

Over St. John's CE Primary School 'Let your light Shine before others.' Matthew 5:16

Progression of Knowledge and Skills in Science

Skills Progression	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Five types of experimental skills 1. Observe over time 2. Pattern seeking 3.Identifying, classifying and grouping 4. Comparative and Fair test 5. Research using secondary sources	 I can observe changes over time I can observe changes and patterns I can identify and classify I can perform simple tests I can perform a fair test with adult support 	 I can observe changes over time I can observe changes and patterns I can identify and classify I can perform simple tests I can perform a fair test with adult support 	 1. I can use simple equipment to observe closely including changes over time 2. I can use observations and ideas to suggest answers to questions noticing similarities, differences and patterns 3. I can identify, group and classify 4. I can perform simple comparative tests 5. I can gather and record data to help in answering questions including from secondary sources of information 	 1. I can make systematic and careful observations over time 2. I can ask questions surrounding patterns I have found in data. 3. I can gather, record, classify and present data in a variety of ways 4. I can set up simple practical enquiries, comparative and fair tests 5. I can use secondary sources with adult support to help clarify results seen. 	 I can wake systematic and careful observations over time, looking at similarities and differences. I can ask questions surrounding patterns I have found in data. I can gather, record, classify and present data in a variety of ways to help in answering questions I can set up simple practical enquiries, comparative and fair tests I can use secondary sources with adult support to help clarify results seen. 	 I can observe over time, asking pertinent questions about similarities and differences. I can ask questions surrounding patterns I have found in data as to why something I have observed has happened. I can classify, group and present data in a series of ways to help in answering questions I can take measurements, using a range of scientific equipment, with increasing accuracy and precision. I can use secondary sources to help interpret results seen. 	 I can vecognise things change over time, and can ask pertinent questions and suggest reasons for similarities and differences over time I can ask questions surrounding patterns I have found in data as to why something I have observed has happened. I can develop and use keys and other information to classify and describe objects in ways to help answer questions I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate I can use secondary sources
Questions	I can ask simple questions.	I can ask simple questions and recognise that they can be answered in different ways. I can use my observations and ideas to suggest answers to questions. I can communicate my ideas, what I can do and what I can find out in different ways.	I can ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum. I can communicate my ideas, what I can do and what I can find out in different ways.	I can ask relevant questions to answer my questions in different ways using scientific language from the national curriculum.	I can ask questions surrounding patterns I have found in data. I can ask relevant questions and use different types of scientific enquiries to answer them using scientific language from the national curriculum. I can ask questions surrounding patterns I have found in data. I can develop a deeper understanding through talk, asking questions about scientific phenomena, analysing functions and interactions more systematically.	I can plan different types of scientific enquiries to answer questions, including recognising variables where necessary. I can ask questions surrounding patterns I have found in data as to why something I have observed has happened. I can observe over time, asking pertinent questions about similarities and differences.	to help interpret results seen. I can plan different types of scientific enquiries to answer my own or others' questions, including recognising and controlling variables where necessary. I can recognise things change over time, and can ask pertinent questions and suggest reasons for similarities and differences over time.

Using Scientific Equipment	I can use magnifying glasses to look at objects in more detail I can measure out ingredients using scientific and mathematic equipment.	I can use simple equipment to observe closely I can use hand lenses and egg timers.	I can use simple equipment to observe closely including changes over time. I can ask my own questions about what I notice I can use hand lenses and egg timers.	I can set up simple practical enquiries, comparative and fair tests. I can make systematic and careful observations over time. I can take measurements using standard units, using a range of equipment. I can set up simple practical enquiries, comparative and fair tests.	I can set up simple practical enquiries, comparative and fair tests. I can take measurements, using a range of scientific equipment, with increasing accuracy and precision.	I can make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	I can take measurements, using a range of scientific equipment, including thermometers and data loggers, with increasing accuracy and precision, taking repeat readings when appropriate. I can make my own decisions and select the most appropriate type of scientific enquiry to use and recognise how to set up a comparative and fair test.
Recording Data	I can record observations in ways that are important and meaningful to me.	I can gather and record data to help in answering questions. I can use simple scientific language such as: with help.	I can gather and record data to help in answering questions including from secondary sources of information.	I can gather, record, classify and present data in a variety of ways. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	I can gather, record, classify and present data in a variety of ways to help in answering questions. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	I can record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. I can use test results to set up further comparative and fair tests.	I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. I can use test results to make predictions to set up further comparative and fair tests.
Reporting on Findings				I can report on findings from enquiries, using presentations of results and conclusions I can use results to draw simple conclusions. I can use secondary sources with adult support to help clarify results seen.	I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. I can use results to draw simple conclusions, make predictions for new values and suggest improvements. I can use secondary sources with adult support to help clarify results seen. I can classify, group and present data in a series of ways to help in answering questions.	I can report and present findings from enquiries in oral and written forms such as displays and other presentations. I can use results to draw more complex conclusions, make predictions for new values and suggest improvements. I can use secondary sources to help interpret results seen. I can classify, group and present data in a series of ways to help in answering questions.	I can report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. I can use results to draw more complex conclusions, make predictions for new values and suggest improvements and raise further questions. I can use secondary sources to help interpret results seen. I can develop and use keys and other information to classify and describe objects in ways to help answer questions.

