PARKSIDE
SCHOOL

Science

What is Parkside aiming to achieve through its Science curriculum?

- to deliver inspirational science teaching so that students become aspirational learners who not only gain science knowledge but develop lifelong skills and values.

Parkside School Subject Curriculum Plan
Subject: Science KS5

Year	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 12 Biology	• Monomers & Polymers • Cell Structure • Mitosis	• Proteins & Enzymes • DNA & ATP • Transport across membranes	• Species & Taxonomy • Cell recognition & Immunity • Gas Exchange	• Species & Taxonomy • Gas Exchange	• Transport in Animals • Transport in Plants • Genetic Diversity & Adaptation	• Mock revision • • Respiration • • Photosynthesis
Year 13 Biology	• Photosynthesis/ • Inheritance	• Respiration • Energy & Ecosystems • Nutrient Cycles • Evolution & Speciation	• Survival & Response • Receptors & Control of heart rate • Nerve Impulses • Populations in Ecosystems • Gene Mutation	• Synaptic Transmission • Muscles • Control of water Potential • Gene expression • Regulation of protein synthesis • Genetic Fingerprinting • DNA probes	• Revision • Exams	•

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Year	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 12 Chemistry	• Atomic Structure • Amount of Substance • Energetics	• Kinetics • Bonding • Chemical equilbria • Introduction to Organic Chemistry	• LeChatelier's principle and Kc • Oxidation, reduction and redox equations • Alkanes • Halogenalkanes	• Group 2, the alkaline earth metals • Group 7, the halogens • Periodicity • Alkenes • Alcohols	• Revision / Exams	• Mock Feedback & Reteach • Organic Analysis • Optical Isomerism, Aldehydes and Ketones • Thermodynamics
Year 13 Chemistry	• Thermodynamics • Acids and Bases • Carboxylic Acids • Carboxylic Acids and derivatives	• Electrode potentials and electrochemical cells • Rate Equations • Mock Exams / Revision	• Transition Metals • Aromatic Chemistry • Amines, Polymers, Amino acids, Proteins and DNA. • Chromatograghy	• Reactions of Aqueous Ions in solution • Properties of period 3 and their oxides • Equilibrium constant Kp • NMR Spectroscopy. Organic synthesis	• Revision & Exams	

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Year	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half T
Year 12 Physics	• SI units and their prefixes • Limitation of physical measurements • Atomic structure & decays • Classification of particles • Conservation laws and particle interactions • Vectors and scalars • Moments • Motion in a straight line	• Photoelectric effect • Energy levels & photo emission • Wave-particle duality • Projectile motion • Newton's laws of motion • Momentum • Work, energy, and power • Bulk properties of solids • Young modulus	• Longitudinal & transverse waves • Stationary waves • Interference • Diffraction • Refraction • Current-voltage characteristics • Resistance and resistivity • Circuits and the potential divider • Electromotive force and internal resistance	• Circular motion • Simple harmonic motion • Forced vibration and resonance • Thermal energy transfer • Ideal gases • Molecular kinetic theory	• Revision and exams	• Mock feedback and reteach • Transition into Year 13 • Gravitational fields • Alpha, beta & gamma radiation
Year 13 Physics	• Gravitational fields • Gravitational potential • Orbits of planets & satellites • Electric fields • Alpha, beta & gamma radiation • Radioactive decay • Nuclear instability & radius	• Electric potential • Capacitance • Capacitance charge and discharge • Magnetic fields • Nuclear fission and fusion	• Electromagnetic induction • Alternating currents and transformers • Turning points in physics	• Revision	• Revision and exams	