# Learning Journey – C7 Organic Chemistry

| What have I done previously in my learning journey? | |
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| **Previously….** | **You have learnt previously about:**<br>• Mixtures<br>• Simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography<br>• Chemical reactions, including, representing chemical reactions using formulae and using equations. |
| **In this topic…** | The chemistry of carbon compounds is so important that it forms a separate branch of chemistry. A great variety of carbon compounds is possible because carbon atoms can form chains and rings linked by C-C bonds. This branch of chemistry gets its name from the fact that the main sources of organic compounds are living, or once-living materials from plants and animals. These sources include fossil fuels which are a major source of feedstock for the petrochemical industry. |

| We will develop our learning by studying the following each lesson: | RAG | Skills in Science checklist |
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| **C7.01 Crude Oil and Hydrocarbons**<br>• Describe how crude oil is formed.<br>• State what is meant by the term hydrocarbon<br>• Represent the first four alkanes using formulae and diagrams | | ☐ Scientific Methods<br>☐ Practical<br>☐ Number skills<br>☐ Application<br>☐ Communication |
| **C7.02 Fractional Distillation**<br>• Describe the process of fractional distillation<br>• Recall that fractional distillation separates hydrocarbons based on their boiling points. | | ☐ Scientific Methods<br>☐ Practical<br>☐ Number skills<br>☐ Application<br>☐ Communication |
| **C7.03 Combustion of Hydrocarbons**<br>• State what is meant by the term hydrocarbon<br>• Represent the first four alkanes using formulae and diagrams<br>• Describe the properties of hydrocarbons | | ☐ Scientific Methods<br>☐ Practical<br>☐ Number skills<br>☐ Application<br>☐ Communication |
| **C7.04 Cracking**<br>• Describe the conditions used for catalytic cracking and steam cracking.<br>• Recall the test used for alkenes.<br>• Balance chemical equations as examples of cracking.<br>• Give examples to illustrate the usefulness of cracking. | | ☐ Scientific Methods<br>☐ Practical<br>☐ Number skills<br>☐ Application<br>☐ Communication |

**Key Vocabulary**

| Hydrocarbons | Alkanes | Boiling point | Fractional distillation | Crude oil | Fractions | Cracking | Alkenes | Bromine |
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| Future Learning | In A Level Chemistry there is a building on the content from GCSE in a further topic called 'Organic Chemistry'. The study or organic chemistry involves representing organic compounds in diagrams, looking at reactions of organic compounds, building on knowledge of fractional distillation, cracking and combustion of alkanes. New study will involve chlorination of alkanes, halogenoalkanes and ozone depletion. |
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| **In careers** | Chemists are able to take organic molecules and modify them in many ways to make new and useful materials such as polymers, pharmaceuticals, perfumes and flavourings, dyes and detergents |