

Chemistry
Year 10 curriculum map

Year 10 Combined Science	T1	T2	T3	T4	T5	T6
Content / Topic for Term	Year 9 content recap Quantitative chemistry	Structure and bonding	Structure and bonding (cont)	Chemical changes (cont)	Chemical changes (cont)	Revisit Year 9 knowledge and skills
Key Knowledge for acquisition, recall and application in assessment or exam	Recap Year 9 content • First three weeks review and recap key Year 9 content Quantitative chemistry • balancing equations • relative masses and moles • mass moles • calculations • from masses to balanced equations	Structure and bonding • states of matter • chemical bonds • ionic bonding • ionic compounds • covalent bonding • simple covalent structures • giant covalent bonding	Structure and bonding (cont) • metallic bonding • bonding summary • fullerenes and graphene Chemical changes • reactivity series • displacement reactions • reactions of metals	Chemical changes (cont) • extracting metals • acids and bases • naming salts • making salts required practical • strong and weak acids • electrolysis • electroplating • electrolysis of aluminium	Chemical changes (cont) • electrolysis of solutions • electrolysis required practical Year 9 topics revisited • atomic structure and the periodic table	Year 9 topics revisited • chemical changes • using resources • chemistry of the atmosphere
Key skills to apply in assessment or exam	• Use scientific vocabulary, terminology and definitions.	• Use scientific vocabulary, terminology and definitions.	• Use scientific vocabulary, terminology and definitions.	• Use scientific vocabulary, terminology and definitions.	• Use scientific vocabulary, terminology and definitions.	• Use scientific vocabulary, terminology and definitions.

	• Carrying out and representing mathematical and statistical analysis. • Translating data from one form to another.	• Apply a knowledge of a range of techniques, instruments, apparatus, and materials to select those appropriate to the experiment. • Evaluate risks both in practical science and the wider societal context, including perception of risk in relation to data and consequences.	• Plan experiments or devise procedures to make observations, produce or characterise a substance, test hypotheses, check data or explore phenomena.	• Presenting reasoned explanations including relating data to hypotheses. • Use SI units (eg kg, g, mg, km, m, mm, kJ, J) and IUPAC chemical nomenclature unless inappropriate.	• Presenting observations and other data using appropriate methods. • Explain every day and technological applications of science; evaluate associated personal, social, economic and environmental implications; and make decisions based on the evaluation of evidence and arguments.	
Title of Knowledge Organiser	• Quantitative chemistry	• Energy • Rates of reaction	• Reactions of acids and bases	• Reactions of acids and bases • Electrolysis	• Electrolysis • Year 9 atomic structure and the periodic table	• Year 9 chemical changes • Year 9 using resources • Year 9 chemistry of the atmosphere

Year 10 Seperate Science	T1	T2	T3	T4	T5	T6
Content / Topic for Term	Year 9 content recap Quantitative chemistry	Quantitative chemistry (cont) Structure and bonding	Structure and bonding	Chemical changes	Chemical changes (cont)	Chemical changes (cont) Revisit Year 9 knowledge and skills
Key Knowledge for acquisition, recall and application in assessment or exam	Recap Year 9 content • first three weeks review and recap key Year 9 content Quantitative chemistry • balancing equations • relative masses and moles • mass moles calculations • from masses to balanced equations • % yield • atom economy	Quantitative chemistry • titrations • titration calculations • volumes of gases Structure and bonding • sates of matter • chemical bonds • ionic bonding • ionic compounds • covalent bonding	Structure and bonding (cont) • simple covalent structures • giant covalent Bonding • metallic bonding • bonding summary • fullerenes and graphene	Chemical changes • reactivity series • displacement Reactions • reactions of metals • extracting metals • acids and bases • naming salts • making salts Required Practical	Chemical changes (cont) • strong and weak acids • electrolysis • electroplating • electrolysis of aluminium • electrolysis of solutions • electrolysis Required Practical	Revisit Year 9 knowledge and skills • atomic structure and the periodic table • chemical changes • using resources • chemistry of the atmosphere

	concentration calculations					
Key skills to apply in assessment or exam	- Use scientific vocabulary, terminology and definitions. - Carrying out and represent mathematical and statistical analysis. - Translating data from one form to another.	- Use scientific vocabulary, terminology and definitions. - Apply a knowledge of a range of techniques, instruments, apparatus, and materials to select those appropriate to the experiment. - Evaluate risks both in practical science and the wider societal context, including perception of risk in relation to data and consequences.	- Use scientific vocabulary, terminology and definitions. - Plan experiments or devise procedures to make observations, produce or characterise a substance, test hypotheses, check data or explore phenomena.	- Use scientific vocabulary, terminology and definitions. - Presenting reasoned explanations including relating data to hypotheses. - Use SI units (eg kg, g, mg, km, m, mm, kJ, J) and IUPAC chemical nomenclature unless inappropriate.	- Use scientific vocabulary, terminology and definitions. - Presenting observations and other data using appropriate methods. - Explain every day and technological applications of science; evaluate associated personal, social, economic and environmental implications; and make decisions based on the evaluation of evidence and arguments.	Use scientific vocabulary, terminology and definitions.
Title of Knowledge Organiser	Quantitative chemistry	- Quantitative chemistry - Structure and bonding	Structure and bonding	Reactions of acids and bases	- Reactions of acids and bases - Electrolysis	Year 9 atomic structure and the periodic table

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						• Year 9 chemical changes • Year 9 using resources • Year 9 chemistry of the atmosphere
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