

	Autumn	Spring	Summer
Year 1	Chemistry: Materials	Physics: Earth science	Biology: Animals including humans
	Everyday materials	Earth and space	Body parts and senses
	Physics: Earth science	Biology: Plants	Biology: Animals including humans
	Seasons	Plants	Animals
Year 2	Chemistry: Materials	Biology: Plants	<b>Biology:</b> Living things and their habitats
	Uses of everyday materials	Plants	Living things and their habitats
		Biology: Animals including humans Lifecycles	Biology: Animals including humans Staying healthy
Year 3 &	Physics: Forces	Biology: Animals including humans	Biology: Plants
Year 4	Forces and magnets	Teeth and the digestive system	Plants
	Chemistry: States of matter	Chemistry: Materials	Biology: Animals including humans
	States of matter	Rocks	Nutrition
			Physics: Energy Electricity
Year 5	Biology: Animals including humans	Physics: Earth science	<b>Biology:</b> Living things and their habitats
	Human development	Earth and space	Lifecycles and reproduction in plants and animals
	Biology: Animals including humans	Physics: Forces	Chemistry: Materials
	Circulatory system	Forces	Properties and changes of materials
Year 6	Biology: Animals including humans	<b>Biology:</b> Living things and their habitats	Physics: Energy
	Evolution and inheritance	<b>The natural world</b>	Light and optics
		Physics: Energy Electricity	



**Biology:** Animals including humans



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Year 1	Year 2	Year 3 8	& Year 4	Year 5	Year 6
Body Parts and senses	Lifecycles	Nutrition	Teeth and the digestive system	Human development	Evolution and inheritance
To be able to identify the basic	To know the basic needs of	To know that animals, including	To identify the main organs of	To be able to describe the	To understand that living things
parts of the human body:	animals, including humans, for	humans, need the right types	the human digestive system:	changes as humans develop to	produce offspring of the same
Including head, neck, arms,	survival (water, tood and air).	and amount of nutrition, and	mourn, rongue, reern,	old age.	kind, but that normally offspring
elbows, legs, knees, race, ears,	to be able to order the stages	that they cannot make their	oesophagus, stomach, and	To know the key stages of a	vary and are not identical to
Te know that our even allow up	To be able to identify each	from what they get normion	Ta ba abla ta arasta an	Ta ba abla ta idantifu	Te know how an animal in
to know that our eyes allow us	to be able to identify each	To know that there are 5 key	To be able to create an	developments during each	adapted to its opvironment and
To know the basic parts of the	To be able to describe each	food groups	accurate diagram of the human diagram	stage of a life evolo	that adaptation may load to
To know the basic parts of the	stage of the human life cycle	To know how many partians of	system	To know what gostation is	avolution
To know the functions of the	To know that animals including	food from different food groups	To know the role of the digestive	To know what gestation is.	To know how an animals
hasic parts of the eve	humans, have offspring which	we should eat in a day	system and the organs within it	ovtrome destation periods	adaptation holes it to survive in
To know that pars allow us to	drow into adults	To know how food from each	To know the functions of the	To know the stages that occur	the habitat (Darwin's finches
hogr	To be able to match offenring	food group is assential for	organs in the digestive system	during programmy	airaffo's pock insulating fur on
To know that our ears help us	with their parents	human arowth and health	To be able to use a model of	To know that all children arow	the artic fox
tell the direction sound is	To be able to identify features	To know that food labels give	the digestive system to explain	To know some ways that the	To know how a plant is adapted
coming from	inherited from a parent	information on the ingredients in	the journey of food	growth of children is measured	to its environment and that
To know that sound is made up	To know the lifecycle of a	food	To know the different types of	To know that all children ao	adaptation may lead to
of vibrations	chicken	To understand that food labels	human teeth	through puberty	evolution
To know the 5 senses	To know the stages of a	help us make healthy choices	To be able to explain the	To know the changes that take	To know how a plant
To know that our tongue allows	butterfly's life	To know that food labels give in	functions of the different types	place during puberty	adaptation belos it to survive in
us to taste	To be able to explain the life	depth information about the	of human teeth	To know the changes	the habitat
To be able to describe a range	cycle of a butterfly and the	different food groups within g	To know why humans have 2	experienced by boys and airls	To understand how fossils
of different flavours.	process of metamorphosis.	product.	sets of human teeth.	To know some key signs of	provide information about living
To know why our sense of taste	To know the stages of a frog's	producent	To know how to care for our	ageing in humans.	things that are now extinct.
is important.	life cycle.	Skeleton and muscles	teeth.	To know that humans age	To know about the work of Mary
To know that our skin helps us to	To be able to describe how a	To understand that animals		differently depending on their	Anning.
feel.	frog moves between the stages	have different types of	Food chains	lifestyle.	To be able to compare extinct
To know that our fingertips are	in its life cycle.	skeletons.	To be able to construct and	To be able to suggest ways to	animals with those that are
sensitive to touch.	,	To be able to identify which	interpret a variety of food	stay healthy in old age.	living and identify adaptation.
To know that our sense of touch	Staying healthy	animals have an endoskeleton,	chains.	, , , ,	To know how natural selection
can identify different textures.	To know the basic needs of	exoskeleton and a hydrostatic	To be identify the key parts of a	Circulatory system	causes living things to evolve
To know that our nose allows us	animals, including humans	skeleton.	food chain: producers,	To be able to identify and	over time.
to smell.	To know what humans need to	To be able to explain how	predators and prey	name the main parts of the	To know about the work of
To know that we can smell	survive	animals' skeletons help them to	To be able to create a food	human circulatory system.	Charles Darwin.
many different flavours.	To know the difference	move and survive.	chain within a chosen	To be able to describe the	To know why the theory of
To know that our sense of smell	between basic human needs	To know the functions of the	ecosystem.	structure and function of the	evolution was not accepted at
helps to keep us safe.	and the things humans want.	human skeleton: support,	To know why it is important to	heart.	first.
	To be able to name the 5 food	protection and movement.	keep food chains balanced.	To be able to describe how the	To know how humans have
Animals	groups.	To be able to identify the main	To be able to identify threats to	blood moves around the heart.	evolved.
To be able to name a variety of	To be able to sort food into the	bones in the human body: ulna,	living things within their chosen	To be able to describe the	To be able to compare and
common animals.	5 food groups.	tibia, fibular, radius, humerus,	ecosystem.	functions of the blood vessels.	contrast Neanderthals and
To be able to identify the 5	To know why the 5 food groups	spine, rib cage, vertebrate, skull,		To know that there is	homo sapiens.
groups of animals: amphibian,	are important for human health.	pelvis		oxygenated and	
reptile, bird, fish, mammal	To know the importance of a	To be able to match animals to		deoxygenated blood.	
	balanced diet	their skeletons	1		1





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Year 1	Year 2	Year 3 &	Year 4	Year 5	Year 6
Animals contd. To be able to describe the key characteristics of the 5 animal groups. To be able to name a variety of common birds and mammals. To be able to name a variety of common amphibians, reptiles and fish. To know that animals eat different things. To be able to group animals based on their diet. To know the difference between herbivores, carnivores and omnivore. To know that some animals are wild and some are kept as pets. To be able to describe the needs of a pet.	Staying healthy contd. To be able to give examples of foods that form part of a healthy diet. To know that eating pre-cooked or processed food is not always a healthy choice. To know that exercising regularly is important for our health. To know how exercise impacts our bodies.	Skeleton and muscles contd. To be able to identify how animals' skeletons have adapted to help them move in their environment. To be able to explain the functions of the bones within animal skeletons. To know that we have voluntary and involuntary muscles. To be able to explain how muscles work.		Circulatory system contd. To be able to describe the composition of the blood. To know of the issues surrounding restricted arteries. To be able to explain the function of cells within the blood. To be able to explain how water and nutrients are transported. To be able to define osmosis and diffusion. To be able to define osmosis and diffusion. To be able to accurately measure pulse. To know how lifestyle choices can affect health. To be able to describe the impact of drugs/alcohol on health. To be able to describe some drugs used to support the circulatory system.	



	Year 1	Year 2	Year 3 & Year 4	Year 5	Year 6
<b>Biology:</b> Living things and their habitats		Living things and their habitats To know that there are things that are living, dead or have never been alive. To be able to identify and classify objects into living, dead or never been alive. To know the 7 characteristics of living things. To be able to identify which animals might live in a range of habitats. To know that most living things live in habitats to which they are suited. To know the difference between a habitat and a microhabitat. To be able to identify and name a variety of plants and animals in their habitats. To know that living things depend on each other for survival. To know what all animals need to eat to survive. What is a food chain? To know what food we eat comes from a natural source.	Living things and their habitats To know that living things can be grouped in a variety of ways. To be able to use classification keys to help group, identify and name a variety of living things in their local and wider environment. To know that environments can change and that this can sometimes pose dangers to living things. To understand that ecosystems are affected by changes in the seasons. To understand that habitats around the world experience different seasons which changes their ecosystem. To understand that it is not just the seasons which change. To understand that it is not just the seasons which cause ecosystems to change. To understand human impact on the environment through deforestation. To know what air pollution is. To know what contributes to air pollution. To be able to identify the impact air pollution has on the environment and human health. To know how water pollution is caused. To be able to identify the impact of different kinds of water pollution. To be able to identify how to prevent water pollution.	Lifecycles and reproduction in plants and animals To know what plants need to grow strong and healthy. To know that plants can reproduce sexually and asexually. To know not all mammals have the same life cycle. To know the 3 types of mammal. To know the 3 types of mammal. To know the life cycle of an insect. To be able to compare the process of metamorphosis in amphibians and insects. To know key facts about the structure of an egg. To be able to describe the differences between a mammal and a bird or reptile life cycle. To know the life cycle of birds and reptiles. To be able to describe the importance of documenting living things and highlighting their decline in the world. To know the importance of studying living organisms. To be able to suggest ideas for conservation of living things.	The natural world To be able to recall MRS GREN and how living organisms follow these rules. To know that living organisms can be arranged into kingdoms. To be able to give reasons for classifying plants and animals based on specific characteristics. To know about the work of Carl Linnaeus. To know how different organisms can be classified using the Linnaean system. To know that microorganisms are microscopic and cannot be seen with the naked eye. To know the differences between fungi and other organisms. To know that fungi are a separate kingdom to plants.



