



Aim High....Fly High!

Curriculum implementation map – Science

The mapping table below shows where curriculum objectives related to the subject area above are covered. The five ‘Big Ideas’ for our science curriculum – questions, safety, connections, engagement, finding answers – are interwoven throughout the areas below.

2020-2021 = **A**

2021-2022 = **B**

	<u>Cycle</u> A/B	<u>Autumn 1</u>	<u>Autumn 2</u>	<u>Spring 1</u>	<u>Spring 2</u>	<u>Summer 1</u>	<u>Summer 2</u>
Year 1	n/a	Seasonal changes <ul style="list-style-type: none"> Changes across the 4 seasons. Weather changes in different seasons. Day length variation. Link = Plants which grow in different seasons.	Plants <ul style="list-style-type: none"> Name common wild and garden plants. Focus on basic plant structure. Link = Herbivores, plants as a food source/producer.	Animals <ul style="list-style-type: none"> Identify and name common animals including, fish, amphibians, reptiles, birds and mammals. Carnivores, omnivores, herbivores. Compare structure of a variety of common animals (including pets). Link = Humans are mammals.	Humans <ul style="list-style-type: none"> Basic parts of human body. Which parts of the body are associated with each sense. Link = Man-made materials.	Everyday materials <ul style="list-style-type: none"> Distinguish between an object and the material it is made from. Name and identify a variety of everyday materials – wood, plastic, glass, rock, water. Simple physical properties of a range of everyday materials. Compare and group based on simple physical properties. 	
Year 2	n/a	Plants/seasons <ul style="list-style-type: none"> Focus on plant growth, seeds and bulbs. Need water, light, suitable temperature. Link = Plants as a living thing, what makes things alive.	Living things <ul style="list-style-type: none"> Differences between things which are living, dead, and never alive. Link = What living things need to be able to access (habitat choice).	Their habitats <ul style="list-style-type: none"> How different habitats provide for the basic needs of different animals/plants. Link = Which habitats suit different animals.	Animals <ul style="list-style-type: none"> Animals (including humans) have offspring which grow into adults. Basic needs of animals for survival (water, food, air). Link = Humans are animals.	Humans <ul style="list-style-type: none"> Importance of exercise, eating the right amounts of different types of food, and hygiene for humans. Link = Cutlery is used for eating. Material choice for cutlery.	Uses of everyday materials <ul style="list-style-type: none"> Suitability of materials for particular uses. Changing shapes of solid objects by squashing, bending, twisting and stretching.



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Year 3	A 4	States of matter	Living things	Their habitats	Animals including humans	Electricity	Sound
	B 3	<p>Light</p> <ul style="list-style-type: none"> • Need light to see. • Dark is absence of light. • Light is reflected from surfaces. • Protect eyes from sun – dangerous. • Shadows are formed when light from a light source is blocked by an opaque object. • Find patterns in shadow size changes. <p>Link = Light is from the sun. The sun is the centre of the universe. Forces hold us in position.</p>	<p>Forces and magnets</p> <ul style="list-style-type: none"> • How things move on different surfaces. • Some forces need contact, others work at distance – e.g. magnetic. • Attract or repel. • Identify magnetic materials. • Two poles. <p>Link = Can rocks be magnetic? (<i>Magnetite</i>)</p>	<p>Rocks</p> <ul style="list-style-type: none"> • Compare and group types of rocks – based on appearance and simple physical properties. • How fossils are formed (simple) – things that have lived become trapped within rock. • Soils are made from rocks and organic matter. <p>Link = Fossilised plants. Plants grow in soil.</p>	<p>Plants</p> <ul style="list-style-type: none"> • Functions of roots, stem/trunk, leaves, flowers in flowering plants. • Focus on pollination and dispersal of seeds. <p>Link = Pollen and nectar are the food source of honey bees. Animals disperse seeds through eating, digesting and leaving droppings.</p>	<p>Animals</p> <ul style="list-style-type: none"> • Identify that animals need the right types and amount of nutrition. • They cannot make their own food so must get nutrition from what they eat. <p>Link = Keeping healthy – diet and exercise.</p>	<p>Humans</p> <ul style="list-style-type: none"> • Identify that humans (and some animals) have skeletons and muscles for support, protection and movement.

