

Physics (Modular) (4XPH1)

2-year course planner



International GCSE (modular)

This section contains a 2-year course planner for the **International GCSE Physics (modular)** qualification. It follows the specification and scheme of work to cover each of the units.

The course planner summarises what can be covered in each term to enable completion of the content and preparation for assessment at the end of each year. It assumes that each year is split into 3 terms and that each week accounts for roughly 2 Guided Learning Hours over 60 weeks of teaching to give a total of 120 hours for the Physics (Modular).

This is only a suggested course planner with suggested timings, and it does not need to be followed. You may decide to start teaching content earlier if you would like more time.

Year	Term	Week	Topic/Sub-topic	Spec points/practicals
Unit 1: Topic 1 - Forces and motion Topic 2 - Electricity Topic 3 - Energy resources and transfers Topic 4 - Solids, liquids and gases Part 1				
1	1	1	Topic 1: Forces and motion a) Units c) Forces, movement, shape and momentum	1.1, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.18, 1.29P
1	1	2	b) Movement and position	1.1, 1.3, 1.4, 1.5 <i>Practical: Investigate the motion of everyday objects such as toy cars or tennis balls.</i>
1	1	3	b) Movement and position	1.1, 1.6, 1.7, 1.8, 1.9
1	1	4	a) Units b) Movement and position c) Forces, movement, shape and momentum	1.1, 1.6, 1.10, 1.17, 1.21,
1	1	5	a) Units c) Forces, movement, shape and momentum	1.2P, 1.19, 1.20, 1.25P, 1.26P, 1.27P, 1.28P
1	1	6	c) Forces, movement, shape and momentum	1.22, 1.23, 1.24 <i>Practical: Investigate how extension varies with applied force for helical springs, metal wires and rubber bands.</i>
1	1	7	c) Forces, movement, shape and momentum	1.30P, 1.31P, 1.32P, 1.33 <i>Practical: Investigate how extension varies with applied force for helical springs, metal wires and rubber bands.</i>
1	1	8	Consolidation Assessment	
1	1	9	Feedback Topic 2: Electricity c) Energy and voltage in circuits	2.12, 2.14, 2.15, 2.16



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1	1	10	a) Units c) Energy and voltage in circuits	2.1, 2.8, 2.9, 2.10, 2.13
1	1	11	b) Mains electricity c) Energy and voltage in circuits	2.6, 2.10, 2.11
1	2	1	a) Units c) Energy and voltage in circuits	2.1, 2.7, 2.8, 2.9, 2.13, 2.17, 2.18, 2.19, 2.20, 2.21
1	2	2	a) Units b) Mains electricity	2.1, 2.2, 2.3, 2.4, 2.5
1	2	3	d) Electric charge	2.22P, 2.23P, 2.24P, 2.25P, 2.26P
1	2	4	d) Electric charge Consolidation	2.27P, 2.28P
1	2	5	Assessment Feedback	
1	2	6	<u>Topic 3: Energy resources and energy transfers</u> a) Units b) Energy transfers	3.1, 3.2, 3.3, 3.4, 3.5
1	2	7	b) Energy transfers	3.6, 3.7, 3.9 <i>Practical: Investigate thermal energy transfer by conduction, convection, and radiation</i>
1	2	8	b) Energy transfers	3.6, 3.7, 3.8, 3.9, 3.10 <i>Practical: Investigate thermal energy transfer by conduction, convection, and radiation</i>
1	2	9	a) Units c) Work and power	3.1, 3.11, 3.12, 3.13, 3.14, 3.15
1	2	10	a) Units c) Work and power d) Energy resources and electricity generation	3.1, 3.11, 3.14, 3.16, 3.17, 3.18P, 3.19P
1	3	1	<u>Topic 4: Solids, liquids, and gases: Part 1</u> a) Units b) Density and pressure	4.1, 4.2P , 4.3, 4.4, 4.5 <i>Practical: Investigate density using direct measurements of mass and volume</i>
1	3	2	c) Change of state	4.8P, 4.9P, 4.10P, 4.11P <i>Practical: Obtain a temperature-time graph to show the constant temperature during changes of state.</i>
1	3	3	a) Units b) Density and pressure	4.1, 4.2, 4.6, 4.7, 4.12P, 4.13P, 4.14P <i>Practical: Investigate the specific heat capacity of materials including water and some solids and obtain a temperature time graph to show the constant temperature during a change of state</i>



