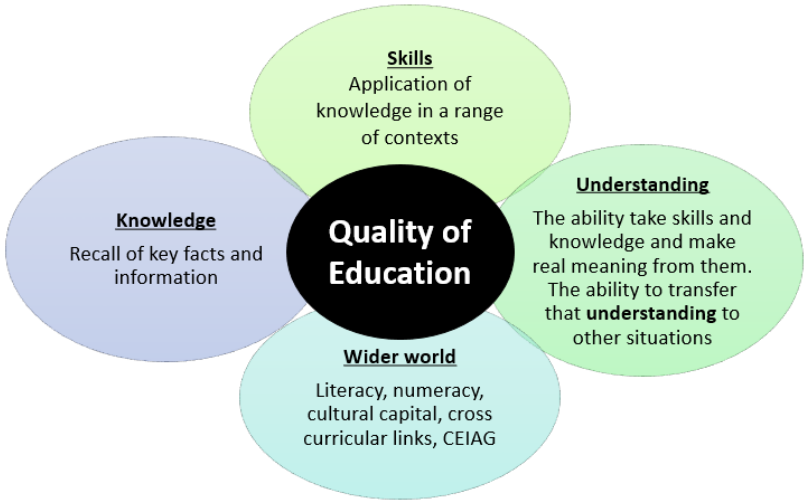
CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

Curriculum objectives:
To inspire a love of scientific discovery, developing curiosity that empowers learners to meet the challenges of education, work and life.

Curriculum values and context
Developing an understanding of each topic and an awareness of where the topic fits in to everyday life and career opportunities.

Knowledge and understanding being developed
See Yr11 and Yr13 KSU

Curriculum sequencing and structure
Biology will be delivered as A spiral structure, which allows skills to be introduced at KS3 and worked on and revisited throughout KS3 and into KS4. Providing the opportunity for skills to be introduced at KS3 and built upon, allowing for practice and revisiting with further complexity.



Retrieval practice across all year groups, random topics starter quiz. Recall assessments at the start of lessons. Looking at topics from previous key stages and building on this knowledge. Knowing the spec and linking current topics to previous topics to support this.

Development of students' cultural capital, FBV's, personal development
Oppertunity to have advanced discussions about emotive and controversial topics. Oppertunity to work with A level Biology, chemistry and Physics topics and think about things deepy. Access to doing complex practicals and critically evaluate them.

Curriculum equality and access
There is the opportunity to support students, making the content accessible and relatable through giving wider world scenarios that students can understand and see the relevance in. KS3 Focus around 10 big ideas each with big questions covered across the topic.

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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Meeting the needs of SEND students within the classroom

Intent:

- Identification of key fundamental building blocks based on student need

Implementation:

- Knowledge of SEND need - knowing who they are, targeted T&L and classroom strategies to meet need.
- Staff trained to meet needs of SEND students specifically to their subject area
- Differentiated teaching and resources based on identified needs
- Targeted live marking and questioning
- Deploying TA's to support wider group to allow subject specialist support for SEND (helicopter approach)
- Personalised home learning
- Access arrangements – identification and application
- **Impact:**
- Grading below Grade 1 to monitor progress
- Structured accessible assessments.

	Knowledge	Skills	Understanding	Wider world
Year 13	5. Kinetics 6. Equilibria 17. Thermodynamics 18 Kinetics 19 Equilibrium constants 20 Electrode potentials and electrochemical cells 21. Acid, bases and buffers 22. Periodicity 23. Transition metals 24. Reactions of inorganic compounds in aqueous solutions 25. Nomenclature and isomerism 26. Compounds contain the carbonyl group 27. Aromatic chemistry 28. Amines 29. Polymerisation 30. Amino acids, proteins, and	**Development of practical skills** 1. **Planning** – ▫ Experimental design ▫ Identification of variables to be controlled ▫ Evaluation of experimental method **2. Implementing** – ▫ Use of practical apparatus ▫ Carrying out a range of techniques ▫ Appropriate units for measurement ▫ Presenting observations and data **3. Analysis** – ▫ Processing, analysing and interpreting results ▫ Appropriate mathematical skills of data analysis ▫ Use of appropriate number of significant figures ▫ Plotting and interpreting graphs	To develop understanding of: • Physical chemistry • The Transition elements • Organic Synthesis • Spectroscopy and NMR spectra **How Science Works (applicable to y12/13)** • HSW1 Use theories, models and ideas to develop scientific explanations • HSW2 Use knowledge and understanding to pose scientific questions, define scientific problems, present scientific arguments and scientific ideas • HSW3 Use appropriate methodology, including information and	Increase awareness of; • techniques involved in industrial chemistry (Chemical engineering) • Green chemistry • Buffers in the body • Medicines • Analysis techniques used in Quality Assurance. Overlapping topics with other A-levels • Biology – amino acids, proteins, chromatography, buffers, pH, catalysis • Physics – atomic structure Extra-curricular activities • Chemistry Olympiad • Lincoln University Chem Department

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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	DNA 31. Organic synthesis and analysis 32. Structure determination 33. Chromatography	**4. <u>Evaluation</u>** – ▫ Evaluate results to draw conclusions ▫ Identify anomalies ▫ Explain limitations in method ▫ Precision and accuracy of measurements ▫ Uncertainties and errors ▫ Suggest improvements to help improve the experimental design **<u>Required practical's</u>** • 7 Measuring rate of reaction by initial rate method • 8 Measuring the EMF of an electrochemical cell • 9 Investigate pH changes between acids and bases • 10a) preparation of an organic solid and test for purity b) prepare a pure organic liquid • 11 carry out a simple test tube reaction to identify transition metal ions in solutions • 12 Separation of species by thin layer chromatography Maths skills – see y12 for specific skills To develop practical techniques and explain the processes. • To reach appropriate conclusions from qualitative and quantitative observations. • To identify and calculate errors. • To write formulae and balanced chemical equations. • To produce accurate graphs that can be	communication technology (ICT), to answer scientific questions and solve scientific problems • HSW4Carry out experimental and investigative activities, including appropriate risk management, in a range of contexts • HSW5 Analyse and interpret data to provide evidence, recognising correlations and causal relationships • HSW6 Evaluate methodology, evidence and data, and resolve conflicting evidence • HSW7 Know that scientific knowledge and understanding develops over time • HSW8 Communicate information and ideas in appropriate ways using appropriate terminology • HSW9 Consider applications and implications of science and evaluate their associated benefits and risks • HSW10 Consider ethical issues in the treatment of humans, other organisms and the environment • HSW11 Evaluate the role of the scientific community in validating new knowledge and ensuring integrity • HSW12 Evaluate the ways in which society uses science to inform decision making	and Med School trip • After school revision/exam prep sessions • Links to Nottingham University Chemistry Dept • Lincoln University • Excellent foundation for progression to higher education and advanced apprentices.

