

## Year 1 Science Curriculum

Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>How can we be Sky heroes?</b>	<b>How and why do we share stories?</b>	<b>What is it like to go on a mystery voyage?</b>	<b>Who is the giant of Sky?</b>	<b>How can we be garden designers?</b>	<b>What animals are local to us?</b>
<b>Lead enquiry question</b>	Are the materials around us sustainable?  Materials	What is on our bodies?  Animals including humans – parts of the body and senses	How does the weather impact a voyage?  Seasonal changes	How can I make shadows giant?  Scientific enquiry focus	How does a garden grow?  Plants	What animals are local to us?  Animals including humans
<b>Enquiry approaches and skills</b>	<ul style="list-style-type: none"> <li>• Asking simple questions and recognising that they can be answered in different ways.</li> <li>• Observing closely, using simple equipment.</li> <li>• Performing simple tests.</li> <li>• Identifying and classifying.</li> <li>• Gathering and recording data to help in answering questions.</li> <li>• Using their observations and ideas to suggest answers to questions.</li> </ul>					
<b>Key vocabulary</b>	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through	Parts of the body including those within the RSE policy, senses, touch, see, smell, taste, hear, fingers, skin, eyes, nose, ear, tongue	weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length	Light, dark, shadow, opaque, light source, blocked, torch, solid	Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud Names of trees in the local area Names of garden and wild flowering plants in the local area	head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, gills, carnivore, herbivore, omnivore, fish, mammal, reptile, amphibian, bird

<b>Components:</b>	<ul style="list-style-type: none"> <li>✓ Distinguish between an object and the material from which it is made.</li> <li>✓ Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</li> <li>✓ Describe the simple physical properties of a variety of everyday materials.</li> <li>✓ Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Observe changes across the four seasons.</li> <li>✓ Observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Compare shadows made by different objects and materials.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>✓ Identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li> <li>✓ Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>✓ Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</li> </ul>
<b>Assessment Checkpoints:</b>	<p>C1 – I can label a picture or diagram of an object made from different materials.</p> <p>C2 – I can describe the properties of different materials.</p> <p>C3 – I can sort objects and materials by a range of properties.</p> <p>C4 – I can choose an appropriate method for testing an object for a particular property.</p>	<p>C1 – I can play and lead ‘Simon says’.</p> <p>C2 – I can label parts of the body on pictures and diagrams.</p> <p>C3 – I can explore objects using different senses.</p>	<p>C1 – I can name the four seasons and identify when in the year they occur.</p> <p>C2 - I can describe the weather and day length in different seasons over a year.</p> <p>C3 – I can gather data about the weather and use the evidence gathered to describe the general types of weather.</p>	<p>C1 – I can simply describe how shadows are formed.</p> <p>C2 – I can investigate what happens to shadows when I move the light source.</p> <p>C3 – I can create simple tests involving light and shadows and discuss my findings.</p> <p>C4 – I can compare shadows made by different objects and materials.</p>	<p>C1 – I can name trees and other plants that I see regularly.</p> <p>C2 – I can describe some of the key features of these trees and plants.</p> <p>C3 – I can point to and name the parts of a plant.</p>	<p>C1 – I can sort and group animals using similarities and differences.</p> <p>C2 – I can create a drawing of an imaginary animal labelling its key features and identifying which group it belongs to.</p> <p>C3 – I can use research to find out what animals eat, including non-fiction books and the internet.</p> <p>C4 – I can explain which groups animals belong to and why.</p>

