



Theme 1	Curriculum Flight Path Year A			
	EYFS	KS1	Year 3/4	Year 5/6
Theme	<u>Plants</u> Make observations of animals and plants and explain why some things occur, and talk about changes Develop their own narratives and explanations by connecting ideas or events Make links and notice patterns in their experience Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world	<u>Plants</u> 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 <u>Working Scientifically focus:</u> Observe closely, using simple equipment Using their observations and ideas to suggest answers to questions	<u>Plants</u> 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 <u>Working Scientifically focus:</u> Set up simple practical enquiries, comparative and fair tests Use results to draw simple conclusions	<u>Life Cycles</u> 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 <u>Working Scientifically focus:</u> Using scientific diagrams and labels. report and present findings in oral and written forms such as displays and other presentations
Question	What food can we grow?	How does a plant grow?	How do plants reproduce?	What different ways do plants and animals reproduce?
Vocabulary	plants, seeds, growing, soil, water, flower, fruit, vegetables	deciduous, evergreen, plants, flower, wild, garden, roots, leaves, stem, bud, seeds, roots, trunk, bulbs, water, light, air, grow, healthy, temperature,	pollination, seed formation, seed dispersal, nutrients transported, nectar, pollen, anther	sexual, asexual, stamen, stigma, plantlets, runners
Working Scientifically assessment		TAF - Plant structure (Yr1) Plant growth (Yr 2)	TAF - function of a stem	TAF - Life cycles
Workshops/outreach visits/trips		Forest School		
Theme 2	Curriculum Flight Path Year A			
	EYFS	KS1	Year 3/4	Year 5/6
Theme	<u>Weather</u>	<u>Seasons</u> observe changes across the 4 seasons	<u>Nutrition</u>	<u>The Respiratory System</u>

	Find ways to solve problems / find new ways to do things / test their ideas Know about similarities and differences in relation to places, objects, materials and living things Develop ideas of grouping, sequences, cause and effect Make links and notice patterns in their experience	observe and describe weather associated with the seasons and how day length varies. <u>Working Scientifically focus:</u> Observe closely, using simple equipment	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. <u>Working Scientifically focus:</u> Ask relevant questions and use different types of scientific enquiries to answer them Use straightforward scientific evidence to answer questions or to support their findings	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 <u>Working Scientifically focus:</u> Identify scientific evidence that has been used to support or refute ideas or arguments report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
Question	What is the weather like in different countries?	What changes occur between Autumn and Winter?	What is the definition of a 'balanced diet'?	Why is a healthy heart so important?
Vocabulary	weather, sun, rain, clouds, storm, wind, snow, cold, hot, temperature, patterns, countries, same, different	seasons, day, night, weather, spring, summer, autumn, winter	nutrition, carbohydrates, protein, vitamins and minerals, fat, sugar, fruits and veg, dietary fibre, balanced diet, skeleton, muscles, support, protection, movement, names of bones, vertebrate, invertebrate	Circulatory system, heart, blood, blood vessels, pumps, oxygen, carbon dioxide, lungs, drugs, lifestyle,
Working Scientifically assessment				
Workshops/outreach visits/trips				Circulation and heart dissection workshop
Theme 3	Curriculum Flight Path Year A			
	EYFS	KS1	Year 3/4	Year 5/6

Theme	<u>Ourselves</u> Use senses to explore the world around them Create simple representations of people and objects Develop their own narratives and explanations by connecting ideas or events Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world	<u>Ourselves</u> identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 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. <u>Working Scientifically focus:</u> Asking simple questions and recognising that they can be answered in different ways Gathering and recording data to help in answering questions	<u>The Digestive System</u> 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 identifying producers, predators and prey <u>Working Scientifically focus:</u> Identify differences, similarities or changes related to simple scientific ideas and processes Use straightforward scientific evidence to answer questions or to support their findings	<u>Growing and Changing</u> describe the changes as humans develop to old age <u>Working Scientifically focus:</u> Using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
Question	How do my senses help me explore the world around me?	How can we keep ourselves safe and healthy?	What happens to food when we have eaten it?	What happens to us as we get older?
Vocabulary	Body, head, shoulder, arm, leg, hand, fingers, feet, toes, eyes, ears, tongue, nose, mouth, senses, see, hear, taste, feel, smell	senses, change, adults, basic needs, survival, exercise, food types (fruit and veg, bread, rice, pasta, milk, dairy, foods high in fat and sugar, meat, fish, eggs, beans), hygiene	digestive system, canine, incisor, molar, pre-molar, saliva, tongue, rip, tear, chew, grind, cut, oesophagus (gullet), stomach, small intestine, large intestine, rectum, anus, producer, consumer,	development, toddler, puberty, teenager, gestation, elderly
		Warburtons bread making workshop (free)		
Theme 4	Curriculum Flight Path Year A			
	EYFS	KS1	Year 3/4	Year 5/6
Theme	<u>Materials</u> Create simple representations of people and objects Know about similarities and differences in relation to places, objects, materials and living things Develop their own narratives and explanations by connecting ideas or events Find ways to solve problems / find new ways to do things / test their ideas Develop ideas of grouping, sequences, cause and effect	<u>Materials</u> 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 find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	<u>States of Matter</u> 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	<u>Properties and Changes of Materials</u> 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,

