

SC22 Hydrocarbons

SC22a Alkanes and alkenes

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 th	State the names, formulae and structures of the first four members of the alkane homologous series.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Distinguish between saturated hydrocarbons and unsaturated hydrocarbons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	State the names, formulae and structures of the first four members of the alkene homologous series.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Define the term 'functional group' and describe the functional group in alkenes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	Describe the similarities and differences between butane, but-1-ene and but-2-ene.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SC22b Reactions of alkanes and alkenes

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 th	Describe what an 'addition reaction' is.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Describe the reaction of bromine with ethene and other alkenes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Recall how bromine water is used to distinguish between alkanes and alkenes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Explain how the bromine water test distinguishes between alkanes and alkenes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Recall the products of complete combustion of alkanes and alkenes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Explain why the products of the complete combustion of a hydrocarbon are carbon dioxide and water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SC23 Alcohols and Carboxylic Acids

SC23a Ethanol production

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 th	State the name and formula of the alcohol in alcoholic drinks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Describe how alcoholic drinks are made from carbohydrates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Write word equations for the formation of ethanol from carbohydrates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 9 th	Write balanced equations for the formation of ethanol from carbohydrates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	Explain how fractional distillation can be used to produce more concentrated alcohol solutions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SC23b Alcohols

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 th	State the names, formulae and structures of the first four members of the alcohol homologous series.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	State the functional group present in all alcohols.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Describe some chemical reactions of alcohols.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Explain why alcohols have similar chemical properties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Use the chemical properties of the first four alcohols to predict the properties of other alcohols.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SC23c Carboxylic acids

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 th	State the names, formulae and structures of the first four members of the carboxylic acid series.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Recall the functional group present in all carboxylic acids.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Recall that carboxylic acids can be formed by the oxidation of alcohols.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Describe some chemical properties of carboxylic acids.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Explain why carboxylic acids take part in similar chemical reactions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Use the properties of the first four carboxylic acids to predict the properties of other carboxylic acids.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SC24 Polymers

SC24a Addition polymerisation

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 th	Recall the meaning of the term polymer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Describe how ethene molecules join together to form poly(ethene).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Describe how alkenes undergo addition polymerisation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Recall that DNA is a polymer made from four different monomers called nucleotides.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Recall that starch is a polymer made from sugars.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Recall that proteins are polymers made from amino acids.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SC24b Polymer properties and uses

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 7 th	Describe how other addition polymers are formed from their monomers: poly(propene), poly(chloroethene) (PVC) and poly(tetrafluoroethene) (PTFE).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	Deduce the structure of a polymer from the structure of a monomer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	Deduce the structure of a monomer from the structure of a polymer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	Explain how the uses of a polymer are related to its properties and vice versa.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SC24c Condensation polymerisation

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 7 th	 Explain what is meant by a condensation reaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	 Draw the structure of a molecule with two carboxylic acid groups.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	 Draw the structure of a molecule with two alcohol groups.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	 Draw the structure of a polyester.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	 Explain how a molecule of water is formed each time an ester link is formed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SC24d Problems with polymers

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 th	State the starting material for most synthetic polymers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Describe the problems associated with the production and disposal of synthetic polymers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Describe some advantages of recycling polymers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Describe some disadvantages of recycling polymers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 10 th	Evaluate the advantages and disadvantages of recycling polymers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>