## Year 2 Science Curriculum

Year 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>What do I need to be healthy?</b>	<b>How did London adapt after the great fire?</b>	<b>Where does chocolate come from?</b>	<b>How can our actions make a difference?</b>	<b>Why are bees brilliant?</b>	<b>Can we go on a seaside holiday journey through time?</b>
<b>Lead enquiry question</b>	How are our bodies brilliant?  Animals including humans	How are materials useful?  Materials	How are living things suited to their habitats? (Global focus)  Living things and their habitats	What do plants need to grow and stay healthy?  Plants	How are living things suited to their habitats? (Local focus)  Living things and their habitats	How are materials part of our everyday lives? (Green houses)  Materials
<b>Enquiry approaches and skills</b>	<ul style="list-style-type: none"> <li>• Asking simple questions and recognising that they can be answered in different ways.</li> <li>• Observing closely, using simple equipment.</li> <li>• Performing simple tests.</li> <li>• Identifying and classifying.</li> <li>• Gathering and recording data to help in answering questions.</li> <li>• Using their observations and ideas to suggest answers to questions.</li> </ul>					
<b>Key vocabulary</b>	offspring, reproduction, growth, baby, toddler, child, teenager, adult, old person, names of animals and their babies (e.g. chick/hen), survive, survival, water food, air, exercise, heartbeat, breathing, hygiene, germs, disease, food types	Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard  Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, nonreflective, flexible, rigid	Living, alive, non-living, sort, identify, classify, life processes, move, dead, animals, habitat, suitable, basic needs	light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling, temperature, conditions, suitable	suited, suitable, basic needs, food chain, shelter, move, feed, water, air, survive, survival, names of local habitats (e.g. pond, woodland etc.), names of micro-habitats (e.g. under logs, in bushes etc.), conditions, damp	material, waterproof, resistant, strong, weak, protection, suitable, unsuitable, reused, repurpose, repaired  Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching

<p><b>Components:</b></p>	<ul style="list-style-type: none"> <li>✓ Notice that animals, including humans, have offspring which grow into adults.</li> <li>✓ Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>✓ Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Explore and compare the differences between things that are living, dead, and things that have never been alive.</li> <li>✓ 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.</li> <li>✓ Identify and name a variety of plants and animals in their habitats.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Observe and describe how seeds and bulbs grow into mature plants.</li> <li>✓ Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul>	<ul style="list-style-type: none"> <li>✓ 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.</li> <li>✓ Identify and name a variety of plants and animals in their habitats, including micro-habitats.</li> <li>✓ 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.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</li> <li>✓ Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>
<p><b>Assessment Checkpoints:</b></p>	<p>C1 – I can describe how animals, including humans, have offspring which grow into adults, using the appropriate names for the stages.</p> <p>C2 – I can state the basic needs of animals, including humans, for survival.</p> <p>C3 – I can explain the ways in which humans can stay healthy, including the importance of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>C1 – I can identify and classify a variety of everyday materials.</p> <p>C2 – I can identify which materials are suitable or unsuitable for building a house and explain my reasoning.</p> <p>C3 – I can test the suitability of materials for various purposes.</p>	<p>C1 – I can identify things that are living, once lived and never lived.</p> <p>C2 – I can name a variety of plants and animals in their habitats and know why they are suited to their habitats.</p> <p>C3 – I recognise that different habitats provide basic needs for different plants and animals.</p>	<p>C1 – I can describe how plants that I have grown from seeds and bulbs have developed over time.</p> <p>C2 – I can identify plants that grew well in different conditions.</p> <p>C3 – I can spot similarities and difference between bulbs and seeds.</p> <p>C4 – I can describe the conditions that plants need to grow and stay healthy.</p>	<p>C1 – I can identify where plants and animals live.</p> <p>C2 – I can discuss why animals and plants might live in chosen habitat.</p> <p>C3 – I can describe the food chain for a chosen animal.</p>	<p>C1 – I can change the shape of an object and describe the action used.</p> <p>C2 – I can describe materials that can be changed in shape and those that cannot.</p> <p>C3 – I can recognise that a material may come in different forms which have different properties.</p>