Riology

Year 1	Year 2	Year 3 8	& Year 4	Year 5	Year 6
Plants To be able to identify and name a variety of common wild and garden plants. To be able to explain how to plant a seed To be able to say what is the same and what is different between 2 flowering plants. To know the parts of a plant. (leaves, flowers (blossom), petals, fruit, roots, bulb, seed, branches, stem) To know the parts of a tree. (leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches) To be able to group plants according to their features. To know that deciduous trees change throughout the year. To know that an evergreen tree stays green throughout the year. To be able to make comparisons between a deciduous tree and an evergreen tree. To know that plants are a source of food. To know that plants grow over time.	Plants To know the difference between a bulb and a seed. To know that plants need space, water, sunlight and a suitable temperature to grow. To know the life cycle of a plant. To be able to identify and sort plants according to their habitats. To be able to explain how plants adapt to suit their environment.	Plants To know 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. To be able to identify the parts of a plant: roots, stem/trunk, leaves and flowers. To be able to describe the functions of the parts of a flowering plant. To know how water is transported within plants. To be able to identify the reproductive parts in a flower. To be able to explain the functions of the reproductive parts in a flower. To know how flowering plants reproduce. To know that seed dispersal is a way in which some plants reproduce, including pollination, seed formation and seed dispersal.			



Year 1	Year 2	Year 3 & Year 4	Year 5	Year 6
		States of matter         To know the 3 states of         matter: solid, liquid, gas.         To be able to describe the         properties of the 3 states of         matter.         To be able to classify         substances based on their         state of matter.         To know how particles         behave in each state of         matter.         To be able to explain how         substances change state.         To know the temperature at         which water changes state.         To know what a 'melting         point' means.         To be able to define         evaporation.         To be able to define         evaporation.         To know the stages of the         water cycle.         To know the importance of         evaporation and         condensation within the         water cycle.         To be able to describe the		



Year 1	Year 2	Year 3 8	& Year 4	Year 5	Year 6
Everyday materials	Uses of everyday materials	Rocks		Properties and changes of	
To know that a material is	To know what a material is.	To know that igneous rocks		materials	
To be able to identify a variety	To know the properties of a	come from beneath the Earth's		To know that some materials will	
of everyday materials,	variety of everyday materials.	surface.		dissolve in liquid to form a	
(including wood, plastic, glass,	To be able to explain why some	To know how igneous rocks are		solution.	
metal, water, and rock / move	materials are suitable for	formed on Earth's surface.		To be able to describe how to	
on to explore brick, paper,	specific uses.	To be able to explain the		recover a substance from a	
fabrics, elastic, foil)	To know that some materials	difference between intrusive		solution.	
To be able to describe	are stronger than others.	and extrusive igneous rock.		To know that there are three	
everyday materials	To be able to compare the	To know the three types of rock		states of matter: solids, liquids	
To know that all objects are	strength of different materials.	that are formed on Earth.		and gases.	
made from materials	To know that materials differ in	To be able to identify the		To know how mixtures might be	
To be able to identify what	strength and can be	properties of rocks by carrying		separated, including through	
material an object is made from	strengthened by changing their	out tests.		filtering, sieving and	
To know that different objects	structure.	To be able to explain the		evaporating.	
can be made from the same	To know that the shapes of	difference between igneous,		To know that evaporating,	
material	objects can be changed by	sedimentary and metamorphic		filtering, sieving, melting and	
To be able to describe the	stretching.	rocks.		dissolving are changes of state	
simple properties of everyday	To be able to compare how the	To be able to identify the		that are reversible changes.	
materials (hard/soft;	shapes of objects change when	different types of weathering.		To be able to describe how the	
stretchy/stiff; shiny/dull;	they are stretched.	To be able to explain the		method used to reverse a	
rough/smooth; bendy/not	To be able to compare how	effects weathering has on rocks.		physical change works.	
bendy; waterproof/not	some objects change after	To know that water can cause		To be able to recognise that	
waterproof; absorbent/not	stretching while other objects	rocks to erode.		melting and dissolving are	
absorbent;	return to their original form.	To be able to explain how		different processes.	
opaque/transparent)	To know that shapes of objects	water causes rocks to erode.		To be able to name some	
To be able to explain why	can be changed by twisting,	To know what a fossil is.		irreversible changes.	
materials are chosen for	bending, squashing or	To know how a fossil is created.		To know why particular changes	
particular objects	stretching.	To know that soils are made		are irreversible and what new	
To know that some materials	To be able to compare how the	from rocks and organic matter.		products have been made.	
are natural and some are	shapes of objects change when	To be able to name some		To know that rusting is an	
manmade	they dre twisted, bent,	different types of soil.		Irreversible change.	
To be able to identify natural	squashed of stretched.	To be able to describe the		To know why rusting is a	
and manmade materials		properties of different soils.		problem and now to prevent it.	
no know indi natorials are used				To know the Stactors a life	
for different purposes				To know what the fire triangle is	
To know that some objects float				To be able to describe and	
and some objects sink				explain different methods for	
To be able to predict and				extinguishing a fire	
identify if an object will float or				To know that burning is an	
sink				irreversible change	
To know that some materials				To be able to apply knowledge	
soak up water				of the fire triangle to alternative	
To know that some materials				extinguishing methods	
are absorbent and some are				How do chemists create new	
not absorbent				materials?	
To know that non-absorbent				E.g. Spencer Silver, who	
materials are used in objects				invented the glue for sticky	
that need to be waterproof				notes or Ruth Benerito, who	
				invented wrinkle-free cotton.	



Year 1	Year 2	Year 3 & Year 4	Year 5	Year 6
Year 1 Seasons To know that there are 4 seasons. To be able to name the 4 seasons. To know that autumn is a season. To know that autumn is a season. To know that different weather that happens in autumn. To know that the days get shorter in autumn. To know that winter is a season. To know that winter is a season. To know that spring is a season. To know the different weather that happens in spring. To be able to make comparisons between the different seasons. To know the different weather that happens in summer. To know the different weather that happens in summer. To know the different weather that happens in summer. To know the different weather that happens in summer.	Year 2	Year 3 & Year 4	Year 5Earth and spaceTo know the key characteristics of a planetTo know the order of the planets from the Sun.To know that the sun is a star at the centre of our solar system.To know that the sun is a star at the centre of our solar system has 8 planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006).To be able to describe the Sun, Earth, moon and other celestial bodies as spheres.To know the differences between a heliocentric and geocentric model of the solar systemTo know the differences between a belocentric model of the solar system fas changed over time. To know that attitudes and knowledge about the solar system To know the geocentric model of the solar system gave way to the heliocentric model. To know how Earth moves in space. To know how Earth moves in space. To know how the Sun transitions across the sky. To know how the Sun transitions across the sky.To know that time can be different in various parts of the world To know how time can be recorded using a 'solar clock'.	Year 6
			space. To know how the Sun transitions across the sky. To know how night and day happen. To know that time can be different in various parts of the world	
			To know how time can be recorded using a 'solar clock'. To be able to describe how the Earth and Moon move relative to the Sun. To be able to describe the movement of the Moon relative to the Earth	
			To be able to explain that the Moon orbits the Earth, not the Sun.	



	Year 1	Year 2	Year 3 8	& Year 4	Year 5	Year 6
			Forces and magnets		Forces	
			To be able to identify		To know about the life and	
			different types of forces.		work of Isaac Newton.	
			To be able to identify		To know about the life and	
			different types of forces and		work of Galileo Galilei.	
			describe the effect they		To know the influence	
			have on an object.		gravity has on the universe.	
			To be able to identify		To know that unsupported	
			different types of forces and		objects fall towards the	
			explain now they impact		Edrin because of the force	
			chiest		the Earth and the falling	
			To be able to compare how		chiect	
			things move on different		To investigate the	
			surfaces		relationship between mass	
			To know why some surfaces		and aravity.	
			slow objects down.		To know how air resistance	
С S O			To know how friction can be		acts on objects.	
Ŭ			increased or decreased.		To know how water	
			attract and repel?		resistance acts on objects.	
F			To know that magnets have		To be able to describe the	
			two poles.		forces acting on an object	
			To be able to predict		floating in water.	
Sic			whether 2 magnets will		To be able to identify the	
λι			attract or repel each other,		similarities and differences	
			depending on which poles		between air and water	
			are facing.		resistance.	
			different types of magnet		on objects	
			To know some even/day		To be able to accurately	
			uses for magnets		use a Newton meter to	
			To know how magnetic		measure a force.	
			materials behave		To be able to describe ways	
			To be able to identify a		of changing the size of a	
			range of materials which		frictional force.	
			are magnetic.		To be able to explain how	
			To know that magnetic		gears, levers and pulleys	
			forces can act at a		work.	
			distance.			
			To know how magnetic			
			torces act at a distance.			
			Io know what a compass is.			
			Io know the tour main			
			compass points.			
			IO DE ADIE TO EXPIAIN NOW A			
			compass works.			



	Year 1	Year 2	Year 3 8	& Year 4	Year 5	Year 6
hysics: Energy			Light To be able to identify light sources. To know the difference between natural and artificial sources of light. To be able to explain why certain objects are sources of light and why others are not. To know that sunlight can damage our skin and our eyes. To be able to explain the effectiveness of suncream as protection against the sunlight To know that some objects are a light source and some are reflectors. To be able to explain why some materials are better reflectors than others. To know that shadows are formed when the light from a light source is blocked by an opaque object. To understand that shadows change throughout the day To be able to explain how and why shadows change throughout the day To know that the size and shape of a shadow can change. To know that the size and shape of a shadow can change. To know that the size and shape of a shadow can change. To know how to change the size and shape of a shadow. To be able to explain why the size and shape of a shadow can change	Sound To know that sound is created by vibrations. To be able to explain how sound is created and how it travels from an object to the ear. To know how sound is created, travels and is interpreted by the brain. To know that sounds can travel through air, liquids and solids. To be able to explain how sound waves travel through air, liquids and solids. To be able to compare how sound waves travel through air, liquids and solids. To be able to compare how sound waves travel through air, liquids and solids. To know that some materials absorb sound and some materials reflect sound. To know that materials that absorb sound are sound insulators. To know that the volume of sound is measured in decibels. To know that the volume of a sound is dependent on how much energy or power the sound increases so too does the amplitude, or height, of the sound increases so too does the amplitude, or height, of the sound increases so too does the amplitude, or height, of the sound is. To know that pitch is how low or high a sound is. To know that pitch is caused by the speed of the sound source's vibrations. To know that sound fades as it travels. To know why sound fades as it travels. To know that poten the relationship between distance and volume.		Electricity To know the parts of an electric circuit (lamp, buzzer, cells, switches, bulb, motor) To know there are recognised symbols to represent a simple circuit diagram. To know that batteries are a store of energy. (The energy pushes electricity around the circuit, When the battery's energy is gone it stops pushing.) To know that Voltage measures the 'push' of energy around the circuit. To know the brightness of a bulb is affected by the voltage / number of cells in the circuit. To be able to explain how to fix issues in a circuit. To know which materials are electrical conductors and insulators. <b>Light and optics</b> To know that light travels in straight lines. To know that shadows change length depending on how far away they are from a light source. To know what refraction is. To know what neglection is. To know the names and role of parts of the eye – cormea, iris, lens, retina, pupil, optic nerve To know the meaning of the terms far sighted and near sighted.



