Year 1

Year 2

EYFS

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National	Children at the expected	Working Scientifically	Working Scientifically	Working Scientifically	Working Scientifically	Working Scientifically	Working Scientifically
Curriculum	level of development will: -	 asking simple 	 asking simple 	 asking relevant 	 asking relevant 	 planning different 	 planning different
		guestions and	questions and	questions and using	questions and using	types of scientific	types of scientific
Pupils should be	Explore the natural	recognising that they	recognising that they	different types of	different types of	enquiries to answer	enquiries to answer
taught:	world around them,	can be answered in	can be answered in	scientific enquiries to	scientific enquiries to	questions, including	questions, including
5	making observations	different ways	different ways	answer them	answer them	recognising and	recognising and
	and drawing pictures	 observing closely, 	observing closely,	setting up simple	setting up simple	controlling variables	controlling variables
	of animals and plants.	using simple	using simple	practical enquiries,	practical enquiries,	where necessary	where necessary
	Know some	equipment	equipment	comparative and fair	comparative and fair	 taking measurements, 	taking measurements,
	similarities and			·	•	using a range of	
	differences between	performing simple	performing simple	tests making systematic and	tests		using a range of scientific equipment,
		tests	tests	- making systematic and	making systematic and	scientific equipment,	
	the natural world	identifying and	identifying and	careful observations	careful observations	with increasing	with increasing
	around them and	classifying	classifying	and, where	and, where	accuracy and	accuracy and precision,
	contrasting	 using their 	 using their 	appropriate, taking	appropriate, taking	precision, taking	taking repeat readings
	environments,	observations and ideas	observations and ideas	accurate	accurate	repeat readings when	when appropriate
	drawing on their	to suggest answers to	to suggest answers to	measurements using	measurements using	appropriate	 recording data and
	experiences and what	questions	questions	standard units, using a	standard units, using a	 recording data and 	results of increasing
	has been read in class.	 gathering and 	 gathering and 	range of equipment,	range of equipment,	results of increasing	complexity using
	 Understand some 	recording data to help	recording data to help	including	including	complexity using	scientific diagrams and
	important processes	in answering	in answering	thermometers and	thermometers and	scientific diagrams and	labels, classification
	and changes in the	questions.	questions.	data loggers	data loggers	labels, classification	keys, tables, scatter
	natural world around	Plants	Living Things and their	 gathering, recording, 	 gathering, recording, 	keys, tables, scatter	graphs, bar and line
	them, including the	identify and name a	Habitats	classifying and	classifying and	graphs, bar and line	graphs
	seasons and changing	variety of common	explore and compare	presenting data in a	presenting data in a	graphs	 using test results to
	states of matter.	wild and garden	the differences	variety of ways to help	variety of ways to help	 using test results to 	make predictions to
	Participate in small	plants, including	between things that	in answering questions	in answering questions	make predictions to	set up further
	group, class and one-	deciduous and	are living, dead, and	 recording findings 	recording findings	set up further	comparative and fair
	to-one discussions,	evergreen trees	things that have never	using simple scientific	using simple scientific	comparative and fair	tests
	offering their own	identify and describe	been alive	language, drawings,	language, drawings,	tests	reporting and
	ideas, using recently	the basic structure of a	identify that most	labelled diagrams,	labelled diagrams,	reporting and	presenting findings
	introduced	variety of common	living things live in	keys, bar charts, and	keys, bar charts, and	presenting findings	from enquiries,
	vocabulary.	•	habitats to which they	tables	tables	from enquiries,	including conclusions,
	Make comments	flowering plants, including trees.	are suited and	reporting on findings	reporting on findings	including conclusions,	causal relationships
	about what they have	Animals including Humans	describe how different	from enquiries,	from enquiries,	causal relationships	and explanations of
	heard and ask			including oral and	including oral and	and explanations of	and degree of trust in
	questions to clarify	identify and name a	habitats provide for	written explanations,	written explanations,	and degree of trust in	results, in oral and
	their understanding	variety of common	the basic needs of	· ·	•	results, in oral and	written forms such as
	their understanding	animals including fish,	different kinds of	displays or	displays or	written forms such as	
		amphibians, reptiles,	animals and plants,	presentations of	presentations of		displays and other
		birds and mammals	and how they depend	results and	results and conclusions	displays and other	presentations
		 identify and name a 	on each other	conclusions	using results to draw	presentations	identifying scientific
		variety of common	 identify and name a 	using results to draw	simple conclusions,	identifying scientific	evidence that has been
		animals that are	variety of plants and	simple conclusions,	make predictions for	evidence that has	used to support or
		carnivores, herbivores	animals in their	make predictions for	new values, suggest	been used to support	refute ideas or
		and omnivores	habitats, including	new values, suggest	improvements and	or refute ideas or	arguments.
		 describe and compare 	microhabitats	improvements and	raise further questions	arguments.	<u>Living Things and their</u>
		the structure of a	 describe how animals 	raise further questions	 identifying differences, 	Living Things and their	<u>Habitats</u>
		variety of common	obtain their food from	 identifying differences, 	similarities or changes	<u>Habitats</u>	 describe how living
		animals (fish,	plants and other	similarities or changes	related to simple	 describe the 	things are classified
		amphibians, reptiles,	animals, using the idea	related to simple	scientific ideas and	differences in the life	into broad groups
		birds and mammals,	of a simple food chain,	scientific ideas and	processes	cycles of a mammal,	according to common
		including pets)	and identify and name	processes	 using straightforward 	an amphibian, an	observable
		identify, name, draw	different sources of	using straightforward	scientific evidence to	insect and a bird	characteristics and
		and label the basic	food.	scientific evidence to	answer questions or to	describe the life	based on similarities
		parts of the human	1000.		support their findings.	process of	and differences,
		parts or the numan			Jupport their illianigs.	p. 00000 01	

Year 3

Year 4

Year 5

Year 6

body and say which part of the body is associated with each senses

Everyday Materials

- distinguish between an object and the material from which it is made
- identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- describe the simple physical properties of a variety of everyday materials
- compare and group together a variety of everyday materials on the basis of their simple physical properties.