Using Scientific			I can identify differences,	I can identify differences,	I can identify scientific	I can justify and evaluate my
Evidence			similarities or	similarities or changes	evidence that has been	own and other people's
			changes related to simple	related to simple scientific	used to support or refute	scientific ideas related to
			scientific ideas	ideas and processes.	ideas or arguments.	topics in the
			and processes.			national curriculum (including
				I can use straightforward		ideas that have changed over
			I can use straightforward	scientific evidence to		time), using evidence from a
			scientific	answer questions or to		range of
			evidence to answer questions	support my findings .		sources.
			or to support			
			my findings.			
Vocabulary	question, answer, find out,	question, answer, find out, identify, observe, classify, sort,	research, comparative test, fair	test, systematic, careful	plan, variable, measurements,	accuracy, precision, repeat
	observe, measure, record.	group, describe, test, compare, contrast, measure, length,	observation, accurate measure	_	readings, reporting, scientific of	
		height, mass/weight, time, temperature, record, results, table,	classify, present, labelled diagrams, keys, bar chart, tables,		keys, scatter graph, bar graph, line graph, causal relationship,	
		chart, map, pictograph, block graph, bar chart, diagrams,	explanations, conclusion, predictions, differences, similarities,		explanation, degree of trust, evidence, support, refute,	
		equipment, data.	changes, evidence, improve, secondary sources, guides,		describe, patterns, systematic, quantitative measurements.	
			construct, interpret.			

	Progression of knowledge and s	skills based on subject areas				
Plants	Progression of knowledge and s I know that plants need sun and water to grow. I know some plants grow from seeds. I know most plants need soil and nutrients (food) to grow. <i>Key vocabulary:</i> <i>Flower, plant, bulb, seed, root,</i> <i>leaves.</i>	skills based on subject areas I know the name of a variety of common wild and garden plants, including deciduous and evergreen trees. I know the basic structure of a variety of common flowering plants, including trees. Key vocabulary: Leaves, trunk, branch, root, seed, bulb, flower, stem, wild, deciduous, evergreen, blossom, bud, petal, stalk, bark, fruit	I know the basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow into mature plants. I know seeds and bulbs grow into mature plants and can observe and describe them. I know that plants need water, light and a suitable temperature to grow and stay healthy and can observe and describe them. <i>Key vocabulary: Leaves,</i> <i>flowers, blossom, petals, fruit,</i> <i>roots, bulb, soil, earth, shoot,</i> <i>seed, trunk, branches, stem,</i> <i>produce, leaf, berry, branch,</i> <i>shade, grow, sun, warm,</i> <i>healthy, germinate, bark, bud,</i> <i>stalk, light, water</i> <i>Names of plants in their local</i> <i>environment for example</i> <i>grass, clover, daisy, buttercup,</i> <i>dandelion, oak, holly, daffodil,</i> <i>tulip etc. and plants we grow</i> <i>to eat such as lettuce,</i> <i>tomatoes, cucumber, radish,</i> <i>herb etc</i>	I know the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers and how to identify and describe them. I 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 and I can explore them. I know the way in which water is transported within plants and can investigate it. I know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal and I can explore this. <i>Key vocabulary: pollination, seed formation, seed dispersal, roots, nutrients, stem/trunk, leaves, flowers, reproduction, growth, life cycle, sunlight, photosynthesis water/minerals, fruit, germination, seedling, pollen, style, stigma, ovule, ovary, anther, filament</i>		

