



Long Term Progression in Science Overview 2021-2022

To see how History will be taught to each year group at Lindow Community Primary School in 2021/22 please click on the appropriate button.

[Reception](#)

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Reception

ELGs	<p>The Natural World</p> <ul style="list-style-type: none"> - Explore the natural world around them, making observations and drawing pictures of animals and plants; - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. <p>Speaking</p> <ul style="list-style-type: none"> - Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary; <p>Listening, Attention and Understanding</p> <ul style="list-style-type: none"> - Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions; - Make comments about what they have heard and ask questions to clarify their understanding; - Hold conversation when engaged in back-and-forth exchanges with their teacher and peers. <p>Managing self</p> <ul style="list-style-type: none"> - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. 		
Term & theme	<p>Autumn 1 – Run, Run as fast as you can!</p> <p style="color: red; text-align: center;">Autumn 2 – Anteater Antics</p>	<p>Spring 1 – Naughty Bus</p> <p style="color: red; text-align: center;">Spring 2 – The Journey Home</p>	<p>Summer 1 – Silly Doggy & Naughty Kitty</p> <p style="color: red; text-align: center;">Summer 2 – Superheroes to the rescue!</p>
Enquiry Question	<p>What are the effects of heat when cooking?</p> <p style="color: red;">What habitat does an Anteater live in?</p>	<p>Which habitats are hot or cold?</p> <p style="color: red;">What is the life cycle of a chick?</p>	<p>How can we care for a plant?</p> <p style="color: red;">How can we melt ice?</p>
Prior knowledge	<p>Understanding of ways in which we can cook via heat and how to keep safe in a kitchen environment.</p> <p style="color: red;">Understanding of what an anteater looks like and eats from reading the class text.</p>	<p>Understanding of what hot and cold feel like. Experienced both of these during UK summer and winter, or have been abroad to more extreme climates.</p> <p style="color: red;">Understanding of different farm yard animals.</p>	<p>Understanding of plants which we find in our gardens/ school field.</p> <p style="color: red;">Understanding of ice being cold and the opposite of that being heat.</p>
Prior Skills	<p>Previous experience of mixing when cooking.</p> <p style="color: red;">Previous experience of finding information in videos and books.</p>	<p>Previous experience of finding information in videos and books.</p> <p style="color: red;">Previous experience of monitoring changes over time.</p>	<p>Previous experience in planting seeds, watering plants and monitoring changes over time.</p> <p style="color: red;">Previous experience of handling ice, witnessing how being out of the freezer makes it melt.</p>
Key vocabulary	<p>Heat, cooking, mixture</p> <p style="color: red;">Anteater, habitat, food, live, environment</p>	<p>Habitats, warm, cold, environment</p> <p style="color: red;">Life cycle, chick, hatch, chicken, babies, offspring</p>	<p>Plants, water, sunlight, soil</p> <p style="color: red;">Ice, solid, melt, liquid, heat</p>






Statutory Requirements	<p>- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p> <p>- Explore the natural world around them, making observations and drawing pictures of animals and plants;</p>	<p>- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class;</p> <p>- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>- Explore the natural world around them, making observations and drawing pictures of animals and plants;</p> <p>- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>
Working Scientifically skills	<p>Observing changes carefully.</p> <p>Gathering information.</p>	<p>Gathering information.</p> <p>Observing changes closely.</p>	<p>Performing simple tests.</p> <p>Performing simple tests.</p>
End Point	<p>I can talk about the effect of heating on a mixture when cooking.</p> <p>I can talk about the habitat in which an anteater lives.</p> <p>I can talk about what an anteater lives and needs to survive.</p>	<p>I can talk about habitats which are hot or cold and describe some features of them.</p> <p>I can talk about the life cycle of a chick.</p>	<p>I can talk about how we can care for a plant by watering them and keeping them in soil and sunlight.</p> <p>I can explain ways in which we can melt ice.</p>

