

Science Department Curriculum Map September 2022

Year Group	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
7	Intro to Sci skills. Cells, tissues and organs. Sexual reproduction in animals. Energy. Mixtures and separation. Acids and Alkalis.	Cells, tissues and organs. Sexual reproduction in animals. Energy. Mixtures and separation. Acids and Alkalis.	Electricity. Muscles and bones.	Electricity. Muscles and bones. The particle model. Forces. Science week.	Sound. Atoms, elements and molecules.	Sound. Atoms, elements and molecules. Revision
8	Ecosystems Food and digestion. Fluids. Combustion. The periodic table. Breathing and respiration.	Food and digestion. Breathing and respiration. Combustion. The periodic table.	Metals and their uses. Light. Energy transfers. Plants and their reproduction.	Metals and their uses. Light. Science week.	Energy transfers. Unicellular organisms.	The Earth and space. Revision
9	Cell structure and transport. Atomic structure. Conservation and dissipation of energy. Energy transfer by heating.	Cell structure and transport. Atomic structure. Conservation and dissipation of energy. Energy transfer by heating.	The periodic table. Cell Division. Energy resources.	Structure and bonding. Organisation and the digestive system. Electric circuits.	Structure and bonding. Organisation and the digestive system. Electric circuits.	Organising animals and plants. Revision.
10	Communicable diseases. Preventing and treating disease. Chemical calculations. Chemical changes. Electricity in the home. Radioactivity. Molecules and mater.	Communicable diseases. Preventing and treating disease. Non-communicable diseases. Chemical calculations. Chemical changes. Electrolysis. Electricity in the home. Radioactivity. Molecules and mater.	Electrolysis. Non-communicable diseases. Photosynthesis. Respiration. Energy changes. Forces in balance. Motion. Force and motion.	Photosynthesis. Respiration. The human nervous system. Energy changes. Rates and equilibrium. Motion. Force and motion.	The human nervous system. Hormonal coordination. Wave properties. EM waves. Force and pressure (Separate Sci only).	Hormonal coordination. Wave properties. EM waves. Homeostasis in action and Crude Oil and fuels (both Separate Sci only). Revision.
11	Crude oil and fuels. Chemical analysis The Earth's atmosphere. The Earth's resources. Electromagnetism. Variation and evolution. Reproduction Genetics and evolution. Organic reactions and Polymers (Both are separate sci only)	EM waves (Separate sci only) Crude oil and fuels. Chemical analysis The Earth's atmosphere. The Earth's resources. Electromagnetism. Light (Separate Sci only). Genetics and evolution. Adaptations, interdependence and competition.	Electromagnetism. Organising an ecosystem. Biodiversity and ecosystems. Using our resources and Space (both are separate Sci only)	Revision		

KS5 Curriculum Map

Year Group	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Y12 Biology	Cell structure. Carbohydrates. Lipids. Proteins	Transport across cell membranes. Nucleic acids. ATP. Water and inorganic ions. Transport Cell recognition and the immune system.	Cell recognition and the immune system. Gas exchange. DNA, genes and chromosomes. Protein synthesis Genetic diversity.	Digestion and absorption. Mass Transport Biodiversity	Revision	Revision
Y12 Chemistry	Atoms, ions and compounds Electrons and bonding Shapes of molecules Amount of substance	Shapes of molecules Periodicity Basics of organic chemistry Alkanes Acids and redox Reactivity trends	Alkanes. Alkenes. Alcohols. Organic synthesis. Reactivity trends. Enthalpy. Reaction rates and eqm.	Alkenes. Alcohols. Haloalkanes. Organic synthesis. Enthalpy. Reaction rates and eqm.	Enthalpy. Reaction rates and eqm Aromatics. Rates of reaction. Analytical techniques.	Aromatics. Rates of reaction.
Y12 Physics	Measurements and their errors. Mechanics. Matter and radiation. Quarks and leptons. Materials. Maths skills	Measurements and their errors. Mechanics. Matter and radiation. Quarks and leptons. Materials.	Quantum phenomena. Electric current. Newton's law of motion	Quantum phenomena. Force and momentum Direct current circuits. Waves. Work energy and power.	Revision Optics.	Revision
Y13 Biology	Populations Energy and ecosystems Nutrient cycles Photosynthesis Respiration Inheritance	Survival and response Receptors Controlling heart rate. Respiration Inheritance. Homeostasis.	Nerve impulses. Muscles as effectors. Mutations. DNA	DNA Control of blood, glucose and water. Revision.	Revision	
Y13 Chemistry	Equilibrium. Acids and bases. Buffers. Amines and aromatics. Carbonyls and carboxylic acids.	Organic synthesis Enthalpy and Entropy. Chromatography and spectroscopy.	Redox and electrode potential. Chromatography and spectroscopy.	Transition elements. Chromatography and spectroscopy. Revision	Revision	
Y13 Physics	Motion in a circle Simple harmonic motion Gravitational fields Radioactivity.	Electric fields. Nuclear energy. Simple harmonic motion. Capacitors	Astrophysics Magnetic fields Thermal Physics Gases	Astrophysics Electromagnetic effects.	Revision.	