



**Highsted Grammar School**  
**Spiritual, Moral, Social & Cultural Mapping**

**Subject: Chemistry**

**Year: 12**

Strand	Explanation of provision	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>Spiritual</b>	<ul style="list-style-type: none"> <li>ability to be reflective about their own beliefs (religious or otherwise) and perspective on life</li> <li>knowledge of, and respect for, different people's faiths, feelings and values</li> <li>sense of enjoyment and fascination in learning about themselves, others and the world around them</li> <li>use of imagination and creativity in their learning</li> <li>willingness to reflect on their experiences</li> </ul>	<i>Atomic structure – Reflect on GCSE experiences. Fascination, new electron orbitals and rules</i> <i>Alkanes – Reflect on GCSE experiences. Respecting different feelings on fracking.</i>	<i>Halogenoalkanes – fascination mechanisms how can we make one molecule into another. Plasticisers – How can we change the properties of polymers to suit different purposes. Uses of PVC.</i>	<i>Creativity – stop motion videos of mechanisms.</i>	<i>Fascination – how do breathalysers tests actually work?</i>	<i>Mass spec – drug testing, how does it work?</i>	<i>Periodicity – Reflect on GCSE experiences. World around them – use of group 2 hydroxides and sulfates, bromine extraction from sea water, iodine from kelp, uses of chlorine in swimming pools and purifying drinking water.</i>
<b>Moral</b>	<ul style="list-style-type: none"> <li>ability to recognise the difference between right and wrong and to readily apply this understanding in their own lives, and to recognise legal boundaries and, in doing so, respect the civil and criminal law of England</li> <li>understanding of the consequences of their behaviour and actions</li> <li>interest in investigating and offering reasoned views about moral and ethical issues and ability to understand and appreciate the viewpoints of others on these issues</li> </ul>	<i>Fracking – Is it right or wrong? Atomic structure – gender bias in science historically. Use of fossil fuels – Is it right, whose responsibility is it.</i>	<i>CFCs – Why have they been replaced? Are we doing enough to rebuild the ozone layer? Alkenes – what are the problems with and solutions to plastic pollution?</i>	<i>Why is dye added to methylated spirits? Why is more bio-ethanol being added to petrol? E10.</i>	<i>Why do we use breathalysers?</i>	<i>Why should athletes be drugs tested? Why do water boards have a responsibility to sample water from rivers?</i>	<i>Why do we add chlorine to swimming pools and drinking water? Risk assessment for required practical – consequences of behaviour</i>
<b>Social</b>	<ul style="list-style-type: none"> <li>use of a range of social skills in different contexts, for example working and socialising with other pupils, including those from different religious, ethnic and socio-economic backgrounds</li> <li>willingness to participate in a variety of communities and social settings, including by volunteering, cooperating well with others and being able to resolve conflicts effectively</li> <li>acceptance of and engagement with the fundamental British values of democracy, the rule of law, individual liberty and mutual respect and tolerance of those with different faiths and beliefs. They will develop and demonstrate skills and attitudes that will allow them to participate fully in and contribute positively to life in modern Britain</li> </ul>	<i>Group work and discussions.</i>	<i>Planning required practical in pairs. Discussions about issues such as ozone layer and plastic pollution.</i>	<i>Group discussions about bio-ethanol and methylated spirits.</i>	<i>Group presentation project.</i>	<i>Group discussions – different uses of spectroscopic techniques. Why are they used for these?</i>	<i>Group presentation project following required practical.</i>



