Year 11 Physics

Overall Intent:

- Maintain curiosity through exploring the ten Big Ideas of Science
- Acquire the full range of skills to learn to apply knowledge, critique information and actively solve problems
- Have a science education to progress their understanding of the issues that shape their lives during and beyond their school years

In Year 11, students study 3 hours per fortnight of the Physics aspect of AQA GCSE Trilogy combined science worth 2 GCSEs or 5 hours of AQA GCSE Physics (a single GCSE but done in combination with the single GCSEs of Chemistry and Biology). They continue to explore each of the ten Big Ideas of Science, focussing on the four Big Ideas in Physics. These centre around energy and electricity, where they build upon previous learning and expand their understanding of each idea. Students are assessed throughout the topics using Demonstrate and Connect tasks. End of topic assessments focus on their ability to communicate their knowledge and understand key scientific concepts. Homework will be issued at least once per topic and may comprise extended research or completing a skills grid following a practical investigation. Practical work is a key part of science and as well as completing numerous practical activities students will also be required to complete a series of required practicals, where they consolidate scientific concepts, develop transferable investigative skills and acquire a range of practical skills.

	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Topic/area of study	Waves	Magnetism and electromagnetism	Space physics (Triple Science only)	Revision		
Key learning aims – knowledge and skills	Students learn how waves carry energy and information from one place to another. Students learn the structure of transverse and longitudinal waves and conduct investigations about how to calculate wave speed. Students learn about the range of electromagnetic waves and their uses in everyday technological advancements. Triple Science students explore the use of lenses and their practical applications.	Students learn how magnets, electromagnets and magnetic fields behave. They build electromagnets and explore the difference between induced and permanent magnets. Students will be able to describe the motor effect and how changing aspects of an electromagnet can affects its strength. They will explore how magnets are important in loudspeakers, microphones and generators as part of this topic.	Triple Science students will learn about the solar system and the life cycle of stars as part of this unit. Students will learn how red shift is evidence of an expanding universe and the big bang theory.	Students will consolidate their knowledge from throughout the year 10 and 11 course, as they prepare for their final exams. The course will conclude once the last exam is taken.		

Assessment	End of topic tests	Paper 1 Trial Exams	End of topic tests	Paper 2 Trial exams	Thurs 9th June (PM) – Physics paper 1	Thurs 23rd June (AM) – Physics paper 2