

Curriculum Map for KS5 Physics

Awarding Body: AQA (7407 / 7408) 2026/27 | Specification Year 12

Year 12	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	- Topic 1: Measurements & Their Errors - Topic 4: Mechanics & Materials — scalars/vectors, motion, Newton's laws, momentum. Work, energy, power. - Topic 3a: Waves — progressive & stationary waves.	- Continue with Waves — refraction, diffraction & interference - Topic 2: Particles & Radiation — constituents of the atom, stable/unstable nuclei, photons & photoelectric effect.	- Continue Topic 2: Particles & Radiation — quarks, leptons, classification, conservation laws. - Topic 4: Mechanics & materials - Prepare students for Feb exam.	- Full review of Mechanics, Materials, Waves & optics and Particles & Radiation - To introduce more challenging questions on topics covered. Including areas from paper3 section A. - Review practical skills - Topic 5: To start Electricity.	- Continue topic 5: — current, charge, pd. resistance, resistivity, EMF & internal resistance. - To complete more challenging & themed questions covered in topic 5 - Topic 6: Further Mechanics — introduction to periodic motion (SHM) & circular motion.	- Continue topic 6: Further Mechanics (damping, & resonance) & energy transfer. - Review of practical skills 1–7. - Review of all Year 12 content for June exam and consolidation for Year 13.
Assessment	- End-of-topic tests - Assessed homework - Research tasks - Practical skills: complete Practicals 1 & 2.	- End-of-topic tests - Assessed homework - Research tasks - Practical 3 completed - School exam (Feb) preparation.	- End-of-topic tests - Assessed homework - Research tasks - Practical 4 completed.	- End-of-topic tests - Assessed homework - Research tasks - Practicals 5 & 6 completed — catch-up CPAC arranged - Year 12 mock: Paper 1 topics.	- End-of-topic tests - Assessed homework - Research tasks - Year 12 internal exam — full Paper 1.	- End-of-topic tests - Assessed homework - Research tasks - Practical skills review - Catch-up (CPAC) arranged - End-of-year exam.
Career Guidance	- Metrology & quality engineering - Data analysis / data science - Acoustics & audio engineering.	- Particle physics research (CERN, national labs) - Photonics & optical engineering - Medical imaging.	- Nuclear industry - Space & aerospace science - Sports science (mechanics of motion).	- Structural & civil engineering - Materials science - Product design engineering.	- Electrical & electronic engineering - Renewable energy - Robotics & automation.	- Aerospace & mechanical engineering - University open days & summer schools - Work-experience placements

Enrichment	Autumn • Full Course introduction • Sign up to physics Olympiad. • Start preparatory work for introduction of options topics (engineering, astro-physics, turning points & other options). • Organise the science trip to CERN in Switzerland. Prepare students academically. • Invite Guest speaker IOP /The IET and other presentations on Civil Engineering. Spring • Promote Engineering Education Scheme. • AQA exam board. Attend sessions that delivery of exam content. • Dulwich college STEM conference / CPAC. • Interventions for PP students and Gifted. • Intervention for more able students. (Tricky mechanics, Topic 2 &3). Summer • Physics summer-school applications. • Nuffield Research Placement applications open. • UK senior physics challenge. • Exam preparation sessions.
Link with GCE Skills & AOs	AO1- Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures. AO2- Applies knowledge of understanding of scientific ideas, processes, techniques and procedures. AO3- Analyse, interpret and evaluate scientific information, ideas and evidence.

