



Blue Coat Church of England Academy

Year: 12/13

Subject: Physics

AS Level

Subject content

- 1 Measurements and their errors
- 2 Particles and radiation
- 3 Waves
- 4 Mechanics and materials
- 5 Electricity

Paper 1

What's assessed: Sections 1 – 5

Assessed: written exam, 1 hour 30 minutes, 70 marks, 50% of AS

Questions: 70 marks of short and long answer questions split by topic.

Paper 2

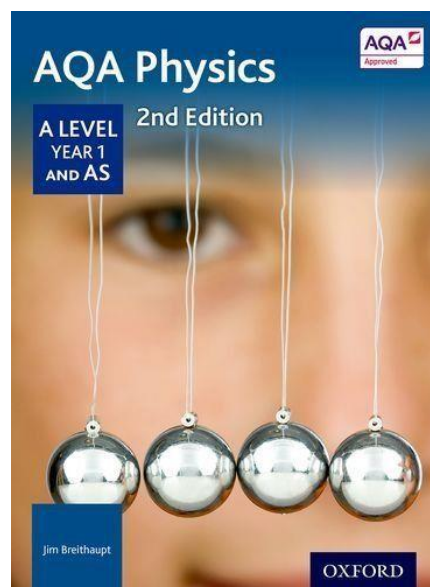
What's assessed: Sections 1 – 5

Assessed: written exam, 1 hour 30 minutes, 70 marks, 50% of AS

Questions: Section A: 20 marks of short and long answer questions on practical skills and data analysis, Section B: 20 marks of short and long answer questions from across all areas of AS content, Section C: 30 multiple choice questions

AQA As level Physics Required practicals:

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.

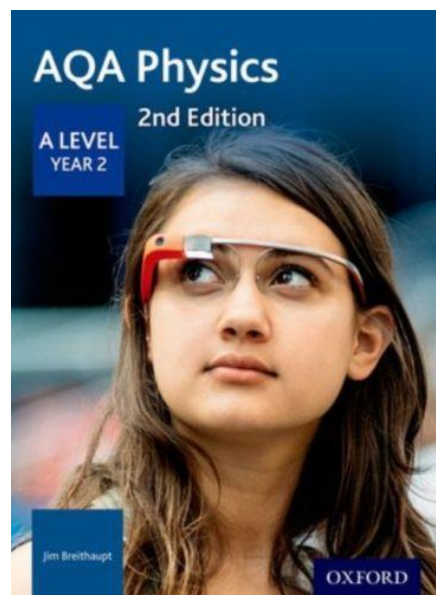


- 2 Investigation of interference effects to include the Young's slit experiment and interference by a diffraction grating.
- 3 Determination of g by a free-fall method.
- 4 Determination of the Young modulus by a simple method.
- 5 Determination of resistivity of a wire using a micrometer, ammeter and voltmeter.
- 6 Investigation of the emf and internal resistance of electric cells and batteries by measuring the variation of the terminal pd of the cell with current in it.

A Level

Subject content

- 1 Measurements and their errors
- 2 Particles and radiation
- 3 Waves
- 4 Mechanics and materials
- 5 Electricity
- 6.1 Periodic motion
- 6.2 Thermal Physics
- 7 Fields and their consequences
- 8 Nuclear physics
- Optional unit taken from: 9 Astrophysics, 10 Medical physics, 11 Engineering physics, 12 Turning points in physics, OR, 13 Electronics



Paper 1

What's assessed: Sections 1 to 5 and 6.1 (Periodic motion)

Assessed: written exam, 2 hours, 85 marks, 34% of A-level

Questions: 60 marks of short and long answer questions and 25 multiple choice questions on content.

Paper 2

What's assessed: Sections 1 to 8, focused on questions 6.2 (Thermal Physics), 7 and 8

Assessed: written exam, 2 hours, 85 marks, 34% of A-level

Questions: 60 marks of short and long answer questions and 25 multiple choice questions on content.

Paper 3

What's assessed: Section A Compulsory section: Practical skills and data analysis, Section B: Students enter for one of sections 9, 10, 11, 12 or 13

Assessed: written exam, 2 hours, 80 marks, 32% of A-level

Questions: 45 marks of short and long answer questions on practical experiments and data analysis, 35 marks of short and long answer questions on optional topic.

AQA A level Physics Required practicals:

1. Investigation into simple harmonic motion using a mass-spring system and a simple pendulum.
2. Investigation of Boyle's (constant temperature) law and Charles's (constant pressure) law for a gas.
3. Investigation of the charge and discharge of capacitors. Analysis techniques should include log-linear plotting leading to a determination of the time constant RC.
4. Investigate how the force on a wire varies with flux density, current and length of wire using a top pan balance.
5. Investigate, using a search coil and oscilloscope, the effect on magnetic flux linkage of varying the angle between a search coil and magnetic field direction.
6. Investigation of the inverse-square law for gamma radiation.