

Grade Nine Guides

GCSE CHEMISTRY

Paper 2

Organic Chemistry

EXAM QUESTIONS

- Exam questions per topic

Aiming at grade 8/9



Answers in No Waffle GCSE videos :)

Organic chemistry	<ul style="list-style-type: none">➤ Suggest why polyethene in[a thermoforming polymer] is easier to recycle than thermosetting	
[2]	<ul style="list-style-type: none">➤ Polyesters are produced when monomers join together and lose a small molecule. Name the small molecule lost.	
	<ul style="list-style-type: none">➤ How can different polymers be produced from the same monomer	
[2]	<ul style="list-style-type: none">➤ What is HDPE more dense than LDPE	
[2]	<ul style="list-style-type: none">➤ Describe the test for double carbon carbon bond in alkene molecules	
[3]	<ul style="list-style-type: none">➤ Give a test to identify the metal in the chemical compound	
	<ul style="list-style-type: none">➤ What two conditions are needed for cracking	
	<ul style="list-style-type: none">➤ Explain how conditions for ethanol reaction [from Ethanol and	

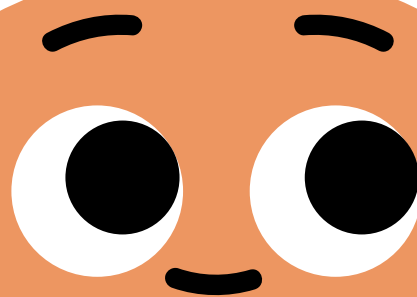
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	<p>steam]should be chosen as economically as possible</p> <p>[6]</p> <p>➤ $\text{CH}_3\text{COOH}(\text{aq}) \rightleftharpoons \text{CH}_3\text{COO}^-(\text{aq}) + \text{H}^+(\text{aq})$ Explain how the equation shows that ethanoic acid is a weak acid.</p> <p>[2 marks]</p> <p>➤ Compare ethane with ethene. You should refer to: • their structure and bonding • their reactions.</p> <p>[6 marks]</p>	<p>Structure and bonding</p> <ul style="list-style-type: none"> • both are hydrocarbons • both contain two carbon atoms (per molecule) • ethane contains six hydrogen atoms (per molecule) • (but) ethene contains four hydrogen atoms (per molecule) • both have covalent bonds • ethane contains a single C—C bond • (but) ethene contains a double bond • both contain C—H bonds • both small molecules <p>Reactions</p> <ul style="list-style-type: none"> • both react with oxygen in complete combustion reactions • to produce water and carbon dioxide • both react with oxygen in incomplete combustion reactions • to produce water, carbon monoxide and carbon • incomplete combustion is more likely with ethene • ethene decolourises bromine water • (but) ethane does not decolourise bromine water • ethene is more reactive (than ethane) • ethene can react with hydrogen (to produce ethane) • ethene can react with water (to produce ethanol) • ethene can react with halogens (to produce halogenoalkanes) • ethene can undergo addition reactions • ethene can polymerise (to produce poly(ethene))
	<p>➤ Describe how ethanol is produced from sugar solution. Give the name of this process.</p> <p>[3 marks]</p> <p>➤ Explain how carbon monoxide is produced when petrol is burned in car engines.</p> <p>[2]</p> <p>➤ Suggest two reasons why the maximum allowed percentage of carbon monoxide has been decreased for newer cars.</p> <p>[2]</p> <p>carbon monoxide has been decreased for newer cars.</p> <p>[2]</p> <p>➤ Give two effects of atmospheric pollution which are reduced by using catalytic converters. [2 marks]</p>	

	<p>➤ Explain how a catalyst speeds up a reaction:</p>	
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