



## Striving For Excellence Together

### Year 7 Science Curriculum Map

Each topic contains a formative assessment. Year 7 will have three summative assessments each year – An early skills test at the end of the laboratory skills unit, 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)	Laboratory Skills	Exam style assessment: Laboratory Skills	What do scientists look like? Laboratory safety Using a microscope Planning and carrying out experiments Analysing results and evaluation	Microscope, magnification, Bunsen burner.	Diversity and Inclusivity Literacy and oracy	Observing materials using lenses at KS1 and 2.  All practical work going forward.
Topic 2 (Autumn)	Life processes	Research task: History of the Microscope	Key characteristics of living things Animal and plant cells Organ systems including the reproductive system Menstrual cycle Pregnancy and Birth	Nucleus, mitochondria, chloroplast, vacuole, cell wall, cell membrane, respiration, excretion, nutrition, reproduction, ovulation, menstruation, ejaculation, fertilisation.	Literacy and oracy Life beyond school	Animals, including humans and characteristics of living things from KS1 and KS2.  Fit and Healthy and food and digestion topics in Y8  Cells, diffusion, osmosis, photosynthesis and respiration in Y9
Topic 3 (Autumn)	Particles	Data analysis and interpretation assessment	States of matter and the particle model Heating and cooling curves Diffusion Introduction to elements, compounds and mixtures	Particle, evaporation, condensation, diffusion, kinetic energy	Literacy and oracy	Simple descriptions of states of matter, and properties and changes of matter at KS2.  Physical and chemical changes topic later in Y7  Particle kinetics and collision theory in Y9
Topic 4 (Autumn)	Energy	Planning assessment: Energy in foods	Stores of energy Energy transfers Energy in fuels and food Energy resources Paying for electricity	Kinetic, gravitational potential, thermal, renewable, non-renewable, efficiency.	Literacy and oracy Life beyond school	Heat transfer topic (conduction, convection, radiation) in Y8
Topic 5 (Spring)	Food and digestion	Group presentation assessment: The impact of deficiencies in diets.	A balanced diet Food tests The digestive system Enzymes	Enzyme, catalyst, digestion, peristalsis, oesophagus, pancreas.	Literacy and oracy Life beyond school	Animals including humans and digestion at KS2.  Life processes topic (particularly cells, organs and organ systems) earlier in Y7.  Fit and Healthy topic in Y8.  Cells, enzymes and diffusion in Y9.



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Topic 6 (Spring)	Forces	Parachute Investigation: Data analysis and evaluation.	Types of force Stretching a spring Balanced and unbalanced forces Floating and sinking Pressure	Force, weight, terminal velocity, pressure.	Literacy and oracy	Forces, including gravity, air resistance, water resistance and friction at KS2.  Forces and motion topic in Y8.  Speed/time/acceleration, $F=ma$ , work done and power in Y9.
Topic 7 (Spring)	Physical and Chemical Changes	Combustion Investigation: Planning an experiment and analysing the data.	Separating substances Physical and chemical changes Making and testing gases Combustion	Solvent, solution, solute, soluble, insoluble, combustion, dissolve	Literacy and oracy	Properties and changes of materials, including dissolving, separating and reversible changes at KS2.  Chemical reactions topic in Y8.  Chemical changes and rates of reaction in Y9.
Topic 8 (Summer)	Variation and Inheritance	Collecting data and representing it as graphs assessment: Variation in humans	Discovery of DNA and its structure Inheritance Variation Natural selection Extinction	Chromosome, allele, gene, dominant, recessive, natural selection, extinction.	Literacy and oracy	Evolution and inheritance, looking at fossils, reproduction and adaptation at KS2.  DNA, genetics and sex determination in Y9.
Topic 9 (Summer)	Space	Numeracy assessment: Mass and weight on different planets.	Gravity on Earth and other planets Sun and stars Seasons Magnetism and static fields	Gravity, magnetism, lightyear, solar system	Literacy and oracy Life after school	Gravity and earth and space at KS2  Non-contact forces from the forces topic earlier in Y7  Forces in Y9 and magnetism at GCSE.
Topic 10 (Summer)	Rocks	Plate tectonics assessment: Comprehension exercise	Plate tectonics Igneous, metamorphic and sedimentary rocks Weathering and erosion The rock cycle Evolution of Earth's atmosphere	Tectonic plate, igneous, metamorphic, sedimentary, erosion	Literacy and oracy	Rocks, including comparing rocks, looking at fossils, and understanding how soil is made at KS2.  Greenhouse gases and pollutants in Y9.