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**LANGDON PARK SIXTH FORM**

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| **Subject: Chemistry** | **Year: Y12** | **Topic: 1.1 Introduction to Organic Chemistry** |

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| ***What does the topic contain and why study the contents***?  Organic chemistry is the study of the millions of covalent compounds of the element carbon. These structurally diverse compounds vary from naturally occurring petroleum fuels to DNA and the molecules in living systems. Organic compounds also demonstrate human ingenuity in the vast range of synthetic materials created by chemists. Many of these compounds are used as drugs, medicines and plastics. Organic compounds are named using the International Union of Pure and Applied Chemistry (IUPAC) system and the structure or formula of molecules can be represented in various different ways. In this topic students will learn how to name the organic compounds; how to write the empirical and molecular formula; how to draw various isomeric structures of compounds with the same empirical formula and deduce the number of isomers. |

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| **Key terms**  empirical formula  molecular formula  general formula  structural formula  displayed formula skeletal formula | skeletal formula  homologous series  saturated and unsaturated compounds  functional groups | Structural isomerism  Positional isomerism  Functional group isomerism  Chain isomerism  Stereo-isomerism  Geometrical isomerism |  |

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| **Specification point** | **Pre-reading** | **Application and Assessment (date)** | **Independent learning** | **Extension – Cultural Capital and Reading** |
| **3.3.1**   * I can draw structural, displayed and skeletal formulas for given organic compounds. * I can also apply IUPAC rules for nomenclature to name organic compounds limited to chains and rings with up to six carbon atoms each. * I am able to apply IUPAC rules for nomenclature to draw the structure of an organic compound from the IUPAC name limited to chains and rings with up to six carbon atoms each. | GCSE Chemistry: Some simple organic chemistry of alkanes and alkenes.  Definition of Empirical and molecular formulas  Study the Chem Sheets information  **Videos**    **Websites**  **Naming hydrocarbons AfL activity**  <http://www.rsc.org/learn-chemistry/resource/res00000110/afl-naming-hydrocarbons>  **Shows interactive organic molecules** <http://chemtube3d.com/Organic%20Structures%20and%20Bonding.html>  **Chemsketch Freeware allows**  **drawing of molecules and then 3D**  **viewer provides shape**.  <http://www.acdlabs.com/resources/freeware/chemsketch/> | Using molecular models to make different models formula and isomers  Fortnightly mini-mock    Complete all set home work | Attempt chapter end summery questions  Practicing past exam questions | ***Chemistry Review*** |

**Pre-assessment content review**

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| I feel secure in | I need to focus on | My action plan |

**Pre-assessment skills review**

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| I feel secure in | I need to focus on | My action plan |

**Post-assessment review**

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| Weaknesses in content knowledge | Skills I need to focus on | My action plan |
| Retest / review – teacher and student comment | | |

**Revision planning**

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| Spec point | Notes complete | Revision materials | Past paper Qs | Timed conditions |
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**Revision planning (continued).**

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| Spec point | Notes complete | Revision materials | Past paper Qs | Timed conditions |
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