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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		used for analysis.		
Year 12	1. Atomic structure 2. Amount of substance 3. Bonding 4. Energetics 7 Oxidation, reduction and redox reactions 8. Periodicity 9. Group 2, The Alkaline Earth Metals 10.Group 7 (17) The Halogens 11. Introduction to organic chemistry 12. Alkanes 13. Halogenoalkanes 14. Alkenes 15. Alcohols 16. Organic analysis	**<u>Module 1 – Development of practical skills</u>** - see y13 for specific skills 1. Planning 2. Implementing 3. Analysis 4. Evaluation **Required practical's** • 1 Making a standard solution and carrying out a simple titration • 2 Measuring enthalpy change • 3 Investigating how the rate of a reaction changes with temperature • 4 carry out simple test tube reactions to identify cations and anions in an aqueous solution • 5 distillation od a product from a reaction • 6 Test for alcohol, aldehyde, alkene and carboxyllic acid **Maths Skills (applicable for y12 and y13)** Arithmetic and numerical computation • Recognise and make use of appropriate units in calculations • Recognise and use expression in decimal and ordinary form • Use ratios, fractions and percentages • Estimate results Handling data	To develop the understanding of: • Key Chemistry ideas • The Periodic Table • Energy • Core organic chemistry and analysis.	Increase awareness of; • Techniques involved in industrial chemistry (Chemical engineering) • How chemicals affect the environment. • Analysis techniques used in Quality Assurance. Extra-curricular activities • Chemistry Olympiad • Iceland Trip • Links to Nottingham University Chemistry Dept • Lincoln University • Excellent foundation for progression to higher education and advanced apprentices.

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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		• Significant figures • Means • Uncertainty of measurement Algebra • Understand and use symbols • Changing subject of equations • Substitute numerical values into algebraic equations • Logarithms Graphs • Translate information • Plot two variables from experimental data • Determine slope and intercept of a linear graph • Calculate rate • Draw tangents Geometry and trigonometry • 2d/3d forms • Symmetry in 2d/3d forms To develop practical techniques and explain the processes. • To reach appropriate conclusions from qualitative and quantitative observations. • To identify and calculate errors. • To write formulae and balanced chemical equations. • To produce accurate graphs that can be used for analysis.		
Year 11	**Separates Chemistry** **C10 Organic reactions** • Reactions of alkenes; alcohols, carboxylic acids and esters; alcohols; esters **C11 Polymers** • Addition polymerisation;	**Practical Skills** • Use of specialised chemistry equipment - burettes, pipettes, distillation apparatus • Following a method • Collecting results • Making observations • Analysing results	• States of matter • Separation techniques • Bonding • The Periodic Table • Acids and Alkalis • Hydrocarbons and oil • Fuels	• Literacy - structuring answers to long answer questions • Numeracy - maths in science • Careers in chemistry - farming, brewing, nanotechnology • Geography - links to global warming/Earth

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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	condensation polymerisation; natural polymers; DNA **C12 Chemical Analysis** • Pure substances and mixtures; analysing chromatograms; testing for gases; testing for positive and negative ions; instrumental analysis **The Earth's Resources (C14)** • Finite and renewable resources; water safe to drink; treating waste water; extracting metals from ores; life cycle assessments; reduce, reuse, recycle **C15 Using our resources** • Rusting; useful alloys; glass, ceramics and composites; Haber process; making fertilisers in the laboratory and industry **Combined Science Chemistry** **The Earth's Resources (C12)** • Finite and renewable resources; water safe to drink; treating waste water; extracting metals from ores; life cycle assessments; reduce, reuse, recycle **Chemical Analysis(C10)** • Purity and formulations, analysing paper chromatography, tests for common gases	**Required practical's** Separates • 2 Use titration to investigate reacting volumes • 6 Calculate Rf values • 7 Use chemical tests to identify unknown compounds Combined Science • 12 Calculate Rf values **Numeracy** • Numbers in standard form • Units • Calculations and using formula triangles • Rearranging equations • Drawing graphs **Literacy** • Using scientific vocabulary • Developing writing long answers for 6 mark questions		• PSHCE - biofuels and non-renewable fuels Extra-curricular activities •

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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Year 10	**Chemical Changes (C5)** • The reactivity series, displacement reactions, extracting metals, salts from metals, salts from insoluble bases, making more salts, neutralisation and the pH scale, strong and weak acids **Chemical Calculations (C4)** • Relative masses and moles, equations and calculations, from masses to balanced equations, the yield of chemical reaction, atom economy, expressing concentrations, titrations, volumes of gases **Electrolysis (C6)** • Change at the electrodes, extraction of aluminium, electrolysis of aqueous solutions **Energy Changes (C7)** • Exothermic and endothermic reactions, using energy transfers from reactions, reaction profiles, bond energy calculations, chemical cells and batteries, fuel cells **Chemistry of the atmosphere (C11)** Evolution of the atmosphere, greenhouse gases and climate change, carbon footprints, air pollution **Crude oil and fuels (C9)** • Hydrocarbons, fractional	**Practical Skills** • Use of specialised chemistry equipment - distillation apparatus, Bunsen burners, electrodes • Following a method • Collecting results • Making observations • Analysing results **Required practical's** • 9 Investigate electrolysis of a solution • 10 Investigating temperature changes in reacting solutions • 11 Investigating the effect of concentration on rate of reaction • 13 Purify and test water **Numeracy** • Numbers in standard form • Units • Calculations and using formula triangles • Drawing graphs **Literacy** • Using scientific vocabulary • Developing writing long answers for 6 mark questions	• States of matter • Separation techniques • Bonding • The Periodic Table • Acids and Alkalis • Hydrocarbons and oil • Fuels • Rate of reaction and energy changes	• Literacy - structuring answers to long answer questions • Numeracy - maths in science • Careers in chemistry - farming, brewing, nanotechnology • Geography - links to global warming/Earth • PSHCE - biofuels and non-renewable fuels Extra-curricular activities • Chemistry Challenge • Magna Science trip • The Deep Science trip • London residential • Iceland Trip

