ATAR Chemistry – Unit 1 & 2

Research Assignment 3, 2019

Fuel Sources

Our society relies heavily on the use of fossil fuels for transport, energy production and manufacture.

Your research will be assessed as a quiz. You are permitted to bring a maximum of 4 pages of notes for this assessment; however they must be your own notes – no copying and pasting! Try dot points! Include at least 4 references, textbook can be included in this

*Use the following as a guide to your research:*

**Research** how fossil fuels, in particular crude oil, were formed and the time scale it took to form the products we use today such as petrol, diesel and oil.

From this, deduce why a significant amount of research is being put into finding alternative fuel sources, specifically biofuels (*what are biofuels?*).

**Investigate** the products that are obtained from crude oil, and the process that is used to obtain separate these products.

**Investigate :** the process of “fracking”. Explain the process, products extracted during fracking and potential environmental risks.

**Investigate :** What is a biofuel and how are they formed? **Compare**  the chemical structure of biofuels( there are two main types) with the chemical structure of fossil fuels such as petrol and explain why this occurs.

**Create** a table, or other method, outlining the differences between a fossil fuel such as petrol / diesel and an alternative biofuels such as alcohol / biodiesel :

|  |  |  |
| --- | --- | --- |
|  | Fossil fuel – petrol/biodiesel | Biofuel – alcohol/ biodiesel |
| Suitability as a fuel source |  |  |
| Energy output |  |  |
| Environmental effects and emissions during production |  |  |
| Environmental effects and emissions during use |  |  |

Conclusions: From your research consider the advantages and disadvantages of biofuels compared to fossil fuels, and whether biofuels are a viable alternative.

**Date of Assignment Quiz: Thursday 25th July (Term 3 Week 1)**