



Science Curriculum Overview Year 1



Year 1

Autumn	Spring	Summer
<p style="text-align: center;"><u>Animals including humans</u></p> <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 <div style="background-color: #e1f5fe; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Identify and classify. • Use observations and ideas to suggest answers to questions </div>	<p style="text-align: center;"><u>Plants</u></p> <ul style="list-style-type: none"> • 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. <div style="background-color: #e1f5fe; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Observe closely, using simple equipment. </div>	<p style="text-align: center;"><u>Everyday materials</u></p> <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. <div style="background-color: #e1f5fe; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Recognise that sorting questions can be answered in different • Perform simple tests to compare and group </div>
<p><u>Seasonal change</u></p> <ul style="list-style-type: none"> • observe changes across the four seasons. • observe and describe weather associated with the seasons and how day length varies. <div style="background-color: #e1f5fe; padding: 5px; margin-top: 5px;"> <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Gather and record data to help in answering questions. </div>		

Key vocabulary

Animals including humans	Plants	Everyday materials	Seasonal change
Amphibians, birds, fish, mammals, reptiles, carnivores, herbivore, omnivore, sight, hearing, touch, taste, smell, head, neck, ear, mouth, shoulder, hand, fingers, leg, foot, thumb, eye, nose, knee, toes, teeth, elbow	Leaves, trunk, branch, root, seed, bulb, flower, stem, wild, garden, deciduous, evergreen	Hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy/not bendy, waterproof/not waterproof, absorbent, opaque,	Seasons, spring, summer, autumn, winter, windy, sunny, overcast, snow, rain, temperature
<u>Working scientifically</u>			
Experience, observe, changes, patterns, grouping, sorting, classifying, compare, identify (name), data, Measure, record, equipment, questions, test, investigate, explore, magnifying glass / hand lens, same, different			



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Substantive Knowledge

Animals including humans	Plants	Everyday materials	Seasonal change
<ul style="list-style-type: none"> • There are many different animals with different characteristics. • Animals have senses to help individuals survive. When animals sense things they are able to respond. • Animals need food to survive. • Animals need a variety of food to help them grow, repair their bodies, be active and stay healthy. 	<ul style="list-style-type: none"> • A plant is a living thing that usually grows in one place • Coniferous plants keep their leaves all year round (e.g. pine, yew, juniper in UK) • Deciduous plants lose their leaves in winter (e.g. oak, silver birch, horse chestnut, sycamore, ash) • Trees are a type of plant that have a tall stem made of wood • The basic parts of a plant are leaves, flowers, roots, stem/trunk/branch 	<ul style="list-style-type: none"> • Objects are made from different materials. • Types of materials are wood, plastic, glass, metal, water, and rock. (Identifies these) • Materials can be hard or soft; smooth or rough; shiny or dull. • You can see through some materials which means they are transparent; like the glass in windows. • Some materials are waterproof, which means that water cannot go through them 	<ul style="list-style-type: none"> • Weather can change • There are lots of different types of weather: Rain, Sun, Cloud, Wind, Snow, etc • Days are longer and hotter in the summer • Days are shorter and colder in the winter • There are four seasons: Spring, Summer, Autumn, Winter

Disciplinary skills

Animals including humans	Plants	Everyday materials	Seasonal change
<p>Make first hand close observations of animals from each of the groups.</p> <p>Compare two animals from the same or different group</p> <p>Classify animals using a range of features e.g. by what they eat</p> <p>Identify animals by matching them to named images</p> <p>Make first hand close observations of parts of the body e.g. hands, eyes</p> <p>Compare two people by looking for patterns between them</p> <p>Record measurements of parts of their body</p> <p>Compare parts of their own body</p> <p>Classify people according to their features</p> <p>Investigate human senses e.g. which part of my body is good for feeling, which is not?</p>	<p>Make close observations of leaves, seeds, flowers etc.</p> <p>Compare two leaves, seeds, flowers etc.</p> <p>Classify leaves, seeds, flowers etc. using a range of characteristics</p> <p>Identify plants by matching them to named images</p> <p>Make observations of how plants change over a period of time</p> <p>When further afield, spot plants that are the same as those in the local area studied regularly and describe the key features that helped them.</p> <p>Ask questions about plants and trees in their local environment</p>	<p>Classify objects made of one material in different ways e.g. a group of object made of metal</p> <p>Classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials</p> <p>Classify materials based on their properties</p> <p>Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, water-proofness of shelters and record the results</p> <p>Ask questions about everyday materials</p>	<p>Record information about the weather regularly throughout the year</p> <p>Present this information in table and charts to compare the weather across the seasons</p> <p>Collect information, regularly throughout the year, of features that change with the seasons e.g. plants, animals, humans</p> <p>Present this information in different ways to compare the seasons</p> <p>Gather data about day length regularly throughout the year and pre-sent this to compare the seasons</p> <p>Ask questions about the weather in different seasons</p>



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Working scientifically progression								
Asking and answering	Making predictions	Making observations	Equipment and measurement	Identify and classify	Practical enquiry	Recording and reporting	Drawing conclusions	Analysing data
Use everyday language/begin to use simple scientific words to ask or answer a scientific question	Begin to say what might happen in an investigation.	Observe objects, materials and living things and describe what they see.	Use simple, nonstandard equipment and measurements in a practical task.	Sort and group objects, materials and living things, with help, according to simple observational features.	Follow instructions to complete a simple test individually or in a group	Begin to record simple data. Talk about their findings and explain what they have found out.	Explain, with help, what they think they have found out.	Use every day or simple scientific language to ask and/or answer a question on given data.



