <b>data</b> – gather, standard units, record, classify, present <b>record</b> – drawings, labelled diagrams, keys, bar charts, tables</p>		<p><b>Working Scientifically</b> plan, variables, measurements, accuracy, precision, repeat readings, predictions, further comparative and fair test, identify, classify and describe, patterns, systematic, quantitative measurements <b>report data</b> – scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graphs <b>report and present</b> – conclusions, casual relationships, explanations, degree of trust, oral and written display and presentation <b>evidence</b> – support, refute, ideas or arguments biology, physics, chemistry</p>	
<p><b>Animals including humans</b> amphibians, fish, reptiles, mammals, birds (+ 1 example of each) herbivore, omnivore, carnivore head, nose, ear, neck, shoulder, arm, elbow, wrist, hand, back, chest, hip, leg, knee, ankle, foot wing, beak, tail, fin sight, smell, touch, taste, hearing</p>	<p><b>Animals including humans</b> survival, water, air, food reproduce, adult, baby, offspring, kitten, calf, puppy food chain, prey, predator, camouflage, protection exercise, hygiene, balanced diet</p>	<p><b>Animals including humans</b> skeleton, skull, bones, muscles, movement, support, protection, nutrition</p>	<p><b>Animals including humans</b> mouth, tongue, teeth, oesophagus, stomach, small intestine, large intestine, nutrients, absorb, canine, incisor, molar producer, consumer, apex predator</p>	<p><b>Animals including humans</b> womb, foetus, embryo, gestation, baby, toddler, teenager, elderly growth, development, puberty</p>	<p><b>Animals including humans</b> function, circulatory system, heart, valve, blood vessel, vein, artery transport, oxygenated, deoxygenated lifestyle, drug</p>
<p><b>Plants</b> deciduous, evergreen, tree, leaf, flower (blossom), petals, fruit, bulb, seed, roots, stem, trunk, branches</p>	<p><b>Plants</b> growth, germinate, light, temperature reproduce, lifecycle</p>	<p><b>Plants</b> air, water, transportation, nutrients, soil, reproduction, seed formation, seed dispersal, pollination</p>	<p><b>Living things &amp; their habitats</b> vertebrates, invertebrates (+ 1 example of each) environment, habitat, classification key</p>	<p><b>Living things &amp; their habitats</b> life process, reproduction, offspring,</p>	<p><b>Living things &amp; their habitats</b> characteristic, classification, organism, micro-organism</p>

<p>Everyday materials</p> <p>wood, plastic, glass, paper, metal, rock</p> <p>hard, soft, rough, smooth, shiny, dull, bendy, stiff</p>	<p>Everyday materials and their uses</p> <p>brick, fabric, elastic, foil</p> <p>property, solid, waterproof, absorbent, opaque, transparent, squash, bend, flexible, twist, stretch</p> <p>push, pull, roll, slide, bounce</p>	<p>Rocks</p> <p>soils, organic matter, fossil, crystal</p> <p>sandstone, granite, marble, pumice</p> <p>absorbent, crumble</p> <p>sedimentary, layer, sediment</p> <p>igneous, magma, lava, gas bubbles (tiny holes/spaces)</p> <p>metamorphic, change, squeeze, pressure</p>	<p>States of matter solid, liquid, gas, evaporation, condensation, particle, temperature, freezing, heating</p>	<p>Properties and changes to materials</p> <p>hardness, transparency, conductivity (electrical, thermal) solubility, solution</p> <p>dissolve, filter, evaporate, sieve, reversible, irreversible</p>	<p>Evolution &amp; Inheritance</p> <p>adaptation, evolution, characteristic, reproduction, genetics, survival</p>
<p>Seasonal change</p> <p>season, spring, summer, autumn, winter, month, year, day, night, sun, moon, light, dark</p>	<p>Living things &amp; their habitats</p> <p>living, dead, habitat, microhabitat, woodland, meadow, hedgerow, pond</p>	<p>Light</p> <p>light source, mirror, reflect, reflective, reflection shadow, blocked transparent, translucent, opaque</p>	<p>Sound</p> <p>vibration, wave, volume, pitch, tone, insulation</p>	<p>Earth &amp; Space</p> <p>Earth, sun, moon, solar system, axis of rotation, day, night, phases of the moon, star, constellation</p>	<p>Light</p> <p>refraction, reflection, spectrum, rainbow</p>
		<p>Forces &amp; magnets</p> <p>force, contact, surface, magnetic, attract, repel, poles</p>	<p>Electricity</p> <p>appliance, battery power, main power, circuit, series, cell, battery, wire, bulb, switch, break in circuit</p> <p>conductor, insulator</p>	<p>Forces</p> <p>air resistance, water resistance, friction, gravity</p> <p>lever, gear, pulley, Newtons</p>	<p>Electricity</p> <p>circuit - series, parallel</p> <p>voltage, volts, amps</p>

