Science Knowledge and Skills Overview Class 5 Year B

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Explore Life Cycles	Properties of	Earth and Space	Heart and Health	Light	Living Things and
		Materials				Habitats
Knowledge	 Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals 	 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 	 Describe the movement of the Earth and other planets relative to the sun in the solar system Describe the movement of the moon relative to the Earth Describe the sun, Earth and moon as approximately spherical bodies Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky 	 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 	 Recognise that light appears to travel in straight lines Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them 	 Describe how living things are classified into broad groups according to common observable characteristi cs and based on similarities and differences, including micro- organisms, plants and animals Give reasons for classifying plants and animals based on specific characteristi cs

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		 Demonstrate that dissolving, mixing and changes of state are reversible changes Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda 				
Skills	 Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary 	 Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Report and present findings 	 Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Record data and results of increasing 	 Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Take measurements, using a range of 	 Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Take measurements, 	 Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar

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 Report and 	from enquiries,	complexity using	scientific	using a range of	and line
present	including	scientific	equipment, with	scientific	graphs
findings from	conclusions,	diagrams and	increasing	equipment,	
enquiries,	causal	labels,	accuracy and	with increasing	 Use test
including	relationships	classification	precision, taking	accuracy and	results to
conclusions,	and	keys, tables,	repeat readings	precision,	make
causal	explanations of	scatter graphs,	when appropriate	taking repeat	predictions
relationships	and degree of	bar and line	 Record data and 	readings when	to set up
and	trust in results,	graphs	results of	appropriate	further
explanations	in oral and	 Use test results to 	increasing	 Use test results 	comparative
of and degree	written forms	make predictions	complexity using	to make	and fair tests
of trust in	such as displays	to set up further	scientific	predictions to	
results, in oral	and other	comparative and	diagrams and	set up further	
and written	presentations	fair tests	labels,	comparative	
forms such as	 Identify 	 Report and 	classification	and fair tests	
displays and	scientific	present findings	keys, tables,	 Identify 	
other	evidence that	from enquiries,	scatter graphs,	scientific	
presentations	has been used	including	bar and line	evidence that	
	to support or	conclusions,	graphs	has been used	
	refute ideas or	causal	 Report and 	to support or	
	arguments.	relationships and	present findings	refute ideas or	
		explanations of	from enquiries,	arguments	
		and degree of	including		
		trust in results, in	conclusions,		
		oral and written	causal		
		forms such as	relationships and		
		displays and	explanations of		
		other	and degree of		
		presentations	trust in results, in		
			oral and written		
			forms such as		
			displays and		
			other		
			presentations		

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				 Identify scientific evidence that has been used to support or refute ideas or arguments 		
	<mark>Reproduce, Puberty,</mark>	Comparative tests,	<mark>Heliocentric, Geocentric,</mark>	Blood vessels, Circulatory	<mark>Transparent, Opaque,</mark>	<mark>Classify, Prokaryote,</mark>
	Adolescence,	Elasticity, Plasticity,	<mark>Solar System, Astronomy,</mark>	<mark>system, Oxygenated,</mark>	Translucent, Magnify,	<mark>Species, Vertebrate,</mark>
	<mark>Hormone, Memory,</mark>	<mark>Crude Oil, Perforate,</mark>	Big Bang Theory,	Capillary, Heart rate,	Angle of incidence, Angle	<mark>Invertebrate,</mark>
ocabulary	Dormant, Gestation,	Extraction, Thermal	Gravitational Force, Orbit,	Addiction, Nutrients,	<mark>of reflection, Lens,</mark>	<mark>Microorganisms,</mark>
	Fertilisation, Penis,	Conductivity,	<mark>Hemisphere</mark> , Comets,	Balanced diet, Exercise,	Refraction, Materials,	<mark>Fungi, Kingdom,</mark>
	Urethra, Testes,	Inexhaustible,	Asteroids, Meteors,	Arteries, Veins, Plasma,	Industry	Bacteria, Energy,
	Fallopian Tube, Vagina,	Absorbent,	Atmosphere	Red blood cells, White		Conserve, Anatomy
	Ovary, Uterus, Sperm,	Compression, Substance		blood cells, Platelets		
>	Chromosomes					

Key Vocabulary