Science Curriculum Overview Year 2



Year 2

Autumn	Spring	Summer
<p><u>Everyday materials</u></p> <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. • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	<p><u>Animals including humans</u></p> <ul style="list-style-type: none"> • notice that animals, including humans, have offspring which grow into adults. • find out about and describe the basic needs of animals, including humans, for survival (water, food and air). • describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 	<p><u>Living things and their habitats</u></p> <ul style="list-style-type: none"> • 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 micro-habitats. • 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.
<p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Perform simple tests to answer questions 	<p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Using their observations and ideas to suggest answers to questions <p style="text-align: center;"><u>Plants</u></p> <ul style="list-style-type: none"> • observe and describe how seeds and bulbs grow into mature plants. • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Observe closely, using simple equipment. 	<p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Gather and record data to help in answering questions. • Identifying and classifying

Key vocabulary

Materials	Animals including humans	Plants	Living things and their habitats
Waterproof, fabric, rubber, cars, rock, paper, cardboard, wood, metal, plastic, glass, brick, twisting, squashing, bending, matches, cans, spoons	living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, seashore, woodland, ocean, rainforest, conditions, desert, damp, shade	Leaves, trunk, branch, root, seed, bulb, flower, stem, wild, garden, deciduous, evergreen, observe, grow, compare, record, temperature, predict, measure, diagram, germinate, warmth, sunlight	Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, seashore, woodland, ocean, rainforest, conditions, desert, damp, shade,
<u>Working scientifically</u>			
Experience, observe, changes, patterns, grouping, sorting, classifying, compare, identify (name), data, Measure, record, equipment, questions, test, investigate, explore, magnifying glass / hand lens, same, different			



Science Curriculum Overview Year 2



Substantive Knowledge

Materials	Animals including humans	Plants	Living things and their habitats
<ul style="list-style-type: none"> • The shape of some solid objects made from some materials can be changed by squashing, bending, twisting or stretching the material. • Materials have different physical properties • These physical properties make the materials more suitable for certain uses. 	<ul style="list-style-type: none"> • Animals, including humans, need food, water and oxygen to survive • Animals, including humans, reproduce. This means they have offspring that grow into adults • As animals grow they get bigger. • Some animals change during their life cycle as the mature (e.g. tadpole to frog) • Humans need exercise to stay healthy • Humans need to eat a healthy and balanced diet <ul style="list-style-type: none"> • Humans need to practice hygiene to stay healthy 	<p>To know that seeds don't need light to germinate. With dark conditions and the right temperature, the seed sprouts (germinates).</p> <p>To know that plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>To know that plants need a suitable temperature to grow.</p> <p>To know that most plants grow from seeds or bulbs.</p>	<ul style="list-style-type: none"> • Some things are living, some were once living but now dead and some things never lived. • There is variation between living things. • Different animals and plants live in different places. • Living things are adapted to survive in different habitats. • Habitats are the places that living things live. A very small habitat is called a micro-habitat. • Animals and plants in a habitat depend on each other e.g. for food or shelter • Animals get their food from plants and other animals; this food provides the energy animals need. • In a food chain, the arrows show where the energy is being transferred from and to.

Disciplinary skills

Materials	Animals including humans	Plants	Living things and their habitats
<p>Classify materials</p> <p>Use secondary resources to research and make suggestions about alternative materials for a purpose that are both suitable and unsuitable</p> <p>Test the properties of materials for particular uses</p>	<p>Ask people questions and use secondary sources to find out about the life cycles of some animals</p> <p>Observe animals growing over a period of time e.g. chicks, caterpillars, a baby</p> <p>Ask questions of a parent about how they look after their baby</p> <p>Ask pet owners questions about how they look after their pet</p> <p>Conduct simple tests to explore the effect of exercise on their bodies</p> <p>Classify food in a range of ways, including using the Eatwell guide</p> <p>Investigate washing hands, using glitter gel</p>	<p>Make close observations of seeds and bulbs</p> <p>Classify seeds and bulb</p> <p>Research and plan when and how to plant a range of seeds and bulbs using secondary resources</p> <p>Look after the plants as they grow - weeding, thinning, watering etc.</p> <p>Make close observations and record measurements of their plants growing from seeds and bulbs</p> <p>Make comparisons between plants as they grow</p>	<p>Explore the outside environment regularly to find objects that are living, dead and have never lived</p> <p>Classify objects found in the local environment</p> <p>Observe animals and plants carefully, drawing and labelling diagrams</p> <p>Construct simple food chains for a familiar local habitat from first hand observation and research</p> <p>Create simple food chains from information using secondary resources</p>



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Working scientifically progression								
Asking and answering	Making predictions	Making observations	Equipment and measurement	Identify and classify	Practical enquiry	Recording and reporting	Drawing conclusions	Analysing data
Suggest ideas, ask simple questions and know that they can be answered/investigated in different ways including simple secondary sources, such as books and video clips	Begin to make predictions.	Observe something closely and describe changes over time.	Use simple equipment, such as hand lenses or egg timers to take measurements, make observations and carry out simple tests.	Decide, with help, how to group materials, living things and objects, noticing changes over time and beginning to see patterns.	Do things in the correct order when performing a simple test and begin to recognise when something is unfair.	Gather data, record and talk about their findings, in a range of ways, using simple scientific vocabulary.	Use simple scientific language to explain what they have found out	Identify simple patterns and/or relationships using simple comparative language..



