**Organic Chemistry Personal Learning Plan**

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| **Learning Intention**  We are learning about the structure and properties of the alkanes and alkenes | | | | | |
| Level | **Outcome** | **What you know and understand** | ☹ | 😐 | ☺ |
| 1 | I can use prefixes to name the alkanes according to the number of carbon atoms they contain and vice versa. |  |  |  |  |
| 2 | I can use molecular formulae to represent the alkanes. |  |  |  |  |
| 3 | I can draw full structural formulae to represent the alkanes. |  |  |  |  |
| 4 | I can write shortened structural formulae to represent the alkanes. |  |  |  |  |
| 5 | I can state the general formula for the alkanes. |  |  |  |  |
| 6 | I can explain what a saturated molecule is. |  |  |  |  |
| 7 | I can explain the physical properties of the alkanes and alkenes. |  |  |  |  |
| 8 | I can explain the how incomplete combustion occurs and write equations for it. |  |  |  |  |
| 9 | I can state the test for unsaturation (presence of a multiple bond). |  |  |  |  |
| 10 | I know what an addition reaction is. |  |  |  |  |
| 11 | I can work out the product of an addition reaction.  (hydrogen, water, halogen, hydrogen halide) |  |  |  |  |
| 12 | I can draw a polymer chain from a given monomer. | e.g. |  |  |  |
| 13 | I can identify the repeat unit and monomer from a polymer chain and identify the monomer’s name from the polymer’s name and vice versa | Image result for addition polymer |  |  |  |
| **Learning Intention**  We are learning about isomers and naming them | | | | | |
| Level | **Outcome** | **What you know and understand** | ☹ | 😐 | ☺ |
| 13 | I can explain what isomers are. |  |  |  |  |
| 14 | I can draw, name and recognise isomers of the alkanes from their name and structure. |  |  |  |  |
| 15 | I can draw, name and recognise isomers of the alkenes. |  |  |  |  |
| 16 | I can state some properties of isomers that can differ with explanations. |  |  |  |  |
| 17 | I can name branched alkanes, alkenes and alkynes | Image3-methylbut-1-ene Isomer of Pentene  2-2-4-trimethylpentane-850697.jpg  3-ethyl-2-methylpentane  2,3-dimethylbut-2-ene 4-methylhex-2-yne |  |  |  |

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| **Learning Intention**  The additional reactions of Arenes and Alkanes | | | | | |
| No. | **Outcome** | **What you know and understand** | ☹ | 😐 | ☺ |

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| 1 | I can describe the formula and structure of benzene and how the structure is supported by both physical and chemical evidence. |  |  |  |  |
| 2 | I know the reaction that Arenes (aromatic hydrocarbons) undergo |  |  |  |  |
| 3 | I know the steps involved in a free radical chain reaction between an alkane and a halogen |  |  |  |  |

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| **Learning Intention**  We are learning about some additional homologous series and properties | | | | | |
| No. | **Outcome** | **What you know and understand** | ☹ | 😐 | ☺ |

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| 1 | I can name and draw an amine |  |  |  |  |
| 2 | I can identify between a primary, secondary and tertiary amine |  |  |  |  |
| 3 | I can name and draw an ether |  |  |  |  |
| 4 | I can name and draw an amide |  |  |  |  |
| 5 | I can name and draw a nitrile |  |  |  |  |

**Key Words from Organic Chemistry**

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| **Key Word or Phrase** | **Meaning** |
| Incomplete combustion |  |
| Flammability |  |
| Hydrocarbon |  |
| Homologous series |  |
| Alkanes |  |
| Alkenes |  |
| Empirical formula |  |
| Molecular formula |  |
| Shortened structural formula |  |
| Full structural formula |  |
| General formula |  |
| Skeletal formula |  |
| Saturated hydrocarbon |  |
| Unsaturated hydrocarbon |  |
| Addition reaction |  |
| Isomers |  |
| Straight chain hydrocarbon |  |
| Branched chain hydrocarbon |  |
| Addition polymer |  |
| Monomer |  |
| Repeat unit |  |
| Functional Group |  |
| Electrophile  /nucleophile |  |
| Substitution reaction |  |
| Free radical |  |