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<b>Cultural</b>	<ul style="list-style-type: none"> <li>• understanding and appreciation of the wide range of cultural influences that have shaped their own heritage and that of others</li> <li>• understanding and appreciation of the range of different cultures in the school and further afield as an essential element of their preparation for life in modern Britain</li> <li>• ability to recognise, and value, the things we share in common across cultural, religious, ethnic and socio-economic communities</li> <li>• knowledge of Britain’s democratic parliamentary system and its central role in shaping our history and values, and in continuing to develop Britain</li> <li>• willingness to participate in and respond positively to artistic, musical, sporting and cultural opportunities</li> <li>• interest in exploring, improving understanding of and showing respect for different faiths and cultural diversity and the extent to which they understand, accept, respect and celebrate diversity. This is shown by their respect and attitudes towards different religious, ethnic and socio-economic groups in the local, national and global communities</li> </ul>	<p><i>Democratic – government views on fracking and legislation</i></p> <p><i>COP 26 – Government legislation on greenhouse emissions.</i></p> <p><i>Respect different views on this.</i></p>	<p><i>Alkenes – How do we dispose of plastics (addition polymers) in modern day Britain. What are the problems with this and what are the current solutions.</i></p>	<p><i>How does antifreeze work, why do we use it? Why has petrol moved to E10? Artistic opportunity with stop motion video design.</i></p>	<p><i>Responsible use of alcohols. How do breathalyser tests work? Different cultures have different limits for blood alcohol level.</i></p>	<p><i>Where is spectroscopy used in modern day Britain. Forensics, drugs testing in sport, water sampling etc.</i></p> <p><i>How has this developed over the years and changed these industries.</i></p>	<p><i>How do we treat water in our culture. How is this different to other cultures and why?</i></p>



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**Subject: Chemistry**

**Year: 13**

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<b>Spiritual</b>	<ul style="list-style-type: none"> <li>ability to be reflective about their own beliefs (religious or otherwise) and perspective on life</li> <li>knowledge of, and respect for, different people's faiths, feelings and values</li> <li>sense of enjoyment and fascination in learning about themselves, others and the world around them</li> <li>use of imagination and creativity in their learning</li> <li>willingness to reflect on their experiences</li> </ul>	<i>Optical isomerism – Fascination – The thalidomide tragedy – why did it occur? Lactic acid in sour milk and cramps Esters – making and smelling and linking to uses.</i>	<i>How can we make aspirin? Arenes – what is TNT?</i>	<i>Organic synthesis and NMR – Reflection on Year 12 mechanisms</i>	<i>Polymers – Nylon and Kevlar in F1 helmets How cisplatin works as a cancer drug.</i>		
<b>Moral</b>	<ul style="list-style-type: none"> <li>ability to recognise the difference between right and wrong and to readily apply this understanding in their own lives, and to recognise legal boundaries and, in doing so, respect the civil and criminal law of England</li> <li>understanding of the consequences of their behaviour and actions</li> <li>interest in investigating and offering reasoned views about moral and ethical issues and ability to understand and appreciate the viewpoints of others on these issues</li> </ul>	<i>The thalidomide tragedy – whose responsibility was it? Was enough done to prevent it? Should we use biodiesel?</i>	<i>Aspirin required practical – risk assessment consequences of behaviour. Should TNT be used?</i>	<i>Why do we use non-toxic standards, TMS?</i>	<i>Safety in F1, why is it important? Risk taking. Why should we research and develop biodegradable plastics? Rosalind Franklin being ignored in recognition of contribution to DNA structure discovery – gender bias in science.</i>		
<b>Social</b>	<ul style="list-style-type: none"> <li>use of a range of social skills in different contexts, for example working and socialising with other pupils, including those from different religious, ethnic and socio-economic backgrounds</li> <li>willingness to participate in a variety of communities and social settings, including by volunteering, cooperating well with others and being able to resolve conflicts effectively</li> <li>acceptance of and engagement with the fundamental British values of democracy, the rule of law, individual liberty and mutual respect and tolerance of those with different faiths and beliefs. They will develop and demonstrate skills and attitudes that will allow them to participate fully in and contribute positively to life in modern Britain</li> </ul>	<i>Group work and discussions.</i>	<i>Working in groups to complete required practical making aspirin</i>	<i>Group discussions</i>	<i>Group discussions about recycling of plastics and Group Presentation Project.</i>		



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