Science Curriculum Overview Year 3



Year 3

Autumn	Spring	Summer
<p style="text-align: center;"><u>Animals including humans</u></p> <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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquiries to answer them <p style="text-align: center;"><u>Rocks</u></p> <ul style="list-style-type: none"> • 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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Reporting on findings from enquiries. • Identifying differences, similarities or changes related to simple scientific ideas and processes. 	<p style="text-align: center;"><u>Light</u></p> <ul style="list-style-type: none"> • recognise that they need light in order to see things and that dark is the absence of light. • notice that light is reflected from surfaces. • recognise that light from the sun can be dangerous and that there are ways to protect their eyes. • recognise that shadows are formed when the light from a light source is blocked by a solid object. • find patterns in the way that the size of shadows change. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Gather and record data to answer questions. <p style="text-align: center;"><u>Plants</u></p> <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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Making systematic and careful observations and measurements using standard units • Use straightforward scientific evidence to answer questions or to support their findings 	<p style="text-align: center;"><u>Forces and magnets</u></p> <ul style="list-style-type: none"> • 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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Set up simple practical enquiries, comparative and fair tests <p style="text-align: center;">Gather, record and present data (in a table or bar chart) to help in answering questions</p> <p style="text-align: center;">Using results to draw simple conclusions, suggest improvements and raise further questions.</p>



Science Curriculum Overview Year 3



Key vocabulary

Animals including humans	Rocks	Light	Plants	Forces and magnets
Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints	Rocks, igneous, metamorphic, sedimentary, anthropic, permeable, impermeable, chemical fossil, body fossil, trace fossil, Mary Anning, cast fossil, mould fossil, replacement fossil, extinct, organic matter, topsoil, sub soil, base rock.	Light source, dark, reflect, ray, mirror, bounce, visible, beam, sun, glare, travel, straight, opaque, shadow, block, transparent, translucent.	Air, light, water, nutrients, soil, support, anchor, reproduction, pollination, dispersal, transportation, flower, energy, growth, seedling, carbon dioxide, oxygen, sugar, material, photosynthesis, chlorophyll	Force, push, pull, friction, surface, magnet, magnetic, magnetic field, pole, north, south, attract, repel, compass
Working scientifically Develop, enquiry, practical enquiry, fair test, comparative test, relationships, conclusion, accurate, thermometer, data logger, estimate, data, diagram, key (identifying), table, chart bar chart, results, predictions, explanation, reason, similarity, difference, question, evidence, information, findings, criteria, values, properties, characteristics				

Substantive Knowledge

Animals including humans	Rocks	Light	Plants	Forces and magnets
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. Humans and some other animals have skeletons and muscles for support, protection and movement. Vertebrates are organisms with a backbone (spine) and invertebrates are organisms without a backbone (spine.) Humans have a number of different joints	<ul style="list-style-type: none"> • There are different types of rock and they can be grouped together based on their physical properties. • Soil is made from rocks and organic matter. • Fossils are formed when things that have lived are trapped within rock. • Palaeontologists use fossils to find out about the past. • Fossils provide evidence that living things have changed over time. 	<ul style="list-style-type: none"> • We need light to see things. We see when light enters our eyes • Darkness is the absence of light. • Beams of light bounce off some materials (reflection). • Sources of light emit their own light and others reflect light • Shadows form behind an opaque object when light from a source is blocked • The shape and position of shadows changes with the angle of the light source • The size of shadows changes when the distance of 	<ul style="list-style-type: none"> • To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. • To know that plants need air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. Water is transported from the roots, through the tubes in the stem, to the tip of the plant. • To know that the life cycle of flowering plants, includes pollination, seed formation and seed dispersal. • Seed germination is when a seed begins to grow. 	<ul style="list-style-type: none"> • To know objects move in different ways when on different surfaces. • To know that some forces need contact between two objects, but magnetic forces can act at a distance. • To know that magnets can attract or repel each other and attract some materials and not others. • Magnetic materials are always made of metal, but not all metals are magnetic. • Iron is magnetic, so any metal with iron in it will be



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		<p>the light source changes</p> <ul style="list-style-type: none"> • Light from the sun can be dangerous and there are ways to protect our eyes. 		<p>attracted to a magnet. Most other metals, for example aluminium, copper and gold, are NOT magnetic.</p> <ul style="list-style-type: none"> • Magnets have two poles
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Disciplinary skills

