

KS3

Year 7 curriculum:	<p><u>Autumn term:</u> Introduction to Science, The building blocks of life (Cell Biology), Reactions and matter, Particles and their behaviour</p> <p><u>Spring term:</u> Energy Changes, Reproduction, Acids and Alkalis</p> <p><u>Summer term:</u> The world of bacteria, Separating substances, Introduction to forces</p>
Year 8 curriculum:	<p><u>Autumn term:</u> The Digestive System, Elements, Mixtures and Compounds, Magnetism</p> <p><u>Spring term:</u> Lungs and Health, Patterns in the Periodic table, How we see and hear</p> <p><u>Summer term:</u> Ecology, Combustion, Introduction to Electricity</p>
Year 9 curriculum:	<p><u>Autumn term:</u> Plants and Photosynthesis, Chemical Reactions, Forces and Motion</p> <p><u>Spring term:</u> An introduction to Respiration, Energy and Rates within Chemical Reactions, Electrical Calculations</p> <p><u>Summer term:</u> An introduction to Genetics, Environmental Chemistry, Space Physics</p>

KS4:

Biology:

Year 10 Autumn term Cell Biology and Organisation: Prokaryotic and Eukaryotic cells, Microscopy calculations, Stem cells, Diffusion, Osmosis, Active transport.

Enzyme activity

Year 10 Spring term Healthy lifestyle: The heart, Cancer, Human defence systems (lymphocytes and phagocytes), respiration and metabolism

Year 10 Summer term Plants and Ecology: Photosynthesis, Transpiration and Translocation, uses of glucose, Communities and Biodiversity

Year 11 Autumn term Inheritance, Variation and Evolution: Mitosis and the cell cycle, Genetic inheritance, Evolution, Genetic engineering and Classification

Year 11 Spring term Homeostasis: the endocrine system and the nervous system, diabetes, contraception, the eye (triple only) and the brain (triple only)

Chemistry:

Year 10 Autumn term Matter and Bonding: Atomic structure, history of the periodic table, bonding and giant structures

Year 10 Spring term Quantitative Chemistry and Chemical Change: The mole, titrations, percentage yield (triple only), atom economy (triple only), reactivity series, reactions with acids, neutralisation and electrolysis

Year 10 Summer term Reactions and Organic Chemistry: exothermic and endothermic reactions, factors affecting the rate of reaction, equilibrium, alkanes, alkenes, fractional distillation, carboxylic acids (triple), esters (triple), polymerisation (triple), alcohols (triple)

Year 11 Autumn term Chemical analysis and the earth's atmosphere: formulations,

chromatography, history of the earth's atmosphere, greenhouse effect, carbon footprint, atmospheric pollutants

Year 11 Spring term Resources: Finite resources, potable water, waste water treatment, life cycle assessments

Physics:

Year 10 Autumn term Energy: Energy stores, Energy change calculations, efficiency, the national grid, energy resources and environmental effects.

Year 10 Spring term Electricity: Electrical circuit symbols, series and parallel circuits, current, voltage and resistance, electricity in the home.

Year 10 Summer term Particle Model and Nuclear Physics: Internal energy and changes of state, specific heat capacity, latent heat, nuclear radiation characteristics and uses of nuclear radiation, patterns of nuclear decay.

Year 11 Autumn term Forces: Scalar and vector quantities, resultant forces, forces and motion graphs, forces and braking, momentum.

Year 11 Spring term Waves and Magnetism: Transverse and longitudinal waves, wave properties, the electromagnetic spectrum, induced magnetism, the motor effect calculations, transformers and calculations (triple only) Space Physics (triple only): The universe, life cycle of a star, formation of elements, centripetal force, evidence of the big bang.