Materials/	I know that objects are made	I know how to distinguish	I know how to distinguish	I know whether materials are	I know how to compare and	
State of	from different materials.	objects from materials,	objects from materials,	solids, liquids or gases and can	group together everyday	
matter		describe their properties,	describe their properties,	compare and group materials	materials on the basis of their	
	I know about similarities and	identify and group everyday	identify and group everyday	together, according to these	properties, including their	
	differences in relation to	materials.	materials and compare their	properties.	hardness, solubility,	
	places, objects, materials and		suitability for different uses.		transparency, conductivity	
	living things.	I know how to distinguish		I know that some materials	(electrical and thermal), and	
		between an object and the	I know the suitability of a	change state when they are	response to magnets.	
	I know about the features of	material from which it is	variety of everyday materials,	heated or cooled and can		
	my immediate environment	made.	including wood, metal, plastic,	observe and measure or	I know that some materials	
	and how environments might		glass, brick, rock, paper and	research the temperature at	will dissolve in liquid to form a	
	vary from one another.	I know the name of a variety	cardboard for particular uses	which this happens in degrees	solution, and can recognise	
		of everyday materials,	and how to identify and	Celsius (°C).	this and describe how to	
	I know how to make	including wood, plastic, glass,	compare them.		recover a substance from a	
	observations of animals and	metal, water, and rock and can		I know the part played by	solution.	
	plants and explain why some	identify them.	I know the shapes of solid	evaporation and condensation		
	things occur, and talk about		objects made from some	in the water cycle and		
	changes.	I know the simple physical	materials can be changed by	associate the rate of	I know how to give reasons,	
		properties of a variety of	squashing, bending, twisting	evaporation with	based on evidence from	
	Key vocabulary:	everyday materials and can	and stretching and how to	temperature.	comparative and fair tests, for	
	melt, freeze, ice, mix, stir	describe them.	describe them.	-	the particular uses of everyday	
				I know how to use my	materials, including metals,	
		I know how to compare and	Key vocabulary:	knowledge of solids, liquids	wood and plastic.	
		group together a variety of	Waterproof, fabric, rubber,	and gases to decide how		
		everyday materials on the	rock, paper, cardboard, wood,	mixtures might be separated,	I know that dissolving, mixing	
		basis of their simple physical	metal, plastic, glass, brick,	including through filtering,	and changes of state are	
		properties.	twisting, squashing, bending,	sieving and evaporating.	reversible changes and can	
		P P	matches, flexible, rigid,		demonstrate this.	
		Key vocabulary: hard, soft,	opaque, transparent,	Key vocabulary: Solid, liquid,		
		stretchy, stiff, shiny, dull,	translucent, reflective/non-	gas, molecules, state change,	I know that some changes	
		rough, smooth, bendy,	reflective.	properties, matter, melt,	result in the formation of new	
		waterproof, absorbent,		freeze, temperature, process,	materials and that this kind of	
		opaque, see-through,		condensation, evaporation,	change is not usually	
		cardboard, foil, elastic, paper,		water vapour, energy,	reversible, including changes	
		fabric, rock, brick, object,		precipitation, collection,	associated with burning and	
		material, wood, plastic, glass,		melting point, boiling point,	the action of acid on	
		metal, rubber, wood, clay.		water cycle.	bicarbonate of soda and can	
		metal, rubber, wood, cidy.		water cycle.	explain this.	
					Key vocabulary:	
					Thermal, electrical, insulator,	
					conductor, change of state,	
					mixture, dissolve, solution,	
					soluble, insoluble, filter, sieve,	
					reversible change, irreversible	
					change, burning, rusting, new	
					material, pure, impurity	