Year One			
Term & theme	Autumn 1 – Animals including humans Autumn 2 - Plants	Spring 1- Everyday materials Spring 2 – Seasonal changes	Summer – Working Scientifically
Enquiry Question	 <p>What are the names for all the parts of our bodies?</p>  <p>Are there plants that are in flower in every season? What are they?</p>	 <p>We need to choose a material to make an umbrella. Which materials are waterproof?</p>  <p>How does the oak tree change over the year?</p>	
Prior Science Content Knowledge	<p>ELG – Managing self Self manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</p> <p>ELG – The Natural World Explore the natural world around them, making observations and drawing pictures of animals and plants</p>	<p>ELG – Creating with materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</p> <p>ELG – The Natural World Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	
Prior Working Scientifically Skills	<p>Gathering information.</p> <p>Performing simple tests.</p>	<p>Performing simple tests.</p> <p>Observing changes carefully.</p>	<p>ELG - Listening, attention and understanding Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions; Make comments about what they have heard and ask questions to clarify their understanding; ELG- Speaking Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary; - Offer explanations for why things might happen, making use of recently introduced vocabulary from</p>

			stories, non-fiction, rhymes and poems when appropriate
Key vocabulary	Omnivores, carnivores, herbivores, senses Deciduous, evergreen, root, trunk, stem	Materials, properties, waterproof, flexible Seasons, spring, summer, autumn, winter, weather	
Science Content Knowledge	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> 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 observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies 	
Working Scientifically Skills		<ul style="list-style-type: none"> Perform simple tests Use their observations and ideas to suggest answers to questions Gather and record data to help in answering questions - table 	<ul style="list-style-type: none"> Ask simple questions about what they notice. Identify and classify Use simple equipment to observe closely – measuring jugs
End Point	<p>I can name a variety of common animals. I can identify examples of carnivores, herbivores and omnivores. I can describe basic structure of common animals and humans and relate these to the senses. I can name and identify examples of deciduous and evergreen trees and garden plants. I can describe the basic structure of plants.</p>	<p>I can identify materials which objects are made from. I can describe simple properties of everyday materials. I can describe weather changes across the 4 seasons.</p>	I can ask simple questions and use simple equipment to test these and observe them closely.

Year Two			
Term & theme	Autumn 1 – Animals including humans	Spring 1 – Uses of everyday materials	Summer 1 - Plants Summer 2 – Living things and their habitats
Enquiry Question	 <p>What food do you need in a healthy diet and why?</p>	 <p>Which material would be best for the roof of the little pig's house?</p>	 <p>What happens to my bean after I have planted it?</p>  <p>How would you group things to show which are living, dead, or have never been alive?</p>
Prior Science Content Knowledge	Children will know: Y1: identify a variety of common animals, whether they are carnivores/herbivores/omnivores and compare their structure. Name parts of the human body and link to the senses.	Children will know: Y1: common everyday materials, describe their properties and compare and group them.	Children will know: Y1: identify common plants and describe their basic structure Y1: basic knowledge of living things and living requirements
Prior Working Scientifically Skills	Children will know: Y1: gather and recorded data to answer simple questions - table	Children will know: Y1: perform simple tests.	Children will know: Y1: used simple equipment to observe closely – measuring jugs Children will know: Y1: identified and classified
Key vocabulary	Offspring, reproduce, nutrition, hygiene	Materials, properties, squashing, bending, twisting, stretching	Deciduous, evergreen, germination Habitats, microhabitats, food chain
Science Content Knowledge	<ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults 	<ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses 	<ul style="list-style-type: none"> observe and describe how seeds and bulbs grow into mature plants






	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<ul style="list-style-type: none"> find out and describe how plants need water, light and a suitable temperature to grow and stay healthy 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
Working Scientifically Skills	<ul style="list-style-type: none"> Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum Find things out from secondary information to help in answering questions. 	<ul style="list-style-type: none"> Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns Perform simple comparative tests 	<ul style="list-style-type: none"> Use simple equipment to observe closely including changes over time – magnifying glasses Identify, group and classify
End Point	<p>I can explain how animals have offspring which grow into adults. I can explain the basic survival needs of animals. I can explain the importance of nutrition, exercise and hygiene from humans.</p>	<p>I can compare the suitability of different materials for particular uses. I can explain how the shape of solid objects can change by squashing, bending, twisting and stretching.</p>	<p>I can describe the germination process.</p> <p>I can explain the differences between things which are dead, alive and have never been alive. I can explain how living things depend on their habitats for survival. I can name a variety of plants and animals and their habitats. I can design a basic food chain.</p>