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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	distillation of oil, burning hydrocarbon fuels, cracking hydrocarbons •			
Year 9	**Atomic Structure (C1)** • Atoms, elements, isotopes, compounds, chemical equations, mixtures, paper chromatography, separating techniques, distillation, the history of the atom, electronic structure **The Periodic Table (C2)** • development of the PT, the modern PT, metals and non-metals, Group 1, Group 7, Group 0, transition elements **Bonding Structure and the Properties of Matter (C3)** • Ions, ionic bonding, ionic compounds, covalent bonding, simple molecular substances, larger covalent substances, allotropes of carbon, metallic bonding, states of matter, changing state, nanoparticles, uses of nanoparticles **Rates and Equilibrium (C8)** • Rate of reaction, collision theory and surface area, effect of temperature, concentration or pressure, catalysts, reversible reactions, dynamic equilibrium, altering conditions	**Practical Skills** • Use of specialised chemistry equipment - biurettes, pipettes, distillation, filtration, chromatography apparatus • Following a method • Collecting results • Making observations • Analysing results **Required practical's** • 8 Prepare a salt from an insoluble metal carbonate or oxide **Numeracy** • Numbers in standard form • Units • Calculations and using formula triangles • Drawing graphs **Literacy** • Using scientific vocabulary • Developing writing long answers for 6 mark questions	• States of matter • Separation techniques • Bonding • The Periodic Table • Acids and Alkalis • Global issues - Climate change	• Literacy - structuring answers to long answer questions • Numeracy - maths in science • Careers in chemistry - farming, brewing, nanotechnology • Geography - links to global warming/Earth • PSHCE - biofuels and non-renewable fuels Extra-curricular activities • Chemistry Challenge • Magna Science trip • The Deep Science trip • London residential

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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<table>
<tr>
<td>Year 8</td>
<td>5 <u>Matter (part 2)</u>
• Elements (elements, atoms, compounds, chemical formulae, polymers.
• Periodic table (the periodic table, group 1, group 7, group 0)
6 <u>Reactions (part 2)</u>
• Types of reactions (atoms in chemical reactions, combustion, thermal decomposition, conservation of mass)
• Chemical energy (exothermic, endothermic, energy level diagrams, bond energies)
7 <u>Earth (part 2)</u>
• Climate (global warming, the carbon cycle, climate change)
• Earths resources (extracting metals, recycling)</td>
<td rowspan="2"><u>Practical Skills</u>
• Collecting results
• Making observations
• Analysing results
<u>Literacy</u>
• Using scientific vocabulary
• Developing writing long answers for 6 mark questions
<u>Numeracy</u>
• Calculations and using formula triangles
• Drawing graphs
• Recall of answers

<u>Enquiry process</u>
1. <u>Asking scientific questions</u>
▫ Explain how and why some questions can be investigated and why some cannot
▫ Suggest examples of independent, dependent, and control variables in an unfamiliar situation
▫ Explain in detail why a specific question cannot be investigated, suggesting alternative questions that can be investigated
2. <u>Planning investigations</u>
▫ Write a detailed plan for a hypothetical investigation
▫ Explain the effect of experimental error, and of not controlling all the variables adequately
▫ Identify risks in an experiment and write an appropriate risk
▫ assessment for an investigation and explain why the experiment can, or cannot, be conducted in a science laboratory
3. Recording data</td>
<td rowspan="2">• How crystals are formed
• How metals react with oxygen
• How corrosion occurs
• 3 types of rock formation
• The difference between acids and alkalis
• The pH scale</td>
<td rowspan="2">• Careers link: Medical science
• Brewing alcohol,
• nanotechnology
• Neutralisation reactions
• Literacy - long answer questions
• Numeracy - calculations
• Geography/Geology - rocks, weathering

Extra-curricular activities
• The Big Bang Trip</td>
</tr>
<tr>
<td>Year 7</td>
<td>5 <u>Matter (part 1)</u>
• Particle model (particle model, states of matter, melting and freezing, boiling, changes of state. Diffusion, gas pressure, inside particles)
• Separating mixtures (pure substances and mixtures, solutions, solubility, filtration, evaporation and distillation, chromatography)</td>
</tr>
</table>

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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	6 **Reactions (part 1)** • Acids and alkalis (chemical reactions, acids and alkalis, indicators and pH, acid strength, neutralisation, making salts) • Metals and non-metals (more about elements, chemical reactions of metals and non-metals, metals and acids, metals and oxygen, metals and water, metal displacement reactions) 7 **Earth (part 1)** • Earth structure (structure of Earth, sedimentary rocks, igneous rocks, metamorphic rocks, rock cycle, ceramics) • Universe (night sky, Solar system, Earth, Moon and changing ideas about the Universe)	▫ Explain how to collect and record accurate and precise data ▫ Calculate a mean for repeat readings in a range of situations ▫ Explain the choice of graph or chart for different types of data, and plot them **4. Analysing patterns** ▫ Plot data on a graph and draw the line of best fit ▫ Analyse data from an investigation to draw up a detailed conclusion, describe relationships, and suggest alternative explanations where appropriate **5. Evaluating data** ▫ Compare and contrast data, suggesting reasons why the data may be different ▫ Explain ways of improving data in a practical investigation		

At The Elizabethan Academy we offer a curriculum that:

- is broad, balanced, inspiring and inclusive
- builds confidence, independence and **resilience**
- encourages students to develop the **skills, knowledge and understanding** required to succeed academically
- encourages students to participate in a wide variety of activities which extend beyond the classroom
- places creativity and imagination at the heart of learning to develop enquiring minds
- enables students to understand the connections and links between different subjects
- raises students' aspirations through promoting academic excellence
- develops students' **social and cultural knowledge**, skills and understanding
- develops students' **respect for spiritual and moral values**, and tolerance towards other races, religions and ways of life.
- gives students the opportunities to put theoretical skills into practice and expand their knowledge beyond the exam specification
- prepares students for the world of work in a rapidly changing world.

