

Science Progression Map

	EYFS (Understanding the World ELG: The Natural World)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Biology	<p>To 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>Living things and their habitats To know 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.</p>		<p>All Living Things To know that: Living things can be grouped in a variety of ways. Environments can change and that this can sometimes pose dangers to living things.</p>	<p>Living things and their habitats To know: The differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p>	<p>Living things and their habitats To know that: Living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.</p>	
			<p>To know how: To explore and compare the differences between things that are living, dead, and things that have never been alive. To identify and name a variety of plants and animals in their habitats, including microhabitats. 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> <p>New vocabulary: Living, dead, habitat, food chain, classification, characteristic</p>		<p>To know how: To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Previous vocabulary: living, dead, habitat, food chain, classification, characteristic New vocabulary: Vertebrate, invertebrate, mammal, amphibian, insect, bird, environment, deforestation</p>	<p>To know how: To describe the life process of reproduction in some plants and animals.</p> <p>Previous vocabulary: living, dead, habitat, food chain, classification, characteristic Vertebrate, invertebrate, mammal, amphibian, insect, bird, environment, deforestation New vocabulary: Life cycle, mammal, amphibian, insect, bird, reproduction, sexual reproduction, asexual reproduction, primates</p>	<p>To know how: Plants and animals are characterised based on specific characteristics.</p> <p>Previous vocabulary: living, dead, habitat, food chain, classification, characteristic Vertebrate, invertebrate, mammal, amphibian, insect, bird, environment, deforestation Life cycle, mammal, amphibian, insect, bird, reproduction, sexual reproduction, asexual reproduction, primates New vocabulary: Similarly, difference, plants, animals, organism, micro-organism, fungus, mushroom, arachnid, mollusc, crustacean</p>	
		<p>Plants To know that: Plants are made of different parts.</p>	<p>Plants To know that: Plants need water, light and a suitable temperature to grow.</p>	<p>Plants To know: And describe the functions of flowering plants. That plants have specific requirements for light and growth.</p>				
	<p>To know how: To explore the natural world around them, making observations and drawing pictures of animals and plants.</p>	<p>To know how: To identify and name common plants. To identify and describe basic structure of common plants.</p> <p>New vocabulary: plant, leaf, flower, petal, stem, root, deciduous, evergreen, tree</p>	<p>To know how: Seeds and bulbs grow into mature plants.</p> <p>Scientific enquiry: Does the location of a plant affect its growth? Previous vocabulary: plant, leaf, flower, petal, stem, root, deciduous, evergreen, tree New vocabulary: seed, bulb, fruit, grow, germinate, temperature, water, light</p>	<p>To know how: Water is transported in plants. Pollination, seed formation and seed dispersal occur within plants.</p> <p>Scientific enquiry: How can we show how water is transported through a plant? Previous vocabulary: plant, leaf, flower, petal, stem, root, deciduous, evergreen, tree Seed, bulb, fruit, grow, germinate, temperature, water, light New vocabulary: air, transportation, nutrients, soil, fertiliser, reproduction, seed formation, seed dispersal, pollination</p>				