Animals including humans	Rocks	Light	Plants	Forces and magnets
<p>Classify food in a range of ways</p> <p>Research the nutritional content of a range of food items using food labels</p> <p>Use secondary sources to find out they types of food that contain the different nutrients</p> <p>Use food labels to ask and answer enquiry questions e.g. How much fat do different types of pizza contain? How much sugar is in soft drinks? Plan a daily diet contain a good balance of nutrients</p> <p>Explore the nutrients contained in fast food</p> <p>Use secondary sources to research the parts and functions of the skeleton</p> <p>Investigate pattern seeking questions such as 'can people with longer legs run faster?'</p> <p>Compare, contrast and classify skeletons of different animal</p>	<p>Observe rocks and soil closely</p> <p>Classify rocks in a range of ways based on their appearance and use the results to make predictions for future investigations</p> <p>Devise a test to investigate the hardness and water absorption of a range of rocks, recording results in a variety of ways</p> <p>Observe how rocks change over time e.g. gravestones or old building</p> <p>Research using secondary sources how fossils are formed</p> <p>Classify soils in a range of ways based on their appearance</p> <p>Devise a test to investigate the water retention of soils and make simple conclusions</p> <p>Observe how soil can be separated through sedimentation</p> <p>Research the work of Mary Anning</p>	<p>Create simple experiments and use results to make conclusion e.g. to explore how different objects are more or less visible in different levels of lighting, explore how objects with different surfaces e.g. shiny vs matt are more or less visible</p> <p>Gather and record data in a variety of ways by exploring how shadows vary as the distance between a light source, an object or surface is changed</p> <p>Identify similarities, differences and changes when exploring shadows which are connected to and disconnected from the object e.g. shadows of clouds and children in the playground</p> <p>Use scientific evidence to choose suitable materials to make shadow puppets</p>	<p>Observe what happens to plants over time when the leaves or roots are removed and use results to make conclusions.</p> <p>Make predictions and observe the effect of putting cut white carnations or celery in coloured water.</p> <p>Create investigations to test what happens to plants when they are put in different conditions</p> <p>Spot flowers, seeds, berries and fruits and observe flowers being visited by pollinators</p> <p>Observe flowers carefully to identify the pollen</p> <p>Observe seeds being blown from the trees</p> <p>Use secondary resources to research different types of seed dispersal</p> <p>Classify seeds in a range of ways including by how they are dispersed to find patterns</p> <p>Use a range of equipment, including thermometers and data loggers.</p>	<p>Conduct simple investigations to explore how objects move on different surfaces e.g. spinning tops/coins, rolling balls/cars, and use the results to make conclusions</p> <p>Explore what materials are attracted to a magnet and apply the results to make predictions</p> <p>Classify materials according to whether they are magnetic</p> <p>Explore the way that magnets behave in relation to each other and how they work at a distance, recording results in a variety of ways</p> <p>Use a marked magnet to find the unmarked poles on other types of magnets</p> <p>Devise an investigation to test the strength of magnets</p>



Science Curriculum Overview Year 3



Working scientifically progression								
Asking and answering	Making predictions	Making observations	Equipment and measurement	Identify and classify	Practical enquiry	Recording and reporting	Drawing conclusions	Analysing data
Use ideas to pose questions, independently, about the world around them.	Make predictions and begin to give a reason.	Make decisions about what to observe during an investigation.	Take accurate measurements using standard units.	Talk about criteria for grouping, sorting and categorising, beginning to see patterns and relationships.	Discuss enquiry methods and describe a fair test.	Record their findings using scientific language and present in note form, writing frames, diagrams, tables and charts..	Draw, with help, a simple conclusion based on evidence from an enquiry or observation.	Gather, record and use data in a variety of ways to answer a simple question.



Science Curriculum Overview Year 4



Year 4

Autumn	Spring	Summer
<p style="text-align: center;"><u>Animals including humans</u></p> <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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Use results to draw simple conclusions, suggest improvements and raise further questions <p style="text-align: center;"><u>Living things and their habitats</u></p> <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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Gather, record and classify data. • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, or tables. 	<p style="text-align: center;"><u>States of matter</u></p> <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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Take accurate measurements using standard units, using a range of equipment including thermometers and data loggers • Set up a fair test <p style="text-align: center;"><u>Sound</u></p> <ul style="list-style-type: none"> • 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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Ask relevant questions and use different types of scientific enquiries to answer them Identify differences, similarities or changes related to simple scientific ideas and processes 	<p style="text-align: center;"><u>Electricity</u></p> <ul style="list-style-type: none"> • 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. <p style="text-align: center;"><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Report on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions.



