Crude oil

Addition polymerisation

Key term	Definition
Addition polymerisation	when many monomers with a C=C double bond join together to form a polymer; no other substance is produced in the reaction
Monomer	a small molecule that can react with many other small molecules to form a polymer
Non-biodegradable	not able to be broken down by living organisms in the natural environment
Polymer	a very large molecule made by joining together lots of small molecules
Repeat unit	a small part of a polymer which repeats to produce the complete polymer chain

Cracking

Key term	Definition
Catalyst	a substance that can speed up a reaction without being used up; it does this by lowering the activation energy for the reaction
Catalytic cracking	when larger hydrocarbons are broken down into smaller, more useful, molecules by passing the vapours over a catalyst such as aluminium oxide
Steam cracking	when larger hydrocarbons are broken down into smaller, more useful, molecules by mixing the vapours with steam and heating to very high temperatures

Fossil fuels

Key term	Definition
Finite resource	a useful substance or energy store that is non-renewable
Fossil fuel	a fuel formed over millions of years from the remains of dead plants and/or animals, for example crude oil
Non-renewable	when something is being used up at a faster rate than it can be replaced

Fractional distillation

Key term	Definition
Boiling point	the temperature at which a pure substance changes from a liquid to a gas or from a gas back to a liquid
Feedstock	a starting substance for an industrial process, such as making solvents or detergents

Fraction	a mixture of hydrocarbons with similar boiling points that condense together during fractional distillation of crude oil
Fractional distillation	a method of separation involving continuous evaporation and condensation that is used to separate a mixture of liquids with different boiling points
Fractionating tower	used in an oil refinery to carry out fractional distillation of crude oil by condensing the vapours at different levels which are cooler as you go higher up
Fuel	a substance that can transfer useful energy as heat when it is burned
Vapour	another word for a gas or mixture of gases

Properties of hydrocarbons

Key term	Definition
Alkane	a hydrocarbon with the general formula C_nH_{2n+2}, such as methane, ethane, propane and butane
Flammability	how easy it is to ignite a substance
Homologous series	a series of organic compounds with the same general formula, which react in a similar way, such as alkanes
Hydrocarbon	a compound that is made from the elements carbon and hydrogen only
Saturated hydrocarbon	a hydrocarbon with only single bonds between the carbon atoms, such as an alkane
Viscosity	how easily a liquid pours; more viscous liquids are thick and 'gloopy', whereas runny liquids have a low viscosity