## Year 3 Science Curriculum

Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>Who were the ancient inhabitants of Cornwall?</b>	<b>What makes the Earth explode?</b>	<b>How did the Ancient Egyptians live in harmony with nature?</b>	<b>What will we learn on our rainforest adventures?</b>	<b>How does light help us to see?</b>	<b>How can we identify native trees through the seasons?</b>
<b>Lead enquiry question</b>	Are all animals the same? Animals including humans	What is the ground made of? Rocks and fossils	Why do things move differently on different surfaces? Forces	How do magnets affect different materials? Forces and Magnets	How does light travel? Light and shadows	What do our local plants need to survive? Plants
<b>Enquiry approaches and skills</b>	<ul style="list-style-type: none"> <li>Asking relevant questions and using different types of scientific enquiries to answer them.</li> <li>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</li> <li>Setting up simple practical enquiries, comparative and fair tests.</li> <li>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</li> <li>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</li> <li>Using straightforward scientific evidence to answer questions or to support their findings.</li> <li>Identifying differences, similarities or changes related to simple scientific ideas and processes.</li> <li>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> </ul>					
<b>Key vocabulary</b>	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine, exoskeleton, endoskeleton	rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, fossil, bone, flesh, minerals, marble, chalk, granite, sandstone, slate, soil, types of soil (e.g. peaty, sandy, chalk, clay)	Force, push, pull, twist, contact force, non-contact force, Venn diagram, surface, rough, smooth, comparative test, compare, frictional forces, surface, grip, properties.	Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole	Light, light source, Sun, sunlight, dangerous, reflect, protect, shadow, surface, opaque, transparent, translucent, reflective	photosynthesis, pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), air, nutrients, minerals, soil, absorb, transport, function, carbon dioxide

<p><b>Components:</b></p>	<ul style="list-style-type: none"> <li>✓ 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 the five food groups.</li> <li>✓ Identify and group carnivores, herbivores and omnivores.</li> <li>✓ Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</li> <li>✓ Identify vertebrates and invertebrates.</li> <li>✓ Understand the human skeleton.</li> <li>✓ Compare different animal skeletons.</li> <li>✓ Explore the role of muscles.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</li> <li>✓ Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</li> <li>✓ Recognise that soils are made from rocks and organic matter.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify forces and contact forces.</li> <li>✓ Compare how things move on different surfaces.</li> <li>✓ Investigate if we can affect how fast an object moves on a surface.</li> <li>✓ Investigate why some surfaces are used for different jobs.</li> <li>✓ Record conclusions from investigations.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Understand what a magnet is and how magnetic forces work.</li> <li>✓ Describe magnets as having two poles.</li> <li>✓ Predict whether two magnets will attract or repel each other, depending on which poles are facing</li> <li>✓ Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li> <li>✓ Observe how magnets attract or repel each other and attract some materials and not others.</li> <li>✓ 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.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Recognise that they need light in order to see things, and that dark is the absence of light.</li> <li>✓ Notice that light is reflected from surfaces.</li> <li>✓ Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</li> <li>✓ Recognise that shadows are formed when the light from a light source is blocked by an opaque object.</li> <li>✓ Find patterns in the way that the size of shadows change.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify and describe the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers.</li> <li>✓ 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.</li> <li>✓ Investigate the way in which water is transported within plants.</li> <li>✓ Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> </ul>
<p><b>Assessment Checkpoints:</b></p>	<p>C1 – I can name the nutrients found in food and explain how these keep us healthy.</p> <p>C2 – I can name some bones that make up their skeleton, giving examples that support, help me move or provide protection.</p> <p>C3 – I can describe similarities and differences between skeletons.</p>	<p>C1 – I can name some types of rock and give physical features of each.</p> <p>C2 – I can explain how a fossil is formed.</p> <p>C3 – I can explain that soils are made from rocks and also contain living/dead matter.</p>	<p>C1 – I can explain what a force is.</p> <p>C2 – I can give examples of forces in everyday life.</p> <p>C3 – I can describe how things might move on different surfaces.</p>	<p>C1 – I can name types of magnets and show how the poles attract and repel.</p> <p>C2 – I can classify materials according to whether they are magnetic.</p> <p>C3 – I can draw diagrams using arrows to show the attraction and repulsion</p>	<p>C1 – I can describe how we see objects in light and can describe dark as the absence of light.</p> <p>C2 – I can define transparent, translucent and opaque.</p> <p>C3 – I can describe and demonstrate how shadows</p>	<p>C1 – I can describe the functions of different parts of flowering plants.</p> <p>C2 – I can explain the conditions different plants need to survive and grow.</p> <p>C3 – I can explain how water is transported within plants.</p>

