



Curriculum Intent

Subject: Science
Year 8

	What?	Why?	National Curriculum Links
Term 1-1	8B1 Plants & Reproduction – types of reproduction, pollination, fertilisation, seed dispersal, classification, photosynthesis, plant organs	Recap plant cells/organs. Cells knowledge is essential in most biology topics Photosynthesis very important at GCSE Knowledge of how plants are fertilised and the importance of this to our lives is very important Link to 7B2 - Gametes – sexual reproduction	Cells and organisation Photosynthesis
	8C1 Atomic Structure and the Periodic Table – structure of the atom, electron shells, trends in the periodic table, balancing equations	Very important topic that is expanded on at GCSE Recaps a lot of Y7 topics – 7C1 especially	The particulate nature of matter Atoms, elements and compounds Chemical reactions The Periodic Table
	8P1 Fluids – Particle model, density, calculating density, displacement can practical, air pressure, drag and friction, changing state, heating and cooling curves, pressure in fluids, upthrust	Expanded on at GCSE – recaps previous knowledge Links to forces	Pressure in fluids The particulate nature of matter
Term 1-2	8B2 Breathing & Respiration – aerobic respiration, respiration equation, gas exchange in lungs, gas exchange in fish gills, anaerobic respiration, comparing aerobic and anaerobic	Expanded on at GCSE – recaps previous knowledge	Gas exchange systems Cellular respiration



	8C2 Combustion – burning fuels, conservation of mass, fire safety, air pollution causes, global warming, complete and incomplete combustion, balancing equations	Expanded on at GCSE – recaps previous knowledge from 7C1 and 7P1 Links to ecology (8B4 and GCSE B7) Links to geography	Chemical reactions Earth and atmosphere
	8P2 Energy Transfers – temperature and heat, conduction, convection, radiation, insulation practicals, power and efficiency equations, paying for energy, Sankey diagrams	Expanded on at GCSE – recaps previous knowledge from 7P1	Calculation of fuel uses and costs in the domestic context Energy changes and transfers Energy in matter
Term 2-1	8B3 Unicellular Organisms – Groups of unicellular organisms – bacteria, protists, fungi, bacteria structure, growth curves of bacteria, useful microbes, decomposers and the carbon cycle	Expanded on at GCSE – recaps previous knowledge, especially cells (7B1 and 8B1)	Cells and organisation Health
	8C3 Metals & Reactivity – properties of metals, corrosion, reactions of metals with water and acid, alloys, reactivity series	Recaps previous topics (acids, periodic table) Expanded on at GCSE	Chemical reactions The Periodic Table Materials
Term 2-2	8B4 Genetics & Evolution – Variation types, structure of DNA, extracting DNA from fruit, genes, alleles, genetic diagrams, evolution, Darwin's theory of evolution	Expanded on at GCSE – recaps previous knowledge of cells.	Inheritance, chromosomes, DNA and genes



	8P3 Space – The solar system, ways of exploring the universe, life cycle of stars, big bang theory, seasons on earth, magnetic field of earth	Knowledge of forces needed (7P3). Very interesting topic that all students enjoy.	Space physics
Term 3-1	8P4 Forces & Motion – calculating speed, calculating acceleration, distance-time graphs plotting and interpreting, $F=ma$, moments, calculating work done	Expanded on at GCSE – recaps previous knowledge from 7P4. Good opportunity to practice maths skills and to stretch more able students.	Forces and motion Balanced forces Describing motion
	8C4 Rocks – Structure of the earth, 3 types of rock formation, structure of rocks, rock cycle, types of weathering, fossil formation and fossil record	Expanded on at GCSE.	Earth and atmosphere
Term 3-2	8P5 Force fields and electromagnetism – force fields, static electricity, magnetism and electromagnetism	Recaps previous knowledge of electricity (7P2) and forces (7P3 and 8P4) so needs to be at the end of the year.	Current electricity Static electricity Magnetism