Animals,	I know that different	I know how to describe and	I know the names and how to	I know that animals, including	I know the simple functions of	(Taught
including	animals have different body	compare observable features	locate parts of the human	humans, need the right types	the basic parts of the digestive	and in Y
humans	parts.	of animals from a range of	body, including those related	and amount of nutrition and	system in humans and can	I know tł
numuns	pure.	groups.	to the senses and can describe	that they cannot make their	describe them.	develop
	I know that different		them.	own food; they get nutrition		changes
	animals like different foods	I know and can group animals		from what they eat and can	I know the different types of	puberty
	and live in different places.	according to what they eat.	-I know the basic needs of	identify this.	teeth in humans and their	them.
			animals for survival and the		simple functions and can	
	I know that some animals	I know the names of a variety	main changes as offspring	I know that humans and some	identify them.	Key voca
	are big and some animals	of common animals including	from young animals, including	other animals have skeletons		Foetus, E
	are small.	fish, amphibians, reptiles, mammals	humans, grow into adults and can describe them.	and muscles for support, protection and movement.	I know a variety of food chains, identifying producers,	Gestatio Teenage
		and birds and can identify	can describe them.	protection and movement.	predators and prey and can	Developi
	I know that butterflies do	them.	I know what animals eat, how	Key vocabulary:	construct and interpret them.	Hormone
	not start out looking like		they get their food from other	Nutrients, nutrition,		reproduc
	butterflies.	I know the names of a variety	animals and/or plants and can	carbohydrates, protein, fats,	Key vocabulary:	pregnan
	butternies.	of common animals that are	group them according to this. I	vitamins, minerals, water,	Herbivore, Carnivore,	
	I know how to talk about	carnivores, herbivores and	know how to use simple food	fibre, skeleton, bones, joints,	omnivore, digestive system,	
	different places animals	omnivores and can identify	chains to describe these	endoskeleton, exoskeleton,	tongue, mouth, teeth,	
	might live.	them.	relationships.	hydrostatic skeleton,	oesophagus, stomach, small	
	inight ive.			vertebrates, invertebrates,	intestine, large intestine,	
	I know that some animals	I know the names and locate parts	I know the basic needs of animals, including humans, for	muscles, contract, relax, sugar, ribs, spine, skull, support,	canine, incisor, molar, premolar, producer, consumer,	
	hibernate.	of the human body, including	survival (water, food and air)	protect, move.	digestion, saliva, nutrients,	
	moernate.	those	and can describe this.		rectum, anus, predator, prey,	
	I know that some animals	related to the senses.			food chain	
	are adapted to live under		I know the importance for			
	the sea and that humans	I know how to describe and	humans of exercise, eating the			
	are adapted to	compare	right amounts of different			
	live on land.	the structure of a variety of	types of food, and hygiene and			
		common	can describe this			
	I know that if I wash my	animals (fish, amphibians,	Kouwooghulanu			
	hands then that will kill off	reptiles, birds and mammals, including	Key vocabulary: Living, dead, never alive,			
	germs.	pets).	offspring, reproduction,			
	8		growth, child, young, parent,			
	I know about the	I know the names and can,	old, meat, fish, vegetables,			
	importance of a healthy	draw and label the basic parts	exercise, breathing, hygiene,			
	diet.	of the human body and say	germs, disease, balance.			
		which part of the body is				
	I know I cannot eat foods	associated with each sense.				
	like chips and pizza every					
	day and I need a variety of	I know how to take care of animals				
	food.	taken from their habitat and				
		understand the need to return				
	I know about the	them safely to their homes.				
	importance of a healthy					
	exercise regime.	Key vocabulary:				
		Amphibians, birds, fish,				
	I know that exercise is good	mammals, reptiles, carnivores,				
	for my body.	herbivore, omnivore, sight,				
		hearing, touch, taste, smell,				
	Key vocabulary: baby, child,	head, ear, mouth, leg, eye, teeth, hooves, paws, feathers,				
	toddler, adult, body part	claw, fin, scales, fur, beak,				
	(naming them)	body, tail, wing.				
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aught in Living Things unit ad in Y5 PSCHE lessons) snow the changes as humans evelop to old age, including hanges experienced in liberty and how to describe

y vocabulary:

etus, Embryo, Womb, estation, Baby, Toddler, enager, Elderly, Growth, evelopment, Puberty, ormone, Sexual, Asexual, production, fertilisation, egnancy, adolescent, death I know the names of the main parts of the human circulatory system, and can describe the functions of the heart, blood vessels and blood.

I know the impact of diet, exercise, drugs and lifestyle on the way bodies function.

I know the ways in which nutrients and water are transported within animals, including humans and how to describe them.

Key vocabulary: Oxygenated, Deoxygenated, carbon dioxide, diet, Valve, Exercise, Respiration Circulatory system, heart, lungs, blood vessels, pulse, rate, pumps, artery, vein, pulmonary, alveoli, capillary, digestive, transport, gas exchange, villi, nutrients, water, oxygen, alcohol, drugs, tobacco.