Year Three			
Term & theme	Autumn 1 – Animals including humans Autumn 2 - Rocks	Spring 2 – Forces and magnets	Summer 1 – Plants Summer 2 - Light
Enquiry Question	 <p>How does the skull protect our brain?</p>  <p>Who was Mary Anning and what did she discover?</p>	 <p>Which materials are magnetic?</p>	 <p>What happens to celery when it is left in a glass of coloured water?</p>  <p>Is there a pattern to the size of shadows?</p>
Prior Science Content Knowledge	<p>Children will know:</p> <p>Y1: identify a variety of common animals, whether they are carnivores/herbivores/omnivores and compare their structure. Name parts of the human body and link to the senses.</p> <p>Y2: know about basic needs of animals including humans and their offspring. Know the importance of food, exercise and hygiene for humans.</p> <p>Children will know:</p> <p>Y1: brief introduction to rocks as an everyday material.</p>	<p>Children will know:</p> <p>Y2: brief introduction to properties of different materials.</p>	<p>Children will know:</p> <p>Y1: identify deciduous and evergreen trees, know the basic structure of flowering plants</p> <p>Y2: know how seeds and bulbs grow, know basic needs of plants to survive</p> <p>Children will know:</p> <p>Y1: brief introduction to light through seasonal changes</p>
Prior Working Scientifically Skills	<p>Children will know:</p> <p>KS1: Performed simple comparative tests.</p> <p>Children will know:</p> <p>KS1: using secondary sources to find answers to questions.</p>	<p>Children will know:</p> <p>KS1: know how to identify, classify and group</p>	<p>Children will know:</p> <p>KS1: used simple equipment to observe changes - magnifying glasses and measuring jugs</p> <p>Children will know:</p> <p>KS1: noticing patterns in similarities and differences</p>

Key vocabulary	Nutrients, scientific names of bones Igneous, sedimentary, metamorphic, fossils	North and south poles, magnetic field, attract, repel, friction	Roots, stem, photosynthesis, pollination, seed dispersal Reflective, opaque, transparent, translucent
Science Content Knowledge	<ul style="list-style-type: none"> • 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 • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 • 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
Working Scientifically Skills	<ul style="list-style-type: none"> • Ask relevant questions & use different types of enquiries to answer them • Set up simple practical enquiries, comparative and fair tests. 	<ul style="list-style-type: none"> • Identify differences, similarities or changes • Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions 	<ul style="list-style-type: none"> • Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

	<ul style="list-style-type: none"> Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions 		<ul style="list-style-type: none"> Gather, record, classify and present data in a variety of ways to help in answering questions. – line graph Make systematic and careful observations & where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
End Point	<p>I can explain different nutrients and what they provide humans with. I can identify the 3 types of skeleton and group living things based on these. I can name bones in the human skeleton and explain the role of our muscles.</p> <p>I can identify examples of igneous, sedimentary and metamorphic rocks and explain how they are made. I can explain how fossils are formed. I can describe why Mary Anning is an important scientific figure.</p>	<p>I can explain the effect friction has on an object. I can describe how magnets have two poles and explain how some attract each other whilst some repel each other. I can name materials which are magnetic.</p>	<p>I can describe the different parts of flowering plants and explain their requirements to live. I can describe the life cycle of flowering plants.</p> <p>I can explain how light is reflected from different surfaces. I can explain why sunlight is dangerous for our eyes. I can explain how shadows are formed and offer explanations of how these change size/shape.</p>






Year Four

Term & theme	Autumn 1- Animals including humans Autumn 2- Sound	Spring 2 – States of matter	Summer 1 – Living things and their habitats Summer 2 - Electricity
Enquiry Question	 <p>How does an egg shell change when it is left in different drinks?</p>  <p>Which material is best to use for muffling sound in ear defenders?</p>	 <p>Can you group these materials and objects into solids, liquids, and gases?</p>	 <p>What environmental issues pose a threat to living things in our local environment?</p>  <p>Which room has the most electrical sockets in a house?</p>
Prior Science Content Knowledge	<p>Children will know: Y3: knowledge of names and functions of different bones in the human skeleton. KS1: basic understanding of structure of animals and plants, offspring and basic needs for survival</p> <p>Children will know: KS1: understanding of the different senses</p>	<p>Children will know: KS1: common everyday materials, describe their properties and compare and group them. Describe how solid object’s shape can be changed.</p>	<p>Children will know: KS1: the difference between living things which are alive, dead or have never been alive. Identify common living things and their habitats and explain how they depend on these. Construct basic food chain.</p> <p>Children will know: KS1: understanding of every day materials and their properties</p>
Prior Working Scientifically Skills	<p>Children will know: Y3: Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p>Children will know: Y3: Set up simple practical enquiries, comparative and fair tests.</p>	<p>Children will know: Y3: Identifying differences, similarities or changes. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p>	<p>Children will know: Y3: Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Children will know: Y3: Gather, record, classify and present data in a variety of ways to help in answering questions – line graph. Make systematic and careful observations & where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p>