		<u>Working Scientifically focus:</u> Performing simple tests Identifying and classifying	<u>Working Scientifically focus:</u> Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment , including thermometers and data loggers Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables gather, record, classify and present data in a variety of ways to help in answering questions Use results to draw simple conclusions	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 <u>Working Scientifically focus:</u> Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Take measurements, using a range of scientific equipment , with increasing accuracy and precision, taking repeat readings when appropriate record data and results of increasing complexity Use test results to make predictions to set up further comparative and fair test
Question	What are objects made of?	How can we group and sort different materials?	How can water be a solid, a liquid and a gas?	How can different materials be changed?
Vocabulary	paper, plastic, metal, fabric, wood, material, same, different, compare, group	shape, change, twist, squash, bend, stretch, roll, squeeze	States of matter, solid, liquid, gas, air, oxygen, powder, granular/grain, crystals, change state, ice/water/steam, water vapour, heating, cooling,, degrees celsius, melt, freeze, solidify, melting point, boil, boiling point, evaporation, condensation, water cycle, precipitation, transpiration	dissolve, solution, insoluble, solute, solvent, particle, mixture, filtering, sieving, residue, reversible/non reversible changes, burning, rusting,
Theme 5	Curriculum Flight Path Year A			
			Year 3/4	Year 5/6
Theme			<u>Light</u>	<u>Light</u> recognise that light appears to travel in straight lines

			<p>recognise that they need light in order to see things and that the dark is the absence of light</p> <p>notice that light is reflected from surfaces</p> <p>recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>find patterns in the way that the size of shadows changes</p> <p><u>Working Scientifically focus:</u></p> <p>Set up simple practical enquiries, comparative and fair tests</p> <p>Make predictions for new values, suggest improvements and raise further questions</p>	<p>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</p> <p>explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</p> <p>use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p><u>Working Scientifically focus:</u></p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments</p> <p>report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations</p>
Question			How does light from the sun create shadows?	How do we see light?
Vocabulary			Light, light source, darkness, reflect, reflective, mirror, shadow, block, direction	Light, light source, darkness, reflect, reflective, shadow, block, absorb, direction

Theme 1	Curriculum Flight Path Year B			
	EYFS	KS1	Year 3/4	Year 5/6
Theme	Solids, Liquids and Gases Know about similarities and differences in relation to places, objects, materials and living things Develop their own narratives and explanations by connecting ideas or events Find ways to solve problems / find new ways to do things / test their ideas Develop ideas of grouping, sequences, cause and effect	Animals 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) notice that animals, including, have offspring which grow into adults <u>Working Scientifically focus:</u> Asking simple questions and recognising that they can be answered in different ways Identifying and classifying	Rocks 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 <u>Working Scientifically focus:</u> Ask relevant questions and use different types of scientific enquiries to answer them Set up simple practical enquiries, comparative and fair tests	Evolution and Inheritance recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago 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 <u>Working Scientifically focus:</u> Identify scientific evidence that has been used to support or refute ideas or arguments report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
Question	What happens to water when you put it in the freezer?	How can different animals be grouped?	How are rocks formed into fossils?	Why do living things evolve over time?

Vocabulary	same, different, compare, group, material, solid, liquid, gas	fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, pets, offspring, life cycles,	stone, pebble, boulder, fossils, grains, crystals, texture, marble, chalk, granite, sandstone, slate, sandy soil, clay soil, chalky soil, peat,	Inherit, evolve, evolution
Theme 2	Curriculum Flight Path Year B			
	EYFS	KS1	Year 3/4	Year 5/6
Theme	Floating and Sinking Know about similarities and differences in relation to places, objects, materials and living things Develop their own narratives and explanations by connecting ideas or events Find ways to solve problems / find new ways to do things / test their ideas Develop ideas of grouping, sequences, cause and effect	Materials 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 identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses compare how things move on different surfaces Working Scientifically focus: Identifying and classifying Gathering and recording data to help in answering questions	Magnets 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 on 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 Working Scientifically focus: Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables gather, record, classify and present data in a variety of ways to help in answering questions Identify differences, similarities or changes related to simple scientific ideas and processes	Forces 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. Working Scientifically focus: Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Take measurements, using a range of scientific equipment , with increasing accuracy and precision, taking repeat readings when appropriate record data and results of increasing complexity. Use test results to make predictions to set up further comparative and fair test
Question	How does a boat float?	Could a window pane be made of wood?	What types of materials are magnetic?	How do different types of forces affect gravity?
Vocabulary	floating, sinking, object, material, water, volume, capacity	natural, man-made, dead, alive, properties, hard, soft, material, hard, soft, suitable unsuitable, use, object, property, fabrics, stretchy, flexible, waterproof, absorbent, transparent, translucent, opaque,	force, contact force, non-contact force, magnetic force, magnet, strength, bar/ring/button/horseshoe magnets, attract, repel, magnetic material, metal, iron, steel, non-magnetic, poles, north/south pole	fall, Earth, gravity, weight, mass, air resistance, water resistance, friction, moving surfaces, mechanisms, levers, pulleys, gears, force, transfers

