Fairfield High School for Girls

GCSE Physics - Year 11 Long-Term Plan 2024-2025

Calendar	Topic	Assessment	Sequencing and Coherence *concepts - themes - skills*	Literacy *reading - vocabulary - oracy - writing*
Autumn **Half Term 1**	P10 Forces and Motion: Forces and acceleration, Weight and terminal velocity, Forces and braking, Momentum, Forces and elasticity, Using conservation of momentum, Impact forces, Safety.	P10 End of topic test GCSE style questions FT and HT. P10, working scientifically and synoptic content from P1- P9. Teacher marked, feedback though model answer mark scheme and follow up exam style questions on areas of weakness – personalised.	P10 reinforces some core force concepts from P8, and goes further, applying those foundational ideas to new concepts such as momentum, and to impact forces and safety.	Writing task: car safety and importance of clear explanation Extended writing
Autumn **Half Term 2**	P11 Forces and Pressure: Pressure and surfaces, Pressure in a liquid, Atmospheric pressure, upthrust and flotation. P12 Wave Properties: Nature and properties of waves, reflection and refraction, sound waves, uses of ultrasound, seismic waves.	P11 End of topic test GCSE style questions FT and HT. P11, working scientifically and synoptic content from P1- P10. Teacher marked, feedback though model answer mark scheme and follow up exam style questions on areas of weakness – personalised. P12 End of topic test GCSE style questions FT and HT. P12, working scientifically and synoptic content from P1- P11. Teacher marked, feedback though model answer mark scheme and follow up exam style questions on areas of weakness – personalised.	P11 builds further on the ideas of forces from P10 and introduces pressure, a concept closely related to forces. It also introduces pressure in fluids, a different application of these force ideas. P12 builds on basic ideas about waves which were learned in the KS3 (Y8) waves module. Going further, it looks at longitudinal (sound and seismic) waves for the first time.	Reading task on Archimedes principle and the history of Archimedes Oracy task explaining the timing and results of seismic waves in an earthquake Extended writing

Spring **Half Term 3**	P13 Electromagnetic waves: The EMC Spectrum, Light, infra-red, microwaves, radio waves, Communication, Ultra violet, X-rays and gamma rays. P14 Light: Reflection of light, refraction of light, light and colour, lenses, using lenses.	P13 End of topic test GCSE style questions FT and HT. P13, working scientifically and synoptic content from P1- P12. Teacher marked, feedback though model answer mark scheme and follow up exam style questions on areas of weakness – personalised. P14 End of topic test GCSE style questions FT and HT. P14, working scientifically and synoptic content from P1- P13. Teacher marked, feedback though model answer mark scheme and follow up exam style questions on areas of weakness – personalised.	P13 takes the wave ideas from P12 and applies them directly to electromagnetic waves, looking at uses and applications. This then links back to and strengthens ideas about gamma radiation taught in P7. P14 then takes these same EM wave ideas and applies them to visible light, again building upon the KS3 waves topic with reflection and refraction. It then goes further, explaining the colours of light and lenses using the mathematical framework built up in P12.	Reading challenging text (scientific paper) about uses of the entire EM spectrum Extended writing
Spring **Half Term 4**	P15 Electromagnetism: Magnetic fields, Magnetic fields of electrical current, the motor effect, Electromagnets in devices, The generator effect, Alternating-current generator, Transformers.	P15 End of topic test GCSE style questions FT and HT. P15, working scientifically and synoptic content from P1- P14. Teacher marked, feedback though model answer mark scheme and follow up exam style questions on areas of weakness – personalised.	P15 takes electrical concepts from P3/4/5 and marries them with wave ideas from P12/13/14 to begin a holistic understanding of electromagnetism. Separates take this further by looking at complex applications such as the AC generator.	Oracy task: clarity when explaining the complex systems such as AC generators, transformers. Extended writing

Summer Half Term 5	P16 Space: Formation of the solar system, History of the start, Planets, satellites and orbits, Expanding universe, Beginning and future of the universe.	P16 End of topic test GCSE style questions FT and HT. P16, working scientifically and synoptic content from P1- P15. Teacher marked, feedback though model answer mark scheme and follow up exam style questions on areas of weakness – personalised.	P16 brings together all the ideas from forces modules (P8/10) and waves modules (P12/13/14), and as a result must be taught last in the sequence. It then takes these ideas and applies them to the solar system, stars, and the universe at large.	Reading task: challenging text on the expanding universe and conflicting evidence in cosmology Extended writing
Summer Half Term 6	GCSE Revision Programme	Use of Mastery Booklets and past papers to assess progress.	Reteaching key concepts from paper 1 on the run up to the first May exam, including the 4 Required Practicals for Separate Sciences per subject. There will also be a specific focus on Working Scientifically skills in this period. Focus will then move to paper 2 topic content and the remaining Required Practicals for this paper.	