Long Term Plan: Physics Year 11

ARCHBISHOP SENTAMU ACADEMY
CHURCH OF ENGLAND

Half term	Unit title	Key knowledge/ Content to learn and retain	Essential skills to acquire (subject & generic)	Link to subject ethos and driver (rename)	Anticipated misconceptions	Links to previous KS	Links to future KS	Opportunity for stretch for high prior attainers	SMSC & British Values	Cultural Capital	Career Link
One	Waves	Wave characteristics The wave equation (Triple Only) Lenses Sesismic Waves Reflection and Refraction Electromagnetic waves (HT only) Use of waves in communication	Record accurate experimental data Present and interpret data in tabular and graphical form. Extended writing Dwarinng scientifc diagrams to the correct scale		That waves move matter - rather than just energy.	This unit builds directly from the waves topic at key stage three, taking a more quantitive approach, and introducing the idea of electromagnetic waves	At A-Level students will study all kinds of waves in more depth, taking a deeper mathematical approach.	Multistep calculations drawing on equations from multiple units.	Working safely in a lab and respecting each other's work space	The ubiquity of waves means that problems can be framed in a variety of familiar and unfamiliar contexts	This programme opens doors to a wide range of STEM field careers; particularly those in engineering, architecture and mechanical sciences
Two	Magnetism	Bar magnets	Record		That all metals	This unit	In the second	Multistep	Working	The ubiquity	This

	and Electromagnetism	and the magnetic field arond them. Magnetic attraction and repulsion The Earth's magnetic field Electromagnets (HT Only) Electric Motors (Triple Only) Transformers	accurate experimental data Present and interpret data in tabular and graphical form. Extended writing Change the subject of, and evaluate equations with four terms.		are magnetic, rather than just iron, nickel and cobalt.	follows on from the magnetism unit studied in KS3. Students will study the same concepts but in much greater depth.	year of A-Level students will study these concepts in even greater depth, taking a mathematical approach.	calculations drawing on equations from multiple units.	safely in a lab and respecting each other's work space	of magnetism means that problems can be framed in a variety of familiar and unfamiliar contexts	programme opens doors to a wide range of STEM field careers; particularly those in engineering, architecture and mechanical sciences
Three (Triple)	Space Physics	The solar system The moon The life cycle of a star Red shit, and evidence for the big bang.	Present and interpret data in tabular and graphical form. Extended writing		Some students think the sun must be special in some way, when it is in reality, a very average star. The status of pluto. That the "dark side" of the moon is in perpetual darkness.	This unit follows on from the Universe Topic studied in KS3, looking at concepts in greater depth and introducing the idea of red shit and satelites.	This builds into the Astrophysics unit at A-Level which forms the bulk of Paper Three	Multistep calculations drawing on equations from multiple units.	Working safely in a lab and respecting each other's work space	A greater appreciation for our place in the universe.	This programme opens doors to a wide range of STEM field careers; particularly those in engineering, architecture and mechanical sciences

Three (Trilogy)	Half term three is dedicated to revision of Paper Two, in preparation for March PPEs
Four	Half Term Four is dedicated to revision of Paper One Topics
Five	Revision for final exams - Paper One is normally held toward the start of the exam season before the half term break
Six	Revision for final exams - Paper Two is normally held toward the end of the exam season before the half term break