Sir William Ramsay School
EMPOWERING EVERYONE TO ACHIEVE

Curriculum Map for Combined Science Physics
Year 11

YEAR 11	Autumn 1 & 2
Topics	**Forces**
Substantive Knowledge – The Knowledge and Content Taught By The Teacher	• This topic involves the students looking at how object are effected by forces and how we can measure them. • Students then start to explain how forces effect object and motion specifically. • They then learn and apply Newton's 3 Laws.
Disciplinary Knowledge – The Knowledge Scientists Need So They Can Collect, Understand and Evaluate Scientific Evidence	• History and Discovery of Newton's 3 Laws • History of Hooke's Law
Skills	• Analysing Motion Graphs • Interpreting Force Diagrams • Calculations and Rearranging Equations
Links To Prior Learning	• Forces in Year 7
Literacy/ Numeracy	• Numerical calculations involving distance, speed, time and acceleration. • Motion graphs' analysis. • Developing skills of how to write extensively to explain a concept. • Writing to persuade drivers to reduce speeds with scientific evidence to support statements.
Cross Curricular	• PSCHE - Danger of Drink Driving and Speeding
Assessment	• Forces Assessment

YEAR 11	Spring 1 & 2 Summer 1
Topics	**Magnetism** **Whole Syllabus Review & Revision**
Substantive Knowledge – The Knowledge and Content Taught By The Teacher	• Students develop and understanding of how magnets and electromagnets work and then apply these to wider world scenarios for example how they are used in a bell and at a scrapyard. • Students also learn the left and right-hand rules and explain how magnets are used in simple motors.
Disciplinary Knowledge – The Knowledge Scientists Need So They Can Collect, Understand and Evaluate Scientific Evidence	• History of Left and Right-Hand Rule • History of Magnetic Fields, Earth's Magnetic Field and Use of Compasses
Skills	• Magnetism Practical Wok • How to Build an Electromagnet
Links To Prior Learning	• Magnetism and Electromagnets in Year 8
Literacy/ Numeracy	• Numerical calculations and rearranging equations. • Extensive writing and use of key terms to explain how magnets are constructed and then how to develop them to be stronger or weaker using clear scientific methodology.
Cross Curricular	• Technology - Magnetism • Geography - Compass Work
Assessment	• Magnetism Specification Assessment