	Year 1	Year 2	Year 3 & Year 4	Year 5	Year 6
			Flachister		
l i i i i i i i i i i i i i i i i i i i			<b>Electricity</b>		
			appliances that run on		
			electricity		
			To understand the danaers of		
			using electrical appliances.		
			To know how to keep safe when		
			using electrical appliances.		
			To be able to identify electrical		
			components: cells, wires, bulbs,		
			switches and buzzers.		
			To be able to create a simple		
			electrical circuit.		
			To be able to explain how a		
			simple electrical circuit works.		
			To be able to predict if a simple		
			electrical circuit will work.		
			To know the difference		
			between a complete and an		
			Incomplete circuit.		
			to know the difference		
			To be able to recognise some		
			common conductors and		
			insulators.		
			To know how a switch works.		
			To be able to explain how an		
			electrical switch works.		
			To be able to apply knowledge		
			of how a switch works to create		
			a switch.		



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Tuxford

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Classifying	Ask scientific questions: Be able to ask a Yes/No questions to aid sorting Plan an enquiry: Identify the headings for the two groups (it is , it is not) Observe closely: Be able to compare objects based on obvious, observable features e.g. size, shape, colour, texture etc. Present results: Sort objects and living things into two group using a basic Venn diagram or simple table Interpret results: Talk about the number of objects in each group i.e. which has more or less.	Ask scientific questions: Be able to ask a Yes/No questions to aid sorting Plan an enquiry: Identify the headings for the two groups (it is , it is not) Observe closely: Be able to compare objects based on obvious, observable features e.g. size, shape, colour, texture etc. Present results: Sort objects and living things into two group using a basic Venn diagram or simple table Interpret results: Talk about the number of objects in each group i.e. which has more or less.	Ask scientific questions: Be able to ask a range of yes/no questions to aid sorting Plan an enquiry: Be able to put appropriate headings onto intersecting Venn and Carroll diagrams Observe closely: Be able to compare objects based on more sophisticated, observable features. Present observations in labelled diagrams Present results: Sort objects and living things into groups using intersecting Venn and Carroll diagrams Interpret results: Spot patterns in the data particularly two criteria with no examples e.g. there are no living things with wings and no legs Draw conclusions: Draw simple conclusions when appropriate for patterns e.g. a flying insect with no legs might always crash land Evaluate an enquiry: Suggest improvement e.g. a wider range of objects – only looked a British trees. Suggest new questions arising from the investigation.	Ask scientific questions: Be able to ask a range of yes/no questions to aid sorting Plan an enquiry: Be able to put appropriate headings onto intersecting Venn and Carroll diagrams Observe closely: Be able to compare objects based on more sophisticated, observable features. Present observations in labelled diagrams Present results: Sort objects and living things into groups using intersecting Venn and Carroll diagrams Interpret results: Spot patterns in the data particularly two criteria with no examples e.g. there are no living things with wings and no legs Draw conclusions: Draw simple conclusions when appropriate for patterns e.g. a flying insect with no legs might always crash land Evaluate an enquiry: Suggest improvement e.g. a wider range of objects – only looked a British trees. Suggest new questions arising from the investigation.	Ask scientific questions: Be able to ask a range of yes/no questions to aid sorting and decide which ways of sorting will give useful information Plan an enquiry: Identify specific clear questions that will help to sort without ambiguity Observe closely: Be able to compare not only based on physical properties but also on knowledge gained through previous enquiry Present results: Create branching databases (tree diagrams) and keys to enable others to name livings things and objects Interpret results: Be able to talk about the features that objects and living things share and do not share based on the information in the key etc Draw conclusions: Be able to use data to show that livings things in common than with things in other groups Evaluate an enquiry: Be able to explain using evidence that the branching database or classification key will only work for the living things or materials it was created for	Ask scientific questions: Be able to ask a range of yes/no questions to aid sorting and decide which ways of sorting will give useful information Plan an enquiry: Identify specific clear questions that will help to sort without ambiguity Observe closely: Be able to compare not only based on physical properties but also on knowledge gained through previous enquiry Present results: Create branching databases (tree diagrams) and keys to enable others to name livings things and objects Interpret results: Be able to talk about the features that objects and living things share and do not share based on the information in the key etc Draw conclusions: Be able to use data to show that livings things and materials that are grouped together have more things in other groups Evaluate an enquiry: Be able to explain using evidence that the branching database or classification key will only work for the living things or materials it



Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ask scientific questions: Ask	Ask scientific questions: Ask	Ask scientific questions: Ask	Ask scientific questions: Ask	Ask scientific questions: Ask	Ask scientific questions: Ask
a question about what	a question about what	a range of questions linked	a range of questions linked	a range of questions and	a range of questions and
might happen in the future	might happen in the future	to a topic	to a topic	identify the type of enquiry	identify the type of enquiry
based on an observation	based on an observation	Plan an enquiry: Decide	Plan an enquiry: Decide	that will help to answer the	that will help to answer the
Plan an enquiry: Choose	Plan an enquiry: Choose	what to measure or	what to measure or	questions. Ask further	questions. Ask further
equipment to use, decide	equipment to use, decide	observe.	observe.	questions based on results	questions based on results
what to do and what to	what to do and what to	Decide how often to take a	Decide how often to take a	Plan an enquiry: Recognise	Plan an enquiry: Recognise
observe or measure in order	observe or measure in order	measurement	measurement	and control variables where	and control variables where
to answer the question	to answer the question	Observe closely: Make a	Observe closely: Make a	necessary.	necessary.
Observe closely: Make	Observe closely: Make	range of relevant	range of relevant	Observe closely: Make	Observe closely: Make
observations linked to	observations linked to	observations	observations	observations linked to	observations linked to
answering the question	answering the question	Take measurements:	Take measurements:	answering the question	answering the question
Take measurements: When	Take measurements: When	Measure using standard	Measure using standard	Take measurements:	Take measurements:
appropriate, measure using	appropriate, measure using	units where not all the	units where not all the	Measure using standard	Measure using standard
standard units where all the	standard units where all the	numbers are marked on the	numbers are marked on the	units using equipment that	units using equipment that
numbers are marked on the	numbers are marked on the	scale. Use dataloggers to	scale. Use dataloggers to	has scales involving	has scales involving
scale	scale	measure over time	measure over time	decimals	decimals
Gather / record results:	Gather / record results:	Gather / record results:	Gather / record results:	Gather / record results:	Gather / record results:
Record data in simple	Record data in simple	Prepare own tables to			
prepared tables, pictorially	prepared tables, pictorially	record data	record data	record data	record data
or by taking photographs	or by taking photographs	Present results: Present data	Present results: Present data	Present results: Choose an	Present results: Choose an
Present results: Present what	Present results: Present what	in time graphs	in time graphs	appropriate form of	appropriate form of
they learnt verbally or using	they learnt verbally or using	Interpret results: Refer	Interpret results: Refer	presentation including line	presentation including line
pictures	pictures	directly to their evidence	directly to their evidence	graphs	graphs
Interpret results: Answer	Interpret results: Answer	when answering their	when answering their	Interpret results: Be able to	Interpret results: Be able to
their question in simple	their question in simple	question	question	answer their questions,	answer their questions,
sentences using their	sentences using their	Draw conclusions: Where	Draw conclusions: Where	describing the change over	describing the change over
observations or	observations or	appropriate provide oral or	appropriate provide oral or	time	time
measurements	measurements	written explanations for their	written explanations for their	Draw conclusions: Provide	Draw conclusions: Provide
		findings	findings	oral or written explanations	oral or written explanations
		Make a prediction: Use	Make a prediction: Use	for their findings	for their findings
		results from an investigation	results from an investigation	Make a prediction: Use test	Make a prediction: Use test
		to make a prediction about	to make a prediction about	results to make predictions	results to make predictions
		a further result	a further result	for further investigations	for further investigations
		Evaluate an enquiry:	Evaluate an enquiry:	Evaluate an enquiry: Explain	Evaluate an enquiry: Explain
		Suggest improvements e.g.	Suggest improvements e.g.	their degree of trust in their	their degree of trust in their
		to method of taking	to method of taking	results e.g. precision in	results e.g. precision in
		measurements. Suggest	measurements. Suggest	taking measurements.	taking measurements,
		new questions arising from	new questions arising from	variables that may not have	variables that may not have
		the investigation.	the investigation.	been controlled and	been controlled and
				accuracy of results	accuracy of results



Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ask scientific questions: Ask	Ask scientific questions: Ask				
a question that is looking for	a question that is looking for	a range of questions linked	a range of questions linked	a range of questions and	a range of questions and
a pattern based on	a pattern based on	to a topic	to a topic	identify the type of enquiry	identify the type of enquiry
observations	observations	Plan an enquiry: Decide	Plan an enquiry: Decide	that will help to answer the	that will help to answer the
Gather / record results:	Gather / record results:	what to measure or observe	what to measure or observe	questions. Ask further	questions. Ask further
Record data in simple,	Record data in simple,	Observe closely: Make	Observe closely: Make	questions based on results	questions based on results
prepared tables and tally	prepared tables and tally	observations linked to	observations linked to	Plan an enquiry: Recognise	Plan an enquiry: Recognise
charts	charts	answering the question	answering the question	and control variables where	and control variables where
Present results: Present what	Present results: Present	Take measurements:	Take measurements:	necessary.	necessary.
they learnt verbally		Measure using standard	Measure using standard	Observe closely: Make	Observe closely: Make
		units where not all the	units where not all the	observations linked to	observations linked to
		numbers are marked on the	numbers are marked on the	answering the question	answering the question
1		scale.	scale.	Take measurements:	Take measurements:
		Gather / record results:	Gather / record results:	Measure using standard	Measure using standard
		Prepare own tables to	Prepare own tables to	units using equipment that	units using equipment that
		record data	record data	has scales involving	has scales involving
		Present results: Use ICT	Present results: Use ICT	decimals	decimals
		package to present data as	package to present data as	Gather / record results:	Gather / record results:
		a scattergram	a scattergram	Prepare own tables to	Prepare own tables to
		Interpret results: Refer	Interpret results: Refer	record data	record data
		directly to their evidence	directly to their evidence	Present results: Choose an	Present results: Choose an
		when answering their	when answering their	appropriate form of	appropriate form of
		question	question	presentation including	presentation including
		Draw conclusions: Where	Draw conclusions: Where	scatter graphs	scatter graphs
		appropriate provide oral or	appropriate provide oral or	Interpret results: Be able to	Interpret results: Be able to
		written explanations for their	written explanations for their	answer their questions	answer their questions
		findinas	findings	identifving patterns	identifvina patterns
		Make a prediction: Use	Make a prediction: Use	Draw conclusions: Provide	Draw conclusions: Provide
		results from an investigation	results from an investigation	oral or written explanations	oral or written explanations
		to make a prediction about	to make a prediction about	for their findings	for their findings
		a further result	a further result	Make a prediction: Use test	Make a prediction: Use test
		Evaluate an enquiry:	Evaluate an enquiry:	results to make predictions	results to make predictions
		Suggest improvements e.g.	Suggest improvements e.g.	for further investigations	for further investigations
		to method of taking	to method of taking	<b>Evaluate an enquiry:</b> Explain	<b>Evaluate an enquiry:</b> Explain
		measurements. Suggest	measurements. Suggest	their degree of trust in their	their degree of trust in their
		new questions arising from	new questions arising from	results e.g. precision in	results e.a. precision in
		the investigation.	the investigation.	takina measurements	takina measurements
				variables that may not have	variables that may not have
				been controlled and	been controlled and
				accuracy of results	accuracy of results



Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ask scientific questions: Identify	Ask scientific questions: Identify	Ask scientific questions: Ask a	Ask scientific questions: Ask a	Ask scientific questions: Ask a	Ask scientific questions: Ask a
the question to investigate from	the question to investigate from	range of questions linked to a	range of questions linked to a	range of questions and identify	range of questions and identify
a scenario or choose a question	a scenario or choose a question	topic	topic	the type of enquiry that will help	the type of enquiry that will help
from a range provided	from a range provided	Plan an enquiry: Decide what to	Plan an enquiry: Decide what	to answer the questions. Ask	to answer the questions. Ask
Plan an enquiry: Choose	Plan an enquiry: Choose	change and what to measure	to change and what to	further questions based on	further questions based on
equipment to use, decide what	equipment to use, decide what	or observe	measure or observe	results	results
to do and what to observe or	to do and what to observe or	Observe closely: Make	Observe closely: Make	Plan an enquiry: Recognise and	Plan an enquiry: Recognise and
measure in order to answer the	measure in order to answer the	observations linked to	observations linked to	control variables where	control variables where
question	question	answering the question	answering the question	necessary.	necessary.
Observe closely: Make	Observe closely: Make	Take measurements: Measure	Take measurements: Measure	Observe closely: Make	Observe closely: Make
observations linked to	observations linked to	using standard units where not	using standard units where not	observations linked to	observations linked to
answering the question	answering the question	all the numbers are marked on	all the numbers are marked on	answering the question	answering the question
Take measurements: When	Take measurements: When	the scale, take repeat readings	the scale, take repeat readings	Take measurements: Measure	Take measurements: Measure
appropriate, measure using	appropriate, measure using	where necessary	where necessary	using standard units using	using standard units using
standard units where all the	standard units where all the	Gather / record results: Prepare	Gather / record results: Prepare	equipment that has scales	equipment that has scales
numbers are marked on the	numbers are marked on the	own tables to record data	own tables to record data	involving decimals	involving decimals
scale	scale	Present results: Present data in	Present results: Present data in	Gather / record results: Prepare	Gather / record results: Prepare
Gather / record results: Record	Gather / record results: Record	bar charts	bar charts	own tables to record data,	own tables to record data,
data in simple prepared tables,	data in simple prepared tables,	Interpret results: Refer directly to	Interpret results: Refer directly to	including columns for taking	including columns for taking
pictorially or by taking	pictorially or by taking	their evidence when answering	their evidence when answering	repeat readings	repeat readings
photographs	photographs	their question	their question	Present results: Choose an	Present results: Choose an
Present results: Present what	Present results: Present what	Draw conclusions: Where	Draw conclusions: Where	appropriate form of	appropriate form of
they learnt verbally, using	they learnt verbally, using	appropriate provide oral or	appropriate provide oral or	presentation including line	presentation including line
pictures or block diagrams	pictures or block diagrams	written explanations for their	written explanations for their	graphs	graphs
Interpret results: Answer their	Interpret results: Answer their	findings	findings	Interpret results: Be able to	Interpret results: Be able to
question in simple sentences	question in simple sentences	Make a prediction: Use results	Make a prediction: Use results	answer their question,	answer their question,
using their observations or	using their observations or	from an investigation to make a	from an investigation to make a	describing causal relationships	describing causal relationships
measurements	measurements	prediction about a further result	prediction about a further result	Draw conclusions: Provide oral	Draw conclusions: Provide oral
		Evaluate an enquiry: Suggest	Evaluate an enquiry: Suggest	or written explanations for their	or written explanations for their
		improvements e.g. to method	improvements e.g. to method	findings	findings
		of taking measurements.	of taking measurements.	Make a prediction: Use test	Make a prediction: Use test
		Suggest new questions arising	Suggest new questions arising	results to make predictions for	results to make predictions for
		from the investigation.	from the investigation.	further investigations	further investigations
				Evaluate an enquiry: Explain	Evaluate an enquiry: Explain
				their degree of trust in their	their degree of trust in their
				results e.g. precision in takina	results e.g. precision in takina
				measurements, variables that	measurements, variables that
				may not have been controlled	may not have been controlled
				and accuracy of results	and accuracy of results



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Ask scientific questions: Ask					
	one or two simple questions	one or two simple questions	a range of questions linked	a range of questions linked	a range of questions	a range of questions
	linked to a topic	linked to a topic	to a topic	to a topic	recognising that some can	recognising that some can
	Present results: Present what	Present results: Present what	Plan an enquiry: Choose a	Plan an enquiry: Choose a	be answered through	be answered through
	they have learnt verbally or	they have learnt verbally or	source from a range	source from a range	research and others may	research and others may
D	using pictures	using pictures	provided	provided	not	not
<u>2</u>	Interpret results: Be able to	Interpret results: Be able to	Present results: Present what	Present results: Present what	Plan an enquiry: Choose	Plan an enquiry: Choose
L	answer their questions using	answer their questions using	they learnt verbally or using	they learnt verbally or using	suitable sources to use	suitable sources to use
<b>U</b>	simple sentences	simple sentences	labelled diagrams	labelled diagrams	Present results: Present what	Present results: Present what
			Interpret results: Be able to	Interpret results: Be able to	they learnt in a range of	they learnt in a range of
a M			answer their questions using	answer their questions using	ways e.g. different graphic	ways e.g. different graphic
S			simple scientific language	simple scientific language	organisers	organisers
<b>O</b>			Evaluate an enquiry:	Evaluate an enquiry:	Interpret results: Be able to	Interpret results: Be able to
			Suggest limitations e.g. only	Suggest limitations e.g. only	answer their questions using	answer their questions using
			had one book. Suggest new	had one book. Suggest new	scientific evidence gained	scientific evidence gained
			questions arising from the	questions arising from the	from a range of sources	from a range of sources
			investigation.	investigation.	Evaluate an enquiry: Be	Evaluate an enquiry: Be
					able to talk about their	able to talk about their
					degree of trust in the	degree of trust in the
					sources they used	sources they used

Year 1



Autumn	Spring	Summer
Chemistry: Materials	Physics: Earth science	Biology: Animals including humans
Everyddy materials	Earth and space	Body parts and senses
What is a material is this 2 (isoluding wood plastic slave	To know about the moon: phases of the moon (full, hall, crescent,	(head needs arms allows loss knows free same such hair
matal water and rock / move on to explore brick paper, fabrics	To know that the sun is a source of energy light heat	(neud, neck, drins, ebows, legs, knees, luce, edis, eyes, huir,
elactic foil)	To know about the eight planets	What do our eves do?
How would you describe this material?	To know about the eight planets	What are the names of the different parts of the eye? (eye
What material is this object made from?	To know about Stars and constantions: the Hough	Pupil evelosh evelid)
What are the properties of this material? (bard/soft:	To understand that Earth moves around the Sun: the sun does not	What does this part of the eve do?
stretchy/stiff: shiny/dull: rough/smooth: bendy/not bendy:	move	What do our ears do?
waterproof/not waterproof: absorbent/not absorbent:	To understand the Earth revolves (spins): one revolution takes one	What is sound made up of?
opaque/transparent)	day (24 hours),	What are the 5 senses?
Why might this material have been chosen to make this object?	To understand why the sun rises and sets and how it happens at	Which sense does our tongue have?
What are natural materials?	different times round the world - (Sunrise and sunset, When it is	Why is our sense of taste important?
What are manmade materials?	day where you are, it is night for people on the opposite side of	What sense does our skin have?
Is this material natural or manmade?	the Earth )	What sense does our nose have?
Will this object float or sink?		How does our sense of smell help to keep us safe?
What are absorbent materials? What are non-absorbent	Biology: Plants	
materials?	Plants	*Pattern seeking: Generate questions for investigation such as:
	What is this variety of plant?	Do people with longer arms have longer legs? Can more people
*Classifying: Classify objects made from the same material (e.g.	How do you plant a seed?	identify prawn cocktail crisps than cheese and onion?
lots of things made from plastic).	What is the same and different between these 2 flowering plants?	*Comparative / Fair testing: Can I taste the difference between
-Classify one object made from different materials (e.g. cups	What are the names of the different parts of this plant?	different flavoured crisps/skittles/smarties?
made of different materials).	What are the names of the parts of a tree?	
*Comparative / Fair testing: Test objects made of different	How could we group these plants according to their features?	Biology: Animals including humans
materials to see now effective they are e.g. umbrelias/hats/coats	what is a deciduous tree? How does a deciduous tree change	Animais
for waterproofness, cloths/happies for absorbency, pichic plates	through the year?	what is the name of this animal?
for stiffness.	What is an evergreen tree?	What type of animal is this?
-Answer questions such as. what is the best material for an	How dre plants a source of lood?	How do we know this is a - amphibian reptile bird fish
unbrend? for inning a dog basket? for curtains?	*Classifying: Allow children to classify leaves flowers and seeds	mammal2
	choosing their own criteria. Observing closely perhaps using	What does this animal eat?
	magnifying glasses and comparing and contrasting familiar	What is a berbiyore / carnivore / omnivore?
	plants.	What would a pet need?
	*Observing over time: Observe a tree through the year.	
	-Observe the arowth of flowers and vegetables that they have	*Classifvina: Classify animals they have seen/have first-hand
	planted.	experience of, choosing their own criteria to do so.
	*Pattern seeking: Based on observations, encourage children to	-Classify animals based on physical structure.
	identify patterns e.g. after comparing the size of leaves on	-Classify animals they have first-hand experience of based on
	different plants, children may suggest "bigger	what they eat.
	plants have bigger leaves."	*Observing over time: Observe animals in the local environment
	*Researching: Use secondary sources to name plants (including	throughout the year.
	trees) based on observations of leaves, seeds, flowers, buds, and	*Pattern seeking: Generate questions for investigation such as:
	bark (Leafsnap UK on Apple App Store,	Do all animals with have?
	SEEK INaturalist on google play and Apple App Store, textbooks,	
	Woodland Trust resources).	



