Year 11: ASK Yourself!

Subject: Chemistry
Unit: 7 – Hydrocarbons

	Launching 1-2	Developing 3-4	Progressing 5-6	Mastering 7-9
Skills				
	To be able to identify 3D models of alkanes and draw 2D displayed formulae of them. To be able to plan experiment, make predictions and identify and consider health and safety risks involved.	To be able to identify 3D models of polymers and be able to draw 2D displayed formulae of simple polymers and their monomers. To be able to carry out experiments appropriately having due regard for the correct manipulation of apparatus, the accuracy of measurements.	To be able to use SI units and IUPAC chemical nomenclature unless inappropriate Use ratios, fractions and percentages. To be able to make predictions and develop scientific explanations and understanding of familiar and unfamiliar facts.	To be able to explain why 3D models are used to represent large biological molecules such as DNA. To be able to evaluate risks both in practical science and in the wider social context.
Knowledge				
	To be able to describe why crude oil is a finite resource. To be able to describe uses of crude oil. To be able to describe properties of different hydrocarbon fuels. To be able to describe complete combustion. To be able to describe usefulness of cracking.	To be able to identify the hydrocarbons in the series of alkanes. To be able to describe the process of cracking. To be able to describe the addition reactions of alkenes. To be able to recognise alcohols from their names or from given formulae.	To be able to explain process of fractional distillation. To be able to identify the properties that influence the use of the fuel. To be able to balance equations of combustion of hydrocarbons and cracking equations. To be able to draw displayed and structural formulae of the	To be able to explain why boiling points of the fractions are different. To be able to explain how the properties are related to the size of hydrocarbon molecules. To be able to explain the consequences of incomplete combustion. To be able to balance equations for reactions of

	To be able to describe the difference between an alkane and an alkene. To be able to recognise the functional group in alcohol and carboxylic acids. To be able to describe the types of naturally occurring carbohydrates.	To be able to describe the reactions of carboxylic acids. To be able to recognise addition polymers and monomers from diagrams. To be able to explain the basic principles of condensation polymerisation. To be able to describe the functional group of an amine.	alkanes and alkenes and products of alkene. To be able to describe the process of fermentation. To be able to draw diagrams polymerisation. To be able to identify the two functional groups of an amino acid. To be able to describe how simple sugars join to make natural polymers.	alkene with water, hydrogen, halogens and the combustion of alcohols. To be able to explain the structure of the repeating units in a condensation polymer. To be able to explain structure of amino acids. To be able to explain how sugars form part of the backbone of DNA.