Lindow that indicates that have a merit hold of the high and there have have here have a miner of have the high and there have have here have a miner of have here have have here have a miner of have here have have here have he	Linder a the bar	I know similarities and	I know whathar this second	I know that living this as as be	L know ±
habitatis things and their habitats. and can identify these. in construction amount the fatures of weight on the static st	Living things	I know similarities and	I know whether things are	I know that living things can be	I know t
I know about the features of my own immediate environment and how environments might vary from one another and can talk about them. I know the differences between things that are living, edad, and things that have never been allve and how to environment and na talk about them. I know the different plants and anihals and plants and anihals and plants and applain why some things occur, and talk about changes. I know the names of different habitats. I know the names of different plants and anihals and plants and applain they some things occur, and talk about changes. I know the names of different habitats. I know the names of different habitats. I know the normes of a different habitats. I know the names of a variety of plants and anihals and plants, and how to recognise that. I know the was interesting. I know the was interesting. Key voccobulary: Rev voccobulary: Key voccobulary: Rev voccobulary: Rev voccobulary: Key voccobulary: Rev voccobulary		÷		grouped in a variety of ways.	
I know about the features of environment and how one another and can talk about them. I know the differences explore and compare them. help group, identify and name a variety of living things in their local and wider environment and how one another and can talk about them. I know the names of different habits and animals and plants and explants and explants and explore and compare them. I know the names of different habits and explants and explants and explore and compare them. I know the anew to make observations of animals and plants and explants and explants and explants and explants and explants and explants and explants and explants and explants and explants and explants and explants and explants and explants and explants and explants and explants to which they and how to recognise that: and how to recognise that: woodland, forest, pond I know the names of avariety other. Key vacchalory: expressed and how the recognise that: and how they depend on esch other. Key vacchalory: expressed forestation, explants and animals obtain their food from plants and other animals, using the idea of ther animals, using	habitats	things and their habitats.	and can identify these.	I know that classification kovs	
my own immediate environment and how environments might vary from one another and can talk about them.between things that are living, environments might vary from one another and can talk about them.a a variety of living things in them inclass them inclass them inclass them, inclass the inclass them, inclass them, inclass the inclass them, inclass the inclass them, inclass the inclass them, inclass the inclass them, inclass the inclass them, inclass the inclass them, inclass their inclass th		I know about the features of	I know the differences		
environment and how environment might vary from one another and can talk about them. dead, and things that have explore and compare them. their local and wider I know environment and can use bus them. I know thow to make baservations of animals and plants and explain why some things occur, and talk about changes. I know the names of different plants and explain why some things occur, and talk about changes. I know that most living things and how to recognise that. I know escription and how to recognise that. I know the recognise that. Key vocabulary: nocturnal, woodland, forest, pond woodland, forest, pond why, and description woodland, forest, pond. Key vocabulary: escription other. Key vocabulary: Environment, flowering, woodland, forest, pond. Key vocabulary: escription other. Key vocabulary: escription escription other. Key vocabulary: escription escription escription other. Key vocabulary: escription escription escription escription escription escription escription escription escription escription escription escript					uieiii.
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about them.throw the markes of different plants and explains on dynamic and observations of animals and observations of animals and plants and explain why some things occur, and talk about changes.throw that most living things invertient they are suited to different habitats.l. Incow that environment, fourering, reprodu- and how to recognise that.i. Incom incom incom they are suited to different habitats.Here are suited and can identify why, and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how to recognise that.they are suited and can identify why, and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.they are suited and indentify thum and impact, nature reserves, deforestion, planted to ther.they are planted to the animals in their habitats and can identify them.the are planted to ther animals, using the ideo of a simple food chain, and can identify and name different sources of food.the are planted to ther animals, using the ideo of a simple food chain, sheter, see shore/beach, food chain, sheter, see shore/beach, sources, ford, food chain, sheter, see		c ,			
I know how to make observations of animals and plants and explain why some things occur, and talk about I know that animals and why they are suited to different habitats. I know that most living things and how to recognise that and how the cognities of animals and plants, and how they depend on each or the basis needs of different habitats including micro- the basis needs of a variety of plants and animals in their habitats including micro- inference habitats and can identify them.I know the names of a variety of plants and animals in their habitats including micro- migrate, hibernateI know that most living things to kinds of animals their habitats, including micro- migrate, hibernateI know that most living things to kinds of animals their habitats and identify them.I know that mammals, interviewer the sources of food.I know that micro kinds of a simple food chain, shelter, see shore/beach, woodband, cecan, roinforest, conditions, desert, dond, shelter, see shore/beach, woodband, cecan, roinforest, conditions, desert, dond, shelter, see shore/beach, woodband, cecan, roinf			explore and compare them.	them.	-
I know how too make observations of animals and plants and explain why some things occur, and talk about changes.I know they are suited to different habitats.change and that this can sometimes pose dangers and haw an impact on living things live in habitats to which they are suited and can identify why, and describe how different habitats provide for the basic needs of ifferent have an impact, nuture provide provide prov		about them.	I know the names of different	I know that any ironmonts can	
observations of animals and plants and explain why some things occur, and talk about changes.they are suited to different habitats.sometimes pose dangers and have an impact on living things and how to recognise that.liKey vocabulary: nocturnal, woodland, forest, pondiko with they are suited and can identify are suited and can identify and how to recognise that.Key vocabulary: Environment, flowering, in extrebrates, marmadi, invertebrates, usertebrates, usertebrates, in and how they depend on each other.Key vocabulary: Environment, flowering, in extrebrate, usertebrates, usertebrates, usertebrates, in and how they depend on each other.keys positive, negative, is bulls, c to user, is bulls, to usertebrate, is bulls, c is completed and animals of their habitats and animals of their habitats and animals obtain their food from plants and other animals, using the idea of an inplant and other animals, using the idea of a single food chain, and can identify and name different sources of food.keys positive, negative, is posi					
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needs, pond.					
			needs, pond.		