	Autumn	Spring	Summer
Year 1	<ul> <li>Physics: Earth science</li> <li>Seasons</li> <li>How many seasons are there?</li> <li>What are the 4 seasons?</li> <li>What is the weather like in autumn?</li> <li>What is the weather like in autumn?</li> <li>What is the weather like in winter?</li> <li>What are the days like in winter?</li> <li>What is the weather like in spring?</li> <li>What is the weather like in spring?</li> <li>What is the weather like in summer?</li> <li>*Observing over time: Take weather measurements and make observations over time.</li> <li>-Record/Photograph what children are wearing (jumper, coat, hats, scarves, etc.)</li> <li>-Make observations of daylight hours e.g. a diary of when it gets dark / activities undertaken in the different seasons.</li> <li>*Pattern seeking: At the end of the year, look for patterns in evidence e.g. Does it rain more in spring? Do we have more sunny days in the summer? Which was the coldest month?</li> </ul>		
	Working Scientifically Vocabulary: Investigation, aim, method, resu Materials: Vocabulary Material, wood, metal, fabric, plastic, object, brick, glass, elastic, property, opaque, stiff, dull, transparent, rubber, polyester, factory, manmade, natural, submerge, float, predict, buoyant, sink, umbrella, waterproof, sponge, absorbent, soak Seasons: Vocabulary season, summer, spring, autumn, harvest, autumn, hibernate, protect, winter, weather, sleet, temperature, frost, chick, grow, spring, changes, compare, heatwave, warm, sun protection, rainfall	Its, conclusion, measure, observe, record, accurate, data, predict, scie <b>Plants: Vocabulary</b> plant, tree, seed, oak, flower, blossom, root, leaf, petal, stem, weed, daisy, dandelion, wild, buttercup, evergreen, deciduous, seasons, bush, branch, vegetable, farm, tractor, supermarket, fruit, observe, adult plant, seedling, young plant, growth, bulb, branches, trunk, daffodil	ntist, prepare, describe, identify, classify, group, question, record <b>Body parts and senses: Vocabulary</b> body, joint, skeleton, limb, head, eye, pupil, eyelash, eyelid, Sight, brain, vibration, ear, deafness, sound, sign language, sweet, flavour, mouth, taste, tongue, touch, brain, skin, fingertips, organ, odour, smell, nose, nose hair, nostrils <b>Animals: Vocabulary</b> amphibian, reptile, bird, fish, mammal, hatchling, feather, backbone, characteristic, warm-blooded, reptile, scale, amphibian, gill, cold-blooded, carnivore, omnivore, predator, canine, herbivore, natural, wild, shelter, pet, veterinary, climate, similarities, differences, unsuitable, compare



	Autumn	Spring	Summer
Year 2	Chemistry: Materials Uses of everyday materials What is a material? Why is this material suitable for this use? Which is the strongest / weakest material? How can we change the shape of this object? Will this object return to its original form? What happens if we heat this material? *Classifying: Based on the children's own criteria, classify materials e.g. samples of wood, metal, plastic, etc. *Comparative / Fair Testing: Test materials for different uses e.g. Which material can you use to make an aeroplane? Which fabric would you use for curtains? *Researching: Find out about people who have developed useful new materials, - Charles Macintosh /John McAdam.	<ul> <li>Biology: Plants</li> <li>Plants</li> <li>What is the difference between a bulb and a seed?</li> <li>What is the lifecycle of a plant?</li> <li>What is this plant? Where might this plant's habitat be?</li> <li>How have plants adapted to suit their environment?</li> <li>*Classifying: Based on the children's own criteria: <ul> <li>classify seeds / bulbs</li> <li>plants found in the local area</li> <li>*Observing over time: Plant seeds and bulbs and observe how they grow into mature plants.</li> <li>*Pattern seeking: Generate questions for investigation such as: Do big seeds germinate more quickly? Does it matter which way round you plant a bulb or seed?</li> <li>*Researching: Look at packets to decide how to plant and care for seeds e.g. How much water do they need? Do they need shade/full sun?</li> </ul> Note: seeds and bulbs need water to grow but most do not need light; seeds and bulbs have a store of food inside them. Biology: Animals including humans Lifecycles What is the lifecycle of a human? What do we mean by offspring? What is the lifecycle of a chicken? What are the stages in a butterfly life cycle? *Classifying: Based on the children's own criteria, classify animals. *Observing over time: Observe a life cycle (e.g. caterpillars, chicks, farm animals). *Researching: Research adult animals and their young e.g. googling pictures and names of animal babies – swan and cygnet.</li></ul>	<ul> <li>Biology: Living things and their habitats</li> <li>Is this living, dead or has never been alive?</li> <li>What is a habitat?</li> <li>What is a nicrohabitat?</li> <li>What is the name of this plant / animal? (To be able to identify and name a variety of plants and animals in their habitats.)</li> <li>What is a food chain?</li> <li>Which foods come from a natural source?</li> <li>*Classifying: Find things that are living / dead / have never been alive.</li> <li>-Classify things found in the environment (choosing their own criteria to do so), leading to living, dead and never been alive.</li> <li>-Classify minibeasts found in the environment based on physical structure.</li> <li>*Observing over time: Explore animals in micro-habitats throughout the year (under a rock, under a log, in a pond, in a bush, in the long grass).</li> <li>-Explore plants in micro-habitats throughout the year (e.g. woodland area, ponds, meadows).</li> <li>*Pattem seeking: Generate questions for investigation such as: Are there more daisies in the meadow or on the field? Where do you see more biv? Where do you see more butterflies?</li> <li>*Researching: Use secondary sources to name plants and animals seen in the local environment that they may not currently be able to name (Leafsnap UK APP, SEEK INaturalist APP, textbooks, Woodland Trust resources).</li> <li>-Research what animals they have first-hand experience of eat.</li> </ul>



Autumn	Spring	Summer
		Biology: Animals including humans Staying healthy What do humans need to survive? What is the difference between basic human needs and things humans want? What are the 5 food groups? Which food group does this food belong to? Why is having a balanced diet important? Which foods are part of a healthy diet? Why is exercising regularly important for our health? How does exercise impact our body? Why is maintaining good hygiene important? What would be a good hygiene routine? *Observing over time: Observe how their body changes during/after exercise.
Working Scientifically Vocabulary: Investigation, aim, method, resu	Ilts, conclusion, measure, observe, record, accurate, data, predict, scie	ntist, prepare, describe, identify, classify, group, question, record,
Uses of everyday materials: Vocabulary brick, material, suitable, property, object, bridge, structure, obstacle, triangle, construction, elastic, hinder, floppy, stretchy, limit, bend, waterproof, protective, fluorescent, safety, mackintosh, twist, stretch, force, squash, bound, highway, road	Plants: Vocabularybulb, seed, growth, plant, pollination, germination, life cycle, reproduction, seedling, carbon dioxide, photosynthesis, glucose, oxygen, energy, crop thrive, healthy, insulate, manure, forest, desert, survive, adapt, conditionLifecycles: Vocabulary Grow, survive, adult, independent, life cycle, helpless, toddler, womb, develop, foetus, inherit, differences, offspring, resemble, gene, reproduction, chick, hatchling, transformation, chrysalis, caterpillar, metamorphosis, larva, frog, amphibian, froglet, frogspawn, tadpole	Living things and their habitats: Vocabulary Excrete, nutrition, reproduce, respire, senses, fungi, microhabitat, habitat, survive, shelter, colony, condition, insect, antennae, suitable, omnivore, herbivore, producer, Consumer, carnivore, nutrient, food chain, rot, refrigerated lorry, forklift truck, automated, frozen food, canned Staying healthy: Vocabulary Essential, oxygen, nutrition, survival, shelter, vital, healthy, survive, grow, non-essential, carbohydrate, calcium, dairy, protein, vitamins, fresh food, pre-cooked food, processed, food, nutrients, balanced diet, strength, exercise, coordination, flexibility, balance, bacteria, prevent, germs Virus, hydiene

Year 3 & Year 4



Autumn	Spring	Summer
Physics: Forces	Biology: Animals including humans	Biology: Plants
Forces and magnets	Teeth and the digestive system	Plants
What forces are acting on this object?	What are main organs of the human digestive system?	What do plants need to live and grow?
How does this force impact the movement of this object?	What is the role of the digestive system?	What are the key parts of a plant?
Why do some surfaces slow objects down?	What do each of the organs in the digestive system do?	What is the function of each of these parts?
What is friction?	What happens to our food after we put it into our mouths?	How is water transported within a plant?
How can friction be increased or decreased?	What are the different types of human teeth?	What are the reproductive parts in a flower?
What do we mean when we say magnets attract and repel?	What do the different human teeth do?	What are the functions of the reproductive parts in a flower?
Will these magnets attract or repel each other?	Why do humans have two sets of teeth?	How do flowers reproduce?
What types of magnets do you know of?	How should we care for our teeth?	What is seed dispersal?
How can magnets be used?		
Which materials are magnetic?	*Comparative/ Fair testing: What effect do different liquids have	*Classifying: Classify flowers based on the children's own criteria.
How do magnetic forces act at a distance?	on teeth?	(This does not meet the curriculum objectives for this topic, but it
What is a compass? How does it work?	*Classifying: Compare and contrast different types of teeth	is a good opening activity to
What are the four compass points?	(linking to simple functions).	assess prior knowledge.)
*Classifying: Based on the children's own criteria:	-Classify jaw bones/teeth to aid with making food chains e.g.	*Observing over time: Observe white carnations (freshly cut) in
-sort materials (leading towards metal/non-metal and	recognise what eats plants and what eats animals by looking at	coloured water.
magnetic/not magnetic)	their teeth.	-Gather seeds and photographic evidence of blossoms/flowers
-sort toys (leading to what makes them move e.g. push/pull).	*Researching: Research the different parts of the digestive	and berries on a particular trail throughout the year.
*Comparative / Fair testing: Test how objects move on different	system. (Children present what they've learned in different ways:	*Pattern seeking: Investigate what happens to plants when
surfaces e.g. cars, spinning tops, wind-up/clockwork toys.	create a model, write a song, write a story, create a PPT, etc.)	conditions are changed e.g. more/less light/water, change in
-Test the strength of different magnets.	Find out what damages teeth and how to look after them.	temperature, nutrients (Baby Bio vs other brands).
*Researching: Find out how magnets are used in everyday life.		*Researching: Research the functions of the parts of flowering
*Observing: how magnetic forces act at a distance		plants. / Research different methods of seed dispersal. / Research
-observe how magnets attract or repel each other and attract	Chemistry: Materials	different methods of pollination.
some materials and not others	Rocks	
	Where does igneous rock come from?	Note: pupils can be introduced to the idea that plants can make
Chamister Chattan of matter	what is the difference between intrusive and extrusive igneous	their own food, but at this stage they do not need to understand
Chemistry: States of matter	FOCK?	now this happens.
States of matter	What are the preparties of these reaks?	Bielenus Animala including humana
What are the properties of the 2 states of matter?	What is the difference between impeque codimentary and	Biology: Animals including humans
Is this a solid liquid or gas?	matamerahia raaks?	Nutrition Where do animals and human act their nutrition from?
How do particles behave in each state of matter?	What different types of weathering are there?	Whet are the 5 key feed groups?
How can substances change state?	What affects can weathering have on rocks?	How many partians of food from different food groups should we
At what temperature does water change state?	How does water cause rocks to erode?	eat in a day?
What do we mean by 'melting point'?	What is a fossil?	How is food from each food aroup essential for human growth
What do we mean by 'freezing point':	How is a fossil created?	and health?
What is evaporation?	What is soil made from?	What do food labels tell us?
What is condensation?	What different types of soil are there?	How do food labels bein us to make healthy choices?
What are the stages of the water cycle?	What are the properties of these different types of soil?	
Why is evaporation and condensation important to the water	*Classifyina: Based on the children's own criteria, classify rocks	*Classifvina: Based on the children's own criteria:
cvcle?	-look at different soils and discuss how they are similar/different	-classify food items (leading to sorting by nutrients)
What happens within the water cycle?	-compare and aroup together different kinds of rocks on the basis	*Pattern seekina: Children generate guestions for investigation
and the second	of their appearance and simple physical properties - whether they	such as:
*Classifvina: Based on the children's own criteria:	have argins or crystals, and whether they have fossils in them.	-Do 'healthy' drinks have less sugar?
· ····		-Does brown bread have more fibre?



