

INTENT-

- To develop knowledge and understanding of key scientific principles in the AQA Physics specification
- To gain proficiency of skills needed to complete assessment points and access various required practicals
- To gain confidence and enjoyment of the subject and inspire further study post-18

The bigger picture:

The year 12 curriculum revisits many ideas from GCSE, grouping them in a similar fashion to how they are typically presented in exams (also reflected in the assessments) – this also includes application of knowledge from the 6 required practical's that they carry out.

Bilton School Planning for Progress over Time Programme of Study

IMPLEMENTATION

	Term 1								Term 2							Term 3						Term 4					Term 5						Term 6						
KS5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Year 12 Physics	(TTD x2) Head Start Revision	Head Start Revision & Assessment	Introduction to AS L1 + Particles and radiation L1, 2, 3	Particles and radiation L4, 5, 6, 7	Particles and radiation L8, 9, ETT Electromagnetic Radiation and Quantum Phenomena L1,	Electromagnetic Radiation and Quantum Phenomena L2, 3, 4, 5	Electromagnetic Radiation and Quantum Phenomena ETT, Waves L1, 2, 3,	Waves L4 Standing waves RP 5, 6, 7	Waves L8, 9, 10 Diffraction Grating RP	Waves ETT Mechanics L1, 2, 3,	Mechanics L4, 5, 6, 7,	Mechanics L8 Gravity RP 9, 10, 11,	Mechanics L12, ETT, Electricity L1, 2, 3	Electricity L4, 5, 6, 7 Resistivity RP, 8	Electricity L9, 10, 11, ETT	Materials L1, 2,3,4	Materials L5 Youngs Modulus RP ETT	Recap Particles and waves + PPQ	Recap mechanics +PPQ electricity +PPQ	PPEs – Revision	PPEs – Revision	PPEs	PPEs	PPE feedback	RQP catch-up	Capacitance L1, 2,3, 4, 5	Capacitance L7, 8, 9, RQ	Capacitance ETT, Further Mechanics L1, 2, 3, 4	Further Mechanics L5, 6, 7, 8, RQ	Further Mechanics ETT	Further Yr13 Content or Catch up	Further Yr13 Content or Catch up	AS Revision Paper 1	AS Revision Paper 1	AS Revision Paper 2	AS Revision Paper 2	EOY Assessment – AS Paper 1 and Paper 2	Work Experience – No lessons	Yr13 - Content
Progress and assessment	End of topic test (ETT) Retrieval starters to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.								End of topic test (ETT) Retrieval starters to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.							End of topic test (ETT) Retrieval starters to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.						End of topic test (ETT) Retrieval starters to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.					End of topic test (ETT) Retrieval starters to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.												
Required Practical (RP)	Standing Waves Diffraction Gratings								Acceleration due to Gravity Resistivity Electromotive Force							Youngs Modulus RP						Revision of all RQP					Capacitance SHM												
Numeracy Skills	<ul style="list-style-type: none"> • Using and rearranging equations. • Conversion of units. • Using standard form. • Interpreting and analysing data in exam questions. • Analysing data from practicals. 								<ul style="list-style-type: none"> • Using and rearranging equations. • Conversion of units. • Using standard form. • Interpreting and analysing data in exam questions. • Analysing data from practicals. 							<ul style="list-style-type: none"> • Using and rearranging equations. • Conversion of units. • Using standard form. • Interpreting and analysing data in exam questions. • Analysing data from practicals. 						<ul style="list-style-type: none"> • Using and rearranging equations. • Conversion of units. • Using standard form. • Interpreting and analysing data in exam questions. • Analysing data from practicals. 					<ul style="list-style-type: none"> • Using and rearranging equations. • Conversion of units. • Using standard form. • Interpreting and analysing data in exam questions. • Analysing data from practicals. 												

Homework <i>(ensure that this is NOT stand alone, but clearly advances or embeds knowledge and understanding)</i>	Use of Seneca	Use of Seneca	Use of Seneca	Use of Seneca	Use of Seneca	Use of Seneca
Key Vocabulary/literacy opportunities	<u>Atoms and Radiation</u> Alpha Decay, Annihilation T, Antiparticle A, Baryon Number A, Baryon, Beta-Minus Decay, Beta-Plus Decay, Electron Diffraction T, Electron-volt (eV), Energy Levels D, Excitation, Gauge Boson, Ground State, Hadrons, Ionisation, Isotope, Isotopic Data, Kaon, Lepton Number, Lepton, Meson, Muon, Neutrino, Nucleon Number (A), Pair Production, Photon, Positron, Proton Number (Z), Stopping Potential, Strange Particles, Strangeness, Strong Nuclear Force, Threshold Frequency, Work Function, <u>Waves</u> Amplitude, Antinode, Cladding, Coherence, Diffraction Grating, Diffraction, Electromagnetic Waves, Frequency, Fringe Spacing, Interference, Laser, Longitudinal Wave, Material Dispersion, Modal Dispersion, Node, Optical Fibre, Path Difference, Phase Difference, Phase, Polarisation, Pulse Broadening, Refractive Index, Snell's Law, Speed, Stationary Wave, Total Internal Reflection, Transverse Wave, Wavelength, Young's Double-Slit Experiment,	<u>Mechanics</u> Breaking Stress, Brittle, Centre of Mass, Conservation of Energy, Conservation of Momentum, Couple, Density, Efficiency, Elastic Behaviour, Elastic Collision, Elastic Limit, Elastic Strain Energy, Equilibrium, Hooke's Law, Impulse, Inelastic Collision, Moment, Momentum, Newton's First Law, Newton's Second Law, Newton's Third Law, Plastic Behaviour, Principle of Moments, Scalar, Spring Constant, Stiffness, Tensile Strain, Tensile Stress, Terminal Speed, Vector, Young Modulus,	<u>Electricity</u> Ammeter, Current, Electromotive Force, Internal Resistance, Light Dependent Resistor, Ohmic Conductor, Ohm's Law, Parallel Circuits, Potential Divider, Resistance, Resistivity, Resistors in Parallel, Resistors in Series, Series Circuits, Superconductor, Terminal Potential Difference, Thermistor, Voltmeter,			
Connected knowledge	KS3 – Atoms, Elements, Compounds and Mixtures, Particles KS4 – Particle Model, Atomic Structure (P1) Waves KS5 – Atoms and Radiation, Waves	KS3 – Electricity, Forces, Motion, Energy. KS4 – Electricity, Forces and Motion, Energy, Particle Model. KS5 – Electricity, Mechanics and materials				
Spiritual, Moral, Social and cultural.						

British Values	Respect and tolerance, collaboration during experiments and group work. Following the laboratory rules when conducting practical work.	Respect and tolerance, collaboration during experiments and group work. Following the laboratory rules when conducting practical work.	Respect and tolerance, collaboration during experiments and group work. Following the laboratory rules when conducting practical work.	Respect and tolerance, collaboration during experiments and group work. Following the laboratory rules when conducting practical work.	Respect and tolerance, collaboration during experiments and group work. Following the laboratory rules when conducting practical work.	Respect and tolerance, collaboration during experiments and group work. Following the laboratory rules when conducting practical work.
Cultural Capital	Science - Careers display on W side corridor. Careers posters in all Science rooms	Science - Careers display on W side corridor. Careers posters in all Science rooms	Science - Careers display on W side corridor. Careers posters in all Science rooms	Science - Careers display on W side corridor. Careers posters in all Science rooms	Science - Careers display on W side corridor. Careers posters in all Science rooms	Science - Careers display on W side corridor. Careers posters in all Science rooms