by the differences in the cycles of a mammal, an ohibian, an insect and a and how to describe

ow the changes as nans/animals develop to age and how to describe m. (*From Animals,* uding humans)

ow the life process of oduction in some plants animals and how to cribe them.

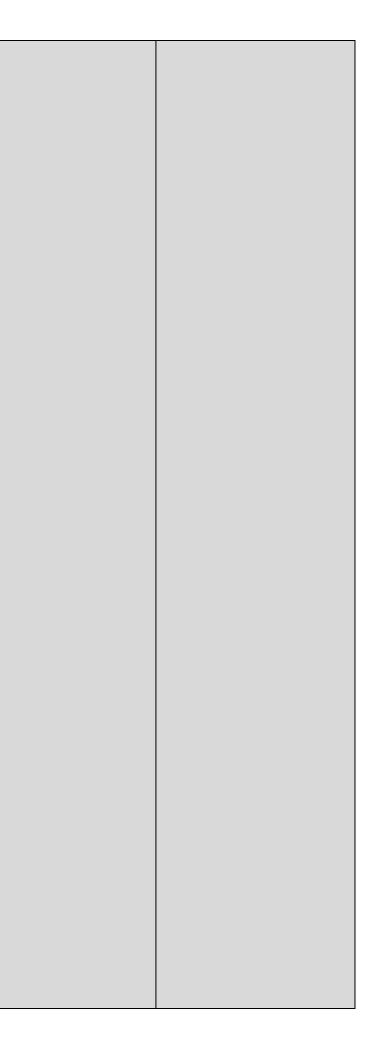
vocabulary: life cycle, nmal, reproduction, ive, basic needs, oduce, fertilises, egg, live ng, metamorphosis, tlets, gestation, runners, s, cutting y, Toddler, Teenager, rly, Growth, adolescent, I know how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals and can describe them.

I know that plants and animals are classified based on specific characteristics and can give reasons for classifying them.

Key vocabulary: flowering, non-flowering, vertebrates, fish, amphibians, reptiles, mammals, invertebrate, human impact, nature reserves, deforestation, bacteria, microorganism, organism, birds