Science Curriculum Overview Year 4



Key vocabulary

Animals including humans	Living things and their habitats	States of matter	Sound	Electricity
Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain	Environment, flowering, nonflowering, plants, animals, vertebrates, fish, amphibians, reptiles, mammals, invertebrate, human impact, nature reserves, deforestation.	Solid, liquid, gas, particles, state, materials, properties, matter, melt, freeze, water, ice, temperature, process, condensation, evaporation, water vapour, energy, precipitation, collection□□	Amplitude, volume, quiet, loud, ear, pitch, high, low, particles, instruments, wave.	Electricity, electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator, component.
Working scientifically Develop, enquiry, practical enquiry, fair test, comparative test, relationships, conclusion, accurate, thermometer, data logger, estimate, data, diagram, key (identifying), table, chart bar chart, results, predictions, explanation, reason, similarity, difference, question, evidence, information, findings, criteria, values, properties, characteristics				



Science Curriculum Overview Year 4



Substantive Knowledge

Animals including humans	Living things and their habitats	States of matter	Sound	Electricity
<ul style="list-style-type: none"> • Animals have teeth to help them eat. • There are four main types of teeth: incisors, canines, pre-molars and molars. They each have a different purpose. The digestive system is the group of organs that help your body digest food • Food is broken down by the teeth and further in the stomach and intestines where nutrients go into the blood. • The blood takes nutrients around the body. • Nutrients produced by plants move to primary consumers then to secondary consumers through food chains. • A food chain contains a producer, predator and prey. 	<ul style="list-style-type: none"> • Living things can be divided into groups based upon their characteristics • Environmental change affects different habitats differently • Different organisms are affected differently by environmental change • Different food chains occur in different habitats • Human activity significantly affects the environment 	<ul style="list-style-type: none"> • Solids, liquids and gases are described by observable properties. • Materials can be divided into solids, liquids and gases. • Heating causes solids to melt into liquids and liquids evaporate into gases. • Cooling causes gases to condense into liquids and liquids to freeze into solids. The process that changes a liquid to a gas is called evaporating • Evaporation happens when a liquid is heated. This is called the boiling point •The process that changes a gas to a liquid is called condensing •The process that changes a liquid to a solid is called freezing •Substances change state at different temperatures 	<ul style="list-style-type: none"> • Sound travels from its source in all directions and we hear it when it travels to our ears. • Sound travel can be blocked. • Sound is produced when an object vibrates. • Sound moves through all materials by making them vibrate. • Bigger vibrations produce louder sounds and smaller vibrations produce quieter sounds. • Faster vibrations (higher frequencies) produce higher pitched sounds 	<ul style="list-style-type: none"> • A source of electricity (mains of battery) is needed for electrical devices to work. • Electricity sources push electricity round a circuit. • A complete circuit is needed for electricity to flow and devices to work. An open switch breaks the circuit. • Some materials allow electricity to flow easily and these are called conductors. • Materials that don't allow electricity to flow easily are called insulators. • Components include wire, lamp, buzzer, motor or switch • Common appliances run on electricity. • Know that they should never touch a switch or source of electricity with wet hands.



Science Curriculum Overview Year 4



Disciplinary skills

Animals including humans	Living things and their habitats	States of matter	Sound	Electricity
<p>Investigate the function of the parts of the digestive system</p> <p>Explore eating different types of food, to identify which teeth are being used for cutting, tearing and grinding (chewing)</p> <p>Classify animals as herbivores, carnivores or omnivores according to the type of teeth they have in their skulls</p> <p>Use food chains to identify producers, predators and prey within a habitat and explore patterns found</p> <p>Use secondary sources to identify animals in a habitat and find out what they eat</p>	<p>Observe plants and animals in different habitats throughout the year</p> <ul style="list-style-type: none"> •Compare and contrast the living things observed •Use classification keys to name unknown living things •Classify living things found in different habitats based on their features to find patterns •Create a simple identification key based on observable features •Use fieldwork to explore human impact on the local environment e.g. litter, tree planting •Use secondary sources to find out about how environments may naturally change Use secondary sources to find out about human impact, both positive and negative, on environments 	<p>Observe closely and classify a range of solids and liquids and record the results in a variety of ways</p> <p>Explore making gases visible using practical enquiries e.g. squeezing sponges under water to see bubbles, and showing their effect</p> <p>Classify materials according to whether they are solids, liquids and gases to find patterns</p> <p>Make predictions and observe a range of materials melting and freezing</p> <p>Investigate how to melt ice more quickly</p> <p>Investigating melting point of different materials</p> <p>Make predictions and observe water evaporating and condensing</p> <p>Use a thermometer to measure and record temperatures</p> <p>Set up investigations to explore changing the rate of evaporation</p> <p>Use secondary sources to find out about the water cycle</p>	<p>Classify sound sources and use results to make predictions</p> <p>Explore making sounds with a range of objects such as musical instruments and other household objects to answer questions</p> <p>Explore how string telephones or ear gongs work</p> <p>Explore using objects that change in feature to change pitch and volume such as length of guitar string, bottles of water or tuning forks</p> <p>Measure sounds over different distances and record results in a variety of ways</p> <p>Measure sounds through different insulation materials using fair and comparative tests</p>	<p>Construct a range of circuits</p> <p>Explore which materials can be used instead of wires to make a circuit using comparative and fair testing</p> <p>Classify the materials that were suitable/not suitable for wires to find patterns</p> <p>Explore how to connect a range of different switches and investigate how they function in different ways</p> <p>Use results from earlier tests to choose switches to add to circuits to solve particular problems such as a pressure switch for a burglar alarm</p> <p>Apply their knowledge of conductors and insulators to design and make different types of switch</p> <p>Make circuits that can be controlled as part of a D&T project</p>