		<p>Animals, including humans To know that: Carnivores eat meat, herbivores eat plants and omnivores eat meat and plants. Parts of the human body are associated with different senses.</p>	<p>Animals, including humans To know that: Animals have offspring that grow into adults.</p>	<p>Animals, including humans To know that: Know that humans have skeletons and muscles for support, protection and movement.</p>	<p>Animals, including humans To know: The basic function of the digestive system. The types of teeth in humans and simple functions.</p>	<p>Animals, including humans To know that: Humans change from birth to old age.</p>	<p>Animals, including humans To know that: The heart, blood vessel and blood have different functions in the circulatory system.</p>	
		<p>To know how: To identify and name fish, amphibians, reptiles, birds, mammals. To name common animals; carnivores, herbivores, omnivores. To identify, name, draw and label parts of human body associated with each sense.</p> <p>New vocabulary: Fish, amphibian, reptile, bird, mammal, carnivore, herbivore, omnivore, environment, humans, senses, taste, smell, touch, hearing, sight, nose, eyes, tongue, hands, ears</p>	<p>To know how: Animals, including humans, have basic needs for survival. Importance of exercise, food and hygiene.</p> <p>Previous vocabulary: fish, amphibian, reptile, bird, mammal, carnivore, herbivore, omnivore, environment, humans, senses, taste, smell, touch, hearing, sight</p> <p>New vocabulary: Offspring, exercise, reproduction, growth, hygiene</p>	<p>To know how: Humans have a need for the right amount of nutrition, cannot make own food.</p> <p>Scientific enquiry: Is there a correlation between height and skull size? Previous vocabulary: fish, amphibian, reptile, bird, mammal, carnivore, herbivore, omnivore, environment, humans, senses, taste, smell, touch, hearing, sight Offspring, exercise, reproduction, growth, hygiene</p> <p>New vocabulary: Nutrition, skeleton, muscle, support, protect, move, skull, spine, joints, bones, tendons, balanced diet, nutrition</p>	<p>To know how: To construct and interpret food chains, identify producers, predators and prey.</p> <p>Scientific enquiry: Which liquids dissolve teeth the quickest? Previous vocabulary: fish, amphibian, reptile, bird, mammal, carnivore, herbivore, omnivore, environment, humans, senses, taste, smell, touch, hearing, sight Offspring, exercise, reproduction, growth, hygiene Nutrition, skeleton, muscle, support, protect, move, skull, spine, joints, bones, tendons, balanced diet, nutrition</p> <p>New vocabulary: Digestion, tooth, molar, pre-molar, incisor, canine, oesophagus, stomach, small intestine, large intestine, food chains, predator, prey</p>	<p>To know how: To describe the changes as humans develop to old age.</p> <p>Scientific enquiry: Do people ever stop growing? Previous vocabulary: fish, amphibian, reptile, bird, mammal, carnivore, herbivore, omnivore, environment, humans, senses, taste, smell, touch, hearing, sight Offspring, exercise, reproduction, growth, hygiene Nutrition, skeleton, muscle, support, protect, move, skull, spine, joints, bones, tendons, balanced diet, nutrition Digestion, tooth, molar, pre-molar, incisor, canine, oesophagus, stomach, small intestine, large intestine, food chains, predator, prey</p> <p>New vocabulary: Embryo, birth, live young, baby, adolescent, adult, old age, death, life cycle, reproduction, gestation, puberty</p>	<p>To know how: To identify and name main parts of the human circulatory system. To describe the functions of the heart, blood vessel and blood. To recognise the impact of diet, exercise, drugs and lifestyle. To describe the ways in which nutrients and water are transported within animals, including humans.</p> <p>Previous vocabulary: fish, amphibian, reptile, bird, mammal, carnivore, herbivore, omnivore, environment, humans, senses, taste, smell, touch, hearing, sight Offspring, exercise, reproduction, growth, hygiene Nutrition, skeleton, muscle, support, protect, move, skull, spine, joints, bones, tendons, balanced diet, nutrition Digestion, tooth, molar, pre-molar, incisor, canine, oesophagus, stomach, small intestine, large intestine, food chains, predator, prey Embryo, birth, live young, baby, adolescent, adult, old age, death, life cycle, reproduction, gestation, puberty</p> <p>New vocabulary: Circulation, circulatory system, organs, heart, lungs, blood, blood vessels, oxygen, carbon dioxide, artery, vein, drug, lifestyle</p>	
Chemistry				<p>Rocks To know that: Recognise that soils are made from rocks and organic matter.</p>			<p>Evolution To know that: Living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p>	
				<p>To know how: To compare and group different rocks. Fossils are formed.</p> <p>Scientific enquiry: Which is the hardest type of rock? New vocabulary: Rock, igneous, metamorphic, sedimentary, fossil, soil, peat, permeable, impermeable</p>			<p>To know how: Animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p>Previous vocabulary: fossil New vocabulary: Inhabit, offspring, vary, adaptation, variation, evolution, characteristics, inheritance.</p>	
	<p>To know: And understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>Everyday materials To know that: Everyday materials have different properties.</p>	<p>Uses of everyday materials To know that: Everyday materials, including wood, metal, plastic, glass, brick, rope, paper, are suitable for different purposes.</p>		<p>States of matter To know that: Materials can change state during heating and cooling.</p>	<p>Properties and changes of materials To know that: Different materials can be grouped based on properties (hardness, solubility, transparency, conductivity and response to magnets).</p>		
		<p>To know how: To distinguish between an object and the material from which it is made. To identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. To describe simple properties of everyday materials.</p>	<p>To know how: Things move on different surfaces. The shapes of solid objects can be changed (squashing, bending, twisting, stretching).</p> <p>Scientific enquiry: Is more expensive kitchen roll better for cleaning up spills?</p>		<p>To know how: To compare and group materials, according to whether they are solids, liquids or gases. Evaporation and condensation operate in the water cycle, understanding the link between rate of evaporation and temperature.</p>	<p>To know how: To compare and group materials based on properties (hardness, solubility, transparency, conductivity and response to magnets). To dissolve materials to form a solution, separating mixtures using filtering, sieving and evaporating.</p>		

