

Year 12 Chemistry T1 Learning Programme 2

<p>The LORIC skill focus for his LP is: ORGANISATION The Moral Virtues focus for this LP are: COMPASSION and HONESTY Compassion - the quality of feeling pity and concern for the sufferings or misfortunes of others. Honesty - the quality of being truthful.</p>		<p>Literacy:</p> <ul style="list-style-type: none"> • Capital letters must be used at the start of sentences and for the first letter of proper nouns • Full stops must be used at the end of a sentence • Question marks must be used at the end of a question • Apostrophes should only be used for possession or omission • Days of the week and months must be spelled correctly • Key words must be spelled correctly
<p>What will I be learning about in this Learning Programme? How to prepare a standard solution, how to complete a titration to identify the concentration of an unknown acid/base. How to draw and name organic molecules</p>		
<p>Where have I seen this learning before? Titrations were covered at KS4. You were introduced to organic compounds at KS4 with crude oil and hydrocarbons.</p> <p>What could I use it for? Degree level study in analytical chemistry. Careers in chemical synthesis in industry and analytical chemistry.</p>		
<p>In LP2.1, I will know: 21/10/24 - (WK 2)</p>		
<p>the techniques and procedures used when preparing a standard solution of required concentration and carrying out acid-base titrations.</p>	<p>Key Vocabulary</p> <p>Standard solution</p>	<p>Homework</p> <p>Titration calculations</p>
<p>In LP2.2, I will know: 04/11/24 - (WK 1)</p>		
<p>know how to complete structured and non-structured titration calculations, based on experimental results of familiar and non-familiar acids and bases; how to apply IUPAC rules of nomenclature for systematically naming organic compounds.</p>	<p>Key Vocabulary</p> <p>Titration</p>	<p>Homework</p> <p>Organic naming rules task</p>
<p>LP2 RLW, I will: 11/11/24 - (WK 2)</p>		
<p>review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.</p>		
<p>In LP2.3, I will know: 18/11/24 - (WK 1)</p>		
<p>how to interpret and use the term skeletal formula (the simplified organic formula, shown by removing hydrogen atoms from alkyl chains; how to interpret and use the terms aliphatic, alicyclic and aromatic, alicyclic.</p> <p>Extended Task.</p>	<p>Key Vocabulary</p> <p>Skeletal formula</p>	<p>Homework</p> <p>Organic formula task</p>
<p>In LP2.4, I will know: 25/11/24 - (WK 2)</p>		
<p>the term structural isomers and determine possible structural formulae of an organic molecule, given its molecular formula; how to describe homolytic fission and heterolytic fission.</p>	<p>Key Vocabulary</p> <p>Isomer</p>	<p>Homework</p> <p>Core organic PPQ</p>
<p>In LP2.5, I will know: 02/12/24 - (WK 1)</p>		
<p>how to describe reaction mechanisms, using diagrams, to show clearly the movement of an electron pair with 'curly arrows' and relevant dipoles; how to describe alkanes as saturated hydrocarbons containing single C-C and C-H bonds as σ-bonds (overlap of orbitals directly between the bonding atoms), with free rotation of the σ-bond.</p>	<p>Key Vocabulary</p> <p>Alkanes</p>	<p>Homework</p> <p>Alkanes practice questions</p>
<p>In LP2.6, I will know: 09/12/24 - (WK 2)</p>		
<p>how to explain the tetrahedral shape and bond angle around each carbon atom in alkanes in terms of electron pair repulsion; the low reactivity of alkanes with many reagents in terms of the high bond enthalpy and very low polarity of the σ-bonds present.</p> <p>Extended Task.</p>	<p>Key Vocabulary</p> <p>Homologous series</p>	<p>Homework</p> <p>Alkanes practice questions</p>
<p>In LP2.7, I will know: 16/12/24 - (WK 1)</p>		
<p>the reaction of alkanes with chlorine and bromine by radical substitution using ultraviolet radiation, including a mechanism involving homolytic fission and radical reactions in terms of initiation, propagation and termination; how to describe alkenes as unsaturated hydrocarbons containing a C=C bond comprising a π-bond and a σ-bond ; with restricted rotation of the π-bond.</p>	<p>Key Vocabulary</p> <p>homolytic fission</p>	<p>Homework</p> <p>Alkane reaction mechanism questions</p>
<p>Resources to support learning:</p> <p>Textbook, Synergy, knowledge organiser, Machedem guy videos on YouTube</p>		
<p>FEET Award Challenge for this Learning Programme:</p> <p>LP2 Year 12 Chemistry: Support with lower school STEM Club</p>		

PRT Task 1

PRT Task 2