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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2026-2027	Year 9 – Combined Science (AQA Trilogy) (Biology, Chemistry and Physics)					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 	C1 Atomic structure B1 Cell structure P1 Conservation and dissipation of energy C2 The Periodic Table		B2 Cell division B3 Organisation and the digestive system C3 Structure and bonding		B15 Adaptations, interdependence and competition B16 Organising an ecosystem B17 Biodiversity and ecosystems B4 Organising animals and plants P4 Electric circuits	
	Assessment 1 week 5 HT1 Assessment 2 week 6 HT2		Assessment 3 Week 3 HT3 Assessment 4 Week 4 HT4		Assessment 5 week 6 HT5 **End of year exam 1 (Weeks 2-3 HT6)** **End of year exam 2 (Weeks 2-3 HT6)**	
 **Embed your knowledge**	**Mandatory homework tasks:** • Educake - one homework set each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for assessments Knowledge organisers: available on teams https://www.bbc.co.uk/bitesize/subjects/zrkw2hv		**Mandatory homework tasks:** • Educake - one homework set each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for assessments Knowledge organisers: available on teams https://www.bbc.co.uk/bitesize/subjects/zrkw2hv		**Mandatory homework tasks:** • Educake - one homework set each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for end of year exams Knowledge organisers: available on teams https://www.bbc.co.uk/bitesize/subjects/zrkw2hv	

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Extend your learning 	**Atomic Structure Quiz Creation** *Task:* Create a 10-question quiz on atomic structure for your classmates. Include: • Multiple choice • True/false • Short answer Provide an answer key and explanations. **Cell Recap** Answer the following in your own words: 1. What are the main parts of an animal cell and their functions? 2. What are the main parts of a plant cell that are not found in animal cells? 3. What is the function of the nucleus, mitochondria, and cell membrane? **Real-Life Motion** Choose a moving object (e.g., car, cyclist, train, animal). Research or estimate: How far it travels in a certain time Its average speed Whether its motion is constant or changing 👉 Challenge: Create a short report or poster showing your findings.	**Bonding Comparison Table** Create a table comparing **ionic**, **covalent**, and **metallic** bonding. Include: • Types of elements involved • How electrons are used • Structure formed • Melting/boiling points • Electrical conductivity • Example substances 👉 **Challenge:** Add a column explaining *why* each property occurs based on the bonding. **Local Ecosystem Study** *Task:* Visit a local park or garden and record the types of organisms you see. Create a food web and describe the roles of producers, consumers, and decomposers.	**Real-Life Reactions** Find **three examples** of chemical reactions that happen in everyday life (e.g., cooking, rusting, fireworks). For each one: • Describe what's happening • Suggest which factors might affect the rate of the reaction • Explain whether a fast or slow reaction is more useful in that situation **Mini Investigation – Tug of War** **Question:** What happens when two forces are equal or unequal? **Instructions:** 1. Use a rope or string and have two people pull from each end. 2. Try pulling with equal force, then with one side pulling harder. 3. Observe and record what happens. 👉 **Challenge:** Explain your observations using the idea of **resultant force**. Work safely and with supervision to avoid any

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2026-2027	Year 10 – Combined Science (AQA Trilogy) (Biology, Chemistry and Physics)					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 	**Biology** B4 Organising animals and plants B5 Communicable disease B6 Preventing and treating disease **Chemistry** C7 Energy changes C4 Chemical calculations C5 Chemical changes **Physics** P2 Energy transfer by heating P3 Energy resources P4 Electric circuits P5 Electricity in the home		**Biology** B7 Non-communicable diseases B8 Photosynthesis B9 Respiration B10 The human nervous system **Chemistry** C6 Electrolysis C8 Rates and equilibrium **Physics** P6 Molecules and matter P7 Radioactivity P10 Forces and motion		**Biology** B11 Hormonal communication Revision **Chemistry** C9 Crude oil and fuels C13 The Earth's Atmosphere Revision **Physics** P10 Forces and motion Revision	
	Biology assessment 1 week 7 HT1 Chemistry assessment 1 Week 6 HT2 Physics assessment 1 Week 4 HT2		Biology assessment 2 week 5 HT3 Chemistry assessment 2 week 4 HT4 Physics assessment 2 week 3 HT 4		Biology assessment 3 Week 5 HT5 Chemistry assessment 3 Week 7 HT5 Physics assessment 3 Week 6 HT5 **End of year mock exams – paper 1 for biology, chemistry and physics 3x1hr15min exams**	

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 **Embed your knowledge**	**Mandatory homework tasks:** • Educake - one homework set each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for assessments Knowledge organiser: Shared on teams by class teachers. Websites https://www.primrosekitten.com/pages/gcse-science https://www.bbc.co.uk/bitesize/subjects/zrkw2hv	**Mandatory homework tasks:** • Educake - one homework set each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for assessments Knowledge organiser: Shared on teams by class teachers. **Science in the News** *Task:* Find a recent science-related news article. Summarise it and explain how it links to GCSE content. Include: • The science behind the story • Why it matters • Any ethical or environmental issues	**Mandatory homework tasks:** • Educake - one homework set each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for assessments Knowledge organiser: Shared on teams by class teachers. **Teach It to a Year 7** *Task:* Choose a tricky GCSE topic and explain it in a way a Year 7 student could understand. Use simple language, analogies, and diagrams. You could present it as: • A comic strip • A short video • A one-page guide

