Edexcel International GCSE Chemistry 4CH1 Learning Plan

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|  **Unit: 4. Organic Chemistry** | **Chapter: 23. Crude Oil** | **Hours: 4** |
| Content coverage | Learning outcomes | Resources | Assessment |
| **Section 4: Organic chemistry**(b) Crude oil | Students will be assessed on theirability to:4.7 know that crude oil is a mixture of hydrocarbons4.8 describe how the industrial process of fractional distillation separates crude oil into fractions4.9 know the names and uses of the main fractions obtained from crude oil: refinery gases, gasoline, kerosene, diesel, fuel oil and bitumen4.10 know the trend in colour, boiling point and viscosity of the main fractions.4.11 know that a fuel is a substance that, when burned, releases heat energy4.12 know the possible products of complete and incomplete combustion of hydrocarbons with oxygen in the air4.13 understand why carbon monoxide is poisonous, in terms of its effect on the capacity of blood to transport oxygen; *references to haemoglobin are not required*4.14 know that, in car engines, the temperature reached is high enough to allow nitrogen and oxygen from air to react, forming oxides of nitrogen4.15 explain how the combustion of some impurities in hydrocarbon fuels results in the formation of sulfur dioxide4.16 understand how sulfur dioxide and oxides of nitrogen oxides contribute to acid rain.4.17 describe how long-chain alkanes are converted to alkenes and shorter-chain alkanes by catalytic cracking (using silica or alumina as the catalyst and a temperature in the range of 600–700 ºC)4.18 explain why cracking is necessary, in terms of the balance between supply and demand for different fractions. | Video: Chemistry Section 5 Lesson 2 – Industrial Chemistry – Crude oil.Powerpoint: Section 5 Lesson 2Textbook pages:Page 269 – What is crude oil?Page 270 – Separating crude oilPage 270 – Uses of the fractionsPage 272 – Environmental problems associated with the burning of fossil fuels from crude oilPage 273 - Cracking | Pages 275 – 276 Qs (1) to (4)Chapter 23 Answers to textbook questionsUnit 4-23 Crude Oil exam question - pdfUnit 4-23 Crude Oil exam question mark scheme – pdfSection D20 - Talking paper video  |

Videos – [www.igcsesciencecourses.com](http://www.igcsesciencecourses.com)

Textbook Ref: Edexcel International GCSE (9-1) Chemistry Student Book - Pearson (Clark, Owen and Yu)