Science Knowledge and Skills Overview
Class 5
Year B

	Autumn 1 Explore Life Cycles	Autumn 2 Properties of Materials	Spring 1 Earth and Space	Spring 2 Heart and Health	Summer 1 Light	Summer 2 Living Things and 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 characteristics and based on similarities and differences, including micro-organisms, plants and animals • Give reasons for classifying plants and animals based on specific characteristics

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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 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	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 • Identify scientific evidence that has been used to support or refute ideas or arguments.	complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • Use test results to make predictions to set up further comparative and fair tests • 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	scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • 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	using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • Use test results to make predictions to set up further comparative and fair tests • Identify scientific evidence that has been used to support or refute ideas or arguments	and line graphs • Use test results to make predictions to set up further comparative and fair tests

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

Key Vocabulary