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Extend your learning			
	**Outbreak Investigation** *Task:* Research a historical or recent disease outbreak (e.g., Ebola, COVID-19). Create a case study including cause, transmission, prevention, and treatment. **Real-Life Applications** Research and describe **two real-life uses** of electrolysis. For each one: • What is being electrolysed? • What are the products? • Why is electrolysis important in this process? **Examples to consider:** • Electrolysis of brine (salt water) • Extraction of aluminium from bauxite • Electroplating metals **Design a Thermally Efficient Home** Draw and label a diagram of a house that uses **thermal insulation** to reduce energy loss. Include: • Double glazing • Loft insulation • Wall insulation • Draught excluders 👉 **Challenge:** Explain how each feature reduces energy transfer.	**Photosynthesis in Action** *Task:* Investigate how light intensity affects the rate of photosynthesis using online simulations or practical data. Plot a graph and explain the trend. **Radiation Penetration Simulation** Use an online simulation (e.g., PhET Interactive Simulations) to explore: • How alpha, beta, and gamma radiation behave • What materials block each type • How distance affects radiation detection 👉 Record your findings in a table and explain which type is most dangerous outside vs. inside the body. **Real-Life Applications** Research and describe **two real-world uses** of energy changes in reactions. For each one: • Is the reaction exothermic or endothermic? • What is the reaction used for? • Why is the energy change important? **Examples to consider:** • Self-heating cans • Instant cold packs • Combustion in engines • Photosynthesis and respiration	**Reflexes in Real Life** *Task:* Design a simple experiment to test reaction times. Collect data from family or classmates and analyse the results. **Timeline of the Atmosphere** Create a **timeline** showing how the Earth's atmosphere has changed over billions of years. Include: • Formation of the early atmosphere (volcanic activity) • Appearance of simple life and oxygen production • Development of the ozone layer • Modern atmosphere composition 👉 **Challenge:** Add estimated time periods and key events. **Key Concept Recap** Answer the following: 1. What is the difference between **AC** and **DC** electricity? 2. What is the **UK mains voltage** and frequency? 3. What is the purpose of the **earth wire** in a plug? **Environmental Impact** Research and describe **two environmental issues** related to crude oil. For each one: • What causes the issue? • What are the effects on people and ecosystems? • What can be done to reduce the impact? **Examples to consider:** • Oil spills • Air pollution from burning fuels • Climate change

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2026-2027	Year 10 – Separate Sciences (AQA) (Biology, Chemistry and Physics)					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 	**Biology** B4 Organising animals and plants B5 Communicable disease B6 Preventing and treating disease **Chemistry** C7 Energy changes C4 Chemical calculations C5 Chemical changes **Physics** P2 Energy transfer by heating P3 Energy resources P4 Electric circuits P5 Electricity in the home		**Biology** B7 Non-communicable diseases B8 Photosynthesis B9 Respiration B10 The human nervous system **Chemistry** C6 Electrolysis C8 Rates and equilibrium **Physics** P6 Molecules and matter P7 Radioactivity P10 Forces and motion		**Biology** B11 Hormonal communication Revision **Chemistry** C9 Crude oil and fuels C13 The Earth's Atmosphere C14 The Earth's Resources Revision **Physics** P10 Forces and motion P11 Pressure and surfaces P12 Wave properties Revision	
	Biology assessment 1 week 7 HT1 Chemistry assessment 1 Week 6 HT2 Physics assessment 1 Week 4 HT2		Biology assessment 2 week 5 HT3 Chemistry assessment 2 week 5 HT4 Physics assessment 2 week 3 HT 4		Biology assessment 3 Week 5 HT5 Chemistry assessment 3 Week 7 HT5 Physics assessment 3 Week 6 HT5 **End of year mock exams – paper 1 for biology, chemistry and physics 3x1hr15min exams**	

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CIM - Curriculum Intent Map Chemistry
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 **Embed your knowledge**	**Mandatory homework tasks:** • Educake - one homework set per subject each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for assessments Knowledge organiser: Shared on teams by class teachers. Websites https://www.primrosekitten.com/pages/gcse-science https://www.bbc.co.uk/bitesize/subjects/zrkw2hv	**Mandatory homework tasks:** • Educake - one homework set per subject each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for assessments Knowledge organiser: Shared on teams by class teachers. **Science in the News** *Task:* Find a recent science-related news article. Summarise it and explain how it links to GCSE content. Include: • The science behind the story • Why it matters • Any ethical or environmental issues	**Mandatory homework tasks:** • Educake - one homework set per subject each week on a Monday and due the following Monday, maximum of 6 per half term • Independent revision for assessments Knowledge organiser: Shared on teams by class teachers. **Teach It to a Year 7** *Task:* Choose a tricky GCSE topic and explain it in a way a Year 7 student could understand. Use simple language, analogies, and diagrams. You could present it as: • A comic strip • A short video • A one-page guide

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

Extend your learning 	**Outbreak Investigation** *Task:* Research a historical or recent disease outbreak (e.g., Ebola, COVID-19). Create a case study including cause, transmission, prevention, and treatment. **Real-Life Applications** Research and describe **two real-life uses** of electrolysis. For each one: • What is being electrolysed? • What are the products? • Why is electrolysis important in this process? **Examples to consider:** • Electrolysis of brine (salt water) • Extraction of aluminium from bauxite • Electroplating metals **Design a Thermally Efficient Home** Draw and label a diagram of a house that uses **thermal insulation** to reduce energy loss. Include: • Double glazing • Loft insulation • Wall insulation • Draught excluders 👉 **Challenge:** Explain how each feature reduces energy transfer.	**Photosynthesis in Action** *Task:* Investigate how light intensity affects the rate of photosynthesis using online simulations or practical data. Plot a graph and explain the trend. **Radiation Penetration Simulation** Use an online simulation (e.g., PhET Interactive Simulations) to explore: • How alpha, beta, and gamma radiation behave • What materials block each type • How distance affects radiation detection 👉 Record your findings in a table and explain which type is most dangerous outside vs. inside the body. **Real-Life Applications** Research and describe **two real-world uses** of energy changes in reactions. For each one: • Is the reaction exothermic or endothermic? • What is the reaction used for? • Why is the energy change important? **Examples to consider:** • Self-heating cans • Instant cold packs • Combustion in engines • Photosynthesis and respiration	**Reflexes in Real Life** *Task:* Design a simple experiment to test reaction times. Collect data from family or classmates and analyse the results. **Timeline of the Atmosphere** Create a **timeline** showing how the Earth's atmosphere has changed over billions of years. Include: • Formation of the early atmosphere (volcanic activity) • Appearance of simple life and oxygen production • Development of the ozone layer • Modern atmosphere composition 👉 **Challenge:** Add estimated time periods and key events. **Key Concept Recap** Answer the following: 4. What is the difference between **AC** and **DC** electricity? 5. What is the **UK mains voltage** and frequency? 6. What is the purpose of the **earth wire** in a plug? **Environmental Impact** Research and describe **two environmental issues** related to crude oil. For each one: • What causes the issue? • What are the effects on people and ecosystems? • What can be done to reduce the impact? **Examples to consider:** • Oil spills • Air pollution from burning fuels • Climate change

