SC22a Alkanes and alkenes

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| Word | Pronunciation | Meaning |
| functional group |  | An atom or group of atoms that are mainly responsible for a molecule’s chemical properties. |
| general formula |  | The formula showing the proportions of different atoms in molecules of a homologous series. For example, alkenes have the general formula C*n*H2*n*. |
| homologous series |  | A family of compounds that have the same general formula and similar properties, but have different numbers of carbon atoms. |
| hydrocarbons |  | A compound containing only carbon and hydrogen atoms. |
| isomers |  | Molecules with the same molecular formula but different arrangements of atoms. |
| saturated |  | A molecule that contains only single bonds between the carbon atoms in a chain. |
| unsaturated |  | A molecule that contains one or more double bonds between carbon atoms in a chain. |

SC22b Reactions of alkanes and alkenes

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

SC23a Ethanol production

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| Word | Pronunciation | Meaning |
| anaerobic respiration | an-air-**O**-bick | A type of respiration that does not need oxygen. |
| carbohydrate | car-bO-**high**-drate | A group of compounds made of carbon, hydrogen and oxygen. Sugars and starch are examples of carbohydrates. |
| distillate |  | The liquid produced by condensing gases during distillation. |
| enzyme | **en**-zyme | A protein that can speed up some processes in living things (e.g. breaking down food molecules). |
| fermentation | fer-ment-**ay**-shun | Anaerobic respiration occurring in microorganisms. |
| fraction | **frak**-shun | A component of a mixture that has been separated by fractional distillation. |
| fractional distillation | **frak**-shun-al  diss-till-**ay**-shun | A method of separating, or partially separating, mixtures of liquids into different fractions depending on their boiling points. |
| starch |  | Insoluble carbohydrate made up of long chain polymer molecules. |
| sugar |  | Soluble carbohydrate made up of small molecules, e.g. glucose (formula C6H12O6). |

SC23b Alcohols

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| Word | Pronunciation | Meaning |
| alcohols |  | An homologous series of compounds that contain the –OH functional group. |
| alkane |  | A series of compounds containing carbon and hydrogen atoms only, in which all the covalent bonds between the carbon atoms are single. |
| functional group |  | An atom or group of atoms in a molecule that is mainly responsible for its chemical reactions and properties. |
| homologous series |  | A series of compoundsthat fit a general formula, have similar chemical properties, display a trend in physical properties and differ in structure by a number of –CH2– units. |
| organic compound |  | A compound that has a central framework of carbon atoms onto which hydrogen and other atoms are attached. Methane (CH4) is organic but carbon dioxide is not (because it contains no hydrogen atoms). |
| renewable source |  | Source of raw materials that will not run out. |

SC23c Carboxylic acids

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| Word | Pronunciation | Meaning |
| carboxylic acids |  | An homologous series of compounds that contain the  –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

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| Word | Pronunciation | Meaning |
| addition polymerisation | add-**ish**-un  pol-im-er-I-**say**-shun | A type of polymerisation in which the monomers add on to each other and no small molecules are eliminated. |
| amino acids |  | A group of compounds that are the monomers used to form proteins. |
| monomer | **mon**-O-mer | A small molecule used to make a polymer. |
| naturally occurring polymer |  | A substance that exists naturally as a polymer in plants, animals etc., such as DNA, starch and proteins. |
| nucleotides | **nuke**-lee-O-tides | The monomers that make up nucleic acids such as DNA. |
| polymer | **pol**-e-mer | A long-chain molecule made by joining many smaller molecules (monomers) together. |
| polymerisation | pol-im-er-I-**say**-shun | A reaction in which a large number of small molecules (monomers) join together to form a long chain molecule (polymer). |
| protein |  | A naturally occurring polymer made by joining large numbers of amino acids together. |
| repeating unit |  | The part of a polymer that can be repeated many times to form the polymer chain. |
| saturated |  | A molecule that contains only single bonds between the carbon atoms in a chain. |
| starch |  | A polymer carbohydrate that is made by the joining together of glucose molecules. |
| sugars |  | Soluble carbohydrate made up of small molecules, e.g. glucose formular C6H32O6. |
| synthetic polymer | sin-**thet**-ick **pol**-e-mer | A polymer that is manufactured in a laboratory or factory. |
| unsaturated |  | A molecule that contains one or more double bonds between carbon atoms in a chain. |

SC24c Condensation polymerisation

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

SC24d Problems with polymers

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