

Active Revision – Chemistry

Assessment Point – Year 11 Summer Exam

Research shows that students who do frequent chunks of revision across all 3 stages of revision below are more likely to reach their full potential.

- ✓ Upload – consolidate your knowledge
- ✓ Process – active retrieval practice
- ✓ Download – apply your knowledge



upload



process



download

TOPIC: Rates of Reaction [https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/the-rate-and-extent-of-chemical-change#The rate and extent of chemical change](https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/the-rate-and-extent-of-chemical-change#The%20rate%20and%20extent%20of%20chemical%20change)

Includes: Factors affecting rates of reaction, reversible reactions, Le Chatelier's principle, Calculating rates from graphs.

- Make mind maps and flash cards for the subtopics listed above
- Draw a diagram to show how you would measure the rate of reaction for a range of different methods (gas collection, loss of mass, disappearing cross)
- <https://www.youtube.com/watch?v=7i90fiz9SmY>

- Describe and explain how surface area, concentration, temperature and catalysts affect the rate of a reaction.
- Write down the key features of reversible reactions including the effect of the le chatelier principle (HIGHER ONLY) on reactions

- Complete past paper questions and self-assess using <https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/rate-and-extent-of-chemical-change/>
- <https://www.youtube.com/watch?v=RgeaVWnZ4fo>

TOPIC: Organic Chemistry https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/organic-chemistry#Organic_chemistry

Includes: Crude oil, hydrocarbons, alkanes, alkenes, cracking, combustion, reactions of alkenes, addition polymers, simple naturally occurring polymers.

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| <ul style="list-style-type: none">• Make mind maps on fractional distillation and cracking.• Flashcards: functional groups, reactions of alkenes, polymerisation. Make sure these diagrams are correct and that you can easily switched between DISPLAYED and MOLECULAR formula• https://www.youtube.com/watch?v=ZeUNWY7YDAo&pp=0gcJCdgAo7VqN5tD | <ul style="list-style-type: none">• Draw fractional distillation column from memory and annotate.• Write balanced equations for combustion and cracking.• Practise drawing displayed formulae for alkanes and alkenes.• Describe and test yourself on the properties and uses of polymers. | <ul style="list-style-type: none">• Complete past paper questions and self-assess using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/organic-chemistry/• Organic chemistry quick fire questions https://www.youtube.com/watch?v=sE2DP0x48kE |
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TOPIC: Chemical Analysis https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/chemical-analysis#Chemical_analysis

Includes: Pure substances, formulations, chromatography, tests for gases, identification of ions (metal cations, anions).

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| <ul style="list-style-type: none">• Mind maps on tests for ions and chromatography.• Flashcards: colour changes, flame test colours, gas tests.• https://www.youtube.com/watch?v=yUQiUddBA4 | <ul style="list-style-type: none">• Write out all ion test procedures from memory.• Complete diagrams of chromatography setups.• Describe differences between pure and impure substances.• Practice 6 mark style question to identify an unknown substance using ion testing. | <ul style="list-style-type: none">• Complete past paper questions and self-assess using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/chemical-analysis/• Chemical Analysis quick fire questions https://www.youtube.com/watch?v=vMKAHdoc-g0 |
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TOPIC: Chemistry of the Atmosphere https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/chemistry-of-the-atmosphere#Chemistry_of_the_atmosphere

Includes: Composition of the atmosphere, evolution of the atmosphere, greenhouse gases, climate change, atmospheric pollutants.

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| <ul style="list-style-type: none">• Mind maps summarising each stage of Earth's atmospheric evolution.• Flashcards for greenhouse gases, effects, and pollutant sources.• https://www.youtube.com/watch?v=gxCRsqXZzeU | <ul style="list-style-type: none">• Write out processes contributing to climate change from memory.• Describe effects of pollutants on health and environment.• Create a cause-and-effect table for human activities and environmental consequences. | <ul style="list-style-type: none">• Complete past paper questions and self-assess using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/chemistry-of-atmosphere/• Chemistry of the Atmosphere quick fire questions https://www.youtube.com/watch?v=DznhhA2QHUG |
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TOPIC: Using Resources https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/using-resources#Using_resources

Includes: Finite and renewable resources, sustainable development, potable water, wastewater treatment, life cycle assessments, recycling, corrosion, alloys, ceramics, polymers, composites.