Physics

	<p>To compare and group everyday materials.</p> <p>New vocabulary: Material, natural, man-made/synthetic, waterproof, absorbent, rough, smooth, shiny, dull</p>	<p>Previous vocabulary: material, natural, man-made/synthetic, waterproof, absorbent, rough, smooth, shiny, dull</p> <p>New vocabulary: Squash, bend, twist, stretch, suitable / unsuitable</p>		<p>Scientific enquiry: Which materials can exist in multiple states?</p> <p>Previous vocabulary: material, natural, man-made/synthetic, waterproof, absorbent, rough, smooth, shiny, dull Squash, bend, twist, stretch, suitable / unsuitable</p> <p>New vocabulary: Solid, liquid, gas, particle, invisible, evaporation, condensation, the Water Cycle, states of matter</p>	<p>To give reasons for uses of materials, based on evidence.</p> <p>To demonstrate reversible changes.</p> <p>To explain changes in burning and the action of acid on bicarbonate of soda.</p> <p>Scientific enquiry: Do all powders dissolve?</p> <p>Previous vocabulary: material, natural, man-made/synthetic, waterproof, absorbent, rough, smooth, shiny, dull Squash, bend, twist, stretch, suitable / unsuitable Solid, liquid, gas, particle, invisible, evaporation, condensation, the Water Cycle, states of matter</p> <p>New vocabulary: Hardness, dissolve, solubility, insoluble, filtering, transparency, electrical conductivity, thermal conductivity</p>	
			<p>Light</p> <p>To know that: They need light in order to see things and that dark is the absence of light. Light is reflected from surfaces. Light from the sun can be dangerous and there are ways to protect eyes.</p>	<p>Sound</p> <p>To know that: Vibrations from sounds travel through a medium to the ear. Sounds get fainter as the distance from the sound source increases.</p>		<p>Light</p> <p>To know that: Light travels 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>
			<p>To know how: Shadows are formed when the light from a light source is blocked by a solid object. To find patterns in the way that shadows change.</p> <p>Scientific enquiry: How does my shadow change during the day?</p> <p>New vocabulary: Light, light source, dark, reflect, eye, shadow, protect, transparent, reflective, opaque, shadow</p>	<p>To know how: Sounds are made, associating some of them with something vibrating. To find patterns between the pitch of a sound and the features of the object that produced it. To find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Scientific enquiry: How can I make the best ear-muffs to block sound?</p> <p>New vocabulary: Sound, ear drum, vibrate, pitch, sound wave, volume, insulation</p>		<p>To know how: To 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. To 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. To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p>Previous vocabulary: Light, light source, dark, reflect, eye, shadow, protect, transparent, reflective, opaque, shadow</p> <p>New vocabulary: Light rays, travel, straight, absorb, cast</p>
			<p>Forces and magnets</p> <p>To know that: Some forces need contact but magnetic forces can act at a distance. Magnets attract or repel and attract some materials and not others. Everyday materials can be grouped based on magnetic attraction and identify some magnetic materials. Magnets have two poles.</p>		<p>Forces</p> <p>To know that: Unsupported objects fall to Earth because of the force of gravity acting between the Earth and the falling object. Some mechanisms, including levers, pulleys and gears allow a smaller force to have a greater effect.</p>	
			<p>To know how: Things move on different surfaces. To predict whether magnets will attract or repel, depending on which poles are facing.</p> <p>Scientific enquiry: Are all metals magnetic?</p> <p>New vocabulary:</p>		<p>To know how: To identify the effects of air resistance, water resistance and friction, that act between different surfaces.</p> <p>Previous vocabulary: force, friction, contact force, non-contact force, magnet, magnetic force, attract, repel, poles</p> <p>New vocabulary:</p>	

