

Chemistry (Modular) (4XCH1)

2-year course planner



This section contains a 2-year course planner for the **International GCSE Chemistry (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 Chemistry (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 - Principles of Chemistry: Part 1 Topic 2 - Inorganic chemistry: Part 1 Topic 3 - Physical chemistry: Part 1 Topic 4 - Organic chemistry: Part 1				
1	1	1	Topic 1: Principles of Chemistry: Part 1 a) States of matter	1.1, 1.2, 1.3, 1.4, 1.5C
1	1	2	a) States of matter b) Elements, compounds and mixtures	1.5C, 1.6C, 1.7C , 1.8, 1.9, 1.10 <i>Practical: investigate the solubility of a solid in water at a specific temperature.</i>
1	1	3	b) Elements, compounds and mixtures	1.10, 1.11, 1.12, 1.13 <i>Practical: investigate paper chromatography using inks/food colourings.</i>
1	1	4	c) Atomic structure d) The Periodic Table	1.14, 1.15, 1.16, 1.17, 1.18, 1.19, 1.20, 1.21
1	1	5	d) The Periodic Table e) Chemical formulae, equations and calculations	1.22, 1.23, 1.24, 1.25, 1.26
1	1	6	e) Chemical formulae, equations and calculations	1.27, 1.28, 1.29, 1.30
1	1	7	e) Chemical formulae, equations and calculations	1.29, 1.34C, 1.35C
1	1	8	e) Chemical formulae, equations and calculations Consolidation	1.31, 1.32, 1.33, 1.36 <i>Practical: know how to determine the formula of a metal oxide by combustion (e.g. magnesium oxide) or by reduction (e.g. copper(II) oxide).</i>
1	1	9	Assessment Feedback	
1	1	10	Topic 2: Inorganic chemistry: Part 1 a) Reactivity series	2.1, 2.2, 2.3, 2.6, 2.7 <i>Practical: investigate reactions between dilute hydrochloric and sulfuric acids and metals (e.g. magnesium, zinc and iron).</i>

International GCSE (modular)



International GCSE (modular)

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1	1	11	a) Reactivity series	2.2, 2.3, 2.4, 2.5, 2.6
1	2	1	b) Extraction and uses of metals	2.8C, 2.9C, 2.10C, 2.11C, 2.12C, 2.13C
1	2	2	c) Acids, bases and titrations d) Acids, bases and salt preparations	2.14, 2.15, 2.16, 2.17, 2.18, 2.19C, 2.26C
1	2	3	d) Acids, bases and salt preparations	1.29, 1.34C, 2.19C , 2.21, 2.22, 2.23
1	2	4	d) Acids, bases and salt preparations	2.21, 2.22, 2.23, 2.24, 2.25, 2.28 <i>Practical: prepare a sample of pure, dry hydrated copper(II) sulfate crystals starting from copper(II) oxide.</i>
1	2	5	d) Acids, bases and salt preparations Consolidation	2.20, 2.27C, 2.29C <i>Practical: prepare a sample of pure, dry lead (II) sulfate.</i>
1	2	6	Assessment Feedback	
1	2	7	Topic 3: Physical chemistry: Part 1 a) Energetics	3.1, 3.2, 3.3, 3.4, 3.8, <i>Practical: investigate temperature changes accompanying some of the following types of change: salts dissolving in water & neutralisation reactions</i>
1	2	8	a) Energetics	3.2, 3.3, 3.4, 3.5C , 3.8 <i>Practical: investigate temperature changes accompanying some of the following types of change: displacement reactions & combustion reactions</i>
1	2	9	a) Energetics Topic 4: Organic chemistry: Part 1 a) Introduction	3.6C, 3.7C , 4.1, 4.2, 4.3
1	2	10	a) Introduction b) Crude oil	4.2, 4.3, 4.4, 4.5, 4.7, 4.8, 4.9, 4.10
1	3	1	a) Introduction b) Crude oil	4.6, 4.11, 4.12, 4.13, 4.14, 4.15, 4.16
1	3	2	c) Alkanes	4.17, 4.18, 4.19, 4.20, 4.21, 4.22
1	3	3	d) Alkenes Consolidation	4.23, 4.24, 4.25, 4.26, 4.27, 4.28
1	3	4	Assessment Feedback	
1	3	5-7	Revision and exam time	



International GCSE (modular)

