



## Physics Curriculum Overview 2019-2020

**YEAR 10**

	Autumn Term	Spring Term	Summer Term	Rationale
<b>Composites</b>	Key concepts, Waves, Light, Electromagnetic spectrum , Radioactivity	Radioactivity, Astronomy	Electricity, Key concepts & Mock exams	<p>Key concepts, which appear in both exams, are covered first in order to make sure all students have a firm foundation upon which to build a more complex understanding. Many of these key concepts are touched upon in year 9 where links are made to topics in order to support students in bridging the gap between KS3 and KS4.</p> <p>The Spring term focusses on new content being covered for the first time, introducing students to more challenging concepts than previously encountered. Some of the content exclusive to the Triple Science curriculum is dealt with at this time, including the astronomy topic that inspires students to make links between separate concepts they have learnt, and how they fit into the bigger picture.</p> <p>The summer term is spent developing previously met content in greater detail ensuring tier 3 language is being used effectively and with confidence. Time is spent preparing students for their mock exams at the end of the year, focusing on exam technique and breaking down exam questions.</p> <p>Throughout the year there are core practical lessons whereby students use their theory based knowledge and practical skills to create methods, manipulate data and analyse results.</p>
<b>Key Components</b>	Motion, Speed, Forces, Transverse and longitudinal waves, Light, Refraction, colour, lenses Electromagnetic spectrum, Radioactivity	Radioactivity, Half life, Nuclear fission and fusion, Solar system, Star life cycle, Theories of the universe	Contact and non-contact forces, vectors, series and parallel circuits, voltage and current, charge	
<b>Tier 3 language</b>	Vector, scalar, velocity, acceleration, newton, transverse, amplitude, radiation, medium, density, frequency	Alpha, Beta, Gamma, Ionisation, Half life, Fusion, moderator, red shift, steady state, super nova, Cosmic microwave background radiation	Electrons, charge, coulomb, vector, ammeter, parallel , resistance, ohms, electrostatic, electric fields	
<b>Assessment</b>	Physics Paper 1 mock exam Weekly low stakes testing	Physics Paper 1 mock exam Weekly low stakes testing	Physics paper 1 mock exam Weekly low stakes testing	
<b>The best that has been thought and said</b>	Sir Isaac Newton, William Herschel , JJ Thompson, Ernest Rutherford, Neils Bohr	Galileo Galilei, Brian Cox, Stephen Hawking	Sir Isaac Newton	

**YEAR 11**

<b>Composites</b>	Forces and their effects, Electricity	Motor effect, particle model, Core practical Revision & Edexcel revision guides/workbooks	Revision	<p>The Autumn term of year 11 continues to cover the remaining new content, whilst making links to previous topics as and when relevant.</p> <p>During the second half of the Spring term, revision begins with core practicals being revisited. At this point students have covered all new content and should be able to make more informed analyses and conclusions for each of the core practicals. They will be able to apply their skills to tasks involving the creating, analysis and evaluation of data in new scientific contexts. Walking talking mocks are also arranged in the spring term that focus on improving students' exam technique in manipulating and applying their knowledge.</p> <p>The summer term is a time to re-visit the content most likely to appear in the exams, all key words are in students' long term memory and their recall is supported by the deliberate practice planned into our revision plan.</p>
<b>Key Components</b>	Contact and non-contact forces, Vectors, series and parallel circuits, voltage and current, charge, forces, momentum	States of matter, pressure, elasticity, density, core practicals	Preparation for GCSE examinations. Deliberate Practice & Retrieval Practice of key knowledge.	
<b>Tier 3 language</b>	Electrons, charge, coulomb, vector, ammeter, parallel , resistance, ohms, electrostatic, electric fields, momentum, pivot, rotational	Pressure, pascals, density, extension, inelastic, spring constant, accuracy, validity, anomalous		
<b>Assessment</b>	Physics paper 1 mock exam Weekly low stakes testing	Physics Paper 2 mock exam Walking Talking Mocks	GCSE Exams	
<b>The best that has been thought and said</b>	Ernest Rutherford, Alexander Flemming	Robert Hooke		