		C4 – I can devise tests to explore the properties of rocks and use data to rank the rocks.	C4 – I can explain how surfaces affect how fast an object moves across it.	between the poles of magnets.	are formed by blocking light.	C4 – I can describe the life cycle of flowering plants, including pollination, seed formation, seed dispersal, and germination.
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### Year 4 Science Curriculum

Year 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>What can we learn from the Ancient Greeks?</b>	<b>What is it like to live in modern Greece?</b>	<b>Why did the Romans invade and how did Britain respond?</b>	<b>What makes Cornwall unique?</b>	<b>Where does energy come from?</b>	<b>From source to sea: What journey does a river take?</b>
<b>Lead enquiry question</b>	Why do we need teeth?  Animals including humans	Can materials change their state?  States of matter	Why do animals live in different habitats?  Living things and their habitats	How do we hear?  Sound	How can we create electricity?  Electricity	What is the human impact on habitats?  Living things and their habitats
<b>Enquiry approaches and skills</b>	<ul style="list-style-type: none"> <li>Asking relevant questions and using different types of scientific enquiries to answer them.</li> <li>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</li> <li>Setting up simple practical enquiries, comparative and fair tests.</li> <li>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</li> <li>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</li> <li>Using straightforward scientific evidence to answer questions or to support their findings.</li> <li>Identifying differences, similarities or changes related to simple scientific ideas and processes.</li> <li>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</li> </ul>					
<b>Key vocabulary</b>	Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore,	solid, liquid, gas, heating, cooling, state change, melting, freezing, melting point, boiling, boiling point, evaporation, condensation, temperature, water cycle	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate	Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation	Electricity, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor,	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate

	producer, predator, prey, food chain				insulator, metal, non-metal, symbol	
<b>Components:</b>	<ul style="list-style-type: none"> <li>✓ Identify the organs in the digestive system.</li> <li>✓ Describe the simple functions of the basic parts of the digestive system in humans.</li> <li>✓ Identify the different types of teeth in humans and their simple functions.</li> <li>✓ Investigate the effects of different liquids on teeth.</li> <li>✓ Construct and interpret a variety of food chains, identifying producers, predators and prey.</li> <li>✓ Construct food webs.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Compare and group materials together, according to whether they are solids, liquids or gases.</li> <li>✓ 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).</li> <li>✓ Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Recognise that living things can be grouped in a variety of ways.</li> <li>✓ Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</li> <li>✓ Recognise that environments can change and that this can sometimes pose dangers to living things.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify how sounds are made, associating some of them with something vibrating.</li> <li>✓ Recognise that vibrations from sounds travel through a medium to the ear.</li> <li>✓ Find patterns between the pitch of a sound and features of the object that produced it.</li> <li>✓ Find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>✓ Recognise that sounds get fainter as the distance from the sound source increases.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Identify common appliances that run on electricity.</li> <li>✓ Construct a simple series electrical circuit, identifying and naming its basic parts.</li> <li>✓ Identify whether a lamp will light in a simple series circuit.</li> <li>✓ Recognise that a switch opens and closes a circuit and associate this with whether 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>	<ul style="list-style-type: none"> <li>✓ Recognise that living things can be grouped in a variety of ways.</li> <li>✓ Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</li> <li>✓ Recognise that environments can change and that this can sometimes pose dangers to living things.</li> </ul>
<b>Assessment Checkpoints:</b>	<p>C1 – I can use diagrams or a model to describe the journey of food through the body explaining what happens in each part.</p> <p>C2 – I can explain how the teeth in animal skulls show they are carnivores, herbivores or omnivores.</p> <p>C3 – I can point to the three different types of teeth in my mouth and talk about their</p>	<p>C1 – I can give reasons to justify why something is a solid liquid or gas.</p> <p>C2 – I can give everyday examples of melting and freezing/evaporation and condensation.</p> <p>C3 – I can describe the water cycle.</p>	<p>C1 – I can name living things living in a range of habitats, giving the key features that helped them to identify them.</p> <p>C2 – I can keep a careful record of living things found in different habitats throughout the year (diagrams, tally charts etc.)</p> <p>C3 – I can use classification keys to identify unknown plants and animals.</p>	<p>C1 – I can explain what happens when you strike a drum or pluck a string and use a diagram to show how sounds travel from an object to the ear.</p> <p>C2 – I can demonstrate how to increase or decrease pitch and volume using musical instruments or other objects.</p>	<p>C1 – I can communicate structures of circuits using drawings which show how the components are connected.</p> <p>C2 – I can use classification evidence to identify that metals are good conductors and non-metals are insulators.</p> <p>C3 – I can incorporate a switch into a circuit to turn it on and off.</p>	<p>C1 – I can create a simple identification key based on observable features.</p> <p>C2 – I can use fieldwork to explore human impact on the local environment.</p> <p>C3 – I can give examples of how an environment may change both naturally and due to human impact.</p>

	shape and what they are used for.  C4 – I can create food chains based on research.			C3 – I can use data to identify patterns in pitch and volume.		
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### Year 5 Science Curriculum

Year 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>What was the impact of invaders and settlers?</b>	<b>How did trade get global?</b>	<b>What can we learn from the solar system and stars?</b>	<b>How can we protect our local wildlife?</b>	<b>How were our white pyramids created?</b>	<b>How can we ensure our oceans stay amazing?</b>
<b>Lead enquiry question</b>	Can I slow down a force?  Forces	How do we change over time?  Animals including humans	What is beyond our world?  Space	What can we do to protect creatures and their habitats?  Living things and their habitats	How do we know which materials to use?  Properties and functions of materials	What materials are in our oceans that shouldn't be?  Changing of materials
<b>Enquiry approaches and skills</b>	<ul style="list-style-type: none"> <li>• Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>• Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</li> <li>• Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>• Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</li> <li>• Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> <li>• 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.</li> </ul>					
<b>Key vocabulary</b>	force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears	puberty, the vocabulary to describe sexual characteristics in line with the school's RSE policy life cycle, foetus, baby, child, adolescent, adult,	Sun, Moon, Earth, planets (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, Solar System, rotate, star, orbit	life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, cuttings	thermal insulator/conductor, soluble, insoluble, properties, sort, group, compare, transparent, opaque, magnetic	change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material, solvent,