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

2026-2027	Year 11 Combined Science (AQA Trilogy) (Biology, Chemistry, Physics)					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 	**Biology** B11 Hormonal communication B12 Reproduction **Chemistry** C1 Atomic structure - revisit C2 The Periodic Table - revisit C3 Structure and bonding - revisit C8 Rates and equilibrium C12 Chemical analysis **Physics** P3 Energy resources P13 Wave properties P15 Electromagnetism		**Biology** B14 Variation and evolution B15 Genetics and evolution **Chemistry** C12 Chemical analysis Revision **Physics** Revision		Revision and preparation for external exams	
	Paper 1 PPE (October/November) **Biology paper 1 (1hr15)** **Chemistry Paper 1 (1hr15)** **Physics Paper 1 (1hr15)**		Paper 2 PPE (February) **Biology paper 2 (1hr15)** **Chemistry Paper 2 (1hr15)** **Physics Paper 2 (1hr15)**		External exams **Biology paper 1 (1hr15)** **Chemistry Paper 1 (1hr15)** **Physics Paper 1 (1hr15)**	**External exams** **Biology paper 2 (1hr15)** **Chemistry Paper 2 (1hr15)** **Physics Paper 2 (1hr15)**

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

 **Embed your knowledge**	Mandatory Homework tasks • revision • Educake every Monday Knowledge organiser: AQA Inheritance, Variation and Evolution Knowledge Organiser.pdf Websites https://www.primrosekitten.com/pages/gcse-science	Mandatory Homework tasks: • revision • Educake every Monday Knowledge organiser: AQA Inheritance, Variation and Evolution Knowledge Organiser.pdf	Mandatory Homework tasks: • revision • Educake every Monday **Teach It to a Year 7** *Task:* Choose a tricky GCSE topic and explain it in a way a Year 7 student could understand. Use simple language, analogies, and diagrams. You could present it as: • A comic strip • A short video • A one-page guide	

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

Extend your learning 	**Dangers of EM Radiation** *Task:* Research the potential dangers of ultraviolet, X-rays, and gamma rays. Create a safety guide explaining: • What the risks are • How exposure can be reduced • Real-life examples of protection (e.g., lead aprons, sunscreen) **Plant vs Human Reproduction** Create a comparison table showing the differences between **plant** and **human** reproduction. Include: • Type of gametes • Site of fertilisation • Method of pollination or mating • Type of offspring produced (genetically identical or varied) 👉 **Challenge:** Add diagrams of a flower and the human reproductive system with labels. **Life Cycle of a Product** Pick a household item (e.g. **plastic bottle**, **aluminium can**, or **paper bag**) and research: • Where the raw materials come from • How it's made	**Natural Selection Case Study** *Task:* Research a real-world example of natural selection (e.g., peppered moths, antibiotic resistance in bacteria, Darwin's finches). Create a case study that includes: • The environmental pressure • The variation in the population • The outcome over generations **Gas Test Scenarios** For each scenario, identify the gas and explain how you would test for it: 1. A metal reacts with acid and produces a colourless gas that makes a squeaky pop. 2. A gas is collected from a reaction and relights a glowing splint. 3. A gas turns damp red litmus paper blue and smells strongly. 4. A gas turns limewater cloudy. 5. A greenish-yellow gas bleaches damp litmus paper. **Create a Spectrum Poster** Design a colourful **poster or infographic** showing: • The full electromagnetic spectrum • Wavelength and frequency trends • One use and one danger for each wave • A diagram showing how the waves differ in energy	***Genetic Engineering Research*** *Task:* Research how genetic engineering is used in medicine or agriculture (e.g., insulin production, GM crops). Create a fact sheet explaining: • The process • Benefits and risks • Public opinion and regulation **Required Practical Skills** Describe how you would carry out the following required practical: Investigating the effect of pH on the rate of enzyme activity. Include: • Equipment needed • Variables (independent, dependent, control) • How you would measure the results • How to ensure reliability	

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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	• How it's used • How it's disposed of or recycled **Create a poster or digital presentation** showing the life cycle and its environmental impact.			

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

2026-2027	Year 11 Separate Sciences (AQA) (Biology, Chemistry and Physics)					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 	**GCSE Biology** B11 Hormonal communication B12 Homeostasis in action B13 Reproduction **GCSE Chemistry** C8 Rates and equilibrium C10 Organic reactions C11 Polymers C12 Chemical analysis **GCSE Physics** P3 Energy resources P8 Forces and balance P11 Forces and pressure P12 Wave properties P13 Electromagnetic waves P14 Light		**GCSE Biology** B14 Variation and evolution B15 Genetics and evolution **GCSE Chemistry** C14 The Earth's resources C15 Using our resources **GCSE Physics** P14 Light P15 Electromagnetism P16 Space		Revision and preparation for external exams	
	**Paper 1 Mock Exams (October/November)** Biology Paper 1 (1hr45) Chemistry Paper 1 (1hr45) Physics Paper 1 (1hr45)		**Paper 2 Mock exams (February/March)** Biology paper 2 (1hr45) Chemistry Paper 2 (1hr45) Physics Paper 2 (1hr45)		**External exams:** **Biology paper 1 (1hr45)** **Chemistry Paper 1 (1hr45)** **Physics Paper 1(1hr45)**	**External exams:** **Biology paper 2 (1hr45)** **Chemistry Paper 2 (1hr45)** **Physics Paper 2 (1hr45)**

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

 **Embed your knowledge**	Mandatory Homework tasks • revision • Educake - one homework set per subject each week on a Monday and due the following Monday, maximum of 6 per half term Knowledge organisers – provided on teams by class teachers **Websites** https://www.primrosekitten.com/pages/gcse-science BBC Bitesize	Mandatory Homework tasks • revision • Educake - one homework set per subject each week on a Monday and due the following Monday, maximum of 6 per half term Knowledge organisers – provided on teams by class teachers **Teach It to a Year 7** *Task:* Choose a tricky GCSE topic and explain it in a way a Year 7 student could understand. Use simple language, analogies, and diagrams. You could present it as: • A comic strip • A short video • A one-page guide	Mandatory Homework tasks • revision • Educake - one homework set per subject each week on a Monday and due the following Monday, maximum of 6 per half term Knowledge organisers – provided on teams by class teachers **Concept Map Challenge** *Task:* Create a concept map linking key ideas from a topic (e.g., atomic structure, energy transfers, or cell biology). Include: • Keywords • Definitions • Diagrams • Links between ideas	