Seasonal Changes

- observe changes across the four seasons
- observe and describe weather associated with the seasons and how day length varies.

<u>Plants</u>

- observe and describe how seeds and bulbs grow into mature plants
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Animals including Humans

- notice that animals, including humans, have offspring which grow into adults
- find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Uses of Everyday Materials

- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

answer questions or to support their findings.

Plants

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- investigate the way in which water is transported within plants
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Animals including Humans

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Rocks

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- describe in simple terms how fossils are formed when things

<u>Living Things and their</u> <u>Habitats</u>

- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- recognise that environments can change and that this can sometimes pose dangers to living things.

Animals including Humans

- describe the simple functions of the basic parts of the digestive system in humans
- identify the different types of teeth in humans and their simple functions
- construct and interpret a variety of food chains, identifying producers, predators and prey.

States of Matter

- compare and group materials together, according to whether they are solids, liquids or gases
- observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

reproduction in some plants and animals.

Animals Including Humans

 describe the changes as humans develop to old age.

<u>Properties and change of</u> <u>Materials</u>

- compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
- give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- demonstrate that dissolving, mixing and changes of state are reversible changes
- explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action

- including microorganisms, plants and animals
- give reasons for classifying plants and animals based on specific characteristics.

Animals Including Humans

- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- describe the ways in which nutrients and water are transported within animals, including humans.

Evolution and Inheritance

- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

<u>Light</u>

- recognise that light appears to travel in straight lines
- use the idea that light travels in straight lines to explain that objects

		that have lived are	Sound	of acid on bicarbonate	are seen because they
		trapped within rock	identify how sounds	of soda.	give out or reflect light
		 recognise that soils are 	are made, associating	Earth and Space	into the eye
		made from rocks and	some of them with	describe the	explain that we see
		organic matter	something vibrating	movement of the	things because light
		Light	recognise that	Earth, and other	travels from light
	-	recognise that they	vibrations from sounds	planets, relative to the	sources to our eyes or
		need light in order to	travel through a	Sun in the solar system	from light sources to
		see things and that	medium to the ear	describe the	objects and then to our
		dark is the absence of	find patterns between	movement of the	eyes
		light	the pitch of a sound	Moon relative to the	use the idea that light
		notice that light is	and features of the	Earth	travels in straight lines
		reflected from	object that produced it	describe the Sun,	to explain why
		surfaces	 find patterns between 	Earth and Moon as	shadows have the
			the volume of a sound	approximately	same shape as the
		 recognise that light from the sun can be 	and the strength of the	spherical bodies	objects that cast them.
		dangerous and that	vibrations that	use the idea of the	Electricity
		there are ways to	produced it	Earth's rotation to	associate the
		protect their eyes	 recognise that sounds 	explain day and night	brightness of a lamp or
		recognise that	get fainter as the	and the apparent	the volume of a buzzer
		shadows are formed	distance from the	movement of the sun	with the number and
		when the light from a	sound source	across the sky.	voltage of cells used in
		light source is blocked	increases.	Forces	the circuit
		by an opaque object	Electricity	explain that	compare and give
		 find patterns in the 	identify common	unsupported objects	reasons for variations
		way that the size of	appliances that run on	fall towards the Earth	in how components
		shadows change.	electricity	because of the force of	function, including the
		Forces and Magnets	construct a simple	gravity acting between	brightness of bulbs,
		 compare how things 	series electrical circuit,	the Earth and the	the loudness of
		move on different	identifying and naming	falling object	buzzers and the on/off
		surfaces	its basic parts,	identify the effects of	position of switches
		notice that some	including cells, wires,	air resistance, water	use recognised
		forces need contact	bulbs, switches and	resistance and friction,	symbols when
		between two objects,	buzzers	that act between	representing a simple
		but magnetic forces	identify whether or	moving surfaces	circuit in a diagram.
		can act at a distance	not a lamp will light in	 recognise that some 	
	,	observe how magnets	a simple series circuit,	mechanisms, including	
		attract or repel each	based on whether or	levers, pulleys and	
		other and attract	not the lamp is part of	gears, allow a smaller	
		some materials and	a complete loop with a	force to have a greater	
		not others	battery	effect.	
	,	 compare and group 	 recognise that a switch 		
		together a variety of	opens and closes a		
		everyday materials on	circuit and associate		
		the basis of whether	this with whether or		
		they are attracted to a	not a lamp lights in a		
		magnet, and identify	simple series circuit		
		some magnetic	 recognise some 		
		materials	common conductors		
	.	 describe magnets as 	and insulators, and		
		having two poles	associate metals with		
] .	 predict whether two 	being good		
		magnets will attract or	conductors.		
		repel each other,			
	1				1