Forces and		I know how things move on	I know that unsupported	
magnets		different surfaces and can	objects fall towards the Earth	
		compare them.	because of the force of gravity	
			acting between the Earth and	
		I know that some forces need	the falling object and can	
		contact between two objects,	explain this.	
		but magnetic forces can act at	1	
		a distance.	I know the effects of air	
			resistance, water resistance	
		I know that everyday materials	and friction, that act between	(
		can be grouped together on	moving surfaces and can	
		the basis of whether they are	identify them.	
		attracted to a magnet and can	1	
		and identify some magnetic	I know that some mechanisms,	
		materials.	including levers, pulleys and	
			gears, allow a smaller force to	
		I know that magnets have two	have a greater effect and can	
		poles and can describe what	recognise them.	
		they are.	1	
			Key vocabulary:	
		I know that two magnets will	Air resistance, water	
		attract or repel each other,	resistance, friction, gravity,	
		depending on which poles are	Newton, gears, pulleys, force,	
		facing and can predict which	push, pull, opposing,	
		will happen.	streamline, brake, mechanism,	
			lever, cog, simple machine,	
		I know that magnets attract or	Newton meter (N), mass,	
		repel each other and can	earth, balance, drag force,	
		describe when this happens.	springs, floats, force meter.	
		I know that magnets attract	1	
		some materials and not others	1	
		and can describe why this	1	
		happens.		
		Key vocabulary:	1	
		Force, push, pull, friction,	1	
		surface, magnet, magnetic	1	
		force, attract, repel, compass,	1	
		twist, contact force, non-	1	
		contact force, horseshoe	1	
		magnet, magnetic material,	1	
		metal, iron, steel, poles, north	1	
		pole, south pole	1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
<u> </u>			1	

Rocks		I know some differences in	
		rocks based on their	
		appearance and simple	1
		physical properties and how to	
		compare and group them	
		together based on this.	1
		together based on this.	1
			1
		I know how fossils are formed	
		when things that have lived	1
		are trapped within rock.	1
			1
		I know that soils are made	1
		from rocks and organic	1
		matter.	
			1
		Key vocabulary: appearance,	
		physical, properties, hard/soft,	
		shiny/dull, rough/smooth,	
		normanhla / immarra anhla	
		permeable/ impermeable	
		fossils, sedimentary, igneous,	
		metamorphic, rock, soils,	
		organic matter, buildings,	1
		gravestones, grains, crystals,	
		classification	
		classification	
			1
			1
			1
			1
			1
			1
			1
			1
			1



Light		I know that we need light in order to see things and that	
		dark is the absence of light.	
		I know that light is reflected from surfaces.	
		I know that light from the sun can be dangerous and that	
		there are ways to protect eyes.	
		I can find patterns in the way that the size of shadows	
		change.	
		I know that it is not safe to look directly at the sun, even	
		when wearing dark glasses.	
		I know that shadows are	
		formed when the light from a light source is blocked by an	
		opaque object	
		shadows change.	
		Key vocabulary: Light source, dark, reflect, ray,	
		mirror, bounce, visible, straight, opaque, shadow,	
		block, transparent,	
		translucent, absence of light, shiny, matt, surface, sunlight,	
		ray, visible.	
L			

-I know how to recognise that light appears to travel in straight lines.

I know that light travels in straight lines and can use this to explain that objects are seen because they give out or reflect light into the eye.

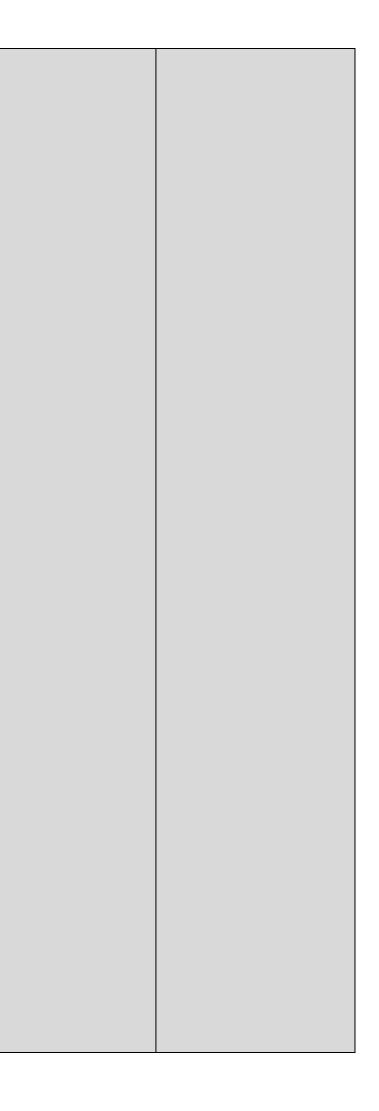
I know that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.

