

		Term 1		Term 2		Term 3		Term 4		Term 5		Term 6	
Module		Foundations of physics	Forces and motion	Forces in action	Materials	Work, energy and power	Laws of motion and momentum	Stars	Cosmology	Gravitational fields		Particle physics	Medical imaging
Physics Yr 12	Maths skills for physics	Quantities, Derived units, Scalar and vector quantities, Adding vectors, Resolving vectors	Distance and speed, Displacement and velocity, Acceleration, Velocity-time graphs, Equations of motion, Stopping distances, Uncertainty, Precision, accuracy, Projectile motion	Moments and equilibrium, Couples and torques, Density and pressure, Head of pressure, Buoyancy, Uncertainty, precision, accuracy, Projectile motion	Springs and Hooke's law, Elastic potential energy of springs, Deformation of materials, Stress, strain, young's modulus,	Conservation of energy, Kinetic energy and gravitational potential energy, Power and efficiency	Newton's first and third laws, Linear momentum, Newton's second law Impulse, Collisions in two dimensions	Objects in the universe, Lifecycle of stars, H-R diagram, Energy levels in atoms, Spectra, Analysing starlight, Stellar luminosity	Astronomical distances, The Doppler effect, Hubble's law, The Big Bang theory, Evolution of the Universe	Gravitational fields, Newton's laws of gravitation, Gravitational field strength, Kepler's laws, Satellites, Gravitational potential, Gravitational potential energy		Atomic model theories/history, The nucleus, Antiparticles, hadrons and leptons, Quarks, Beta decay	X-rays, Interaction of X-rays with matter, CAT scans, The gamma camera, PET scans, Ultrasound, Acoustic impedance, Doppler imaging
PAGS			PAG 1.1 Comparing methods of determining g		PAG 2.1: Determining Young's modulus for a metal								
Review and assessment of Y12 content													
		Charge and current	Energy, power and resistance	Electrical circuits	Quantum physics	Waves 1	Waves 2	Circular motion	Thermal physics	Ideal gases		Oscillations	Capacitance
Physics Yr 12	Maths skills for physics	Current and charge, Moving charges, Kirchoff's laws, Mean drift velocity	Circuit symbols, Potential difference and emf Thermionic emission, Resistance, I-V characteristics, Diodes, Resistivity, LDRs and thermistors, Electrical energy and power, Paying for electricity	Kirchoff's laws and circuits, combining resistors, analysing circuits, internal resistance, potential divider circuits, sensing circuits	Einstein's photoelectric equation, Wave-particle duality, The quantum model, Photoelectric effect,	Progressive waves, Wave properties, Reflection and refraction Diffraction and polarisation, Intensity, Electromagnetic waves, Polarisation, Refractive index, Total internal reflection, Superposition	Interference, Young's double slit experiment, Stationary waves, Harmonics, Stationary waves in air columns,	Radians and angular velocity, Centripetal acceleration, Exploring centripetal forces	Temperature, Internal energy, Specific heat capacity, Specific latent heat	Kinetic theory of gases, Gas laws, RMS speed, The Boltzmann constant, PAG 8: Investigating gases		Simple harmonic motion, damping and driving, resonance	Capacitors in circuits, Energy stored in capacitor, Charging capacitors, Discharging capacitors,
PAGS		PAG 3.1: Determining the resistivity of a metal			PAG 6.1: Determining Planck constant	PAG 5.1: Determining the wavelength of light with a diffraction grating PAG 5.3: Determining the frequency and amplitude of a wave		PAG 12.1: Research project		PAG 8.2: Investigating the relationship between pressure and volume		PAG 10.1: Investigating factors that affect SHM	PAG 9.1: Investigating the charging and discharging of capacitors

Summer research task