

## Year 13 PHYSICS

### Overall intent

In year 13, Physics students follow a practical-based scheme of learning that allows students to achieve the Practical Endorsement, in addition to preparing them to become confident with increasingly complex knowledge, so that they can adapt what they know into different contexts and supporting them to perform to their potential in the final exams. Students gain a broad spectrum of Physics knowledge that supports progression to a range of careers and which hopefully imbues a lifelong fascination with science and its applications in our world. After a strong foundation in year 12, students are supported through the significant step up to year 13 concepts. The course inspires career decisions, as evidence by the number of our Sixth Form students who go on to science-based careers.

	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>Topic/area of study</b>	CAPACITORS AND ELECTRIC FIELDS	CIRCULAR MOTION AND GRAVITATIONAL FIELDS	SIMPLE HARMONIC MOTION AND MAGNETISM  THERMAL PHYSICS AND IDEAL GAS EQUATIONS	RADIOACTIVITY AND NUCLEAR ENERGY  SPECIAL RELATIVITY  PROPERTY OF ELECTRONS	EXAM PREPARATION	
<b>Key learning aims – knowledge and skills</b>	Students will learn about the importance of time constant in charge/discharge of capacitors and the use of electric fields to control charged particles.	Students will learn about the significance of Newton, Kepler and Galileo being able to explain and predict planetary motion	Students will learn equations of SHM and application to practical situations. They will also learn about electromagnetic induction and relation to electric power transmission. They will apply thermal conductivity, SHC	Students will learn about the causes of nuclear instability and the harnessing power of the nucleus. They will also learn about the need for SR in GPS satellites and the use of electrons in microscopes.	Students will review content from throughout the course as they prepare for their final examinations	

			and SL equations to practical situations.		
<b>Assessment</b>	AP1 assessment	AP2 assessment	AP3 assessment	AP4 assessment	Final exams