I know that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Key vocabulary:

Light source, dark, reflect, ray, mirror, bounce, visible, beam, glare, travel, straight, opaque, shadow, block, transparent, translucent, reflect, absorb, emitted, scattered, refraction

Cound			I know how counds are made
Sound			I know how sounds are made, associating some of them with
			something vibrating.
			something visiteting.
			I know that vibrations from
			sounds travel through a
			medium to the ear.
			I know how to find patterns
			between the pitch of a sound
			and features of the object that
			produced it.
			I know how to find patterns
			between the volume of a
			sound and the strength of the
			vibrations that produced it.
			I know that sounds get fainter
			as the distance from the
			sound source increases.
			Key vocabulary:
			sound, source, vibrate,
			vibration, travel, pitch, high,
			low, volume, faint, loud, quiet,
			insulation, soundwaves,
			decibels, ear, ear drum,
			particles.



Electricity			I know that common appliances that run on electricity and how to identify which ones.
			I know the components of a simple series electrical circuit and the names of its basic parts, including cells, wires, bulbs, switches and buzzers and can construct one.
			I know whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery and can identify when this will happen.
			I know that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
			I know some common conductors and insulators, and associate metals with being good conductors.
			Key vocabulary: Electricity, electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator, component, circuit, complete circuit, positive, negative, connect, loose connection, short circuit.

I know the brightness of a lamp or the volume of a buzzer is associated with the number and voltage of cells used in the circuit.

I know how to compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.

I know recognised symbols for representing a simple circuit in a diagram and can use them.

Key vocabulary:

Electricity, **neutrons, protons, electrons, nucleus, atom,** electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator, conductor, **voltage,** circuit.

Earth and			I know the movement of	
space			the Earth, and other planets,	
			relative to	
			the Sun in the solar system	
			and can describe them	
			I know the measurement of the	
			I know the movement of the	
			Moon relative to the Earth and can describe it.	
			can describe it.	
			I know the Sun, Earth and	
			Moon are approximately	
			spherical bodies.	
			spherical boules.	
			I know the Earth's rotation can	
			explain day and night and the	
			apparent movement of the	
			sun across the sky.	
			I know that the Sun is a star at	
			the centre of our solar system	
			and that it has eight planets:	
			Mercury, Venus, Earth, Mars,	
			Jupiter, Saturn, Uranus and	
			Neptune	
			(Pluto was reclassified as a	
			'dwarf planet'	
			in 2006).	
			I know that a moon is a	
			celestial body that orbits a	
			planet (Earth has one moon;	
			Jupiter has four large moons	
			and	
			numerous smaller ones).	
			Key vocabulary: Phases of the	
			Moon, star, constellation,	
			Mercury, Venus, Mars, Jupiter,	
			Saturn, Uranus, Neptune,	
			Pluto, Dwarf planet, Earth,	
			planets, Sun, solar system,	
			Moon, celestial body,	
			sphere/spherical,	
			rotate/rotation, night & day,	
			orbit, opinion/fact,	
			support/refute, accuracy,	
			precision, scatter graphs, line	
			graphs, geocentric &	
			heliocentric models, shadow	
			clocks, sundials, eclipse, light,	
			reflection, telescope, satellite,	
			tide, mass, gravity	

Evolution and	
and	
w	
inheritance	
Seasonal I know the seasons of Autumn, I know there are changes	
changes Winter, Summer and Spring across the four seasons and	
and ways to identify them. can identify them.	
I know there are seasonal I know the weather associated	
colours and can identify some. with the seasons and can	
describe them and how day	
I know that lots of new life length varies.	
begins in the Spring time.	
I know that it is not safe to	
I know appropriate clothing look directly at the sun, even	
for the seasons and can when wearing dark glasses.	
choose which they are.	
Key vocabulary:	
Key vocabulary: weather, sunny, rain/rainy,	
seasons, winter, summer, wind/windy, snow/snowy,	
spring, autumn, weather seasons, winter, summer,	
spring, autumn, sun, sunrise,	
sunset, day, length, monsoon,	
storm, thunder, overcast,	
temperature, lightening,	
cloud/cloudy, forecast, warm,	
cold, hot, night, shadow	

I know that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

I know that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

I know that animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Key vocabulary: Fossils, Reproduction, Genetics, Mutation, Competition, Survival of the Fittest, Evidence, offspring, characteristics, vary/variation, inherit/inheritance, suited/suitable, environment, natural selection, evolution, adapted/adaptation, fossils, theory, opinion