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

Extend your learning 	**Dangers of EM Radiation** *Task:* Research the potential dangers of ultraviolet, X-rays, and gamma rays. Create a safety guide explaining: • What the risks are • How exposure can be reduced • Real-life examples of protection (e.g., lead aprons, sunscreen) **Explain It!** Write a paragraph answering: "Why is hormonal communication important for maintaining homeostasis?" Use scientific terms like **target organ**, **negative feedback**, **endocrine gland**, and **regulation**. **Polymer Examples** Choose **three polymers** and for each one: • Name the **monomer** it is made from • Describe its **properties** (e.g. flexible, strong, waterproof) • Give **one use** in everyday life **Examples to consider:** • Poly(ethene) • Poly(propene) • Nylon • Polyester • DNA (as a natural polymer)	**Natural Selection Case Study** *Task:* Research a real-world example of natural selection (e.g., peppered moths, antibiotic resistance in bacteria, Darwin's finches). Create a case study that includes: • The environmental pressure • The variation in the population • The outcome over generations **Flame Test Research** Research the **flame test colours** for the following metal ions: • Lithium (Li^+) • Sodium (Na^+) • Potassium (K^+) • Calcium (Ca^{2+}) • Copper (Cu^{2+}) 👉 **Challenge:** Create a colour-coded chart or poster showing each metal ion and its flame colour. **Redshift and Distance** Create a table or graph showing how **redshift increases with distance** from Earth. You can: • Use real data from galaxy observations (optional) • Or create a simple model showing that the further away a galaxy is, the greater its redshift 👉 **Challenge:** Explain how this supports the **Big Bang theory**.	***Genetic Engineering Research*** *Task:* Research how genetic engineering is used in medicine or agriculture (e.g., insulin production, GM crops). Create a fact sheet explaining: • The process • Benefits and risks • Public opinion and regulation **Required Practical Skills** Describe how you would carry out the following required practical: Investigating the effect of pH on the rate of enzyme activity. Include: • Equipment needed • Variables (independent, dependent, control) • How you would measure the results • How to ensure reliability	

Year 12 (AQA)

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

2026-2027	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 	• 3.1.1 Atomic structure • 3.1.2 Amount of substance Mathematical Skills- calculating moles and masses in reactions. Fully understanding chemical formula Knowledge of the atom and electron subshell configuration Expressing amounts of a substance in a chemical reaction. Evaluating the relationship between pressure and volume in gaseous substances	• 3.1.3 Bonding • 3.1.4 Energetics • 3.1.5 Kinetics • 3.1.7 Oxidation, reduction and redox equations Knowledge of shapes of molecules using VSEPR theory. Understand the particle model of chemical reactions. Apply and evaluate changes in oxidation state	• 3.1.6 Chemical equilibria, Le Chatelier's principle and K_c Understand apply the principles of Le Chatelier. Determine changes in the position of equilibria and how reaction conditions are changed to suit the needs of a chemical reaction.	• 3.2.1 Periodicity • 3.2.2 Group 2, the alkaline earth metals • 3.2.3 Group 7(17), the halogens Students study the elements of period 3 in depth. Understanding the trends in physical and chemical properties of elements from Na to Ar. Explain the reactions of the halogens as reducing agents and their reactivity.	• 3.3.1 Introduction to organic chemistry • 3.3.2 Alkanes • 3.3.3 Halogenoalkanes Use IUPAC nomenclature to classify organic molecules. Understand simple organic reactions in terms of their mechanisms (Nucleophiliic substitution and electrophillic addition). Understand the major functional groups of organic molecules and how they react/ interconvert.	• 3.3.4 Alkenes • 3.3.5 Alcohols • 3.3.6 Organic analysis Understand how to interpret IR Spectroscopy and Mass Spectrometry can be used to identify organic molecules. Understand how and why alcohols can be oxidised and reduced. Write simple sythetic routes for target molecules. Use chemical tests to identify the nature of molecules. Represent molecules in skeletal, structural and displayed formulas.
	Mini Assessments Baseline testing (Assessment 1) – September Assessment 2 – November Required Practical 1 Titrations Required Practical 2 Energy Changes		**Required Practical 3 Investigate rate of reactions with changes in temperature** **Required Practical 4 Carry out simple test tube reactions to identify anions and cations** **Mock Examinations** **Assessment 3 – January** **Assessment 4 – March**		**Required Practical 5 Distillation of a product from a reaction** **Required Practical 6 Test for Alcohol, Aldehyde, Alkene and Carboxylic acids** **Paper 1 AQA AS Examination (50% of AS) 1hr30 mins** **Paper 2 AQA AS Examination (50% of AS) 1hr30 mins**	

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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 **Embed your knowledge**	A Level Chemistry Revision | AQA, OCR and Edexcel Afterschool revision sessions held every week to further practice examination technique and tackle problems and misconceptions. • Chemguide: Understanding Chemistry - Atomic Properties Menu • Vision Learning: Chemistry | Early Ideas about Matter • YouTube: Structure of the Atom 1: The Earliest Models • BBC: History - Ancient History in depth: The Story of Carbon Dating • Astrobiology Magazine: Mars: The Other Time-of-Flight • Chemguide: Understanding Chemistry - Mass Spectrometry Menu	A Level Chemistry Revision | AQA, OCR and Edexcel The Whole of AQA A-Level Chemistry | Revision for AS and A-Level Exams - YouTube Chemguide: Understanding Chemistry – Bonding Menu	A Level Chemistry Revision | AQA, OCR and Edexcel • S-cool, the revision website: A Level Chemistry Revision • Chemguide: Helping you to understand Chemistry • ChemGym: Quizzes for learning and revising A level Chemistry • Twitter: @ChemistryALevel • The Royal Society: Topics

