

Revision summary

Use the following summary of syllabus dot points and key knowledge within Module 7 to ensure that you have thoroughly reviewed the content. Provide a brief definition or comment for each item to demonstrate your understanding or code them using the traffic light system – green (all good); amber (needs some review); red (priority area to review). Alternatively, write a follow-up strategy.

Nomenclature	
Correctly name a series of alkanes of between 1 and 8 carbons.	
Correctly name a series of alkenes of between 1 and 8 carbons.	
Correctly name a series of alkynes of between 1 and 8 carbons.	
Correctly name a series of alcohols of between 1 and 8 carbons.	
Use structural formulae to distinguish between primary, secondary and tertiary alcohols.	
Correctly name a series of aldehydes of between 1 and 8 carbons.	
Correctly name a series of ketones of between 1 and 8 carbons.	
Correctly name a series of carboxylic acids of between 1 and 8 carbons.	
Correctly name a series of alkanamines of between 1 and 8 carbons.	
Correctly name a series of alkanamides of between 1 and 8 carbons.	
Correctly use prefixes to identify location, number and identity of different halogens in organic compounds.	»»

»	Define 'isomer'.	
	Use examples to demonstrate your understanding of the term 'chain isomers'.	
	Use examples to demonstrate your understanding of the term 'positional isomers'.	
	Use examples to demonstrate your understanding of the term 'functional group isomers'.	
Hydrocarbons		
	Draw the structural formulae for three members of the alkane homologous series.	
	Draw the structural formulae for three members of the alkene homologous series.	
	Draw the structural formulae for three members of the alkyne homologous series.	
	Relate the properties of alkanes to their structure and bonding.	
	Relate the properties of alkenes to their structure and bonding.	
	Relate the properties of alkynes to their structure and bonding.	
	Use diagrams to contrast the molecular shapes of the atoms around a central carbon atom for single-bonded, double-bonded and triple-bonded hydrocarbons.	
	Explain how the type of bonding within and between hydrocarbon molecules affects their chemical and physical properties.	»

»	Discuss the strategies needed to successfully handle and dispose of organic substances.	
	Discuss the impacts associated with the extraction and use of hydrocarbons from Earth's crust.	
Products of reactions involving hydrocarbons		
	Write a chemical equation, including organic structures, to show the addition of hydrogen to an unsaturated hydrocarbon.	
	Write a chemical equation, including organic structures, to show the addition of a halogen to an unsaturated hydrocarbon.	
	Write a chemical equation, including organic structures, to show the addition of a hydrogen halide to an unsaturated hydrocarbon.	
	Write a chemical equation, including organic structures, to show the addition of water to an unsaturated hydrocarbon.	
	Write a chemical equation, including organic structures, to show the substitution of a halogen for a hydrogen in a saturated hydrocarbon.	
	Relate the properties of alcohols to their structure.	
	Relate the properties of aldehydes to their structure.	
	Relate the properties of ketones to their structure.	
Alcohols		
	Use an example to demonstrate your understanding of a primary alcohol.	
	Use an example to demonstrate your understanding of a secondary alcohol.	
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»»	Use an example to demonstrate your understanding of a tertiary alcohol.	
	Explain how the type of bonding within and between alcohol molecules affects their chemical and physical properties.	
	Explain the term 'enthalpy of combustion'.	
	Describe an experiment you carried out to measure the enthalpy of combustion for an alcohol.	
	Discuss the potential sources of error in an experiment you carried out to measure the enthalpy of combustion for an alcohol.	
	Write a chemical equation, including organic structures, to show the complete and incomplete combustion of an alcohol.	
	Write a chemical equation, including organic structures, to show the dehydration of an alcohol.	
	Write a chemical equation, including organic structures, to show the substitution of a halogen atom for the hydroxyl group of an alcohol.	
	Write several chemical equations, including organic structures, to show how different alcohols can be oxidised.	
	Discuss several ways in which we can produce an alcohol.	
	Write a chemical equation, including organic structures, to show the production of an alcohol from a substitution reaction with a hydrogen halide.	
	Write a chemical equation, including organic structures, to show the production of an alcohol from a fermentation reaction.	»»

»	Contrast the products and conditions associated with the oxidation of primary and secondary alcohols.	
	Discuss the importance of biofuels as an alternative energy source.	
Reactions of organic acids and bases		
	Relate the properties of carboxylic acids to their structure.	
	Relate the properties of amines to their structure.	
	Relate the properties of amides to their structure.	
	Explain the trends in a named physical property for the carboxylic acids.	
	Explain the trends in a named physical property for the amines.	
	Explain the trends in a named physical property for the amides.	
	Discuss the procedure involved in synthesising a simple ester in the school laboratory.	
	Use an example to explain the acidic nature of an organic substance.	
	Use an example to explain the basic nature of an organic substance.	
	Describe the structure of soap.	
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»	Explain the cleaning action of soaps and detergents.	
	Construct a reaction pathways flow chart to summarise the chemical reactions you have covered in this module.	
Polymers		
	Use specific examples to contrast an addition polymer with a condensation polymer.	
	Relate the properties of polyethene to its most common uses.	
	Relate the properties of polyvinyl chloride to its most common uses.	
	Relate the properties of polystyrene to its most common uses.	
	Relate the properties of polytetrafluoroethene to its most common uses.	
	Relate the properties of polyester to its most common uses.	
	Relate the properties of nylon to its most common uses.	