

## Science KS4 Curriculum Intent, Implementation and Impact Overview

Year: 11 Subject: Combined Physics IMPLEMENTATION						
	Half Term 1 (7)	Half Term 2 (7)	Half Term 3 (7)	Half Term 4 (6)	Half Term 5 (5)	Half Term 6 (6)
<b>INTENT</b>  (AQA GCSE Physics (9-1) GCSE specification coverage key concepts and skills ('Big ideas')	<b>Context:</b> Review of paper 1 concepts P1 – P6 P7 Radioactivity  <b>Key Vocabulary:</b> Proton, neutron, electron, gamma, beta, alpha, penetration, emission, decay, half-life, radiation.  <b>Prior Learning / LTM:</b> Y7/Y8 Matter.  <b>Cultural Capital:</b>  The increase in UK nuclear energy use and Chernobyl.	<b>Context:</b> P12 Wave properties  <b>Key Vocabulary:</b> Amplitude, wavelength, frequency, speed, displacement, Hertz, phase, peak, trough, pitch, volume, ultrasound.  <b>Prior Learning / LTM:</b> Y7/Y8 Waves  <b>Cultural Capital:</b>  Modern communication methods and how they have shaped the world	<b>Context:</b> P13 Electromagnetic spectrum  <b>Key Vocabulary:</b> Radio, micro, infrared, energy, Amplitude, wavelength, frequency, speed, displacement, Hertz, phase.  <b>Prior Learning / LTM:</b> Y7/Y8 Waves  <b>Cultural Capital:</b>  How the use of X-rays advanced medicine.	<b>Context:</b> P15 Electromagnetism  <b>Key Vocabulary:</b> Wire, induction, field, strength, direction, flux, density, solenoid, current, electron, copper, core, motor, generator.  <b>Prior Learning / LTM:</b> Y7/Y8 Electromagnets  <b>Cultural Capital:</b>  Evaluating the impact of electrical vehicles.	<b>Context:</b> Review of paper 1/2 topics, required practical review.  <b>Key Vocabulary:</b> N/A  <b>Prior Learning / LTM:</b> Y7/8 electromagnets, Y7/8 Forces, Y7/8 Waves, Y7/8 universe, Y9/Y10/Y11 units P1-15  <b>Cultural Capital:</b> N/A	N/A
All material in the Universe is made of very small particles	X	X	x	x	X	
Objects can affect other objects at a distance	X	X	x	x	X	
Changing the movement of an object requires a net force to be acting on it					X	
The total amount of energy in the Universe is always the same	X	X	x	x	X	
The composition of the Earth and its atmosphere		X			X	
Our solar system is a very small part of one of millions of galaxies in the Universe						
Organisms are organised on a cellular basis						
Organisms require a supply of energy and materials						
Genetic information is passed down from one generation of organisms to another						

The diversity of organisms, living and extinct, is the result of evolution						
Apply knowledge and understanding to explain observations.	X	X	X	X	X	
Use different types of scientific enquiry to answer scientific questions.	x	X	X	X	X	
Use technical terminology with confidence accurately and precisely.	x	x	X	X	X	
Apply mathematical knowledge to scientific understanding.	x	x	X	X	X	
Awareness of some of the social and economic implications of science	x	x	x	x	x	
<b>IMPACT</b>	<p>Assessment: Trial exam 1 - Paper 1 Data analysis - Half-life <b>Maths skills 1</b></p> <p>Progression to KS5: Module 4 Quantum physics, Module 6 particles and medical physics. Scientific enquiry.</p>	<p>Assessment: Trial exam 2 Extended writing Refraction practical <b>Maths skills 2</b></p> <p>Progression to KS5: Module 4 Waves and waves 2 Module 5 Oscillations Scientific enquiry.</p>	<p>Assessment: Trial exam 3 Data analysis EM spectrum <b>Maths skills 3</b></p> <p>Progression to KS5: Module 4 Waves, waves 2 and quantum physics Module 5 Oscillations Scientific enquiry.</p>	<p>Assessment: Trial exam 4 Extended writing - Electromagnets <b>Maths skills 4</b></p> <p>Progression to KS5: Module 6 Electrical and magnetic fields.</p>	<p>Assessment: <b>External GCSE examinations May/June (AQA)</b></p> <p><b>Paper 1</b></p> <p><b>Paper 2</b></p>	

Cultural Capital is the body of knowledge a student needs so that they can flourish in the future and not be left behind. LTM = Long Term Memory.