		<p>reproduce, sexual, sperm, fertilises, egg, live young</p>				<p>evaporate, solute, separate, solid, liquid, gas</p>
<p><b>Components:</b></p>	<ul style="list-style-type: none"> <li>✓ Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</li> <li>✓ Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</li> <li>✓ Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect</li> </ul>	<ul style="list-style-type: none"> <li>✓ Describe the life process of reproduction in some plants and animals.</li> <li>✓ Describe the process of human reproduction.</li> <li>✓ Explain why personal hygiene is important during puberty.</li> <li>✓ Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</li> <li>✓ Describe the changes as humans develop to old age.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.</li> <li>✓ Describe the movement of the Moon relative to the Earth.</li> <li>✓ Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</li> <li>✓ Describe the Sun, Earth and Moon as approximately spherical bodies.</li> <li>✓ Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Describe, using their knowledge of food chains and webs, what could happen if a habitat had a living thing removed or introduced.</li> <li>✓ Research and describe different farming practices in the UK and how these can have positive and negative effects on natural habitats.</li> <li>✓ Label and draw the parts of a flower involved in sexual reproduction in plants (stamen, filament, anther, pollen, carpel, stigma, style, ovary, ovule and sepal).</li> <li>✓ Group and sort plants by how they reproduce.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Compare and group everyday materials by their properties, including hardness, solubility, transparency, conductivity and magnetism.</li> <li>✓ Describe, using evidence from comparative or fair tests, why a material has been chosen for a specific use.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Explain that some substances (solute) will dissolve in liquid (solvents) to form a solution and the solute can be recovered by evaporating off the solvent.</li> <li>✓ Separate mixtures by filtering, sieving and evaporating.</li> <li>✓ Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</li> <li>✓ Demonstrate that dissolving, mixing and changes of state are reversible changes.</li> <li>✓ Explain that some changes result in the formation of new materials, and that this kind of change is</li> </ul>

						not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.
<b>Assessment Checkpoints:</b>	<p>C1 – I can demonstrate the effect of gravity acting on an unsupported object.</p> <p>C2 – I can give examples of friction, water resistance and air resistance.</p> <p>C3 – I can give examples of when it is beneficial to have high or low friction, water resistance and air resistance.</p> <p>C4 – I can demonstrate how pulleys, levers and gears work.</p>	<p>C1 – I can draw the life cycle of a range of animals identifying similarities and differences between them.</p> <p>C2 – I can explain the changes that takes place in boys and girls during puberty.</p> <p>C3 – I can explain how a baby changes physically as it grows, and also what it is able to do.</p>	<p>C1 – I can show and explain, using diagrams, the movement of the Earth and Moon.</p> <p>C2 – I can show using diagrams the rotation of the Earth and how this causes day and night.</p> <p>C3 – I can describe the arguments and evidence used by scientists in the past.</p>	<p>C1 – I can explain the difference between sexual and asexual reproduction and give examples of how plants reproduce in both ways.</p> <p>C2 – I can draw and label the reproductive parts of a flower.</p> <p>C3 – I can group and sort plants by how they reproduce.</p>	<p>C1 – I can use my understanding of properties to explain everyday uses of materials.</p> <p>C2 – I can create a chart or table grouping/comparing everyday materials by different properties.</p> <p>C3 – I can use test evidence gathered about different properties to suggest an appropriate material for a particular purpose.</p>	<p>C1 – I can explain what dissolving means, giving examples.</p> <p>C2 – I can name equipment used for filtering and sieving.</p> <p>C3 – I can use knowledge of liquids, gases and solids to suggest how materials can be recovered from solutions or mixtures by evaporation, filtering or sieving</p> <p>C4 – I can describe some simple reversible and non-reversible changes to materials, giving examples.</p>

## Year 6 Science Curriculum

Year 6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<b>How do the Inuit of the arctic live with nature?</b>	<b>How does light travel?</b>	<b>How will we rise to the challenge of climate change?</b>	<b>What can we learn from life on the home front?</b>	<b>The Cornish emigration: why did they leave and where did they go?</b>	<b>What will make me a great leader?</b>
<b>Lead enquiry question</b>	How can we classify living things?  Living things and their habitats	How do we see objects?  Light	Can I make a bulb shine brighter?  Electricity	Did we always look like we do now?  Evolution and Inheritance	How amazing is my body?  Animals incl. humans. Identifying the main parts of the circulatory system and functions of the heart, blood vessel and blood	What do I need?  Revise Animals incl humans Impact of diet, exercise and drugs and nutrients/water transportation in animals
<b>Enquiry approaches and skills</b>	<ul style="list-style-type: none"> <li>• Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>• Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.</li> <li>• Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>• Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</li> <li>• Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> <li>• 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.</li> </ul>					
<b>Key vocabulary</b>	vertebrates, fish, amphibians, reptiles, birds, mammals, warm-blooded, cold-blooded, invertebrates, insects, spiders, snails, worms, flowering, non-flowering, mosses, ferns, conifers	straight lines, light rays, lens, concave, convex, reflect	Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage	offspring, sexual reproduction, vary, characteristics, adapted, inherited, species, evolve, evolution, fossils, suited, environment	heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, cycle, circulatory system	diet, drugs, lifestyle, transport, nutrients, positive, negative, harmful, health, wellbeing, impact

