



## Striving For Excellence Together

### Year 8 Science Curriculum Map

This curriculum map will be live from September 2024. New schemes have been introduced to year 7 during 2023/24 and will continue to be introduced to year 8 in 2024/25.

Each topic contains a formative assessment. Year 8 will have three summative assessments each year – An early skills test at the start of the year, a mid-year test which is based on the Autumn term topics and an end of year test based on the Spring term topics.

	Topics	Assessment	Key Concepts	Key Vocabulary	Our Pillars	Knowledge tracking
Topic 1 (Autumn)	Chemical reactions	Indigestion tablet investigation: Focus on planning the experiment, identifying variables and method writing.	Elements, compounds and mixtures Acids and alkalis pH indicators Neutralisation Making salts	Element, compound, mixture, periodic table, group, period, acid, alkali, neutralisation, pH	Literacy and oracy	Physical and chemical changes topic in Y7.  Rates of reaction in Y9.
Topic 2 (Autumn)	Fit and healthy	Germ theory research: Research how a scientist contributed to our knowledge of germ theory in order to answer some questions and reference work fully.	Lungs and gas exchange Exercise Smoking Bones and muscles Respiration Drugs	Inhalation, exhalation, diaphragm, intercostal muscles, ligament, tendon, respiration.	Diversity and Inclusivity Literacy and oracy	Animals including humans at KS2.  Life processes and food and digestion in Y7.  Respiration in Y9.
Topic 3 (Autumn)	Electricity and magnetism	Ohm's Law investigation: Focus on collecting data, calculating resistance, drawing a graph and writing a conclusion.	Structure of the atom Drawing circuits Series and parallel circuits Ohm's law Electricity models Electromagnetism	Proton, neutron, electron, series, parallel, current, voltage, resistance, electromagnet	Literacy and oracy	Electricity in terms of constructing circuits and understanding the function of basic components at KS2  Space topic (static electricity) in year 7.  Series and parallel circuits, resistance, electrical power and AC/DC in year 9.
Topic 4 (Spring)	Metals and reactivity	Exam style short end of topic test.	Reactions of metals with acids Displacement reactions Sacrificial metals Blast furnace Extraction of copper using displacement and electrolysis	Displacement, reactive, sacrificial, malleable, corrosion, blast furnace	Literacy and oracy	Physical and chemical changes in Y7 and chemical reactions earlier in Y8.  Energy changes during reactions and rates of reaction in Y9.  Atomic structure and the periodic table in Y10



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Topic 5 (Spring)	Plants for food	Photosynthesis data analysis task.	Plant structure (including flower dissection) Photosynthesis Testing leaves for starch Adaptations of leaves Transpiration Seed investigation	Photosynthesis, starch, iodine, waxy cuticle, upper epidermis, spongy mesophyll, palisade mesophyll, lower epidermis, stomata, transpiration, stigma, style, anther, filament, sepal, receptacle, dispersal.	Literacy and oracy	Living things and their habitats (including parts of plants) at KS2.  Ecology topic later in Y8.  Photosynthesis and ecology at GCSE.
Topic 6 (Spring)	Motion and Forces	Parachute investigation: Focus on planning the experiment, writing the method and designing results table.	Speed, distance and time Acceleration Forces recap $F=ma$ Air resistance	Velocity, acceleration, tension, friction, air resistance, upthrust, thrust, electrostatic, gravitational	Literacy and oracy	Forces including gravity, air resistance, water resistance and friction at KS2.  Forces topic in Y7  Speed and acceleration in Y9  Newton's laws of motion at GCSE
Topic 7 (Summer)	Waves	Sound and Ears assessment	Introduction to waves Reflection and refraction The eye and cameras Colours Sound	Frequency, hertz, reflection, refraction, convex lens, retina, pupil, iris, frequency, amplitude, wavelength	Literacy and oracy	Looking at light and sound at KS2  Waves and their properties and the electromagnetic spectrum in Y9
Topic 8 (Summer)	Ecology	No assessment in this unit	Ecosystems Bioaccumulation Food security Changing environments Choice chambers Social animals Sampling techniques	Consumer, predator, prey, bioaccumulation, stimulus, quadrat, sampling	Literacy and oracy Life after school	Living things and their habitats, including classifying micro-organisms, plants and animals at KS2.  Evolution in Y9.  Ecology unit at GCSE.
Topic 9 (Summer)	Heat transfer	Huddling penguins assessment	Heat and temperature Conduction Insulation Convection Radiation	Conduction, convection, radiation, insulation, heat, temperature, vacuum	Literacy and oracy	Particles and energy topics in Y7.  Endothermic and exothermic reactions in Y9.