Key vocabulary	Digestion, oesophagus, stomach, intestines, enzymes Vibrate, pitch, volume	Melt, freeze, solidify, evaporate, condense	Environment, habitat, population, deforestation, litter Insulators, conductors, circuit, appliances
Science Content Knowledge	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 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
Working Scientifically Skills	<ul style="list-style-type: none"> Ask relevant questions & use different types of enquiries to answer them Identify differences, similarities or changes Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables 	<ul style="list-style-type: none"> Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Make systematic and careful observations & where appropriate, take accurate measurements using standard units, using 	<ul style="list-style-type: none"> Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

	<ul style="list-style-type: none"> Set up simple practical enquiries, comparative and fair tests. 	<p>a range of equipment, including thermometers and data loggers</p>	<ul style="list-style-type: none"> Gather, record, classify and present data in a variety of ways to help in answering questions. – tally chart
End Point	<p>I can describe basic functions of digestive organs. I can describe basic functions of different types of teeth. I can construct a food chain including a producer, prey and predator.</p> <p>I can describe how sound travels via vibrations from an object travelling through the air. I can explain the link between sound vibrations and pitch and volume.</p>	<p>I can identify whether materials are solids, liquids or gases. I can explain how and why some materials change state. I can explain the processes of evaporation and condensation in relation to the water cycle.</p>	<p>I can identify a variety of living things in my local area. I can explain how some living things are in danger due to threats to their habitats.</p> <p>I can construct basic circuits. I can identify whether circuits are complete or incomplete. I can identify whether materials are conductors or insulators.</p>

Year Five

Term & theme	Autumn 1 – Animals including humans	Spring 1- Forces Spring 2 – Earth and space	Summer 1- Properties and changes of materials Summer 2 – Living things and their habitats
Enquiry Question	 <p>How do humans change over their lifetime?</p>	 <p>Which shape parachute takes the longest to fall?</p>  <p>How have our ideas about the solar system changed over time?</p>	 <p>Can you group these materials based on whether they are transparent or not?</p>  <p>Do all living things follow the same life cycle?</p>
Prior Science Content Knowledge	<p>Children will know: LKS2: understanding of human skeleton, digestive system and teeth. Y2: basic understanding of humans having offspring which grow into adults</p>	<p>Children will know: Y3: basic understanding of friction. Understanding of magnets having two poles, repelling or attracting and materials which are and aren't magnetic.</p> <p>Children will know: Y4: Understanding of states of matter</p>	<p>Children will know: Y4: understand different states of matter and changes between these. Y2: know properties of simple every day materials and understand that some solid's shape can manipulated.</p> <p>Children will know: Y2: basic understanding of animals, including humans, having offspring which grow into adults. Y4: Identify living things and their habitats in their local area. Identify the ways in which some habitats are in danger of being destroyed.</p>
Prior Working Scientifically Skills	<p>Children will know: LKS2: Identify differences, similarities or changes. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p>	<p>Children will know: LKS2: Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations & where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>Children will know: LKS2: Report on findings from enquiries, including oral and written explanations,</p>	<p>Children will know: LKS2: Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Children will know: LKS2: Gather, record, classify and present data in a variety of ways to help in answering questions. – line graph and tally chart</p>

		displays or presentations of results and conclusions	
Key vocabulary	Reproduce, fertilisation, foetus, puberty, adulthood, adolescence, life expectancy	Gravity, air resistance, water resistance, friction, gear, mechanism, pulley Solar system, names of planets, hemisphere, orbit, axis	Properties, solubility, transparency, dissolve, insulation, reversible, irreversible Mammal, amphibian, reproduction, fertilisation, sexual, asexual
Science Content Knowledge	<ul style="list-style-type: none"> describe the changes as humans develop to old age 	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> 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

