

AQA GCSE CHEMISTRY

Year 10 – Summer Term

CONTENT:

C9 – Crude oil

After this topic, students should know:

what crude oil is made up of; what alkanes are; how to represent alkanes from their chemical formula or displayed formula; the names and formulae of the first four alkanes.

how the volatility, viscosity and flammability of hydrocarbons are affected by the size of their molecules; how to separate crude oil into fractions; how to explain the separation of crude oil by fractional distillation; the uses we make of the fractions from crude oil.

The products formed when we burn hydrocarbon fuels in a good supply of air; how to test for the products of complete combustion of a hydrocarbon; why carbon monoxide gas is also given off when incomplete combustion takes place; how to write balanced equations for the complete combustion of hydrocarbons with a given formula.

how and why larger, less useful hydrocarbon molecules are cracked to form smaller ones; examples to illustrate the usefulness of cracking and how modern life depends on the uses of hydrocarbons; what alkenes are and how they differ from alkanes.

C9.1 Hydrocarbons; C9.2 Fractional distillation; C9.3 Burning hydrocarbon fuels; C9.4 Cracking hydrocarbons.

C10 Organic Reactions

After this topic, students should know:

the names of the alkenes ethene, propene, butene, and pentene; how alkenes react with oxygen in air

how to draw displayed structural; formulae of the first four members of the alkenes and the products of their addition reactions with: hydrogen, water, chlorine, bromine, or iodine.

the names and formulae of the first four members of the alcohols and carboxylic acids, as well as the ester, ethyl ethanoate.

how to represent the structures of their molecules using displayed formulae.

how to write balanced chemical equations for the combustion of alcohols; what is formed in the reaction of alcohols with sodium and when they are oxidised; some uses of alcohols.

how to recognise carboxylic acids from their properties; why carboxylic acids are described as weak acids.

how to make esters.

C10.1 Reactions of alkenes; C10.2 Alcohols, carboxylic acids, and esters; C10.3 Reactions and uses of alcohol; C10.4 Carboxylic acids and esters.

Recommended online resources:

Kerboodle- Digital Textbook – w:kerboodle.com u:initialsurname p:initialsurname inst.code:yh7 – the individual lesson breakdown is here.

BBC Bitesize: KS4 Science AQA – then find the relevant topics

YOUTUBE: 'GCSESCIENCELESSONS' then search for the topic of interest

Oak National Academy: Lessons available linked to above topics.