

National curriculum or specification coverage

AQA Advanced Level Physics – Specification 7408

3.1 Measurements and their errors

- 3.1.1 Use of SI units and their prefixes
- 3.1.2 Limitations of physical measurements
- 3.1.3 Estimation of physical quantities

3.2 Particles and Radiation

- 3.2.1 Particles
- 3.2.2 Electromagnetic radiation and quantum phenomena

3.3 Waves

- 3.3.1 Progressive and stationary waves
- 3.3.2 Refraction, diffraction and interference

3.6 Further Mechanics and Thermal Physics

- 3.6.2.1 Thermal energy transfer
- 3.6.2.2 Ideal gases
- 3.6.2.3 Molecular kinetic theory model

Date	Exams/ Assessments	Learning Intentions	Core Task/Assessments
31/08/26		3.1 Measurement and their errors • To learn the S.I fundamental base units and prefixes • To understand the limitations of measurement and how to minimise the uncertainty and improve accuracy. • To be able to calculate the percentage uncertainty in an experimentally determined value. 3.2 Particles and Radiation	Core Task 1 – Experimental techniques and analytical methods.
07/09/26			
14/09/26			
21/09/26			
28/09/26			
05/10/26			

Year 12 Long Term Scheme of Learning 2026-2027

Subject: Physics (Teacher one)

12/10/26		- To understand atomic structure and be able to calculate specific charge. - To learn how the strong nuclear force behaves including graphical representation. - To learn how fundamental particles are classified. - To learn how the weak nuclear force behaves and be able to describe it using Feynman diagrams.	Core Task 2 – Particle Physics
19/10/26		- Be able to apply conservation laws to nuclear decays and nuclear reactions. - Be able to explain the phenomenon of pair production and annihilation. - To learn how the Bohr Model of the atom proves that the atom is quantised. - Be able to describe the experiment for the Photoelectric Effect and understand its significance in the quantum physics. - To understand how electron diffraction led to wave-particle duality.	Core Task 3 – Quantum Phenomena
26/10/26	HALF TERM		
02/11/26		Revision and exam preparation for Summative Assessment 1 to cover all content from Half Term 1.	Core Task 4 – Summative Assessment 1
09/11/26		3.3 Waves	
16/11/26	Y12	To learn the basic terminology used to describe wave and wave behaviour.	Core Task 5 – Wave Properties
23/11/26	Y12	Be able to derive and apply the wave equation.	
30/11/26		To learn how electromagnetic waves are produced and understand the uses and dangers of each section of this spectrum.	
07/12/26		- Be able to describe the phenomenon of polarisation and its applications. - Be able to calculate the energy and intensity of waves.	
14/12/26		Year 12 Work Experience takes place in December.	
21/12/26	CHRISTMAS HOLIDAY		
28/12/26			
04/01/27		3.3 Waves	Core Task 6 – Wave Phenomena
11/01/27		- Be able to explain the wave phenomena of reflection, refraction and diffraction. - Be able to apply Snell's Law to understand how waves behave as they cross the boundary between different media.	
18/01/27		To understand the phenomenon of total internal reflection and learn its applications.	Core Task 7 – Diffraction and Interference
25/01/27		To understand the principle of superposition of waves.	
01/02/27		To understand how Young's Double Slit interference proved the wave nature of light.	
08/02/27		- Be able to derive the equation for diffraction through a grating and explain the application of diffraction associated with astronomy.	
15/02/27	HALF TERM		
22/02/27		3.3 Waves	Core Task 8 – Standing Waves
01/03/27		Required Practical 2 – Investigation of interference effects to include the Young's Slit experiment and interference by a diffraction grating.	
08/03/27		To learn how standing waves are formed and their applications.	
15/03/27			

Year 12 Long Term Scheme of Learning 2026-2027

Subject: Physics (Teacher one)

22/03/27		- To understand how musical instruments utilise the different harmonics of standing waves. - Required Practical 1 – Investigation into the variation of the frequency of stationary waves on a string with length, tension and mass per unit length of the string. Revision and exam preparation for Summative Assessment 2 to cover all content from the start of the academic year.	
29/03/27	SPRING BREAK		
05/04/27			
12/04/27	Y12	Revisit and refine understanding of topics 3.2 Particles and Radiation and 3.3 Waves in response to findings from Summative Assessment 2. 3.6 Thermal Physics - To understand the kinematic properties of the states of matter - Be able to explain the phenomenon of Brownian motion and its significance. - Be able to explain the use of different temperature scales including the Kelvin scale. - Be able to define the internal energy of a substance. - Be able to define the specific heat capacity and specific latent heat of a substance and how these can be determined through experimental methods.	Core Task 9 – Summative Assessment 2
19/04/27			
26/04/27			
03/05/27			
10/05/27			
17/05/27			
24/05/27			
31/05/27	HALF TERM		
07/06/27		3.6 Thermal Physics - To learn the assumptions of an ideal gas. - Be able to derive the macroscopic equation of the kinetic properties of an ideal gas. - To learn the ideal gas laws and how these can be verified through experimental methods. - To understand how the macroscopic and microscopic equations for an ideal gas can be applied to solve problems. - To derive the equation for the kinetic energy of an ideal gas. - Required Practical 8 – Investigation of Boyle’s Law and Charles’ Law for an ideal gas. The final week of the academic year involves a bespoke timetable for Year 12 students to support their future careers and post-16 pathways.	Core Task 11 – Gas Laws
14/06/27			
21/06/27			
28/06/27			
05/07/27			
12/07/27			