



Curriculum Map cover sheet

Subject: OCR A Level Chemistry	Year Group 12-13	Key Stage 5
Links to prior learning Builds upon GCSE Combined science and Triple Chemistry specifications. Students will have transferable skills such as constructing equations and understanding the structure of the atom and the periodic table. The A level specification aims to develop and demonstrate a deep appreciation of the skills, knowledge and understanding of scientific methods. Practical skills first encountered at GCSE are built upon at A level. These include titration and preparation of a salt.	Retrieval Practice Regular use of mini whiteboards in class to assess student understanding and recall. Student access to Kerboodle resources and quizzes and emphasis within the lesson on how to access these resources. Use of student friendly specification sheets to cross reference student knowledge and progress.	Adaptive teaching strategies Scaffolding for exam questions with use of the visualiser within the lesson to model student responses. Use of modelling within explanations and examiner reports to build exemplar answers. Writing frames shared with students especially when describing trends in data. Use of strategies such as “think-pair-share” to encourage students to share ideas. End of topic tests are embedded within the teaching sequence with detailed feedback strategies and the opportunity to re-test after student mistakes are highlighted and misconceptions corrected.
Literacy Reading of exam questions that require extended response. Reference to examiners reports. Practice of 6 mark questions that have an emphasis upon structure and being able to organise ideas in a logical sequence. These	Oracy Use of student discussion within the lesson. Opportunity to discuss ideas and the use of open questions that require more than a yes or no answer. Students are encouraged to “blurt” ideas at the start of a topic with encouragement to	Numeracy Advanced chemistry is highly mathematical with skills such as data handling, plotting of graphs and rearranging formulae all evident within the specification. Students are taught to follow EVERY method where the syllabus allows. This

questions are regularly included in assessments. Students are shown exemplar answers under the visualizer and have an opportunity to reflect on their own answers. The kerboodle textbook and chromebook activities are used within the lesson to encourage students to read longer extracts of text. Examiners reports analysed as part of student feedback and subject specific language is emphasised. Students are given guidance on how to write a scientific plan as part of the PAG criteria in year 12 and feedback is given.	share ideas.	acronym builds a methodical approach to numeracy problems. Mark schemes are analysed with students to understand the common errors when answering numerical questions with an emphasis placed upon the layout of the calculation in the examination answers.
Careers across the Curriculum Talk by a medical doctor for pathways to medicine. Work experience opportunities provided for students via connections with GP surgeries over the summer holidays. Links made between the theory studied and possible career pathways. Online courses publicised on Google classroom for seminars and webinars on entry to careers such as medicine, dentistry and veterinary science. Student profiles displayed in Science corridor with grades achieved Careers and apprenticeships in Science signposted in Science corridors University open days promoted via Google classroom	Wider Curriculum opportunities • Royal Society of Chemistry Olympiad - students all entered in year 12 • Cambridge Challenge - Students entered in year 12 • Year 12 students volunteer for outreach work with primary school students - Year 5 Science at Queensmead taster session.	Super Curriculum Online journal and recommended reading lists. Encouragement to attend online lectures and University open days. Use of RSC articles as wider reading, websites such as chemguide and New Scientist to build understanding beyond the curriculum. Recommended books such as "Between genius and genocide - the life of Fritz Haber." Students are encouraged to read around the curriculum, especially building on ideas such as the discovery of the periodic table by Mendeleev as an example of how scientific thought evolves.

Assessment and feedback Regular end of topic assessment with feedback given in written format. Students analyse areas of strength and areas for improvement. Students are given a challenge task where there are common misconceptions after a period of re-teaching. Students have an opportunity to highlight and re-attempt any questions via group work and teacher intervention. Regular data drops and students are well informed of their current levels and target grades.		

KS5 Chemistry Curriculum map

Year 12

Module 2 Foundations in Chemistry

- Atoms, compounds, molecules and equations
- Amount of substance
- Acid-base and redox reactions
- Electrons, bonding and structure

Links to:
GCSE Chemistry
Quantitative chemistry, atomic structure and bonding.

September - December

Module 3 Periodic Table and Energy

- The periodic table and periodicity
- Group 2 and the halogens
- Qualitative analysis
- Enthalpy changes
- Reaction rates and equilibrium (qualitative)

Links to:
GCSE Chemistry
Periodic table, exothermic and endothermic reactions

January - April

Module 4 Core Organic Chemistry

- Basic concepts
- Hydrocarbons
- Alcohols and haloalkanes
- Organic synthesis
- Analytical techniques (IR and MS)

Links to:
GCSE Chemistry
Hydrocarbons and Crude oil
Polymers and their disposal
Alcohols and Carboxylic acids

May - July

Core Practical Skills A level Chemistry (across two years)

Module 1 Development of practical skills in Chemistry

Year 12 Practicals

Moles determination
Acid base titration
Enthalpy determination
Qualitative Analysis
Synthesis

Year 13 Practicals

Synthesis of an organic solid
Qualitative analysis of functional groups
Electrochemical cells
Rates of reaction
pH measurement
Research skills

Minimum 12 Core practicals completed across two years

Year 13

Module 5 – Physical chemistry and transition elements

- Reaction rates and equilibrium (quantitative)
- pH and buffers
- Enthalpy, entropy and free energy
- Redox and electrode potentials
- Transition elements

Links to
AS Module 3 Periodic Table and Energy

Module 6 – Organic chemistry and analysis

- Aromatic compounds
- Carbonyl compounds
- Carboxylic acids and esters
- Nitrogen compounds
- Polymers
- Organic synthesis
- Chromatography and spectroscopy (NMR)

Links to:
Module 4 Core organic Chemistry

