

CRUDE OIL

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<p>Crude oil is a finite resource found in rocks. Crude oil is the remains of an ancient biomass consisting mainly of plankton that was buried in mud.</p> <p>Crude oil is a mixture of a very large number of compounds. Most of the compounds in crude oil are hydrocarbons, which are molecules made up of hydrogen and carbon atoms only.</p> <p>Most of the hydrocarbons in crude oil are hydrocarbons called alkanes. The general formula for the homologous series of alkanes is C_nH_{2n+2}</p> <p>The first four members of the alkanes are methane, ethane, propane and butane.</p> <p>Alkane molecules can be represented in the following forms: C_2H_6 or</p> <pre> H H H — C — C — H H H </pre>	146-149	150-152	75-77	2
<p>The many hydrocarbons in crude oil may be separated into fractions, each of which contains molecules with a similar number of carbon atoms, by fractional distillation.</p> <p>The fractions can be processed to produce fuels and feedstock for the petrochemical industry.</p> <p>Many of the fuels on which we depend for our modern lifestyle such as petrol, diesel oil, kerosene, heavy fuel oil and liquefied petroleum gases, are produced from crude oil.</p> <p>Many useful materials on which modern life depends are produced by the petrochemical industry, such as solvents, lubricants, polymers, detergents.</p>	146-149	150-152	75-77	2

The vast array of natural and synthetic carbon compounds occur due to the ability of carbon atoms to form families of similar compounds.				
Some properties of hydrocarbons depend on the size of their molecules, including boiling point, viscosity and flammability. These properties influence how hydrocarbons are used as fuels.	146-149	150-152	75-77	2
The combustion of hydrocarbon fuels releases energy. During combustion, the carbon and hydrogen in the fuels are oxidised. The complete combustion of a hydrocarbon produces carbon dioxide and water.				
Hydrocarbons can be broken down (cracked) to produce smaller, more useful molecules.	146-149	150-152	75-77	2
Cracking can be done by various methods including catalytic cracking and steam cracking.				
The products of cracking include alkanes and another type of hydrocarbon called alkenes.				
Alkenes are more reactive than alkanes and react with bromine water, which is used as a test for alkenes.				
There is a high demand for fuels with small molecules and so some of the products of cracking are useful as fuels.				
Alkenes are used to produce polymers and as starting materials for the production of many other chemicals.				