<b>Components:</b>	<ul style="list-style-type: none"> <li>✓ Classify living things, including plants, into groups according to common observable characteristics and based on similarities and differences.</li> <li>✓ Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.</li> <li>✓ Give reasons for classifying plants and animals based on specific characteristics.</li> <li>✓ Research unfamiliar animals and plants from a range of habitats, deciding upon and explaining where they belong in the classification system.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Describe, using diagrams, how light behaves when reflected off a mirror (plane, convex or concave) and when passing through a lens (concave or convex).</li> <li>✓ Recognise that light appears to travel in straight lines.</li> <li>✓ 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.</li> <li>✓ 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.</li> <li>✓ Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Investigate and identify good thermal insulators, describing their common features.</li> <li>✓ Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</li> <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>	<ul style="list-style-type: none"> <li>✓ Describe how animals and plants can be bred to produce offspring with specific and desired characteristics (selective breeding).</li> <li>✓ Identify how animals and plants are adapted to suit their environment, such as giraffes having long necks for feeding, and that adaptations may lead to evolution.</li> <li>✓ Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>✓ Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Name and describe the purpose of the circulatory system and the functions of the heart, blood vessels and blood.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Explain the impact of positive and negative lifestyle choices on the body.</li> <li>✓ Describe the ways in which nutrients and water are transported within animals, including humans.</li> </ul>

<p><b>Assessment Checkpoints:</b></p>	<p>C1 – I can give examples of animals in the five vertebrate groups and some of the invertebrate groups.</p> <p>C2 – I can use classification materials to identify unknown plants and animals.</p> <p>C3 – I can create classification keys for plants and animals.</p> <p>C4 – I can give a number of characteristics that explain why an animal belongs to a particular group.</p>	<p>C1 – I can describe, with diagrams or models, how light travels in straight lines either from sources or reflected from other objects into our eyes.</p> <p>C2 – I can explain how evidence from enquiries shows that light travels in straight lines.</p> <p>C3 – I can predict and explain, with diagrams or models, how the shape of shadows can be varied.</p>	<p>C1 – I can make electric circuits and demonstrate how the components can be changed.</p> <p>C2 – I can draw circuit diagrams of a range of simple series circuits using recognised symbols.</p> <p>C3 – I can devise ways to measure brightness of bulbs, speed of motors, volume of a buzzer during a fair test.</p> <p>C4 – I can predict results and answer questions by drawing on evidence gathered.</p>	<p>C1 – I can explain the process of evolution.</p> <p>C2 – I can give examples of how plants and animals are suited to an environment.</p> <p>C3 – I can give examples of how an animal or plant has evolved over time e.g. penguin, peppered moth.</p> <p>C4 – I can give examples of fossil evidence that can be used to support the theory of evolution.</p>	<p>C1 – I can draw a diagram of the circulatory system, label the parts and annotate it to show what the parts do.</p> <p>C2 – I can carry out a range of pulse rate investigations.</p> <p>C3 – I can use subject knowledge about the heart whilst writing conclusions for investigations.</p>	<p>C1 – I can explain both the positive and negative effects of diet, exercise, drugs and lifestyle on the body.</p> <p>C2 – I can present information e.g. in a health leaflet describing the impact of drugs and lifestyle on the body.</p> <p>C3 – I can describe how nutrients and water are transported within animals.</p>