Year 13

Year 13	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	- Review Topic 6: SHM, circular motion & Year 1 content - Topic 7a: Fields — gravitational & electric fields - Topic 6b: Thermal physics & gas laws (start) - Prepare students for Nov school exam.	- Topic 7b: Fields — capacitance & magnetic fields - Topic 8: Nuclear Physics — radioactivity & nuclear energy	- Review of practical skills - Continuation/consolidation of Fields - Continuation/consolidation of Topic 8 Nuclear Physics (themed questions) . Prepare for Mid- Feb school exam. - Review p	- Topic 9: Options — Astrophysics / Medical Physics / Engineering Physics / Turning Points / Electronics - Revision of Papers 1 & 2 content - Review of practical skills for Paper 3	- Revision of Paper 1, 2 & 3 content - Exam technique & specimen papers	AQA Examination Season — Papers 1, 2 & 3
Assessment	- End-of-topic tests - Assessed homework - Research tasks - Practical 8 completed	- End-of-topic tests - Assessed homework - Research tasks - Mock exam — A2 Paper 1	- End-of-topic tests - Assessed homework - Research tasks - Practicals 9 & 10 completed - Mock exam — A2 Papers 1 & 2.	- Assessed homework - Specimen papers incl. MME / CIE-style & zig-zag questions - Practicals 11 & 12 completed	- Assessed homework - Revision packs issued - Targeted intervention on weaker topic areas	External AQA examinations: Paper 1, Paper 2, Paper 3
Career Guidance	- Aerospace / mechanical engineering (oscillations) - Thermal & energy engineering, HVAC - Geophysics	- Nuclear engineering - Medical physics (radiotherapy & imaging) - Power & energy sector	- Medical imaging (MRI) - Instrumentation engineering - Oxbridge / medicine / engineering interview prep	- Astrophysics → space sector (ESA/UKSA) - Medical physics → NHS healthcare science - Engineering physics → broad engineering - Electronics → computing & electronics industry	- Apprenticeship applications (engineering, nuclear, aerospace) - Gap-year science programmes	Results-day guidance

Enrichment	Autumn - • Application support: Oxbridge, medicine, engineering • University interview practice. Oxbridge, medicine, engineering). • BPhO Round 1 (Nov) / Senior Physics Challenge. • Invite guest speakers, for example: Talk from nuclear industry / national laboratory • Targeted intervention for PP and G&T students • Mock-exam feedback & target-setting clinics • Twice-weekly small-group revision (ONLINE / F2F) - targeted interventions. • Begin Focus on paper 3. Spring - • Attend Revision conference • Review progress in options (mini test) • Twice-weekly small-group revision (ONLINE / F2F) - targeted interventions. • Mock-exam feedback & target-setting clinics. Summer - • Revision programme leading up to exams. • Introduce students to specimen exam papers / Challenging questions / predicted paper.
Link with GCE Skills & AOs	AO1- Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures. AO2- Applies knowledge of understanding of scientific ideas, processes, techniques and procedures. AO3- Analyse, interpret and evaluate scientific information, ideas and evidence.

Required Practicals & CPAC Tracker

AQA requires a minimum of 12 practical activities across the two-year course, meeting the Common Practical Assessment Criteria (CPAC). Students who demonstrate the required standard across all CPAC statements receive a separate Pass grade in the Practical Endorsement (reported alongside, not within, the A-level grade). Student should attempt the CPAC during the teaching of the relevant topic upon completion of the theory.

RP No.	Required Practical (AQA wording)	Topic Area	When Taught
1	Investigation into the variation of the frequency of stationary waves on a string with length, tension and mass per unit length.	Waves (Topic 3)	Year 12 — Autumn
2	Investigation of interference effects: Young's slits and diffraction-grating interference.	Waves (Topic 3)	Year 12 — Autumn
3	Determination of g by a free-fall method.	Mechanics & Materials (Topic 4)	Year 12 — Autumn
4	Determination of the Young modulus by a simple method.	Mechanics & Materials (Topic 4)	Year 12 — Spring
5	Determination of resistivity of a wire using a micrometre, ammeter and voltmeter.	Electricity (Topic 5)	Year 12 — Spring
6	Investigation of the emf and internal resistance of electric cells and batteries.	Electricity (Topic 5)	Year 12 — Spring
7	Investigation into simple harmonic motion using a mass-spring system and a simple pendulum.	Further Mechanics (Topic 6)	Year 12 — summer
8	Investigation of Boyle's (constant temperature) and Charles's (constant pressure) laws for a gas.	Thermal Physics (Topic 6) Resit/catch up, including practical 7.	Year 13 — Autumn
9	Investigation of the charge and discharge of capacitors (log-linear plotting, time constant RC).	Fields (Topic 7)	Year 13 — Autumn
10	Investigation of how the force on a wire varies with flux density, current and length, using a top-pan balance.	Fields (Topic 7)	Year 13 — Spring
11	Investigation, using a search coil and oscilloscope, of the effect on magnetic flux linkage of varying the angle between a search coil and a magnetic field.	Fields (Topic 7)	Year 13 — Spring
12	Investigation of the inverse-square law for gamma radiation.	Nuclear Physics (Topic 8)	Year 13 — Spring
Catch up	Resit/ catch up sessions for CPAC will be arrange in the Autumn, Spring and Summer terms During the Autumn term there will be two sessions.	Any unfinished	Throughout the year.