			Force, friction, contact force, non-contact force, magnet, magnetic force, attract, repel, poles		Gravity, air resistance, water resistance, mechanism, lever, pulley, gear	
To know: And understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	Seasonal Changes To know that: Weather changes across the four seasons.				Earth and Space To know that: The Sun, Earth and Moon are approximately spherical bodies.	
	To know how: To observe and describe weather associated with the seasons and how day length varies. Scientific enquiry: Does the wind always blow the same way? New vocabulary: Autumn, Spring, Summer, Winter, weather, month, day, night, sun, moon, light, dark				To know how: To describe the movement of the Earth, and other planets, relative to the Sun in the solar system. To describe the movement of the Moon relative to the Earth To use the idea of the Earth's rotation to explain day and night, and the apparent movement of the sun across the sky. Previous vocabulary: Autumn, Spring, Summer, Winter, weather, month, day, night, sun, moon, light, dark New vocabulary: Sun, star, Earth, moon, planets, solar system, gravitational pull, gravity, orbit, axis	
				Electricity To know that: Some common appliances run on electricity.		Electricity To know that: Recognised symbols when representing a simple circuit in a diagram.
				To know how: To construct a simple series electrical circuit, identifying and naming its basic parts. To identify whether or not a lamp will light in a simple series circuit. To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. To recognise some common conductors and insulators and associate metals with being good conductors. New vocabulary: Bulb, lamp, buzzer, wire, open switch, closed switch, battery or cell, motor, electricity, plug, circuit, circuit symbol, circuit diagram, electrical conductor, electrical insulator		To know how: To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. 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. To use recognised symbols when representing a simple circuit in a diagram. Previous vocabulary: bulb, lamp, buzzer, wire, open switch, closed switch, battery or cell, motor, electricity, plug, circuit, circuit symbol, circuit diagram, electrical conductor, electrical insulator New vocabulary: Terminal, voltage, current, resistance

KEY STAGE 1 (Years 1 and 2)



Working Scientifically	Biology <i>Pupils should be taught how to:</i>	Chemistry <i>Pupils should be taught how to:</i>	Physics <i>Pupils should be taught how to:</i>
<p><u>Working scientifically</u> During Years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions 	<p><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. • 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>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. • 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>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. <p><u>Habitats</u></p> <ul style="list-style-type: none"> • 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>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 • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • Compare how things move on different surfaces. • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	<p><u>Seasonal changes</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.

LOWER KEY STAGE 2 (Years 3 and 4)



Working Scientifically	Biology <i>Pupils should be taught how to:</i>	Chemistry <i>Pupils should be taught how to:</i>	Physics <i>Pupils should be taught how to:</i>
<p><u>Working scientifically</u> During Years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and , where appropriate, taking accurate • measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings. 	<p><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><u>Animals, including human</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. • 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><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 of flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 	<p><u>Rocks</u></p> <ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their 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><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), <p>identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p><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><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><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 a light source is blocked by a solid object • find patterns in the way that the size of shadows change <p><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 sound 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.

UPPER KEY STAGE 2 (Years 5 and 6)



Working Scientifically	Biology <i>Pupils should be taught how to:</i>	Chemistry <i>Pupils should be taught how to:</i>	Physics <i>Pupils should be taught how to:</i>
<p><u>Working scientifically</u> During Years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs, using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations results, explanations of and degree of trust in results, in oral and written forms such as displays and other presentations identifying scientific evidence that has been used to support or refute ideas or arguments. 	<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 microorganisms, plants and animals give reasons for classifying plants and animals based on specific characteristics describe the life process of reproduction in some plants and animals describe the differences in the life cycle of a mammal, an amphibian, an insect and a bird <p><u>Animals, including humans</u></p> <ul style="list-style-type: none"> describe the changes as humans develop to old age identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. describe the ways in which nutrients and water are transported within animals including humans <p><u>Evolution and inheritance</u></p> <ul style="list-style-type: none"> recognise that living things have changed over time and that fossils provide the 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 adaption leads to evolution 	<p><u>Properties of everyday 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 <p><u>Reversible change</u></p> <ul style="list-style-type: none"> demonstrate that dissolving, mixing and changes of state are reversible changes. <p><u>Changes that form new materials</u></p> <ul style="list-style-type: none"> 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>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>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 effect 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>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>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