AQA GCSE COMBINED SCIENCE - CHEMISTRY

Year 11 – Autumn Term

CONTENT:

C9 – Crude Oil and Fuels

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. 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.

9.1 Hydrocarbons; 9.2 Fractional distillation of oil; 9.3 Burning hydrocarbon fuels 9.4 Cracking hydrocarbons

C12 Chemical analysis

Analysts have developed a range of qualitative tests to detect specific chemicals. The tests are based on reactions that produce a gas with distinctive properties, or a colour change or an insoluble solid that appears as a precipitate. Instrumental methods provide fast, sensitive and accurate means of analysing chemicals, and are particularly useful when the amount of chemical being analysed is small. Forensic scientists and drug control scientists rely on such instrumental methods in their work.

12.1 Pure substances and mixtures; 12.2 Analysing chromatograms; 12.3 Testing for gases

C13 The Earth's Atmosphere

The Earth's atmosphere is dynamic and forever changing. The causes of these changes are sometimes man-made and sometimes part of many natural cycles. Scientists use very complex software to predict weather and climate change as there are many variables that can influence this. The problems caused by increased levels of air pollutants require scientists and engineers to develop solutions that help to reduce the impact of human activity.

13.1 History of our atmosphere; 13.2 Our evolving atmosphere; 13.3 Greenhouse gases; 13.4 Global climate change; 13.5 Atmospheric pollutants.

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.

Google Classroom: class code details will be released using Class Charts