Science Curriculum Overview Year 4



Working scientifically progression								
Asking and answering	Making predictions	Making observations	Equipment and measurement	Identify and classify	Practical enquiry	Recording and reporting	Drawing conclusions	Analysing data
Suggest relevant questions and know that they could be answered in a variety of ways, including using secondary sources such as ICT. Answer questions using straight forward scientific evidence.	Make predictions and give a reason using simple scientific vocabular	Make systematic and careful observations	Take accurate measurements using standard units and a range of equipment, including thermometers and data loggers.	Identify similarities/ differences /changes when talking about scientific processes. Use and begin to create simple keys.	Make decisions about different enquiries, including recognising when a fair test is necessary and begin to identify variables.	Choose appropriate ways to record and present information, findings and conclusions for different audiences (e.g. displays, oral or written explanations).	Use recorded data to make predictions, pose new questions and suggest improvements for further enquiries.	Identify, with help, changes, patterns, similarities and differences in data to help form conclusions. Use scientific evidence to support their findings



Science Curriculum Overview Year 5



Autumn	Spring	Summer
<p><u>Living things and their habitats</u></p> <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. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Report and present findings from enquiries, in oral and written forms such as displays and other presentations, using appropriate scientific language <p><u>Earth and Space</u></p> <ul style="list-style-type: none"> • 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. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Report and present findings from enquiries using appropriate scientific language. 	<p><u>Forces</u></p> <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. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Explain the degree of trust in the results • Predicting • Identifying scientific evidence that has been used to support or refute ideas or arguments. <p><u>Animals including humans</u></p> <ul style="list-style-type: none"> • describe the changes as humans develop to old age. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Take measurements using a range of equipment 	<p><u>Properties and change of materials</u></p> <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. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Plan a scientific enquiry to answer a question recognising and controlling variables • Gather and record data of increasing complexity using tables <p>Use test results to make predictions to set up further comparative and fair tests</p>



Science Curriculum Overview Year 5



Key vocabulary

Living things and their habitats	Earth and Space	Forces	Animals including humans	Properties and changes of materials
Reproduction, Sexual, Asexual, Pollination, Dispersal, reproduction, cell, fertilisation, pollination, male, female, pregnancy, young, mammal, metamorphosis, amphibian, insect, egg, embryo, bird, plant☐	Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation, waxing, waning, crescent, gibbous. Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, planets, solar system, day, night, rotate, orbit, axis, spherical	Force, push, pull, friction, surface, magnet, magnetic, magnetic field, pole, north, south, attract, repel, compass	Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty, Hormone, Physical, Emotional	Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve re-versible/non-reversible change, burning, rusting, new material
Working scientifically Variables, evidence, justify, accuracy, precision, scatter graphs, bar graphs, line graphs argument (science), causal relationship				

Substantive Knowledge

Living things and their habitats	Earth and Space	Forces	Animals including humans	Properties and changes of materials
<p>Birth, growth, reproduction and death represent the four stages of the life cycle of all animals.</p> <p>Amphibians begin their lives as eggs.</p> <p>The insect is born as an egg, hatches as a nymph, and changes into an adult.</p> <p>Birds develop in eggs which hatch.</p> <p>Flowers can produce fruit and fruit contains seeds.</p> <p>Seeds must be dispersed in order for new plants to grow.</p> <p>Seeds can be dispersed by animals, wind, water or humans.</p> <p>Insects are attracted to flowers and pollinate them.</p> <p>Pollination: when pollen from one plant is transferred to another</p>	<p>the sun is a star and is at the centre of our solar system.</p> <p>the Earth and planets orbit the sun.</p> <p>the Sun, Earth and Moon are approximately spherical bodies.</p> <p>A day on Earth lasts 24 hours -that is how long it takes for the planet to spin around once.</p> <p>The Earth spins and causes night and day.</p> <p>The part of the Earth that faces the Sun is in daylight, and the part that is not facing the Sun is in darkness.</p> <p>Inside the Solar System, Earth and eight other planets (including the dwarf planet Pluto) orbit the Sun due to its gravitational pull.</p>	<ul style="list-style-type: none"> • Air resistance and water resistance are forces against motion caused by objects having to move air and water out of their way. • Friction is a force against motion caused by two surfaces rubbing against each other. • Unsupported objects fall towards the Earth because of the force gravity. • Some objects require large forces to make them move; gears, pulley and levers can reduce the force needed to make things move 	<ul style="list-style-type: none"> •The human life cycle goes through the same stages as those for other animals: fertilisation, gestation, growth • The human life cycle: embryo, foetus, infant, child, adolescent, adult, senior • A foetus develops inside the mother • The gestation period for humans is 40 weeks • Puberty is something we all go through, a process which prepares our bodies for being adults, and reproduction • Hormones control these changes, which can be physical and/or emotional 	<ul style="list-style-type: none"> •Materials can be compared and grouped together based on their properties. Some materials will dissolve into a liquid to form a solution. This can be reversed by evaporation or filtering. Mixtures can be separated through filtration, sieving and evaporation. Materials have particular uses due to their properties. Dissolving, mixing and changing state are reversible. Some changes are not reversible such as burning.



