

Big Ideas	Year 7	Year 8	Year 9 Autumn	Y9 Spring	Y9 Summer	Year 10 Autumn	Year 10 Spring	Year 10 Summer	Year 11 Autumn	Year 11 Spring	Year 11 Summer
Energy		P2.2: Energy Energy stores and transfers. Heat energy transfer. Energy and efficiency		CP3: Energy (P3.1 - P3.14)			CP7: Energy - forces doing work, (P8.1-8.7, P8.12-8.14) SP9: Forces and their effects (P9.6 - 9.9)	CP9: Electricity (P10.1 - 10.42)	CP13: Forces and matter (P12.1-15.6) SP15: Forces and matter (P15.7 - 15.17)		Revision of All
Waves	P1.2: Sound (Observed waves, sound waves, energy and waves) P1.3: Light (Light waves)	P2.2: Energy (heat energy transfer - radiation)				CP4: Waves (P4.1 - P4.7, P4.10, P4.17) SP4: waves (P4.11 - P4.16), CP5: EM spectrum (P5.7 P5.14, P5.20 - 5.24) SP5: EM spectrum (P5.1 - P5.6, P5.15 - P5.19)	SP7: Astronomy (P7.11 - 7.13)				Revision of All
Forces	P1.1 : Forces (Forces, balanced forces, forces ad motion) P1.4 Space (Space physics)	P2.3: Motion and pressure (Describing motion, pressure in fluids) P2.2: Energy (Calculation of fuel uses and costs in domestic context, energy changes and transfers, changes in systems, particle model, energy in matter)	Equation introduction (CP1 & 2) CP1: motion (P2.1 - 2.13)		CP2: Forces (P2.14 - P2.31)		CP7: Energy - forces doing work, CP8: Forces and their effects (P9.1-9.5) SP7: Astronomy (P7.1, 7.5 - 7.7)		CP13: Forces and matter (P12.1-15.6) SP15: Forces and matter (P15.7 - 15.17)	CP10: Magnets and magnetic fields (P12.10 - P12.13) SP12: Magnets and magnetic fields (P12.14)	Revision All
Fields		P2.1: Electricity and magnetism (Current electricity, static electricity, magnetism)					SP7: Astronomy (P7.5 - 7.7)	CP9: Electricity (P10.1 - 10.42)		CP10: Magnets and magnetic fields (P12.1-12.9) CP11: Electromagnetic induction (P13.10, P13.2, P13.5-13.6, P13.8-13.9) SP13: Electromagnetic induction (P13.1, 13.3-4, 13.7, 13.11)	Revision All
Matter		P2.1 Electricity (static electricity) P2.2 Energy (particle model, energy in matter)					CP6: Radioactivity (P6.1 - P6.27, P6.29, P6.31, P6.32) SP6: Radioactivity (P6.28, P6.30 - P6.46) SP7: Astronomy (P7.2 - 7.4, P7.8 - 7.10, P7.14 - 7.19)		CP12: Particle model (P14.1 - 14.15) SP14: Particle model (P14.16 - 14.20) CP13: Forces and matter (P12.1-15.6) SP15: Forces and matter (P15.7 - 15.17)		Revision All
Chemistry	Particles, Atoms Elements and Compounds, Diffusion	Endo and Exothermic Reactions	Atomic Structure	Ions		Moles, gas volumes	Equilibrium		Endo and Exothermic Reactions, Bond Enthalpy, Fuels, Global Warming		
BIOLOGY			standard form, rearranging equations, converting units		Nervous communication	Medical imaging					
Equations	Spring constant (higher ability) Density	$s=d/t$, $WD = f \times d$	$s=d/t$, $a=v-u/t$, $f=ma$, $w = m \times g$	Efficiency, $GPE = m \times g \times h$, $KE = 1/2 \times m \times v^2$	$F=ma$	$s = d/t$, $s = f \times \lambda$,	$Q = I \times t$, $E = Q \times v$, $V = I \times R$, $E = I \times V \times T$, $P = E/t$, $P = I \times V$, $P = I^2 \times R$,	$E = m \times SHC \times \Delta t$, $E = m \times SLH$ density = mass/volume, Energy - $1/2 \times k \times e^2$, $F = k \times X$	$F = B \times I \times L$, $V \times I = V \times I$, $P = I \times V$		
Maths skills	direct proportion (Hookes law)	rearranging equations	standard form, rearranging equations, converting units interpreting graphs, rearranging equations, calculating gradient of a graph, interpreting a changing gradient	Rearranging equations, draw and interpret sankey diagrams		Standard form	decay equations, standard form	rearranging equations, deriving units	direct proportion, rearranging equations Calculating gradients, rearranging equations, direct proportion, deriving units (spring constant)	rearranging equations, proportional relationships	
Practicals	reflection, refraction, investigating forces, investigating friction, Hookes law,	energy in foods, heat ransfer demonstrations, building circuits, investigating strength of an electromagnet	Investigating $F=ma$ (Core), investigating gravity, Measuring wave speed in water and a solid (Core)	Investigating Newton II (core)	Investigating refraction (Core) Investigating thermal energy from different surfaces (Core - SEP only)	Radioactivity demonstrations	Investigating resistance (Core), Investigating series and parallel (Core)	Investigating water - SHC and SLH (Core) Density of irregular object, density of a liquid (Core) Investigating springs (Core)	Building an electromagnet, investigating magnetic fields		