				depending on which		
				poles are facing		
			By the end of the ye	ear, children should be able to		
			T	Plants		
Working	Reception:	Explore the outdoor area of	Investigate how plants	Plant seedlings to		
Scientifically	Explore the natural world around them	school and observe plants that are growing.	disperse their seeds and why.	investigate what plants need to grow strong and		
	around them	that are growing.	wily.	healthy.		
	Explore the natural world	Plant seeds in a jar or bag.	Explore plants that spread	neutry.		
	around them, making observations and drawing	Predict what will happen and start to watch them	their seeds by utilising the wind.	Record the growth of the		
	picture of animals and	grow.	willa.	seedlings. Make detailed,		
	plants (ELG)	8	Make a seed helicopter and	labelled drawings of what		
		Look at flowers outside in	a dandelion seed.	has happened.		
		the playground, make a				
		large model in the	Investigate different ways	Use data loggers to record		
		classroom.	that plants can disperse their seeds, including seed	temperature and light over a 24-hour period		
			designed to stick on animals	a 24-nour periou		
			and humans.	Draw graphs, make		
				drawings and write reports		
			Plant beans in bags of water	to explain findings from		
			to investigate what they	investigations.		
			need to grow into healthy			
			plants. Predict what will happen to the bean left	Make close observations of		
			growing in a cupboard.	different flowers with		
			Record the growth of cress	magnifiers.		
			seeds and predict how long			
			it will take for them to be	Discover what happens to		
			long enough to eat.	flowers after pollination		
				Ask questions and make		
				observational drawings and		
				notes to explore different		
				fruits.		
				Make a manager and		
				Make a paper seed and investigate wind dispersal		
				by testing different versions		
				to find the best flier.		
Skills	Reception:	Identify the different parts	Observe and describe the	Identify and describe the		
	Describe what they see,	of a wild flowering plant.	growth of seeds and bulbs.	different functions of a		
	hear and feel whilst outside	Doscribo what each part of a	Find out and describe what	flowering plant.		
	Explore the natural world	Describe what each part of a wild flowering plant does.	plants need to grow and	Explore what plants need		
	around them, making	a nowering plant does.	stay healthy.	for life and growth.		
	observations and drawing	Identify a variety of	' '			
	picture of animals and	common wild and garden	Explain the difference	Investigate how water is		
	plants (ELG)	plants.	between seeds and bulbs.	transported within plants.		
	Participate in small group,		Identify and explain the	Explore what each part of		
	class and one-to-one		different parts of a plant.	the flower plays in the life		
	discussions, offering their		ac. circ parts or a piant.	cycle of a flowering plant.		

	own ideas, using recently introduced vocabulary (ELG) Make comments about what they have heard and ask questions to clarify their understanding (ELG)		Describe the life cycle of a plant.	Explore what pollination and fertilisation is. Explore the different methods of seed dispersal.			
Knowledge	Reception: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter (ELG)	Know what plants need to grow. Know the different parts of a wild flowering plant. Name a variety of common wild and garden plants. Understand the difference between trees and flowering plants. Understand the difference between deciduous and evergreen trees.	Understand that seeds and bulbs grow into mature plants. Know what plants need to grow and stay healthy. Know the difference between seeds and bulbs. Know the different parts of a plant. Know the life cycle of a plant. Know what kind of liquid a plant needs to survive and stay healthy.	Know the different functions of a flowering plant. Know what plants need for lie and growth. Know how water is transported within plants. Know what each part of the flower plats in the life cycle of a flowering plant. Know what pollination and fertilisation is. Understand how insects and other creatures are important in the pollination of flowers. Know the different methods of seed dispersal.			
Vocabulary	vegetables fruit growth rhubarb size roots petals stem soil water sunlight pollen	deciduous evergreen germination living, Produce reproduce seedling trunk wild sort features	coniferous reproduction survival Warmth	anchor carbon dioxide dispersal fertiliser life-processes oval oxygen pollen pollination seed formation transportation			
Working Scientifically	Reception: Explore the natural world around them, making observation and drawing pictures of animals and plants (ELG)	Observe changes to the body over time by comparing baby photos with current ones. Collect data about head size, hand and foot size, hair	Using magnifying glasses, closely observe feathers and eggs and draw what is seen. Gather information about visitors who are pregnant or	s including Humans Tabulate, draw graphs and analyse data from a survey of people's diet and use it to answer questions. Make predictions, gather data, discuss, display and	Use everyday objects to demonstrate the human digestive system. Use physical activity to demonstrate an understanding of the	Use annotated diagrams to present the key stages of foetal development. Research and create an infographic on baby growth.	Create a painting/drawing of blood as seen under a powerful microscope and include a detailed description to accompany it.

		and eye colour. Look for patterns in the measurements collected. Explore different foods using different senses and classify into groups. Explore how different senses are used in the environment. Gather together safe but stimulating things to engage the different senses. Classify these together into the five sensory groups. Explore animals' behaviours and habitats in the local environment and look for behaviour patterns. Observe minibeast outside in their own habitat. Look at their features and predict what type of place a minibeast would like to live. Create a minisbeast house and record where they go. Plan an investigation to test the absorbency of different types of paper. Predict which paper will be the best at soaking up the accident and then test them to find	have very young children by careful questioning. Observe and record what happens to the body during exercise.	interpret findings about whether people have stronger muscles because they use them more. Plan and carry out an investigation to answer a health and fitness question.	functions of each part of the digestive system.	Compare 'red books' (make examples) and predict growth patterns. Create a human timeline.	Plot the journey of water and food through the body.
Skills	Reception: Explore the natural world around them, making observation and drawing pictures of animals and plants (ELG) Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. (ELG) Make comments about what they have heard and ask questions to clarify their understanding (ELG)	out. Identify the difference between carnivores and herbivores. Identify a variety of animals that are carnivores, herbivores and omnivores. Explain how animal's teeth link to their diet. Identify, draw and label the basic parts of the human body.	Observe the development of a chicken in an egg. Identify the differences between babies, young children, adults and elderly people. Identify essential provisions that humans need to survive. Investigate what happens to the human body during exercise. Describe what humans can do to stay healthy including	Identify what types and amounts of nutrition animals and humans need. Explain why animals have skeletons. Distinguish between vertebrate and invertebrate. Decide whether an animal is an invertebrate or vertebrate. Identify the common names of the human bones.	Identify different teeth and describe their functions in humans. Explain how different drinks can affect teeth. Explain how toothpaste can help clean decay. Describe the different parts of the digestive system. Describe the functions of different parts of the digestive system.	Explore the key stages of foetal development. Identify the changes that occur during puberty. Explain what happens to the body as it gets old. Identify the key milestones in a human life and how they impact on the body	Identify the main parts of the human circulatory system. Describe the functions of the heart, blood vessels and blood. Describe how nutrients and water are transported in the human body. Explain the difference between cells, tissues and muscles.