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Year 4	A 4	<p>States of matter</p> <ul style="list-style-type: none"> • Solids, liquids, gases. • Change of state when heated or cooled. • Measure the temperature this happens at in C. • Evaporation and condensation in water cycle. <p>Link = Ice -> Antarctica and penguins</p>	<p>Living things</p> <ul style="list-style-type: none"> • Group, identify and name a variety of living things in the local and wider environment. <p>Link = Habitats of the living things.</p>	<p>Their habitats</p> <ul style="list-style-type: none"> • Look at how environments change and the dangers this poses. • Seasonal changes, natural changes, human changes. <p>Link = How environments changing affect the food supply for animals. How different animals are adapted for digestion e.g. cows with 4 stomachs.</p>	<p>Animals including humans</p> <ul style="list-style-type: none"> • Simple functions of basic parts of the digestive system in humans. • Human teeth - types and functions. • Construct and understand food chains, identifying producers, predators and prey. <p>Link = Invention of electricity.</p>	<p>Electricity</p> <ul style="list-style-type: none"> • Common appliances. • Simple series circuit. • Basic parts (cells, wires, bulbs, switches, buzzers). • Identify if a lamp will light in a simple circuit. • Switches open and close circuit. • Common conductors and insulators. <p>Link = Music concerts - speakers.</p>	<p>Sound</p> <ul style="list-style-type: none"> • How sounds are made – vibrations travel through a medium to the ear. • Pitch and volume of sounds. • Strength of vibrations -> volume of sound. • Sounds get fainter as distance from source increases.
	B 3	Light	Forces and magnets	Rocks	Plants	Animals	Humans



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Year 5	A 6	Light	<p>Living things and their habitats</p> <ul style="list-style-type: none"> Classify living things into broad groups by observable characteristics. Similarities and differences. Microorganisms, plants and animals. <p>Link = Reproduction differences with different animals.</p>	<p>Living things and their habitats – sex ed.</p> <ul style="list-style-type: none"> Life cycles of a mammal, amphibian, insect and bird. Sexual and asexual reproduction in animals and plants. <p>Link = Reproductive system in humans.</p>	KS2 production	<p>Animals including humans – sex ed.</p> <ul style="list-style-type: none"> Changes as humans develop to old age. Stages in the growth and development of humans. Changes experienced in puberty. <p>Link = Electricity in our everyday lives.</p>	Electricity
	B 5	<p>Properties and changes of materials</p> <ul style="list-style-type: none"> Compare and group materials on basis of properties – hardness, solubility, transparency, conductivity, magnetism. Reasons for using certain materials. Dissolve to form a solution. Recover substance from a solution. How to separate mixtures – filtering, sieving and evaporating. Reversible and irreversible changes. Burning, action of acid – formation of new materials: irreversible. <p>Link = Liquid evaporating in the sunlight.</p>	<p>Earth and space</p> <ul style="list-style-type: none"> Earth, sun, moon, spherical bodies, orbits, day and night, rotation, apparent movement of the sun. <p>Link = Gravity.</p>	<p>Forces</p> <ul style="list-style-type: none"> Gravity, air resistance, water resistance, friction, Lever, pulleys, gears, mechanisms which help smaller force to have a greater effect. <p>Link = How do birds fly?</p>	KS2 production	<p>Living things and their habitats – sex ed.</p> <ul style="list-style-type: none"> Life cycles of a mammal, amphibian, insect and bird. Sexual and asexual reproduction in animals and plants. <p>Link = Reproductive system in humans.</p>	<p>Animals including humans</p> <ul style="list-style-type: none"> Changes as humans develop to old age. Stages in the growth and development of humans. Changes experienced in puberty.

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Year 6	A 6	<p>Light</p> <ul style="list-style-type: none"> • Appears to travel in straight lines. • Objects are seen because they give out or reflect light into the eye. • We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. • Shadows have the same shape as the objects that cast them because light travels in straight lines. <p>Link = How does light affect living things? Plants – photosynthesis. Nocturnal animals.</p>	<p>Living things and their habitats</p> <ul style="list-style-type: none"> • Classify living things into broad groups by observable characteristics. • Similarities and differences. • Microorganisms, plants and animals. <p>Link = Which animals are closely related to humans?</p>	<p>Animals including humans</p> <ul style="list-style-type: none"> • Main parts of human circulatory system. • Function of heart, blood vessels, blood. • Impact of diet, exercise, drugs, lifestyle on body function. • Nutrient and water transport. <p>Link = How are we adapted to survive on Earth?</p>	<p>Evolution and inheritance</p> <ul style="list-style-type: none"> • Living things changed over time. • Fossils provide evidence of life from millions of years ago. • Offspring have variation. • Animals and plants adapted to their environment – can lead to evolution. <p>Link = How has electricity changed 'survival of the fittest'?</p>	SATS	<p>Electricity</p> <ul style="list-style-type: none"> • Brightness of lamp, volume of buzzer, number and voltage of cells, compare and give reasons for variations in how components function, on/off positions of switches, scientific symbols for a simple circuit.
	B 5	<p>Properties and changes of materials</p>	<p>Earth and space</p>	<p>Forces</p> <p>Link = Force used to pump blood around body – valves etc.</p>	<p>Animals including humans</p> <ul style="list-style-type: none"> • Main parts of human circulatory system. • Function of heart, blood vessels, blood. • Impact of diet, exercise, drugs, lifestyle on body function. • Nutrient and water transport. <p>Link = How are we adapted to survive on Earth?</p>	<p>Evolution and inheritance</p> <ul style="list-style-type: none"> • Living things changed over time. • Fossils provide evidence of life from millions of years ago. • Offspring have variation. • Animals and plants adapted to their environment – can lead to evolution. 	SATS