<ul> <li>-classify solids (including grains, crystals, powders: physical properties)</li> <li>-classify liquids</li> <li>*Observing over time: Watch ice melt (ice hands).</li> <li>-Watch hand prints dry e.g. water hand prints on coloured paper towel.</li> <li>*Comparative/ Fair testing: What affects the melting rate of chocolate (size of pieces, temperature of water, type of chocolate)?</li> <li>-What affects the rate an 'ice pole' melts?</li> <li>-What affects the rate of evaporation?</li> <li>*Researching: Research the melting point of metals.</li> <li>-Research the water cycle. (Children present what they've learned in different ways: create a model, write a song, write a story, create a PPT, etc.)</li> </ul>	*Observing over time: Observe how soil separates into different layers in water *Comparative / Fair testing: Test the hardness of different rocks / Test what happens when rocks are put in water / Test how quickly water runs through different types of soil. *Researching: Research how fossils are formed.	<ul> <li>*Researching: Look at food packaging to identify the amount of nutrients in different food items. / Research which types of food contain which nutrients.</li> <li>*Application: Design meals based on what they find out.</li> <li>Physics: Energy Electricity What are some of the dangers of using electrical appliances? How can we use them safely? What are the main components of an electrical circuit? How does a simple electrical circuit work? Will this circuit work? What makes you think that? What is an electrical insulator? What is an electrical conductor? Which common items are conductors / insulators? How does a switch work? *Classifying: Based on the children's own criteria, classify household appliances and/or toys (leading to electrical/not electrical, batteries/mains). Test materials to classify into insulators and conductors. *Pattern seeking: Observe patterns, for example, that bulbs get brighter if more cells are added -that metals tend to be conductors of electricity *Application: Use their circuits to create simple devices.</li></ul>
		Note: pupils might use the terms current and voltage, but these should not be introduced or defined formally at this stage. Pupils should draw the circuit as a pictorial representation, not necessarily using conventional circuit symbols at this stage; these will be introduced in year 6.
Forces and magnets: Vocabulary Friction, air resistance, non-contact forces Force, contact force, motion, texture, resistance, tilt, surface, repel, magnet, horseshoe magnet, attract, bar magnet, iron, magnetic field, steel, magnetism, magnetic, non-magnetic materials, attract, magnetism, recycle, non-contact forces, magnetic north, magnetic needle, compass, direction, orienteering States of matter: Vocabulary Gas, matter, liquid, volume, solid, particle, arranged, bond Heated, cooled, particle, melting, melting point, temperature, thermometer, reverse, sublimation, deposition Freezing, boiling, condensation, water vapour, process Absorb, evaporation, water cycle, precipitation, transpiration, surface run off , groundwater	Teeth and the digestive system: Vocabulary small intestine, digestive system, stomach, large intestine, oesophagus, liver, peristalsis, gall bladder, absorb, saliva jaw, gum, molars, canines, incisors, plaque, enamel, tooth decay, cavity, fluoride Rocks: Vocabulary extrusive igneous rock, igneous rocks, intrusive igneous rock, magma, crystals, sandstone, marble, metamorphic rock, limestone, sedimentary rock, chemical weathering, weathering, physical weathering, acid rain, biological weathering, texture, erosion, receding, appearance, submerged, sediment, amber, embedded, fossil, extinct fragments, decompose, clay soil, sandy soil, chalky soil	Plants: Vocabulary         Potassium, fertiliser, nutrients, nursery, stunted, chlorophyll,         photosynthesis, UV light, xylem, stomata, transpiration, phloem,         absorb, anther, stigma, filament, reproduction, style, pollen,         nectar, pollination, pollinator, seed dispersal, vulnerable, anchor,         germination, sapling, formation         Nutrition: Vocabulary         carbohydrate, vitamin, mineral, nutrition, protein, energy, nutrition         label, portion, diet, balanced, diary, fats         Electricity: Vocabulary         Electricity, mains electricity, appliance, socket, batteries, series         circuit, voltage, cell, circuit, component, power, current, bulb, wire,         battery, conductor, insulator, metal         Copper, rubber, control, current, complete circuit, incomplete         circuit switch

