Curriculum Maps

Science A-Level Chemistry
A Level in Chemistry curriculum aims to encourage learners to:
• develop essential knowledge and understanding of different areas of the subject and how they relate to each other
• develop and demonstrate a deep appreciation of the skills, knowledge and understanding of scientific methods
• develop competence and confidence in a variety of practical, mathematical and problem solving skills
• develop their interest in and enthusiasm for the subject, including developing an interest in further study and careers associated with the subject
• understand how society makes decisions about scientific issues and how the sciences contribute to the success of the economy and society (as exemplified in ‘How Science Works’ (HSW)).

Students will study:
• Development of practical skills in chemistry
• Foundations in chemistry
• Periodic table and energy
• Core organic chemistry
• Physical chemistry and transition elements
• Organic chemistry and analysis

Beyond Key Stage 5: Career Progression
HE: Chemical Engineering, Biomedical Engineering and Biotechnology, Dentistry, Chemistry
https://www.unifrog.org/student/subjects/keywords/chemical-engineering
https://www.unifrog.org/student/subjects/keywords/biomedical-engineering-and-biotechnology
https://www.unifrog.org/student/subjects/keywords/dentistry
https://www.unifrog.org/student/subjects/keywords/chemistry

STEM video resources:
Stem Video Resources
STEM Ambassadors:
https://www.stem.org.uk/stem-ambassadors

• Chemist
• Health and safety adviser
• Embalmer
• Laboratory technician
• Demolition operative
• Gas service technician
• Chemical engineer
• Commercial energy assessor
• Heating and ventilation engineer
• Nuclear engineer
• Chemical equipment operator
• Dental nurse
• Orthodontist
• Prosthodontist
• Oral and Maxillofacial surgeon
• Clinical scientist
• Anaesthetist
• Bomb disposal technician
• Glassmaker
• Brewery worker
• Biochemist
• Textile dyeing technician
• Chemical engineering technician
• Scenes of crime officer
• Pharmacist
• Technical brewer
• Chimney sweep
• Chemical engineer
• Pharmacy assistant
• Orthoptist
<table>
<thead>
<tr>
<th>Year</th>
<th>Unit content</th>
<th>Autumn 1</th>
<th>Autumn 2</th>
<th>Spring 1</th>
<th>Spring 1</th>
<th>Summer 1</th>
<th>Summer 2</th>
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</thead>
<tbody>
<tr>
<td>Year 12</td>
<td>Unit content</td>
<td>Atoms, ions and compounds</td>
<td>Electrons and bonding \ Shapes of molecules and intermolecular forces</td>
<td>Periodicity Reactivity trends \ Enthalpy \ Reaction rates and equilibrium</td>
<td>Basic concepts of organic chemistry \ Alkanes \ Alkenes</td>
<td>Alcohols Haloalkanes</td>
<td>Organic synthesis Spectroscopy</td>
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<td>Summative Assessment</td>
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<td>Synoptic Test 1</td>
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<td>Year 13</td>
<td>Unit content</td>
<td>Rates of reaction Equilibrium</td>
<td>Acids, bases and pH Buffers and neutralisation</td>
<td>Enthalpy and entropy Redox and electrode potentials</td>
<td>Transition elements Aromatic chemistry</td>
<td>Carboxylic acids and carboxylic acids</td>
<td>Organic synthesis Chromatography and spectroscopy</td>
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