			exercise, nutrition and hygiene.		Identify which living things are producers, predators and prey. Construct and interpret different food chains.		
Knowledge	Reception: Explore the natural world around them, making observation and drawing pictures of animals and plants (ELG)	Know the names and features of common animals. Know the difference between carnivores and herbivores. Name a variety of animals that are carnivores, herbivores and omnivores. Know how animal's teeth link to their diet. Name the basic parts of the human body. Say which part of the human body is associated with each sense. Know that there is variation between humans' hair colours. Understand what camouflaged means.	Understand the development of a chicken in an egg. Know the differences between babies, young children, adults and elderly people. Know which essential provisions humans need to survive. Know what happens to the human body during exercise. Understand what makes a healthy, balanced meal using the different food groups.	Know what types and amounts of nutrition animals and humans need. Know what a skeleton is. Know the difference between vertebrate and invertebrate. Know whether an animal is an invertebrate or vertebrate. Know the common names of the human bones. Know the difference between bones and muscles.	Know the names of different teeth and their functions in humans. Know how different drinks can affect teeth. Know how toothpaste can help clean decay. Understand what the digestive system is. Know what a producer, predator and prey is. Know how to use a food chain.	Know the key stages of foetal development. Understand the changes that occur during puberty. Know what happens to the body as it gets old. Know the key milestones in a human life and how they impact on the body.	Name the main parts of the human circulatory system. Know the functions of the heart, blood vessels and blood. Know how nutrients and water are transported in the human body. Know the impact of a healthy lifestyle on the way the body functions. Know the impact of drugs on the human body. Know the difference between cells, tissues and muscles. Know how muscles work.
Vocabulary	body parts hip back leg touch/feel hear see smell sweet sour bland salty savoury	Amphibians carnivores Features herbivore Mammals omnivore reptiles sense webbed feet	conditions desert diet exercise female germs growth habitats healthy life-cycle male medicine Nutrients Nutrition shelter stages unhealthy	Bones carbohydrates Cereals contract dairy endoskeleton exoskeleton fats fibre grains hydrostatic skeleton invertebrates Joints lipids minerals muscles Protection protein relax Skeleton Skull	abdomen appendix bile canine colon Consume Digestive system enamel enzyme gall bladder gastrointestinal tract Gut incisor Jaw large intestine liver metabolism molar Oesophagus orifice pancreas	ageing Counteract degradation, Development Embryo Emotional Foetus Gestation Hormone Life-span Physical Processes Puberty Womb	alcohol Alveoli Artery balanced diet blood vessels blood, vein Capillary Circulatory system Deoxygenated drugs internal organs muscular Oxygenated Pulmonary side-effects skeletal tobacco Valve Villi

	I	1	Т	•			
				Support	predatory		
				vitamins	premolar		
					rectum		
					saliva		
					salivary glands		
					small intestine		
					Vegan		
					Vegetarian		
			Living This	gs and their Habitats	v eBetariari		
Working	Reception:	Evn	olore outside, and	gs and their napitats	Ask relevant questions	Dissect a flower and explore	Create a classification key.
Scientifically	Explore the natural world	-	ough observation, the		about living things and their	the flowering plant	create a classification key.
Scientifically	around them.		ferences between things		habitats and begin to group	reproduction.	Observe, record and classify
	around them.				= = :	reproduction.	
			at are living, dead, and		them.		local area living things.
			ngs that have never been			Grow new plants from a	
		alive	/e.		Observe local habitats and record living things they see	range of parent plant parts.	Classify unusual creatures and plants.
		Finc	d specimens and explain		around them.	Observe and sketch insect	
			w they know they are			and amphibian lifecycles for	
			ve or otherwise.		Make accurate	comparison.	
		anve	ve or otherwise.		observational drawings of	companison.	
		Dh a			_	December and alcatele	
			otograph or draw the		an invertebrate found in the	Research and sketch	
			cro-habitats in the school		local environment.	mammalian and bird life	
		grou	ounds.		Make a group large-scale	cycles for comparison.	
					drawing of an insect.		
			nsider and draw				
		con	nclusions about what lives		Conduct an experiment to		
		in th	these microhabitats and		investigate how the		
		why	ıy.		greenhouse effect works.		
		·			Use the results to discuss		
		Resi	search which minibeasts		how people are causing		
			e planter habitat would		climate change.		
			nefit from and suggest		chinate change.		
		ther	eas on how to attract				
Skills	Reception:		scribe how a		Identify the seven	Compare the similarities and	Use a branching
SKIIIS	·		crohabitat is suited to a				classification key to identify
	Describe what they see,				characteristics of a living	differences between	
	hear and feel whilst outside.	part	rticular minibeast.		thing.	animals' life cycles.	subtle differences between
	Danamias sams	Family	alainlaat a mainilaanat		Ourselle suincele inte the	Compain have different	certain plants and animals.
	Recognise some	•	plain what a minibeast		Organise animals into the	Explain how different	Decision of the state of the state of
	environments that are	Will	I need in its microhabitat.		major groups.	animals are suitable for	Design a 'new' creature that
	different to the one in					their environment and	fits within a specific
	which they live.		entify, explore and		Use a classification	habitat.	classification.
			mpare things that are		key/branching database to		
	Participate in small group,	livin	ng, dead or never alive.		group, identify and name	Investigate ways that plants	
	class and one-to-one				living things according to	reproduce asexually.	
	discussions, offering their	Ider	entify different sources of		their features.		
	own ideas, using recently	food	od.			Describe the different parts	
	introduced vocabulary.				Consider how the local	of a dissected, real-life	
	(ELG)	Ider	entify some wildlife in the		environment has changed.	flower including the key	
	` -,		al area.			sexual structures.	
	Make comments about	loca			Consider natural and man-	Serial Stractures.	
	what they have heard and				made changes to the	Explain how plants disperse	
	ask questions to clarify their				environment and how living	seeds.	
					S .	seeus.	
	understanding (ELG)				things have adapted to		
					these changes.		