Year 5



Biology: Animals including humans         Physics: Earth science         Biology: Cycle         Biology: Cycle         Biology: Cycle         Biology: Cycle         Biology: Cycle         C	Autumn	Spring	Summer
Humon development         Utbecked and space         Utbecked	Biology: Animals including humans	Physics: Earth science	Biology: Living things and their habitats
What changes happen as humons develop to old op?           What changes happen as humons develop to old op?           What changes happens during each stop of a life cycle?           What is here key stogs of a pregnancy?           What are the key stogs of a pregnancy and the precision periods?           What are the key stogs of a pregnancy?           What are the key stogs of a previous carse in a previous carse are previous carse in a previous carse in a previous carse in a	Human development	Earth and space	Lifecycles and reproduction in plants and animals
What are the key stops of a mammal's life cycle?         What is the order of the planets from the sun?         Most is deplants reprodue?           What is gestation?         What is deside system?         Most are the key stops of pregnancy?         Most are the stops of the yound?         Most are the form was of the yound?         Most are the form was of the yound?         Most are the yound?         Most are the yes of an anymbion?         Most are the form was of the yound?         Most are the yes of an anymbion?         Most are the yes of an any	What changes happen as humans develop to old age?	What are the key characteristics of a planet?	What do plants need to grow strong and healthy?
What happens during each stage of life cycle?What shape is the sun, earth and mon?What shape is the sun, earth and mon?What shape is the sun, earth and mon?What shape is the sun earth and mon?What shape is the sun, earth and mon?What are the differences between a heliocentric and geocentricWhat are the key stages of pregonary?What are the key stages of adeing in humans?What are the solar system ?What are the solar system?What are the key stages of adeing in humans?What are the key stages of adeing in humans?What are the solar system?What is the life cycle of an amphibion?What are the key stages of adeing in humans?What are the sun aneating and the solar system?What is the solar system?What is the life cycle of an amphibion?What are the key stages of adeing in humans?What are the sun aneating different ty?How doe the sun aneating and the solar system?What is the life cycle of an amphibion?What is the life cycle of a different the solar system?What is the life cycle of an amphibion?What is the life cycle of an amphibion?What is the life cycle of a different the solar system?What is the life cycle?What is hold do?What is the life cycle?What is hold? <td< td=""><td>What are the key stages of a mammal's life cycle?</td><td>What is the order of the planets from the sun?</td><td>How do plants reproduce?</td></td<>	What are the key stages of a mammal's life cycle?	What is the order of the planets from the sun?	How do plants reproduce?
What is gestation?What is gestation?What is gestation?What is gestation?What are the key stages of pregnancy?What are the key stages of pregnancy?What are the solar system?What is the life cycle?What are the solar system?* Presearching: Develop questions to ask on expert e.g. a health visitor, doctor or nurse.* Observing over time: Measure shadows throughout the day.* Observing over time: Measure shadows throughout the day.What is the life cycle?What is the life cycle?What is the life cycle?What is the life cycle?What is the life cycle?* Presearching: Develop questions to ask on expert e.g. a health visitor, doctor or nurse.* Observing over time: Measure shadows throughout the day.* Observing over time: Measure shadows throughout the day.* Observing over time: Measure shadows throughout the day.* Presearching: Generate questions to react on the cort in the inso and diffect cort and informer through interest times of a baby as it grows.* Observing over time: Measure shadows throughout the day.* Presearching: Generate question so to the heart?* Observing over time: Measure shadows throughout the day.* Presearching: Generate question so to the heart?* Observing over time: Measure shadows throughout the day.* Presearching: Generate the mont ports of the heart?* Observing over tim	What happens during each stage of a life cycle?	What shape is the sun, earth and moon?	How do we know that plants are living things?
What are the key stages of pregnancy?Must are the key stages of ageing in humans?Must are the key stages of ageing in humans?Must are the key stages of ageing in humans?Must are the key stages of a amphibion?Must are the life cycle of an amphibion?* Must are the key stages of ageing in humans?* Must are the key stages of ageing in humans?* Must is the life cycle of an amphibion and intests?Wust is the life cycle of a amphibion and intests?* Must are the key stages of ageing in humans?* Must are the differences between a mammals have longer gestation periods of stare namis and acompaning them with humans; by finding out and recording the most of baby sit grows.* Must is the life cycle of a bird / reptile?* Pattern seeking: Do larger mammals have longer gestation periods of stare namis and acompaning them with humans; by finding out and recording the most of baby as it grows.* Observing over time: Mass are babyes at grows.* Must is the life cycle of a bird / reptile?* Pattern seeking: Do larger mammals have longer gestation periods of stare namis and companis in amphibions and intest and life communication.* Observing over time: Mass are babyes at grows.* Observing over time: Good at the solar system?* Must are the main parts of the human circulatory system?* Observing over time: different types of the different types of the solar system?* Observing over time: Good at the solar system?What are the main parts of the human circulatory system?* Observing over time: Good at the solar system?* Observing over tim	What is gestation?	What are the differences between a heliocentric and geocentric	What is a life cycle?
What are the key stages of pregnancy?How is different system presented and polarity?What changes take place during puberty?What changes take place during puberty?Whot are the system strate system?How does the farm how in space?Whot are take system?How does the farm how in space?Whot are the different takes in transition according theParter analysis: Accurately create and plot points on a line graph.Part analysis: Accurately create and plot points on a line graph.What are the mains parts of the humansCirculatory systemWhat are the mains parts of the humansCirculatory system?What does the blood nove around the heart?What does the blood nove around the heart?What does the blood nove around the heart?What does the coming restricted?What does the blood nove around the heart?What does the colis my blood do?What is the elisi my blood do?What does the elisi my blood do?What doe does graph and blood do?What does the elisi my blood do?What doe does graph and blood does	Why do some mammals have extreme gestation periods?	model of the solar system?	What are the three types of mammal? How do their life cycles
How is children's growth measured?         Whot takes the key signs of ageing in humans?         Whot are the key signs of ageing in humans?         Whot are the key signs of ageing in humans?         Whot are the key signs of ageing in humans?         Whot are the key signs of ageing in humans?         Whot is the life cycle of a misphiloars and intest?         Whot is the life cycle of a maphiloars         *Researching: Develop questions to ask an expert e.g. a health visitor, doct or nurse.         *Potters seeking: Do larger mammals have longer gestation periods? Research the gestation periods of other animals and comparing them with humans. by finding out and recording the length and mass of a baby as it grows.         Biology: Animals including humans         Biology: Animals including humans         Circulatory system         Whot is the main parts of the human circulatory system?         What is the amap and fill sain?         Whot is the most of the human circulatory system?         Whot is the most of the human circulatory system?         Whot is the most of the human circulatory system?         Whot are the nease of the main parts of the heart?         Whot is the most of the human circulatory system?         Whot is the most of the human circulatory system?         Whot is the most of the human circulatory system?         Whot is the most of the human bacys?         Whot is the most	What are the key stages of pregnancy?	How have ideas about the solar system developed over time?	differ?
What changes take place during puberly?What can be key signs of gaing in humans?Why do humans age differently?How can i stay healthy in old age?How can i stay healthy in old age?Processerching: Develop questions to ask on expert e.g. a healthvisior, doctor or nurse.Partern seeking: Develop questions to ask on expert e.g. a healthvisior, doctor or nurse.Partern seeking: Develop questions to ask on expert e.g. a healthvisior, doctor or nurse.Partern seeking: Develop questions to ask on expert e.g. a healthvisior, doctor or nurse.Partern seeking: Develop questions to ask on expert e.g. a healthvisior, doctor or nurse.Partern seeking: Develop questions to ask on expert e.g. a healthvisior, doctor or nurse.Partern seeking: Develop questions to ask on expert e.g. a healthvisior, doctor or nurse.Partern seeking: Develop questions to ask on expert e.g. a healthvisior, doctor or nurse.Partern seeking: Develop questions to ask on expert e.g. a healthPhysics: Accurately create and plot points on a line crystWhat are the main parts of the human circulatory system?What are the numb parts of the human circulatory system?What do blood composed of?What do keels in blood do?What do keels in blood do?What do keels in blood do?What do keels in	How is children's growth measured?	Who were Ptolemy, Alhazen, Copernicus? Why was their work	What is the life cycle of an amphibian?
What are the key signs of ageing in humans?How does the farth move in space?What are the key signs of ageing in humans?Why do humans age different??How does the gut nonsition across the sky?Who does the suft nows in space?What is the same and different about the port?*Researching: Develop questions to ask on expert e.g. a health visior, doctor or nurs."Pattern seeking: Do larger mammals hove longer estation periods? Research the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grove."Now does the farth move in space?" Why is the different times in different parts of the sun? *Now does the farth move in space? Why is the different times in different places on the Earth?What is the file cycle ?*Data and pick.Childran parts of the human circulatory system? What are the main parts of the human circulatory system? What to be do move around the heart? What to be do move around the heart? What to be do move around the heart? What is bload composed of? What is bload and fusion? How can multifiest comparing there with space? How can multifiest proteins bearding and mains? What is the relationship between mass and gravity? How does the farth or healt? What is the relationship between mass and gravity? How does the bload do? What is the relationship between mass and gravity? How does the farth or begins? What is the relationship between mass and gravity? How does an diffusion? How can support my circulatory system? What is the relationship between mass and gravity? How doe in m	What changes take place during puberty?	important to our understanding of the solar system?	What is the life cycle of an insect?
Why do humans ged differently?How con I stay healthy in old gap?How con I stay healthy in old gap?**Researching: Device questions to ask an expert e.g. a health visitor, doctor or nurse.**Pattern seeking: Do larger mammals have longer gestation periods? Research ing: equations to a sk an expert e.g. a health visitor, doctor or nurse.**Pattern seeking: Do larger mammals have longer gestation periods? Research ing: equations to a bid of ther animols and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.*Data analysis: Accurately create and plot points on a line graph.*Diology: Animals including humans Circulatory system? What are the name parts of the human circulatory system? What are the name parts of the heart? Why is to biolod vessels do?What is the second do? What is blood arows as do?What to the calls in my blood do? What is the evoles do?What to the calls in my blood do? What to the calls in my blood do?What to the calls in my blood do? What to the calls in my blood do?What to the calls in my blood do? What to the calls in my blood do?What do the calls in my blood do? What is the relationship between wards and autrients transported around my bod? What is the relationship between resistance act on object?*Doserving over time: Observe pulse rates before, during and dre exercise.*Doserving over time: Observe pulse rates before, during and dre exercise.*Doserving over time: Observe pulse rates before, during and dre exercise.*Doserving over time: Observe pulse rates before, during and the exercise.*Doserving over time: Observe pulse rates before,	What are the key signs of ageing in humans?	How does the Earth move in space?	What is the same and different about the process of
How can I stay healthy in old age?       How can ight and day happen?       What is the structure of an egg?         *Researching: Develop questions to ask an expert e.g. a health visior, doctor or nurse.       *Researching: Develop questions to ask an expert e.g. a health visior, doctor or nurse.       What is the structure of an egg?         *Pattern seeking: Do larger mammals have longer gestation periods? Research the gestation periods? Research the gestation apprivation and incomparing them with humans; by finding out and recording the length and mass of a baby osi it grows.       How does the fearth move relative to the Earth?       What is the structure of an egg?         *Data analysis: Accurately create and plot points on a line graph.       "Observing over time: Measure shadows throughout the day.       "Researching: Generate questions to research about the farth and?       What is the life cycle?       What is the life cycle?         *Data analysis: Accurately create and plot points on a line graph.       "Observing over time: Measure shadows throughout the day.       "Researching: Generate questions to research about the farth and?       What is the structure of an edg?       What is the structure of an edg?         What are the name of the main parts of the heart?       "Indout why some people think that structures such as stronemication.       "Classifying: Classify animals according to the graph and the structure of an edg?       "Classifying: Classifying: Cl	Why do humans age differently?	How does the sun transition across the sky?	metamorphosis in amphibians and insects?
<ul> <li>*Researching: Develop questions to ask an expert e.g. a health visitor, doctor or nurse.</li> <li>*Parttem seeking: Do lorger mammals have longer gestation periods? Research the gestation periods of other animals and companing them with humans; by finding out and recording the length and moss of a boby as it grows.</li> <li>*Data analysis: Accurately create and plot points on a line groph.</li> <li>*Dotar analysis: Accurately create and plot points on a line groph.</li> <li>*Biology: Animals including humans</li> <li>Circulatory system</li> <li>What are the main parts of the human circulatory system?</li> <li>What does the bood move around the heart?</li> <li>What do blood vessels do?</li> <li>What do the codigin multiplication present and nutrients transported around my body?</li> <li>What do blood vessels do?</li> <li>What do the code in my blood do?</li> <li>What do the code in resistance act on objects?</li> <li>Who was facilize and differences between and and there uses a factoriant in understanding around y set arous?</li> <li>* Poster and my lifestyle choices affect my health?</li> <li>How does our resistance act on objects?</li> <li>What do the vesser a setable how and neares?</li> <li>What do the setable in my blood do?</li> <li>Why is in growing and alcoholi impact my health?</li> <li>How does our resistance act on objects?</li> <li>How does our resistance act on objects?</li> <li>What do the splow prive setable form sould?</li> <li>What dore the size of</li></ul>	How can I stay healthy in old age?	How does night and day happen?	What is the structure of an egg?
<ul> <li>*Researching: bevelop questions to ask an expert e.g. a health visior, coder or nurse.</li> <li>*Pattern seeking: Do larger mammals have longer gestation periods? Research the gestation periods? Research the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</li> <li>*Date analysis: Accurately create and plot points on a line graph.</li> <li>*Dota analysis: Accurately create and plot points on a line graph.</li> <li>*Dota analysis: Accurately create and plot points on a line graph.</li> <li>*Dota analysis: Accurately create and plot points on a line graph.</li> <li>*Dota analysis: Accurately create and plot points on a line graph.</li> <li>*Dota analysis: Accurately create and plot points on a line graph.</li> <li>*Dota create manages of the main parts of the heart?</li> <li>What dare the name post of the heart?</li> <li>What dare the name post of the heart?</li> <li>What does the blood move around the heart?</li> <li>What does the blood move around the heart?</li> <li>What doe blood cand dexygenated blood?</li> <li>What dana happen if my arteries becoming restricted?</li> <li>How are watter and nutrients transported around my body?</li> <li>What does in mous proted social mages?</li> <li>What does and post mission and inger any health?</li> <li>How are watter and nutrients transported around my body?</li> <li>What does in mean manal, and pliband mages?</li> <li>Who do in measure my pulse?</li> <li>How can drugs and cloohol impact my health?</li> <li>How do is measure my pulse?</li> <li>How can drugs and cloohol impact my health?</li> <li>How do is measure my pulse?</li> <li>How can drugs and cloohol impact my health?</li> <li>How do is measure my pulse?</li> <li>How can drugs and cloohol impact my health?</li> <li>How do is measure my pulse?</li> <li>How can drugs and cloohol impact my health?<td></td><td>Why is it different times in different parts of the world?</td><td>What are the differences between a mammal and a bird or reptile</td></li></ul>		Why is it different times in different parts of the world?	What are the differences between a mammal and a bird or reptile
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How can drugs and alcohol impact my health? Which drugs can support my circulatory system? How?What forces are acting on an object floating in water? What are the similarities and differences between air and water resistance?Chemistry: Materials Properties and changes of materials What happens to some materials when they ar How do we use a Newton meter to measure force? How do levers / gears / pulleys work?How do levers / gears / pulleys work?Chemistry: Materials Properties and changes of materials What are the 3 states of matter? What are the How can we separate mixtures?	How can my lifestyle choices affect my health?	How does water resistance act on objects?	-Research how gardeners asexually reproduce plants.
Which drugs can support my circulatory system? How?What are the similarities and differences between air and water resistance?Chemistry: Materials*Observing over time: Observe pulse rates before, during and after exercise.How does friction act on an object?Properties and changes of materials*Pattern seeking: Children generate questions for investigation such as: Do older people have lower pulse rates? / Do boys have higher pulse rates?How do levers / gears / pulleys work?How can we separate mixtures?	How can drugs and alcohol impact my health?	What forces are acting on an object floating in water?	
<ul> <li>*Observing over time: Observe pulse rates before, during and after exercise.</li> <li>*Pattern seeking: Children generate questions for investigation such as: Do older people have lower pulse rates? / Do boys have higher pulse rates?</li> </ul>	Which drugs can support my circulatory system? How?	What are the similarities and differences between air and water	
*Observing over time: Observe pulse rates before, during and after exercise. *Pattern seeking: Children generate questions for investigation such as: Do older people have lower pulse rates? / Do boys have higher pulse rates?		resistance?	Chemistry: Materials
after exercise.How do we use a Newton meter to measure force?What happens to some materials when they ar*Pattern seeking:Children generate questions for investigation such as: Do older people have lower pulse rates? / Do boys have higher pulse rates?How do we use a Newton meter to measure force? How can we change the size of a frictional force? How do levers / gears / pulleys work?What happens to some materials when they ar How can we recover a substance from a soluti What are the 3 states of matter? What are the How can we separate mixtures?	*Observing over time: Observe pulse rates before, during and	How does friction act on an object?	Properties and changes of materials
*Pattern seeking: Children generate questions for investigation such as: Do older people have lower pulse rates? / Do boys have higher pulse rates?	after exercise.	How do we use a Newton meter to measure force?	What happens to some materials when they are added to liquids?
such as: Do older people have lower pulse rates? / Do boys have higher pulse rates?       How do levers / gears / pulleys work?       What are the 3 states of matter? What are the How can we separate mixtures?	*Pattern seeking: Children generate questions for investigation	How can we change the size of a frictional force?	How can we recover a substance from a solution?
higher pulse rates? How can we separate mixtures?	such as: Do older people have lower pulse rates? / Do boys have	How do levers / gears / pulleys work?	What are the 3 states of matter? What are their properties?
	higher pulse rates?		How can we separate mixtures?