Theme 3	Curriculum Flight Path Year B			
	EYFS	KS1	Year 3/4	Year 5/6
Theme	<u>Seasons</u> Know about similarities and differences in relation to places, objects, materials and living things Make links and notice patterns in their experience Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world	<u>Seasons</u> observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies. <u>Working Scientifically focus:</u> Observe closely, using simple equipment Using their observations and ideas to suggest answers to questions	<u>Sound</u> 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. <u>Working Scientifically focus:</u> Ask relevant questions and use different types of scientific enquiries to answer them Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment , including thermometers and data loggers Make predictions for new values, suggest improvements and raise further questions	<u>Earth and Space</u> 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 <u>Working Scientifically focus:</u> Identify scientific evidence that has been used to support or refute ideas or arguments report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
Question	What happens to the trees throughout the year?	What changes occur between Spring and Summer?	How do we hear sound?	How does Earth compare to other planets in our Solar System?
Vocabulary	Autumn, Winter, Spring, Summer, seasons, trees, leaves,	seasons, day, night, weather, spring, summer, autumn, winter	sound, sound source, noise, vibration, travel, solid, liquid, gas, pitch, tune, high, low, volume, loud, quiet, fainter, muffle, strength of vibrations, insulation, instrument, percussion, strings, bass, woodwind, tuned instrument	Earth, planets, sun, solar system, moon, celestial body, spherical, rotation, spin, night and day, names of planets, dwarf planet, orbit, geocentric model, heliocentric model, shadow clocks, sundials, astronomical clocks
Theme 4	Curriculum Flight Path Year B			
	EYFS	KS1	Year 3/4	Year 5/6
Theme	<u>Minibeasts</u>	<u>Habitats</u>	<u>Habitats</u> Recognise that living things can be grouped in a variety of ways	<u>Classification</u> describe how living things are classified into broad groups according to common

	<p>Make observations of animals and plants and explain why some things occur, and talk about changes</p> <p>Know about similarities and differences in relation to places, objects, materials and living things</p> <p>Develop their own narratives and explanations by connecting ideas or events</p> <p>Find ways to solve problems / find new ways to do things / test their ideas</p>	<p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>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</p> <p>identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>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> <p>Working Scientifically focus: Asking simple questions and recognising that they can be answered in different ways Using their observations and ideas to suggest answers to questions</p>	<p>explore and use classification keys to help group</p> <p>construct and interpret a variety of food chains,</p> <p>identify and name a variety of living things in their local and wider environment</p> <p>recognise that environments can change and that this can sometimes pose dangers to living things</p> <p>Working Scientifically focus: Ask relevant questions and use different types of scientific enquiries to answer them Use straightforward scientific evidence to answer questions or to support their findings</p>	<p>observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</p> <p>give reasons for classifying plants and animals based on specific characteristics</p> <p>Working Scientifically focus: Using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>
Question	What lives in our gardens?	Is where an animal lives important for their survival?	How does deforestation and plastic in the oceans affect living things?	How can different plants and animals be classified?
Vocabulary	mini-beasts, insects, habitats, gardens, animals	living, habitats, microhabitats, food chains	Classification keys, environment, vertebrates, invertebrates, human impact, positive, negative (impact).	fungus, mushrooms, arachnid, mollusc, insect, crustacean, organism, micor-organism
Theme 5	Curriculum Flight Path Year B			
			Year 3/4	Year 5/6
Theme			<p>Electricity</p> <p>Identify common appliances that run on electricity</p> <p>construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>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</p> <p>recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p>	<p>Electricity</p> <p>associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>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> <p>use recognised symbols when representing a simple circuit in a diagram</p> <p>Working Scientifically focus: Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p>

			<p>recognise some common conductors and insulators, and associate metals with being good conductors</p> <p>Working Scientifically focus: Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables gather, record, classify and present data in a variety of ways to help in answering questions Use results to draw simple conclusions Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</p>	<p>Use test results to make predictions to set up further comparative and fair test</p>
Question			<p>How does electricity power a light bulb?</p>	<p>How does voltage affect brightness of a bulb?</p>
Vocabulary			<p>electricity, appliance, device, mains, plug, electrical circuit, complete circuit, circuit diagram, circuit symbol, components, cell, battery, positive/negative, connect, connection, short circuit, wire, crocodile clip, bulb, bright/dim, switch, buzzer, motor, faster/slower, conductor, insulator, metal/non metal</p>	<p>electricity, appliance, device, mains, plug, electrical circuit, complete circuit, circuit diagram, circuit symbol, components, cell, battery, positive/negative, connect, connection, short circuit,</p>