			Investigate how the		
			greenhouse effect works.		
Knowledge	Reception:	Name some different	Understand that living	Know the similarities and	Know about the seven levels
	Know some similarities and	minibeasts	things can be grouped in a	differences between	of the Linnaeus' system.
	differences between the		variety of ways.	animals' life cycles.	
	natural world around them	Know how a microhabitat is			Understand what
	and contrasting	suited to a particular	Know the seven	Know how different animals	microorganisms are and why
	environments, drawing on	minibeast and what it needs	characteristics of a living	are suitable for their	they are important.
	their experiences and what	to include.	thing.	environment and habitat.	
	has been read in class (ELG)				Know how to use a
		Understand how a	Know how scientists use	Know how plants reproduce	branching classification key
	Participate in small group,	microhabitat provides for	similarities and differences	asexually.	to identify subtle differences
	class and one-to-one discussions, offering their	the basic needs of different insects.	as a basis for organising animals.	Name the different parts of	between certain plants and animals.
	own ideas, using recently	insects.	animais.	a dissected, real-life flower	animais.
	introduced vocabulary (ELG)	Know things which are	Understand what climate	including the key sexual	
	incloduced vocabulary (LLG)	living, dead or never alive.	change is.	structures.	
	Make comments about				
	what they have heard and	Know what a habitat is and	Know natural and man-	Know how plants disperse	
	ask questions to clarify their	how it is suited for different	made changes to the	seeds.	
	understanding (ELG)	animals and plants.	environment and how living		
			things have adapted to		
		Understand what a food	these changes.		
		chain is.			
			Know how the local		
		Know how wildlife in the	environment has changed.		
		local area are part of the food chain.			
Vocabulary	waterhole	Antarctic	adaptation	Anther	algae
Vocabulary	bullfrogs	artic	annelids	arthropods	Bacteria
	spoonbills	characteristics	antennae	Asexual	Hierarchies
	starlings	coastal	arachnids	Carpel	Kingdoms
	culture	consumer	backbone	conception,	life domains
	environment	energy	climate change	Egg	Linnaean
	reptile	food sources	Deforestation	Fertilisation	Microorganisms
	life cycle	Invertebrate	Environment	Filament	Mould
	chrysalis	minibeasts (names of	excretion	Fledglings	organisms
		minibeast e.g., milliped,	global warming	Gametes	Phylum
		spider)	greenhouse gases	Germinate	Populations
		polar	human impact	gestation period	taxonomy
		predator	nature reserves	juvenile	Yeast
		prey	respiration	Male Metamorphosis	
		producer sensing	segments sensitivity	Nectary	
		urban	species	Nymph	
		Vertebrates	thorax	Ovary	
			urbanisation,	Ovules	
			warm and cold blooded	Pistil	
				Pollinator	
				Pregnancy	
				Propagation	
				Sepal	

						Sexual Stamen					
						Stigma					
						Style					
	Everyday materials										
Working	Reception:	Test a selection of materials	Investigate which papers								
Scientifically	Explore the natural world around them, making	using a pipette to simulate raindrops and consider why	are the most absorbent.								
	observation and drawing	some materials let water	Devise an investigation to								
	pictures.	through and others do not.	test a variety of materials								
		Look at a selection of	for their absorbent property.								
		materials and consider									
		which one is best for fixing a	Explore different fabrics and								
		torn umbrella. Explain your selection and predict the	investigate how waterproof they are using a dropper of								
		outcome.	water.								
			Explore the textures and								
			properties of different								
			materials by printing with a								
			selection of items.								
			Explore the waterproof								
			properties of wax by								
			creating a wax resist picture.								
			Investigate which ball is the								
			bounciest, plot the results on a chart.								
			Devise an investigation to test the elasticity of a fabric								
			and record the results.								
			Examine a selection of different materials and								
			explore their rigidity by								
			devising an investigation to								
			test them.								
			Test the papers using								
			weights to find the								
			strongest one and record the results.								
			Build a paper bridge strong enough to hold a toy car.								
Skills	Reception:	Recognise the properties of	Identify materials that are								
	Participate in small group, class and one-to-one	different materials.	absorbent.								
	discussions, offering their		Identify materials that are								
	, - 6		waterproof.								

	own ideas, using recently	Explain why different				
	introduced vocabulary (ELG)	materials are used for	Identify materials that are			
		certain objects.	transparent and opaque.			
	Make comments about what they have heard and	Match adjectives to	Identify the similarities and			
	ask questions to clarify their	describe the properties of	differences of a variety of			
	understanding (ELG)	different materials.	everyday materials.			
	anderstanding (EEG)	direction materials.	everyddy materiais.			
		Sort and group objects	Explain how the shapes of			
		based on the properties of	solid objects made from			
		the materials.	some materials can be			
		- I : I : I'm	changed.			
		Explain what different materials are used for.	Choose the best materials			
		materials are used for.	to use to build an object.			
			to use to build all object.			
Knowledge	Reception:	Know the properties of	Know which materials are	-		
	Understand some important	different materials.	best for certain uses.			
	processes and changes in					
	the natural world around	Know why different	Know the properties of a			
	them, including the seasons	materials are used for	variety of everyday			
	and changing states of matter (ELG)	certain objects.	materials and objects.			
	matter (LLG)	Know the similarities and	Know how and why the			
		differences between the	shapes of solid objects			
		physical properties of	made from some materials			
		everyday materials.	can be changed.			
		Kananah different	Understand that different			
		Know what different materials are used for.	Understand that different everyday materials have			
		materials are asea for.	different levels of buoyancy.			
			, , , , , , , , , , , , , , , , , , , ,			
			Know which materials float			
			best.			
Vocabulary	Dull	absorbent	Fabric			
	Glass	bendy/not bendy	Firm			
	Hard metal	man-made material	Flexible Reflective			
	Plastic	natural	Rubber			
	Rough	opaque	Translucent			
	Shiny	pipet,	Transparent			
	Smooth	Properties	Windproof			
	Soft	Stiff				
	Wood	Stretchy				
	<u> </u>	waterproof/not waterproof				
	1		Properties a	and changes of materials	I	
Working					Investigate hard materials	
Scientifically					suitable for food preparation.	
					Investigate thermal	
					insulating properties of	
					materials to keep	
					refreshments hot or cold.	