Autumn	Spring	Summer
*Comparative / Fair testing: Complete different activities to compare the impact on their own heart rate. *Researching: Generate questions to research about the human circulatory system. (Children present what they've learned in different ways: create a model, write a song, write a story, create a PPT, etc.)	*Comparative / Fair testing: Compare friction, e.g. trainers or a weighted match box pulled with force meters, balloon rockets, CD hovercraft, balloon carsCompare water resistance, e.g. boats in a gutter of water, plasticine in a cylinder of liquid (easier with more viscous liquid, e.g. bubble bath) -Compare air resistance, e.g. spinners, parachutes, sailing boats, straw rockets -Compare levers, pulleys and gears *Researching: Research Heath Robinson and Rube Goldberg machines. (This could be cross-curricular with D&T and English biography writing.)	<ul> <li>How can we reverse a physical change? How does this method to reverse a physical change work?</li> <li>What is the difference between melting and dissolving?</li> <li>What are some irreversible changes?</li> <li>Why is this change irreversible? What new products have been made?</li> <li>What type of change is rusting? Why is it a problem? How can we prevent it?</li> <li>What does a fire need to burn? What is the fire triangle?</li> <li>How can we extinguish fires?</li> <li>How do chemists create new materials? E.g. Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton.</li> <li>*Classifying: classify materials themselves e.g. samples of wood, metal, plastic, etc. on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</li> <li>-after observing what happens when solids are added to liquids, classify materials based on the outcomes.</li> <li>*Comparative / Fair testing: e.g. Which material would be good for a tent? Which material would be good to make a tea bag from? Which materials keep things warm/cold?</li> <li>-Test solids for solubility / Compare rates of solubility.</li> <li>*Observing over time: Observe rusting with uncoated nails in different liquids. (This can be achieved by removing coating with sandpaper.</li> </ul>

Working scientifically: Vocabulary scientific enquiry, variables, comparative test, fair test, controlled variable, identify, classify, describe, observe, interpret, data, causal relationship, secondary resources, accuracy, precision, opinion, fact, plan, repeat, graphs, illustrations, predictions, degree of trust, patterns, systematic, quantitative measurement, conclusion, explanation, evidence, validity, keys, tables, scatter graphs

Human development: Vocabulary	Earth and space: Vocabulary	Lifecycles and reproduction in plants and animals: Vocabulary
adolescent, reproduce, dependent, puberty, foetus	orbit, terrestrial planet, Solar System, spherical, gas giant planets,	reproduction, asexual reproduction, fertilisation, tuber
gestation, pregnant, breeding, duration, embryo, trimester	geocentric, heliocentric, dwarf planet	Genes, placental mammal, monotreme mammal
midwife, umbilical cord, womb, growth spurt, childhood	astronomy, axis, poles, season, hemisphere,	Marsupial, mammary glands, pouch, amphibian, pupa
motor skills, milk teeth, adolescence, bloodstream, hormone,	sundial, time zone, gnomon, dial, shadow, moon, waxing	Metamorphosis, larva, caterpillar, egg, fledgling, egg tooth
growth, appetite, cataract, memory, neurodegenerative, keratin,	waning, eclipse, phase, rocky planet, gas planet	Hatch, embryo, primatologist, endangered, documentary
lifestyle		natural sciences, naturalist, life cycle, reproduction, warm-
	Forces: Vocabulary	blooded, living organism, vertebrate
Circulatory system: Vocabulary	Weight, mass, astronomy, gravity, parachute, air resistance	Properties and changes of materials: Vocabulary
circulatory system, atrium, ventricle, valves, vessel	opposing, streamlined, water resistance, upthrust, buoyant	pure substance, solute, solvent, solution, evaporate, reversible,
artery, vein, capillary, microscope, stimulant, depressant	sink, Newton meter, resistance, lubricant, Newton, friction	mixture, physical change, melting, irreversible
hallucinogen, painkiller, drug, blood, plasma, platelet	load, pulley, lever, pivot, fulcrum, gear, mesh, mechanism, rack	chemical change, compare, effervescence, product
white blood cell, diet, exercise, heart rate, BPM - beats per	and pinion, bevel gear	corrosion, rusting, combustion, fuel, oxygen, extinguish, smother,
minute, pulse, red blood cell, absorb, diffusion, osmosis,		carbon dioxide, acid, reaction, bicarbonate of soda
concentration, nutrient		

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Autumn	Spring	Summer
<ul> <li>Biology: Animals including humans</li> <li>Evolution and inheritance</li> <li>What is adaptation?</li> <li>How are species / plants adapted to their environment? How does this help it to survive?</li> <li>What is evolution?</li> <li>How do fossils provide information about extinct things? Who was Mary Anning? Why is her work important?</li> <li>What is natural selection? How does natural selection effect evolution?</li> <li>Who was Charles Darwin? Why is his work important?</li> <li>How have humans evolved?</li> <li>Why was the theory of evolution not accepted at first?</li> <li>What are the similarities and differences between</li> <li>Neanderthals and homo sapiens?</li> <li>*Classifying: To show variation in a species:</li> <li>Classify a species of animal e.g. cats, dogs</li> <li>Classify a species of plant e.g. daffodils, tulips, lilies.</li> <li>*Pattern seeking: Which beak is best for the job? Use different pieces of equipment, e.g. chopsticks, toothpicks, cutlery, to look for patterns linking the suitability of bird beaks for the available food e.g. rice, grapes, raisins.</li> <li>*Researching: Which characteristics make this species suitable for their habitat? Research different types of a species and their characteristics making them suitable for different habitats e.g. penguins.</li> </ul>	<ul> <li>Biology: Living things and their habitats</li> <li>The natural world</li> <li>What is MRS GREN? How do living organisms follow these rules?</li> <li>What are the kingdoms that living organisms can be organised into?</li> <li>Why is it useful to classify plants and animals?</li> <li>Who was Carl Linnaeus? Why is his work important?</li> <li>How can different organisms be classified using the Linnaean system?</li> <li>What are microorganisms?</li> <li>How can micro-organisms be helpful and harmful?</li> <li>What is the difference between fungi and other organisms?</li> <li>*Classifying: Classify animals according to Carl Linnaeus' system.</li> <li>Classify plants into flowering, mosses, ferns and conifers, based on specific characteristics.</li> <li>-Create a branching database/dichotomous key to classify a set of living things.</li> <li>*Research: What are the characteristics of? -Research the characteristics of flowering plants, mosses, ferns and conifers.</li> <li>-Research the difference between bacteria, virus and fungi to give reasons why these are not plants or animals.</li> <li>-Research unusual animals e.g. axolotl, platypus, kangaroos etc.</li> <li>Physics: Energy</li> <li>Electricity</li> <li>What are the main parts of an electric circuit?</li> <li>What can affect the brightness of a bulb?</li> <li>How can I fix this circuit?</li> <li>What can affect the brightness of a bulb?</li> <li>How can I fix this circuit effect it?</li> <li>-Investigate the effect of adding more bulbs, cells, buzzers, motors to a circuit.</li> <li>*Application: Designing and making a set of traffic lights, a burglar alarm or some other useful circuit.</li> </ul>	Physics: Energy Light and optics How does light travel? How does the length of a shadow change? What is reflection? What is refraction? What happens when light is refracted? How do eyes respond to light? What are the names of the main part of the eye? What do these parts do? What does it mean to be far sighted / near sighted? *Comparative and fair testing: How are shadows formed? What affects their size, direction and shape? -Investigate the shape of shadows and link this to light travelling in straight lines. *Application: Design and make a periscope and using the idea that light appears to travel in straight lines to explain how it works. They could extend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water, and coloured filters (they do not need to explain why these phenomena occur).



	Autumn	Spring	Summer		
	Working scientifically: Vocabulary scientific enquiry, variables, comparative test, fair test, controlled variable, identify, classify, describe, observe, interpret, data, causal relationship, secondary resources, accuracy, precision, opinion, fact, plan, repeat, graphs, illustrations, predictions, degree of trust, patterns, systematic, quantitative measurement, conclusion, explanation, evidence, validity, keys, tables, scatter graphs				
Year 6	<b>Evolution and inheritance: Vocabulary</b> offspring, inherit, characteristic, variation, environmental, adaptation, habitat, nutrition, epiphytes, predator, pollinate, fossil, palaeontologist, Jurassic Coast, ichthyosaurus, evolve, theory, natural selection, extinct, ancestor, primate, home sapiens, neanderthal	The natural world: vocabulary classification, micro-organism, fungus, fungi, protist, bacteria, kingdom, conifer, fern, unicellular, multicellular, domain, species, virus, protozoa, microscopic, mycelium, ecosystem, Linnaeus, vascular plant, nonvascular plant, spores, moss Electricity: vocabulary circuit, battery, cell, resistor, variable resistor, dimmer switch, output, conductor, insulator, symbol, voltage, current, LED, sensor	Light and optics: vocabulary light source, reflected, refracted, cornea, iris, lens, retina, pupil, optic nerve, opaque, transparent translucent, optical, disperse, spectrum, absorption		