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| <ul style="list-style-type: none">• Create flashcards on key terms (renewable, finite, LCA, potable water).• Mind maps on water treatment and recycling.• https://www.youtube.com/watch?v=KyVf2bVLI08 | <ul style="list-style-type: none">• Sequence the steps of potable water treatment and wastewater treatment.• Create a table comparing types of materials (ceramics, polymers, composites).• Write pros and cons of recycling and sustainable practices from memory. | <ul style="list-style-type: none">• Complete past paper questions and self-assess using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/using-resources/• Using Resources Quick Fire Questions https://www.youtube.com/watch?v=xBUXqfa2gHo |
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<p>TOPIC: Atomic Structure https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/specification/subject-content/chemistry</p> <p>Includes: Atoms, elements, compounds, mixtures, separation techniques, history of the atom, subatomic particles, electronic structure.</p>		
<ul style="list-style-type: none"> • Create mind maps for each subtopic listed above. • Make flashcards for key definitions and diagrams (e.g., electron configurations, atomic models through history). • Use BBC Bitesize or Seneca to fill in knowledge gaps. • https://www.youtube.com/watch?v=bgyuXU97jal 	<ul style="list-style-type: none"> • Draw and label an atom with electron shells from memory. • Sequence the history of the atom (Dalton → Thomson → Rutherford → Bohr → Chadwick) using paper strips. • Use the Leitner method to organise your flashcards. Revisit your flashcards daily, every 3 days, or weekly depending on how well you can recall the information. 	<ul style="list-style-type: none"> • Complete past paper questions and mark them using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/atomic-structure/ • Atomic Structure Quick-fire Questions https://youtu.be/mjllPJ_c018
<p>TOPIC: Bonding, Structure and the Properties of Matter https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/bonding-structure-and-the-properties-of-matter#Bonding_structure_and_the_properties_of_matter</p> <p>Includes: Ionic, covalent, metallic bonding; properties of materials; states of matter; nanoparticles.</p>		
<ul style="list-style-type: none"> • Make mind maps and labelled diagrams (e.g., dot-and-cross diagrams, metallic lattice). • Flashcards: properties of ionic, simple molecular, giant covalent, and metallic structures. • Print out pictures of the giant covalent structures and annotate them with their key features 	<ul style="list-style-type: none"> • From memory, draw dot-and-cross diagrams for ionic (e.g., NaCl), covalent (e.g., O₂), and metallic bonding. • Describe properties of different structures using a table, then test yourself from memory. • Create a flow diagram explaining the uses of nanoparticles. 	<ul style="list-style-type: none"> • Complete past paper questions and mark them using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/bonding-structure-properties-of-matter/

<ul style="list-style-type: none"> • https://www.youtube.com/watch?v=YpEQ-NWxKBc 		<ul style="list-style-type: none"> • Watch YouTube: Bonding, Structure Quick-fire Questions https://youtu.be/9bbCFUyluWg
<p>TOPIC: Quantitative Chemistry https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/quantitative-chemistry#Quantitative_chemistry</p> <p>Includes: Relative formula mass (Mr), conservation of mass, moles, concentration, gas volumes, yield, atom economy</p>		
<ul style="list-style-type: none"> • Make a mind map for key calculations, drawing out triangles for key equations you will need to learn. Make sure you can rearrange the subject of the equation. • Create worked example flashcards (step-by-step calculations). • https://www.youtube.com/watch?v=eAibVvhmsK0&pp=0gcJCf0Ao7VqN5tD 	<ul style="list-style-type: none"> • Practise calculating Mr and moles with a calculator and periodic table. • Write out and balance equations, then calculate reactants/products masses. • Do timed mole calculations, then self-assess. 	<ul style="list-style-type: none"> • Complete past paper questions and mark them using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/quantitative-chemistry/ • Watch: Quantitative Chemistry Quick-fire Questions https://youtu.be/8uqWdmlKd7c
<p>TOPIC: Chemical Changes https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/chemical-changes#Chemical_changes</p> <p>Includes: Reactivity series, extraction of metals, acids, alkalis, electrolysis.</p>		

<ul style="list-style-type: none"> • Make maps on reactivity series and electrolysis. • Flashcards for definitions (oxidation, reduction, displacement, neutralisation), and equations. • Write out general equations for the acid reactions • https://www.youtube.com/watch?v=KTmXEliU_Go 	<ul style="list-style-type: none"> • Sequence the reactivity series from memory. • Write balanced equations for metal-acid and metal-oxide reactions. • Label an electrolysis setup and describe what happens at each electrode. • Draw out the steps in the required practical Making a Soluble Salt. Annotate each step. 	<ul style="list-style-type: none"> • Complete past paper questions and mark them using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/chemical-changes/ • Watch: Chemical Changes Quick-fire Questions https://youtu.be/7Nrma6v0A8I
<p>TOPIC: Energy Changes https://www.aqa.org.uk/subjects/chemistry/gcse/chemistry-8462/specification/subject-content/energy-changes#Energy_changes</p> <p>Includes: Exothermic and endothermic reactions, energy profile diagrams, bond energies.</p>		
<ul style="list-style-type: none"> • Flashcards for key concepts and diagrams (exothermic vs endothermic). • Mind map on required practical for exo and endothermic reactions – there are 3 different versions of this practical. • Monitoring the temperature of a neutralization, Reacting metals with acids or displacement reactions, and dissolving substances in water. 	<ul style="list-style-type: none"> • Draw energy profiles from memory and annotate. • Calculate energy changes using bond energies. • Practice writing the method for energy changes required practicals, identifying variables and suggesting improvements to the way of working. 	<ul style="list-style-type: none"> • Complete past paper questions and mark them using https://www.physicsandmathstutor.com/chemistry-revision/gcse-aqa/energy-changes/ • Watch: Energy Changes Quick-fire Questions https://youtu.be/PQtjfRoLMAE