Year	Term	Week	Topic/Sub-topic	Spec points/practicals
Unit 2: 1. Principles of Chemistry: Part 1 (d & e) 5. Principles of Chemistry: Part 2 6. Inorganic chemistry: Part 2 7. Physical chemistry: Part 2 8. Organic chemistry: Part 2				
1	3	8	Topic 1: Principles of chemistry: Part 1 d) The Periodic Table e) Chemical formulae, equations and calculations	1.18, 1.19, 1.20, 1.21, 1.22, 1.23, 1.24, 1.26, 1.27, 1.28, 1.29 <i>Note: this has already been covered in unit 1 but will also be assessed in unit 2.</i>
1	3	9	e) Chemical formulae, equations and calculations	1.28, 1.29, 1.30, 1.34C, 1.35C <i>Note: this has already been covered in unit 1 but will also be assessed in unit 2.</i>
1	3	10	e) Chemical formulae, equations and calculations Consolidation	1.31, 1.32, 1.33, 1.36 <i>Practical: know how to determine the formula of a metal oxide by combustion (e.g. magnesium oxide) or by reduction (e.g. copper(II) oxide).</i> <i>Note: this has already been covered in unit 1 but will also be assessed in unit 2.</i>
2	1	1	Assessment Feedback	
2	1	2	Topic 5: Principles of chemistry: Part 2 f) Ionic bonding	5.1, 5.2, 5.3, 5.4, 5.5
2	1	3	f) Ionic bonding g) Covalent bonding	5.6, 5.7, 5.8, 5.9, 5.10
2	1	4	g) Covalent bonding	5.11, 5.12, 5.13, 5.14, 5.15
2	1	5	h) Metallic bonding i) Electrolysis	5.16C, 5.17C, 5.18C, 5.19C, 5.20C, 5.21C
2	1	6	i) Electrolysis	5.20C, 5.22C, 5.23C
2	1	7	i) Electrolysis Consolidation	5.24C <i>Practical: investigate the electrolysis of aqueous solutions.</i>
2	1	8	Assessment Feedback	
2	1	9	Topic 6: Inorganic chemistry: Part 2 e) Group 1 (alkali metals)	6.1, 6.2, 6.3, 6.4C
2	1	10	f) Group 7 (halogens)	6.5, 6.6, 6.7, 6.8C
2	1	11	g) Gases in the atmosphere	6.9, 6.10, 6.13, 6.14 <i>Practical: Determine the approximate percentage by volume of oxygen in air using a metal or non-metal.</i>
3	2	1	g) Gases in the atmosphere h) Chemical tests	6.11, 6.12, 6.15
3	2	2	h) Chemical tests	6.16, 6.17, 6.18, 6.19, 6.20, 6.21



International GCSE (modular)

Year	Term	Week	Topic/Sub-topic	Spec points/practicals
3	2	3	Consolidation and assessment	
3	2	4	Feedback Topic 7: Physical chemistry: Part 2 b) Rates of reaction	7.1, 7.2, 7.3
3	2	5	b) Rates of reaction	7.1, 7.2, 7.3, 7.4, 7.5, 7.6C , 7.7, 7.8 <i>Practical: investigate the effect of changing the surface area of marble chips and of changing the concentration of hydrochloric acid on the rate of reaction between marble chips and dilute hydrochloric acid.</i> <i>Practical: investigate the effect of different solids on the catalytic decomposition of hydrogen peroxide solution.</i>
3	2	6	c) Reversible reactions and equilibria	7.9, 7.10, 7.11C , 7.12C
3	2	7	c) Reversible reactions and equilibria	7.13C , 7.14C
3	2	8	Consolidation and assessment	
3	2	9	Feedback Topic 8: Organic chemistry: Part 2 e) Alcohols	8.1C , 8.2C , 8.3C
3	2	10	e) Alcohols f) Carboxylic acids	8.3C , 8.4C , 8.5C , 8.6C , 8.7C
3	3	1	f) Carboxylic acids g) Esters	8.8C , 8.9C , 8.10C , 8.11C , 8.12C , 8.13C , 8.14C
3	3	2	g) Esters h) Synthetic polymers	8.15C , 8.16, 8.17, 8.18
3	3	3	h) Synthetic polymers	8.19, 8.20C , 8.21C , 8.22C
3	3	4	Assessment and feedback	
3	3		Revision and exam time	