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Year	Term	Week	Topic/Sub-topic	Spec points/practicals
1	3	4	Consolidation Assessment	
1	3	5	Feedback Revision	
1	3	6 - 7	Revision and exam time	
Unit 2: Topic 5 - Solids, liquids and gases: Part 2 Topic 6 – Waves Topic 7 - Magnetism and electromagnetism Topic 8 - Radioactivity and particles 8.Topic 9 - Astrophysics				
1	3	8	Topic 5: Waves a) Units b) Properties of waves	5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7
1	3	10	b) Properties of waves d) Light and sound	5.9, 5.14, 5.15, 5.16, 5.17 <i>Practical: investigate the refraction of light, using rectangular blocks, semi-circular blocks and triangular prisms.</i>
2	1	1	d) Light and sound	5.18, 5.19, 5.20, 5.21, 5.22 <i>Practical: investigate the refractive index of glass, using a glass block.</i>
2	1	2	c) The electromagnetic spectrum	5.10, 5.11, 5.12, 5.13
2	1	3	d) Light and sound	5.23, 5.24P, 5.25P, 5.26P, 5.27P, 5.28P, 5.29P <i>Practical: investigate the speed of sound in air.</i> <i>Practical: investigate the frequency of a sound wave using an oscilloscope.</i>
2	1	4	b) Properties of waves Topic 4: Solids, liquids and gases: Part 1 a) Units Topic 6: Solids, liquids and gases: Part 2 d) Ideal gas molecules	4.1, 5.8, 6.1, 6.2, 6.3, 6.4, 6.5
2	1	5	d) Ideal gas molecules	6.6, 6.7, 6.8
2	1	6	Consolidation Assessment	
2	1	7	Feedback Topic 7: Magnetism and electromagnetism b) Magnetism	7.2, 7.3, 7.5
2	1	8	b) Magnetism C) Electromagnetism	7.4, 7.6, 7.7, 7.8, 7.9P, 7.10P <i>Practical: investigate the magnetic field pattern for a permanent bar magnet and that between two bar magnets</i>
2	1	9	c) Electromagnetism	7.11P , 7.12, 7.13, 7.14



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2	1	10	a) Units d) Electromagnetic induction	7.1, 7.15, 7.16, 7.17P, 7.18P
2	1	11	a) Units d) Electromagnetic induction Consolidation	7.1, 7.19P, 7.20P
2	2	1	Assessment Feedback	
2	2	2	Topic 8: Radioactivity and particles b) Radioactivity	8.2, 8.3, 8.4, 8.5
2	2	3	b) Radioactivity	8.5, 8.6, 8.7, 8.8 <i>Practical: investigate the penetration powers of different types of radiation using either radioactive sources or simulations.</i>
2	2	4	a) Units b) Radioactivity	8.1, 8.9, 8.10, 8.11, 8.12, 8.13
2	2	5	b) Radioactivity	8.14, 8.15, 8.16
2	2	6	c) Fission and fusion	8.17, 8.18, 8.19, 8.20, 8.21, 8.22
2	2	7	c) Fission and fusion	8.17, 8.23, 8.24, 8.25, 8.26
2	2	8	Consolidation Assessment	
2	2	9	Feedback Topic 9: Astrophysics a) Units b) Motion in the universe	9.1, 9.2, 9.3, 9.4
2	2	10	a) Units b) Motion in the universe c) Stellar evolution	9.1, 9.4, 9.5, 9.6, 9.9, 9.10
2	3	1	c) Stellar evolution	9.7, 9.8, 9.11P, 9.12P
2	3	2	d) Cosmology	9.1, 9.15P, 9.16P, 9.17P, 9.18P
2	3	3	d) Cosmology Consolidation	9.13P, 9.14P
2	3	4	Assessment Feedback	
2	3		Revision and exam time	