			<ul style="list-style-type: none"> 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
Working Scientifically Skills	<ul style="list-style-type: none"> Identify scientific evidence that has been used to support or refute ideas or arguments 	<ul style="list-style-type: none"> Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Use test results to make predictions to set up further comparative and fair tests Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate - stop watches Report and present 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 	<ul style="list-style-type: none"> Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
End Point	I can describe the changes throughout a human's life from conception to old age.	<p>I can explain the effects of gravity, air resistance, water resistance and friction. I can explain the impact levers, pulleys and gears have on amplifying force.</p> <p>I can describe the movement of plants, including Earth, and the moon within the solar system.</p> <p>I can explain the link between the Earth's rotation and the seeming movement of the sun in the sky through day into night time.</p>	<p>I can group objects based on their properties including transparency, solubility and conductivity. I can explain the process of substances dissolving into a solution. I can explain that some changes are reversible and some are irreversible.</p> <p>I can explain the differences in the life cycles of a mammal, amphibian, insect and bird.</p> <p>I can explain the reproductive process in some plants and animals.</p>

Year Six

Term & theme	<p align="center">Autumn 1 – Light Autumn 2 – Living things and their habitats</p>	<p align="center">Spring 1 – Animals including humans Spring 2 – Evolution and inheritance</p>	<p align="center">Summer 1 - Electricity</p>
<p>Enquiry Question</p>	<div data-bbox="409 347 600 464" data-label="Image"> </div> <p>How does my shadow change over the day?</p> <div data-bbox="409 520 600 627" data-label="Image"> </div> <p>How would you make a classification key for vertebrates/invertebrates or microorganisms?</p>	<div data-bbox="972 312 1167 427" data-label="Image"> </div> <p>Which type of exercise has the greatest effect on our heart rate?</p> <div data-bbox="978 480 1160 584" data-label="Image"> </div> <p>What happened when Charles Darwin visited the Galapagos islands?</p>	<div data-bbox="1527 320 1720 427" data-label="Image"> </div> <p>How does the number of cells used impact the brightness of a bulb?</p>
<p>Prior Science Content Knowledge</p>	<p>Children will know: Y3: explain how light is reflected from different surfaces, why sunlight is dangerous for our eyes and how shadows are formed. Children will know: Y5: explain differences in life cycles of different living things. Y4: Recognise that living things can be group in a variety of ways and use classification keys.</p>	<p>Children will know: LKS2: understanding of the human skeleton, digestive system, types of nutrition and teeth. KS1: understanding of the importance of exercise, hygiene and nutrition for humans. Children will know: Y5: understanding of the life cycle and human reproduction.</p>	<p>Children will know: Y4: how to construct a basic circuit, whether it is complete or incomplete and know whether materials are conductors or insulators.</p>
<p>Prior Working Scientifically Skills</p>	<p>Children will know: Y5: Identify scientific evidence that has been used to support or refute ideas or arguments Children will know: Y5: Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. – stop watches. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p>	<p>Children will know: Y5: Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Use test results to make predictions to set up further comparative and fair tests. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Children will know: Y5: Report and present 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</p>	<p>Children will know: Y5: Plan different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary</p>

Key vocabulary	<p>Light source, reflection, shadow, periscope</p> <p>Classification, microorganisms, genus, species</p>	<p>Circulatory system, blood vessels, lifestyle, nutrients, water, impact, substances</p> <p>Evolution, adaptation, inherited, variation, genes, DNA</p>	<p>Voltage, brightness, cell, series circuit, electrical safety, symbols</p>
Science Content Knowledge	<ul style="list-style-type: none"> 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 describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals give reasons for classifying plants and animals based on specific characteristics 	<ul style="list-style-type: none"> 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 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 	<ul style="list-style-type: none"> 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
Working Scientifically Skills	<ul style="list-style-type: none"> Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Group and classify things and recognise patterns 	<ul style="list-style-type: none"> Use test results to make predictions to set up further comparative and fair tests Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate – heart rate monitors Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs 	<ul style="list-style-type: none"> Plan different types of scientific enquiries to answer their own or others' questions, including recognising and controlling variables where necessary

		<ul style="list-style-type: none"> • Report and present 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 • Describe and evaluate their own and other people's scientific ideas related to topics in the national curriculum (including ideas that have changed over time), using evidence from a range of sources 	
End Point	<p>I can explain that light travels in a straight line and surfaces reflect this light, which enables us to see it.</p> <p>I can explain how shadows are formed and why they have the same shape as the objects which cast them.</p> <p>I can classify plants and animals based on specific characteristics.</p>	<p>I can explain the functions of different parts of the circulatory system.</p> <p>I can explain the impact of diet, drugs, exercise and life style on the human body.</p> <p>I can explain the way in which nutrients and water are transported within living things.</p> <p>I can explain the process of adaptation leading to evolution.</p>	<p>I can use symbols when drawing a diagram of a circuit.</p> <p>I can explain variations in the function of different components within a circuit.</p>