				Investigate electrical	
				insulators/conductors for	
				health and safety purposes.	
				Explore methods to	
				separate mixed materials	
				back into their constituent	
				parts. Write up the	
				experiments.	
				experiments.	
				Make now meterials	
61.111				Make new materials.	
Skills	Reception:			Compare the similarities and	
	Participate in small group,			differences of properties of	
	class and one-to-one			everyday materials.	
	discussions, offering their				
	own ideas, using recently			Investigate soluble and non-	
	introduced vocabulary (ELG)			soluble materials.	
	Make comments about			Identify which mixtures can	
	what they have heard and			be separated through	
	ask questions to clarify their			filtering, sieving and	
	understanding (ELG)			evaporating.	
				Identify some chemists who	
				have invented new	
				materials.	
Knowledge	Reception:			Know the similarities and	
Kilowieuge	Understand some important			differences of properties of	
	processes and changes in				
				everyday materials.	
	the natural world around them, including the seasons			Kanasa kanin kana	
				Know which materials are	
	and changing states of			soluble and non-soluble.	
	matter (ELG)			Kanadhalana .	
				Know that some mixtures	
				can be separated through	
				filtering, sieving and	
				evaporating.	
				Know the difference	
				between reversible and	
				irreversible.	
				Understand that dissolving,	
				mixing and changes of state	
				are reversible changes.	
				-	
				Know some changes result	
				in the formation of new	
				materials, and that this kind	
				of change is not usually	
				reversible.	
	<u>l</u>			I CVCI SIDIC.	

				Γ	
Vocabulary				Chemical	
				condense	
				Conductivity	
				Dissolving	
				evaporate,	
				Filter	
				Insoluble	
				Irreversible	
				Property	
				Reversable	
				Solubility	
				Soluble	
				Solute	
				Solution	
				solvent	
				suspension	
				thermal	
		States of Matter		ce.ma	
		States of Watter			
Working			Examine and compare the		
Scientifically			viscosity of ketchups.		
			Investigate the presence of		
			gases.		
			Use a thermometer to make		
			observations as water		
			changes from one state to		
61.311.			another.		
Skills			Describe the properties of		
			solids, liquids and gases.		
			Explain what happens when		
			a sweet is dropped into a		
			fizzy drink.		
			Explain what happens when		
			chocolate is melted and		
			cooled.		
			555.54.		
			Explain what happens when		
			a liquid is frozen.		
			Doscribo what hannens st		
			Describe what happens at		
			each stage in the water		
l			cycle.		
Knowledge			Know the difference		
			between a solid, liquid and a		
			gas.		
			Understand how particles		
			behave in different states.		
			Understand what		
			evaporation and		
			condensation is.		

Vocabulary				change of state	
•				Collection	
				condensation	
				Cooling	
				Energy	
				evaporation	
				Freeze	
				Gas	
				Liquid	
				melting point	
				Dartislas	
				Particles	
				precipitation	
				Process	
				Solid	
				State	
				states of matter	
				water cycle	
				water droplets	
				water vapour	
				viscosity	
		Soc	asonal Changes	· · · · · · · · · · · · · · · · · · ·	
		366	isoliai Cilaliges		
Working	Observe the temperature				
Scientifically	and wind outside.				
Scientifically	and wind outside.				
	Take the temperature				
	outside in the morning and				
	the afternoon.				
	Record these observations				
	in the classroom and discuss				
	the changes.				
	and analogous				
	Total calculation by				
	Track a shadow by				
	observing and measuring it				
	over time.				
	010				
	Make a bar chart of paper				
	strips of shadow length				
	plotted against time				
	intervals				
	intervals.				
	Set up rainfall gauges up in				
	the playground and record				
	the playground and record				
	the rainfall over a period of				
	time.				
	Make a winder to to				
	Make a windsock to				
	measure wind direction and				
	a wind vane to measure the				
	direction of the wind.				
	an ection of the willu.				
	Make a thermometer box to				
	house a thermometer and				
	use it outside in the				
	playground.				

		Children write a list of			
		equipment needed.			
Skills	Reception:	Identify objects that match			
	Participate in small group,	to each season.			
	class and one-to-one discussions, offering their	Investigate how shadows			
	own ideas, using recently	change during the day.			
	introduced vocabulary (ELG)	change during the day.			
	introduced vocabulary (EEG)	Identify the similarities and			
	Make comments about	differences between			
	what they have heard and	difference seasons.			
	ask questions to clarify their	difference seasons.			
	understanding (ELG)				
Knowledge	Reception:	Understand what the			
	Understand the effect of	weather is.			
	changing seasons on the				
	natural world around them	Know that weather			
		forecasters tell us what			
	Understand some important	weather to expect.			
	processes and changes in				
	the natural world around	Know what happens in			
	them, including the seasons	different seasons.			
	and changing states of				
	matter (ELG)	Understand what happens			
		to the day length in			
		different seasons.			
		Name the earth, sun and			
Masshulami	A t	moon in the solar system.			
Vocabulary	Autumn Rain	Heat			
	Seasons	Overcast			
	Snow	temperature			
	Spring				
	Summer				
	Sunny				
	weather				
	Windy				
	Winter				
	•	•	Light		
Working			Investigate the nature of		Investigate and demonstrate
Scientifically			darkness, light and sight		that light travels in straight
			with a torch, a cardboard		lines.
			box and pencil holes.		
					Investigate how light reflects
			Predict and then investigate		by making a periscope.
			how well different colours		
			and materials reflect light in		Investigate shadows and
			a simulated dark cave. Use		how they change as a result
			results to sort and classify		of light sources.
			the samples.		Foods as a distribute (Cont.
			Discover the properties of		Explore split light (finding
			Discover the properties of mirrors and reflections by		'rainbows').
			undertaking different		
1			L andertaking uniterent		

