

Department: Chemistry



Our Curriculum Aims:

Chemistry is THE central Scientific discipline. At AGSB, our aim is that students enjoy their study of Chemistry as only by this measure can we hope to: -

Inspire students with a sense of curiosity and wonder about the fundamental nature of the world around them by presenting ideas and concepts in an interesting and entertaining manner.

We have developed our curriculum around four key themes -

- Working Scientifically
- Atomic Structure
- Atmosphere/Sustainability
- Numeracy

We then develop a teaching order that allows knowledge to build as we move through KS3 → GCSE → A level.

This allows to develop a series of pillars on which to hang more detailed knowledge

Empower students to make decisions about their own lives and critically evaluate scientific and technological developments that impact society by providing the skills needed to function in a fast-changing world.

Key Stage Three Curriculum Overview

Year 9	Name of topic	Key Content of the Topic	Assessment points
HT 1	Acids, alkalis, salts and precipitates	Students learn techniques that develop accuracy and precision. They extend their use of word and symbol equations.	
HT 2	General chemical techniques, eg thermal	Knowledge of acids is applied to environmental issues such as acid rain. Students are given a topic on reaction rate that allows the teaching of planning, risk assessment and which develops the skills needed to properly analyse and evaluate practical work.	End of term exam
HT 3	Study of foundation Chemistry. The Periodic Table.	In January of Y9 we begin the GCSE course as we have finished the relevant Key Stage 3 requirements. In this term we study Unit 1 of the AQA Separate Chemistry GCSE. This allows us to review and extend the work originally done in Y7 and Y8. Being a selective school, our students cope well with the KS3 content, and we get through it quite fast. There is no point marking time when we can use the extra time generated in Y10 and 11 to extend practical tasks to include and develop analytical and evaluation skills	
HT 4		Throughout Year 9 teaching, we ensure that the content covered is common to both the Separate and 'Dual Award' science GCSE courses	

HT 5	The Periodic Table; its development and use.	We finish the study of unit 1 before the Y9 exam. Following feedback from the exam, we teach Unit 9 on the 'Chemistry of the Atmosphere'.	Trial Exam
HT 6	Atmosphere	Should any time allow, teachers will focus on practical skills to interest and extend knowledge.	Assessment of GCSE topics covered so far.

GCSE Course Followed: Chemistry

Specification: [AQA \(Syllabus code 8462\)](#)

Why Choose GCSE

All students will study:

- Atomic Structure and Periodic Table
- Bonding, Structure and the Properties of Matter
- Quantitative Chemistry
- Chemical Changes
- Energy Changes
- The Rate and Extent of Chemical Change
- Organic Chemistry
- Chemical Analysis
- Chemistry of the Atmosphere
- Using Resources

Separate Chemistry students study the same or similar areas of study, but most topics will be explored in greater detail.

Key Stage Four Curriculum Overview

Year 10

	Name of topic	Key Content of the Topic	Assessment points
HT 1	Ionic compounds and bonding	Following revision of unit 1, we teach the ionic bonding content of unit 2. We also teach Electrolysis that is found later in the syllabus to give some practical and investigative work.	
HT 2	Electrolysis, covalent compounds and bonding and metals	Following completion of electrolysis topic, we look at covalent compounds and giant covalent lattices. The study of metals involves structure, reactivity, extraction and alloying. Teachers also consider environmental issues.	End of term assessment prior to Christmas grades
HT 3	Analysis and energy	In this term we are aiming to complete units 8 and 5. Details in syllabus.	
HT 4	Energy and Y10 Revision	Finish this terms content and move onto revision for the Y10 exams at the end of term.	
HT 5	Reaction rate	Factors affecting the rate of reactions	Trial Exam

HT 6	Equilibrium The Haber Process Environmental impact and Life cycle analysis	Study of reversible reactions Industrial application of equilibrium It's a big topic with ample opportunity for students to revise unit 9 and consider wider environmental issues associated with combustion, production and disposal of materials.	End of year assessment
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Year 11

	Name of topic	Key Content of the Topic	Assessment points
HT 1	Organic Chemistry	Study of carbon compounds	
HT 2	The mole	Calculations based around relative Mass	Y11 mock
HT 3	The Mole Acids	Finish Calculations and then a topic on acids. This is then all tied together by studying titrations	
HT 4	Tidy up	Staff use these last weeks to link ideas across the syllabus and tidy up any loose ends that are not covered within the larger topics such as water, fertilisers and others	
HT 5	Finish tidy up and revision	A good deal of time is spent going over exam technique, past papers and the skills necessary to reach their potential.	
HT 6	NA	Staff are always available to give Chemistry help and support.	GCSE exams

Recommended Revision Guides for GCSE

Pupils have access to the online textbook through Kerboodle. We now sell CGP revision guides for AQA chemistry at £2.80 via Parentpay. We buy in bulk and pass the savings onto you.

Also, do not forget to check the resources available in the STU Chemistry folder on Office 365 or to download a copy of the AQA Chemistry specification.

Support available for GCSE Students

Staff are available to help between 8.00 and 16.30.