Science Curriculum Overview Year 5



Disciplinary skills

Living things and their habitats	Earth and Space	Forces	Animals including humans	Properties and changes of materials
<p>Use secondary sources and, where possible, first hand observations to find out about the life cycle of a range of animals</p> <p>Compare the gestation times for mammals and look for patterns e.g. in relation to size of animal or length of dependency after birth</p> <p>Look for patterns between the size of an animal and its expected life span</p> <p>Grow and observe plants that reproduce asexually e.g. strawberries, spider plant, potatoes</p> <p>Take cuttings from a range of plants e.g. African violet, mint</p> <p>Plant bulbs and then harvest to see how they multiply, use findings to make conclusions</p> <p>Use secondary sources to find out about pollination</p>	<p>Use secondary sources to help create a model e.g. role play or using balls, to show the movement of the Earth around the Sun and the Moon around the Earth.</p> <p>Use secondary sources to help make a model to show why day and night occur</p> <p>Make first-hand observations of how shadows caused by the Sun change through the day</p> <p>Make predictions and produce a sundial to test those predictions</p> <p>Research time zones</p> <p>Consider the views of scientists in the past and evidence used to deduce shapes and movements of the Earth, Moon and planets before space travel</p>	<p>Plan a variety of tests to investigate the effect of friction in a range of contexts</p> <p>Investigate the effects of water resistance in a range of contexts e.g. dropping shapes through water, pulling shapes e.</p> <p>Investigate the effects of air resistance in a range of contexts</p> <p>Explore how levers, pulleys and gears work</p> <p>Make a product that involves a lever, pulley or gear</p> <p>Create a timer that uses gravity to move a ball</p> <p>Research how the work of scientists such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation</p>	<p>Use secondary sources and, where possible, first hand observations to find out about the life cycle of humans.</p>	<p>Investigate the properties of different materials in order to recommend materials for particular functions depending on these properties e.g. test waterproofness and thermal insulation to identify a suitable fabric for a coat</p> <p>Explore adding a range of solids to water and other liquids e.g. cooking oil, as appropriate and report results of the enquiry</p> <p>Investigate rates of dissolving by carrying out comparative and fair test</p> <p>Separate mixtures by sieving, filtering and evaporation, choosing the most suitable method and equipment for each mixture</p> <p>Make predictions and explore a range of non-reversible changes</p> <p>Carry out comparative and fair tests involving non-reversible changes e</p> <p>Research new materials produced by chemists</p>



Science Curriculum Overview Year 5



Working scientifically progression								
Asking and answering	Making predictions	Making observations	Equipment and measurement	Identify and classify	Practical enquiry	Recording and reporting	Drawing conclusions	Analysing data
Raise different types of scientific questions, and hypotheses.	Make predictions and give a reason using scientific vocabulary.	Plan and carry out comparative and fair tests, making systematic and careful observations.	Take measurements using a range of scientific equipment with increasing accuracy and precision	Use and develop keys to identify, classify and describe living things and materials.	Plan a range of science enquiries, including comparative and fair tests.	Record data and results of increasing complexity using scientific diagrams, labels, classification keys, tables, bar and line graphs and models.	Use a simple mode of communication to justify their conclusions on a hypothesis. Begin to recognise how scientific ideas change over time.	Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas.



Autumn	Spring	Summer
<p><u>Living things and their habitats</u></p> <ul style="list-style-type: none"> • describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. • give reasons for classifying plants and animals based on specific characteristics. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Report and present findings using appropriate scientific language <p>Record the results of a survey using a classification key</p> <p><u>Light</u></p> <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. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Identify different types of scientific enquiries to answer their own questions • Take accurate measurements and records data on a graph 	<p><u>Animals including humans</u></p> <ul style="list-style-type: none"> • identify and name the main parts 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. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Use test result to make predictions to set up further comparative and fair tests <p><u>Inheritance and evolution</u></p> <ul style="list-style-type: none"> • 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. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Identifying scientific evidence that has been used to support or refute ideas or arguments. • Explain degree of trust in results 	<p><u>Electricity</u></p> <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. <p><u>Working scientifically</u></p> <ul style="list-style-type: none"> • Plan a scientific enquiry to answer a question, recognising and controlling variables <p>Use equipment and make systematic observations</p>



Science Curriculum Overview Year 6



Key vocabulary

Living things and their habitats	Light	Animals including humans	Evolution and inheritance	Electricity
Variation Organisms Populations. Classification Characteristics Environment, flowering, nonflowering, plants, animals, vertebrates, fish, amphibians, reptiles, mammals, invertebrate, human impact, nature reserves, deforestation. Classify, compare, bacteria, microorganism, organism, invertebrates, vertebrates, Linnaean.	Light source, dark, reflect, ray, mirror, bounce, visible, beam, sun, glare, travel, straight, opaque, shadow, block, transparent, translucent. Reflect Absorb Emitted Scattered Refraction	Oxygenated, Deoxygenated, Valve, Exercise, Respiration Circulatory system, heart, lungs, blood vessels, blood, artery, vein, pulmonary, alveoli, capillary, digestive, transport, gas exchange, villi, nutrients, water, oxygen, alcohol, drugs, tobacco	Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics, Variation, Inherited, Environmental, Mutation, Competition, Survival of the Fittest, Evidence	Electricity, neutrons, protons, electrons, nucleus, atom, electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator, conductor.
Working scientifically Variables, evidence, justify, accuracy, precision, scatter graphs, bar graphs, line graphs argument (science), causal relationship				