				investigative tasks and use scientific knowledge on light			Investigate coloured light mixing.		
				to explain findings.					
				Investigate how different objects create shadows.					
				Conduct a fair test to find the precise relationship					
				between the distance of a torch and the size of a					
				shadow.					
				Investigate how coloured light beams mix and what					
				it's like to look through					
				different coloured filters.			Explain why shadows have		
Skills				Explain how light travels.			the same shape as the		
				Describe the difference			objects that cast them.		
				between opaque,					
				translucent and transparent objects.			Explain what transparent, translucent and opaque		
				objects.			mean and why they are		
				Explain how shadows are formed.			used.		
Knowledge				Understand that we need			Understand that light travels		
				light in order to see things.			in straight lines.		
				Know that dark is the			Know how the Sun causes		
				absence of light.			shadows.		
				Understand that light is			Understand how light is		
				reflected from surfaces, including mirrors.			affected by transparent, translucent and opaque		
				including mirrors.			objects.		
				Understand that light from					
				the Sun can be dangerous.			Know that objects are seen because they give out or		
				Know how to protect my			reflect light into the eye.		
				eyes from the Sun.			,		
Vocabulary				Beam			absence of light		
				block			Absorb		
				Bounce Glare			Emitted Refraction		
				Light source			Scattered		
				Ray					
				Reflect Transparent					
				Visible					
			Force	es and Magnets					
	ruices and widginets								

Working	Danastian.	Ask questions a	and Albania	In anticote manufacture and
	Reception:			Investigate parachutes and
Scientifically	Explore the natural world	investigate how		air resistance.
	around them.	run on different	surfaces.	
				Investigate and create levers
		Investigate how		and pulleys.
		that make thing		
		(pushes and pul		Investigate gears.
		magnetic forces		
		things at a dista	nce without	Investigate friction.
		forces touching		
				Investigate boats and water
		Investigate how	magnets	resistance.
		attract some ma	aterials and	
		not others.		
		Investigate the		
		of magnets, ma	_	
		predictions and	testing	
		ideas.		
		Write the meth	od for an	
		experiment.		
Skills	Reception:	Identify differer	nt forces.	Identify the effects of
	Participate in small group,			different types of forces.
	class and one-to-one	Discover which		
	discussions, offering their	contact betwee	n two	Investigate the impact of
	own ideas, using recently	objects and whi	ch ones do	levers, pulleys and gears on
	introduced vocabulary (ELG)	not need any co	ontact.	forces.
	Make comments about	Identify materia	als that are	
	what they have heard and	attracted to a m		
	ask questions to clarify their	materials that a	_	
	understanding (ELG)	illateriais triat a	Te magnetic.	
	diderstanding (EEG)	Explain how ma	gnets are	
		used in everyda		
Knowledge	Reception:	Understand who		Understand what gravity is.
	Understand some important	onacistana um		
	processes and changes in	Know which for	ces need	Understand why
	the natural world around	contact betwee		unsupported objects fall
	them, including the seasons	objects and whi		towards the Earth.
	and changing states of	not need any co		
	matter (ELG)	not need any ee		
		Know that magi	nets attract	
		or repel each ot		
		some materials		
		others.	una not	
		otileis.		
		Understand how	w magnetic	
		forces can act a		
		Torces can act a	t a distallect	
		Know that mag	nets have	
		two poles.		
I	ı	two poles.		

				T = .	
Vocabulary	magnet	attract		Brake	
		compass		Cog	
		Force		Gears	
		force meter		Gravitation	
		Friction		Gravity	
		Iron		Lever	
		Magnetic		Mechanism	
		magnetic field		Newton	
		non-magnetic		Opposing	
		Poles		Pulleys	
		repel		Resistance	
		spring		streamline	
		surface			
		Water resistance			
				-	
		Rocks	T		
Working		Observe, group, draw,			
Scientifically		describe and name rock			
•		samples.			
		Laurentina ter differen et Linda			
		Investigate different kinds			
		of rocks' physical			
		properties.			
		Investigate the properties of			
		different rooks with fair			
		different rocks with fair			
		testing e.g., permeability,			
		hardness and an acid test			
		for the presence of calcium			
		carbonate.			
		carbonate.			
		Identify different rocks for			
		identity different rocks for			
		different purposes in the			
		local area. Record findings.			
		Investigate different soils,			
		asking questions and			
		seeking answers through a			
		seeking diswers till ough d			
		variety of scientific			
		enquiries (exploring/			
		classifying and identifying			
		/fair testing)			
Skills		Use a rock identification			
SKIIIS					
		key.			
		Explain how fossils are			
I		formed.			
		l connect.			
		_ , ,			
		Describe how soil is formed.			
		l .			

f			at the		
Knowledge			Know the differences		
1			between igneous,		
•			sedimentary and		
1			metamorphic rocks.		
1					
·			Know how fossils are		
1			formed.		
1					
•			Know what palaeontology is		
'			and what a palaeontologist		
·			does.		
•			4003.		
			Name different types of soil.		
Vocabulary			anthropic		
vocabulary					
'			body fossil		
'			cast fossil		
<u>'</u>			chemical fossil		
			Extinct		
<u>'</u>			igneous		
•			Impermeable		
·			lava		
•			magma		
·			metamorphic		
·			mould fossil		
•			organic matter		
1			Permeable		
1			replacement fossil		
1			sediment		
·					
•			sedimentary		
·			sub soil		
·			topsoil		
			trace fossil		
			Electricity		
Working				Identify electrical	Investigate a range of simple
Scientifically	1			components and explore	electric circuit challenges
· '	1			electrical circuits.	(planning/fair
•	1				testing/exploring).
1				Test different materials to	
1				see whether or not they	Investigate the effects of
i				complete a circuit.	voltage and number of
'	1			complete a circuit.	
•	1				components on a working
1	1				circuit.
1	1				
1	1				Draw circuit diagrams.
<u>'</u>	1				
1	1				Design and make a dimmer
<u>'</u>	1				switch.
i					
1	1				Design and create a light
1	1				decoration circuit.