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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Extend your learning 	Regularly review your notes and summarise them after every lesson - Read ahead on the next chapter to identify misconceptions - Access past papers from the AQA website and review the mark schemes and examiners reports to improve your exam technique. - Write a literature review of an article from the New Scientist magazine - Attend the after school revision sessions **Recommended reading** 1. "Chemistry: A Very Short Introduction" – Peter Atkins 2. "What is Chemistry?" – Peter Atkins	Regularly review your notes and summarise them after every lesson - Read ahead on the next chapter to identify misconceptions - Access past papers from the AQA website and review the mark schemes and examiners reports to improve your exam technique. - Write a literature review of an article from the New Scientist magazine - Attend the after school revision sessions **Recommended reading** 3. "A-Level Chemistry for AQA Year 1 & AS: Student Book" – CGP Books	Regularly review your notes and summarise them after every lesson - Read ahead on the next chapter to identify misconceptions - Access past papers from the AQA website and review the mark schemes and examiners reports to improve your exam technique. - Write a literature review of an article from the New Scientist magazine - Attend the after school revision sessions **Recommended reading** 4. "Molecules: The Elements and the Architecture of Everything" – Theodore Gray 5. "The Manga Guide to Chemistry" – Masaharu Takemura & Office Sawa

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

CIM - Curriculum Intent Map Chemistry
Exam board - GCSE: AQA Exam board - A'Level: AQA

2026-2027	Year 13 (AQA)					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 	• 3.1.8 Thermodynamics (A-level only) • 3.1.9 Rate equations (A-level only) • 3.1.10 Equilibrium constant K_p for homogeneous systems (A-level only) • 3.1.11 Electrode potentials and electrochemical cells (A-level only) • 3.1.12 Acids and bases (A-level only) Understand how the rate of chemical reactions can be expressed by a rate equation. Explain how to use the Arrhenius equation to find the activation energy for a chemical reaction. Construct and design simple electrochemical cells and explain how these could be used in the future to power cars	• 3.2.4 Properties of Period 3 elements and their oxides (A-level only) • 3.2.5 Transition metals (A-level only) • 3.2.6 Reactions of ions in aqueous solution (A-level only) Develop a deep understanding of the elements in period 3. Compare and contrast their acidic and basic nature. Explain how transition metal complexes have industrial applications and medicinal uses.	• 3.3.7 Optical isomerism (A-level only) • 3.3.8 Aldehydes and ketones (A-level only) • 3.3.9 Carboxylic acids and derivatives (A-level only) • 3.3.10 Aromatic chemistry (A-level only) Taking the knowledge of AS Chemistry and develop this further with a comprehensive appreciation and study of all major organic functional groups. Study of aromatic chemistry and the application of synthetic routes and reaction conditions.	• 3.3.11 Amines (A-level only) • 3.3.12 Polymers (A-level only) • 3.3.13 Amino acids, proteins and DNA (A-level only) Students will understand how Chemistry applies to biological molecules. Natural polymers such as Amino Acids and DNA. Students will be able to predict the Primary, Secondary and Tertiary structures of proteins and how they interact with biological systems.	• 3.3.14 Organic synthesis (A-level only) • 3.3.15 Nuclear magnetic resonance spectroscopy (A-level only) • 3.3.16 Chromatography (A-level only) Students will study how all organic functional groups and mechanisms in isolation can be combined into a synthetic route for a target molecule. NMR spectroscopy studies will allow students to correctly identify the full structure of molecules. Required practical work in this half term will complement the studies in class- such as the preparation of Aspirin and its assay.	

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	Required Practical 7- Measuring the rate of reaction by initial rate method and continuing monitoring method Required Practical 8- Measuring the EMF of an electrochemical cell Baseline testing (assessment 1) A Level Paper 1 (adapted) PPE (October/November) A Level Paper 2 (adapted) PPE (October/November)	**Required Practical 9 Investigate pH changes in acid/base reactions** **Required Practical 10 Preparation of an organic solid/liquid and test of its purity** **Mock Examinations** Paper 1 (adapted) PPE (February/Mar) Paper 2 (adapted) PPE (February/Mar) Paper 3 (adapted) PPE (Feb/Mar)	**Required Practical 11 Carry out simple test tube reactions to identify transition metal ions in aqueous solutions** **Required Practical 12 Separation of species by thin layer chromatography** **Paper 1 AQA A Level Chemistry (35%) 2 Hours** **Paper 2 AQA A Level Chemistry (35%) 2 Hours** **Paper 3 AQA A Level Chemistry (30%) 2 Hours**
 **Embed your knowledge**	Chemguide: Understanding Chemistry - Acid-Base Equilibria Menu Chemguide: Understanding Chemistry - Chemical Equilibria Menu	Chemguide: Understanding Chemistry – Optical Isomerism • Chemguide: Understanding Chemistry – Carboxylic Acids Menu • Chemguide: Understanding Chemistry – Acyl (Acid) Chlorides Menu • Chemguide: Understanding Chemistry – Acid Anhydrides Menu • Chemguide: Understanding Chemistry – Esters Menu	• New Scientist: Space radiation may select amino acids for life • YouTube: The Mechanism of Cisplatin • Cancer Research UK: Cisplatin • Chemguide: Understanding Chemistry – Amino Acids and Other Biochemistry Menu Chemguide: Understanding Chemistry – NMR Menu

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Extend your learning 	Regularly review your notes and summarise them after every lesson - Read ahead on the next chapter to identify misconceptions - Access past papers from the AQA website and review the mark schemes and examiners reports to improve your exam technique. - Write a literature review of an article from the New Scientist magazine - Attend the after school revision sessions - **Recommended reading** - 1. "The Disappearing Spoon" – Sam Kean - 2. "Stuff Matters" – Mark Miodownik	Regularly review your notes and summarise them after every lesson - Read ahead on the next chapter to identify misconceptions - Access past papers from the AQA website and review the mark schemes and examiners reports to improve your exam technique. - Write a literature review of an article from the New Scientist magazine - Attend the after school revision sessions **Recommended reading** 3. "Periodic Tales: The Curious Lives of the Elements" – Hugh Aldersey-Williams	Regularly review your notes and summarise them after every lesson - Read ahead on the next chapter to identify misconceptions - Access past papers from the AQA website and review the mark schemes and examiners reports to improve your exam technique. - Write a literature review of an article from the New Scientist magazine - Attend the after school revision sessions **Recommended reading** 4. "Why Chemical Reactions Happen" – James Keeler & Peter Wothers

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**