Science Curriculum Overview Year 6



Substantive Knowledge

Living things and their habitats	Light	Animals including humans	Evolution and inheritance	Electricity
<ul style="list-style-type: none"> • To know that microorganisms, plants and animals are classified in different groups for different reasons. • Carl Linnaeus created the classification system that forms the basis of the one that scientists use today. • Micro-organisms can be helpful or harmful to humans 	<p>Light travels in straight lines.</p> <ul style="list-style-type: none"> • Objects are seen because they give our or reflect light into the eye, • We see things because light travels from light sources to our eyes or from light sources to objects and then our eyes. • Shadows have the same shape as the objects that cast them. 	<p>To know that the heart, blood vessels and blood are all part of the circulatory system.</p> <ul style="list-style-type: none"> • The circulatory system allows blood to transport oxygen and nutrients to the body's cells, and waste products away from them. • The heart acts a pump moving blood around the body. • Blood travels through blood vessels which includes veins, arteries and capillaries. • Diet, exercise, drugs and lifestyle affect the way our bodies function. • Drugs (legal and illegal) and alcohol have positive and negative effects on the body. • Nutrients are absorbed by the blood along the small intestine, and transported to other organs in the body. • Water is absorbed by the blood along the small and large intestines, and transported to other organs in the body 	<ul style="list-style-type: none"> • To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. • To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. • To know the process of evolution by natural selection was proposed by Charles Darwin 	<p>To know the higher the voltage the louder the bulb or louder the buzzer.</p> <p>To know and use the symbols for wire, cell, battery, bulb, switch, buzzer and motor.</p> <p>To 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.</p>



Science Curriculum Overview Year 6



Disciplinary skills

Living things and their habitats	Light	Animals including humans	Evolution and inheritance	Electricity
<p>Use and draw classification keys to help classify invertebrates and plants</p> <p>Research the harmful and helpful effects that bacteria can have on humans and other organisms, and present this information in a written format</p>	<p>Explore different ways to demonstrate that light travels in straight lines e.g. shining a torch down a bent and straight hose pipe, shining a torch through different shaped holes in card</p> <p>Explore the uses of the behaviour of light, reflection and shadows such as in periscope design, rear view mirrors and shadow puppets.</p> <p>Design investigations using comparative and fair testing to test the behaviour of light, reflection and shadows.</p>	<p>Carry out a range of investigations and record results with increasing accuracy</p> <p>Fair test - effect of different activities on my pulse rate</p> <p>Pattern seeking - exploring which groups of people may have higher or lower resting pulse rates</p> <p>Observation over time - how long does it take my pulse rate to return to my resting pulse rate (recovery rate)</p> <p>Pattern seeking - exploring recovery rate for different groups of people</p> <p>Use secondary resources to learn about the impact of exercise, diet, drugs and lifestyle on the body.</p> <p>Use secondary resources to learn about the sections of the heart</p>	<p>Use models to demonstrate evolution e.g. Darwin's finches bird beak activity</p> <p>Use secondary sources to find out about how the population of peppered moths changed during the industrial revolution</p> <p>Make observations of fossils to identify living things that lived on Earth millions of years ago</p> <p>Identify features in animals and plants that are passed on to offspring</p> <p>Explore this process by considering the artificial breeding of animals or plants e.g. dogs</p> <p>Compare the ideas of Charles Darwin and Alfred Wallace on evolution to support or refute ideas and arguments</p> <p>Research the work of Charles Darwin and how this provided evidence of evolution</p>	<ul style="list-style-type: none"> • Investigating the effect of increasing voltage on the volume of a buzzer or the brightness of a lamp • Investigating the effect of changing the number of components in a circuit on the volume of a buzzer • Compare and give reasons for how different components functions • Observe how different components affect a circuit. • Decide how to present data



Science Curriculum Overview Year 6



Working scientifically progression								
Asking and answering	Making predictions	Making observations	Equipment and measurement	Identify and classify	Practical enquiry	Recording and reporting	Drawing conclusions	Analysing data
Pose/select the most appropriate line of enquiry to investigate scientific questions.	Make predictions and give a reason using scientific vocabulary. Base predictions on findings from previous investigations.	Make their own decisions about which observations to make, using test results and observations to make predictions or set up further comparative or fair tests.	Choose the most appropriate equipment in order to take measurements, explaining how to use it accurately. Decide how long to take measurements for, checking results with additional readings	Identify and explain patterns seen in the natural environment	Select and plan the most suitable line of enquiry, explaining which variables need to be controlled and why, in a variety of comparative and fair tests.	Choose the most effective approach to record and report results, linking to mathematical knowledge	Identify validity of conclusion and required improvement to methodology. Discuss how scientific ideas develop over time.	Identify and explain causal relationships in data and identify evidence that supports or refutes their findings, selecting fact from opinion.