Skills	Danastian.	Identify electrical dangers	Set up a range of circuits to
SKIIIS	Reception:		Set up a range of circuits to
	Participate in small group,	around the home.	identify how they work and
	class and one-to-one		how to achieve a range of
	discussions, offering their	Identify which appliances	effects.
	own ideas, using recently	need electricity.	
	introduced vocabulary (ELG)		
	, , ,	Identify basic parts of a	
	Make comments about	circuit.	
	what they have heard and	chedit.	
		Duild a sinsuit	
	ask questions to clarify their	Build a circuit.	
	understanding (ELG)		
		Explain why a switch is	
		important in a circuit and	
		what it does.	
		Predict what would happen	
		if there was a break in the	
		circuit.	
		circuit.	
		Identify materials which are	
		good conductors or	
		insulators.	
		Explain why metals are good	
		conductors.	
		Identify objects which are	
		good conductors or	
		insulators and explain why.	
Vacantadas	Danastian.		Know which symbols to use
Knowledge	Reception:	Know what electricity is and	
	Understand some important	why it is important.	when representing a simple
	processes and changes in		circuit in a diagram.
	the natural world around	Know which appliances	
	them, including the seasons	need electricity.	Know the effect of the
	and changing states of		voltage of cells used in a
	matter (ELG)	Name basic parts of a	circuit on the brightness of a
	, ,	circuit.	lamp or the volume of a
		***************************************	buzzer.
		Understand what makes a	DULLETT
		complete circuit.	
		, , , , , ,	
		Know what a switch is and	
		why it is important in a	
		circuit.	
		Know what would happen if	
		there was a break in the	
		circuit.	
		Know what a conductor and	
		insulator is.	
		ilisulator is.	
		Waranin Broken and a state of	
		Know which materials and	
		objects are good conductors	
		or insulators.	
	l .	Of Illudiators.	

M I I	all and the			A Para a sa	 -1
Vocabulary	electricity,			Appliances	atom
				Buzzer	Dimmer
				Cell	electrical symbols
				Circuit	electrons
				component	neutrons
				Conductor	nucleus
				crocodile clips	Parallel circuit
				electric conductor	protons
l				electrical insulator	series circuit
				fossil fuels	
				Mains	
				Motor	
				renewable energy	
				Wires	
			Sound		
Working				Investigate vibrations and	
Scientifically				how sound travels.	
I					
				Investigate pitch and	
				volume by exploring	
				instruments and the	
				different sounds they make.	
				•	
				Plan and conduct an	
				investigation into which	
				material best reduces the	
				sounds we hear.	
Skills	Listan attantival, manuala				
SKIIIS	Listen attentively, move to			Explain how sound	
	and talk about music,			vibrations travel through a	
	expressing their feelings			medium to the ear.	
	and responses.				
				Describe how musical	
	Describe what they see,			instruments make sound.	
	hear and feel whilst outside				
				Explain how different	
	Participate in small group,			sounds are made, including	
	class and one-to-one			higher and lower pitch.	
	discussions, offering their			5 	
	own ideas, using recently			Investigate why some	
	introduced vocabulary (ELG)			materials are better for	
	introduced vocabulary (LLG)			sound to travel through	
	Make comments about				
	Make comments about			than others.	
	what they have heard and				
	ask questions to clarify their			Describe how the length of	
	understanding (ELG)			the vibration can affect the	
				sound.	
				Describe how distance can	
				affect the sound.	
				-	
Knowledge	Understand sounds they			Know what vibrations are	
	have heard.			and how they travel through	
				a medium to the ear.	
1				a medium to the ear.	

				Understand how musical		
				instruments make sound.		
				Understand how the shape		
				of an ear affects how we		
				hear sounds		
				Know why some materials		
				are better for sound to		
	1			travel through than others.		
Vocabulary	Quiet			Amplitude		
	Loud			Pitch		
	ear			vibration		
				Volume		
				Wave		
		_	with and Coase			
Working		 Ea	rth and Space		Davolan anguire acceptions	
Scientifically					Develop enquiry questions.	
Scientifically					Create a scale model of the	
					solar system.	
					John Systems	
					Create an orrery to explore	
					heliocentricity.	
					,	
					Set up an investigation to	
					demonstrate that the Earth	
					spins on its own axis.	
					Create a sundial and explore	
					time zones.	
					Implement some	
					investigations to show why	
					the moon appears to change	
					shape throughout the	
Skills					month Explain the movement of	
SKIIIS					the Moon in relation to the	
					Earth.	
					Eurui.	
					Explain why we have day	
					and night and how the Earth	
					orbits the Sun.	
					Explain how a sundial works	
					and why we have different	
					time zones around the	
					world.	
Knowledge					Understand the movement	
					of the planets in relation to	
					the Sun.	
					Know the order of the	
					planets in our solar system.	

		I	I		
				Know what waxing, waning, new and full mean in relation to the Moon. Understand what a lunar month is. Know what an elliptical orbit is. Understand why we have seasons.	
Vocabulary				Axis constellation crescent geocentric gibbous heliocentric Jupiter lunar Mars Neptune orbit Phases of the Moon Mercury Planets revolve, rotate, Rotation Saturn solar system Uranus Venus waning	
		Evoluti	on and Inheritance	waxing	
Working Scientifically		Lvoluti	on unit initiality		Identify things that are inherited and things that are learned. Explore variation through dog breeds. Identify features that support survival in a given
Skills					environment. Compare the differences between environmental and inherited characteristics. Describe how animals are adapted to suit their

I				
				environment in different
				ways.
				Et al and all and the
				Find out about the
				evolutionary facts behind
				some traditional folk tales
				about features of some
				animals.
Knowledge				Know the difference
				between environmental and
				inherited characteristics
				l.,
				Know how animals and
				plants are adapted to suit
				their environment in
				different ways and that this
				adaptation can lead to
				evolution
				Understand that living things
				have changed over time
				Understand that fossils
				provide information about
				living things that inhabited
				the earth millions of years
				ago
				450
				Recognise that living things
				produce offspring of the
				same kind, but normally
				offspring vary and are not
				identical to their parents
Vocabulary				Evolution
,				Fossils
				Gene
ĺ				Genetics
				Homo sapiens
				Inherited
				Mutation
				natural selection
				offspring
				Survival of the Fittest