

## SC22a Alkanes and alkenes

Word	Pronunciation	Meaning
<b>functional group</b>		An atom or group of atoms that are mainly responsible for a molecule's chemical properties.
<b>general formula</b>		The formula showing the proportions of different atoms in molecules of a homologous series. For example, alkenes have the general formula $C_nH_{2n}$ .
<b>homologous series</b>		A family of compounds that have the same general formula and similar properties, but have different numbers of carbon atoms.
<b>hydrocarbons</b>		A compound containing only carbon and hydrogen atoms.
<b>isomers</b>		Molecules with the same molecular formula but different arrangements of atoms.
<b>saturated</b>		A molecule that contains only single bonds between the carbon atoms in a chain.
<b>unsaturated</b>		A molecule that contains one or more double bonds between carbon atoms in a chain.

## SC22b Reactions of alkanes and alkenes

Word	Pronunciation	Meaning
<b>addition reaction</b>		A reaction in which reactants combine to form one larger product molecule and no other products.
<b>complete combustion</b>		Combustion of hydrocarbons with enough oxygen to convert all the fuel into carbon dioxide and water.
<b>incomplete combustion</b>		When a substance reacts only partially with oxygen, such as when carbon burns in air producing carbon dioxide, carbon monoxide and soot (unburnt carbon).
<b>oxidation</b>		A reaction in which oxygen is added to a chemical.

## SC23a Ethanol production

Word	Pronunciation	Meaning
<b>anaerobic respiration</b>	<i>an-air-O-bick</i>	A type of respiration that does not need oxygen.
<b>carbohydrate</b>	<i>car-bO-high-drate</i>	A group of compounds made of carbon, hydrogen and oxygen. Sugars and starch are examples of carbohydrates.
<b>distillate</b>		The liquid produced by condensing gases during distillation.
<b>enzyme</b>	<i>en-zyme</i>	A protein that can speed up some processes in living things (e.g. breaking down food molecules).
<b>fermentation</b>	<i>fer-ment-ay-shun</i>	Anaerobic respiration occurring in microorganisms.
<b>fraction</b>	<i>frak-shun</i>	A component of a mixture that has been separated by fractional distillation.
<b>fractional distillation</b>	<i>frak-shun-al diss-till-ay-shun</i>	A method of separating, or partially separating, mixtures of liquids into different fractions depending on their boiling points.
<b>starch</b>		Insoluble carbohydrate made up of long chain polymer molecules.
<b>sugar</b>		Soluble carbohydrate made up of small molecules, e.g. glucose (formula $C_6H_{12}O_6$ ).

## SC23b Alcohols

Word	Pronunciation	Meaning
<b>alcohols</b>		An homologous series of compounds that contain the –OH functional group.
<b>alkane</b>		A series of compounds containing carbon and hydrogen atoms only, in which all the covalent bonds between the carbon atoms are single.
<b>functional group</b>		An atom or group of atoms in a molecule that is mainly responsible for its chemical reactions and properties.
<b>homologous series</b>		A series of compounds that fit a general formula, have similar chemical properties, display a trend in physical properties and differ in structure by a number of –CH <sub>2</sub> – units.
<b>organic compound</b>		A compound that has a central framework of carbon atoms onto which hydrogen and other atoms are attached. Methane (CH <sub>4</sub> ) is organic but carbon dioxide is not (because it contains no hydrogen atoms).
<b>renewable source</b>		Source of raw materials that will not run out.

**SC23c Carboxylic acids**

Word	Pronunciation	Meaning
carboxylic acids		An homologous series of compounds that contain the $\text{-COOH}$ functional group.
ethanoic acid		The carboxylic acid that contains two carbon atoms and is the main acid in vinegar.
oxidation		A reaction in which oxygen atoms become bonded to a substance or a reaction in which electrons are lost by atoms or molecules.
oxidising agent		A substance that causes another substance to be oxidised in an oxidation reaction.

## SC24a Addition polymerisation

Word	Pronunciation	Meaning
<b>addition polymerisation</b>	<i>add-ish-un pol-im-er-l-say-shun</i>	A type of polymerisation in which the monomers add on to each other and no small molecules are eliminated.
<b>amino acids</b>		A group of compounds that are the monomers used to form proteins.
<b>monomer</b>	<i>mon-O-mer</i>	A small molecule used to make a polymer.
<b>naturally occurring polymer</b>		A substance that exists naturally as a polymer in plants, animals etc., such as DNA, starch and proteins.
<b>nucleotides</b>	<i>nuke-lee-O-tides</i>	The monomers that make up nucleic acids such as DNA.
<b>polymer</b>	<i>pol-e-mer</i>	A long-chain molecule made by joining many smaller molecules (monomers) together.
<b>polymerisation</b>	<i>pol-im-er-l-say-shun</i>	A reaction in which a large number of small molecules (monomers) join together to form a long chain molecule (polymer).
<b>protein</b>		A naturally occurring polymer made by joining large numbers of amino acids together.
<b>repeating unit</b>		The part of a polymer that can be repeated many times to form the polymer chain.
<b>saturated</b>		A molecule that contains only single bonds between the carbon atoms in a chain.
<b>starch</b>		A polymer carbohydrate that is made by the joining together of glucose molecules.
<b>sugars</b>		Soluble carbohydrate made up of small molecules, e.g. glucose formula $C_6H_{12}O_6$ .
<b>synthetic polymer</b>	<i>sin-thet-ick pol-e-mer</i>	A polymer that is manufactured in a laboratory or factory.
<b>unsaturated</b>		A molecule that contains one or more double bonds between carbon atoms in a chain.

## SC24c Condensation polymerisation

Word	Pronunciation	Meaning
<b>condensation polymerisation</b>		A reaction in which monomers join together to form a polymer and eliminate a small molecule, such as water.
<b>ester link</b>		This link is present in all polyester molecules. It consists of $-COO-$ .
<b>functional group</b>		An atom or group of atoms in a molecule that is mainly responsible for the molecule's chemical reactions and properties.
<b>polyester</b>	<i>pol-ee-est-er</i>	This is a polymer that contains large numbers of ester links.

## SC24d Problems with polymers

Word	Pronunciation	Meaning
<b>biodegradable</b>	<i>by-O-de-grade-ab-el</i>	A substance that can be broken down by microorganisms.
<b>cracked</b>		A chemical reaction in which large alkane molecules are split into two or more smaller alkanes and alkenes.
<b>finite resource</b>		Something useful that is no longer made or which is being made very slowly.
<b>fractional distillation</b>		A method of separating a mixture of liquids with different boiling points into individual components (fractions).
<b>incinerated</b>	<i>in-sin-er-ate-ed</i>	This occurs when a substance is burned.
<b>non-renewable</b>		Any energy resource that will run out because you cannot renew your supply of it, e.g. oil.