

**AQA, OCR, Edexcel**

**GCSE Science**

# **GCSE Chemistry**

**Alkenes, Alcohols and  
Carboxylic Acids  
Questions**

**M M E**

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**Total Marks: /41**

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**Structure and formulae of alkenes**

Q1: What is an alkene?

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(2 marks)

Q2: What is the general formula for the homologous series of alkenes?

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(1 mark)

Q3: Describe why an alkene is unsaturated?

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(1 mark)

Q4: Complete the table with the names of the first four alkenes.

Member of homologous series	Alkene
1.	
2.	
3.	
4.	

(4 marks)

Q5: Draw a diagram of the alkene C<sub>4</sub>H<sub>8</sub>.

(2 marks)

**Reactions of alkenes**

Q6: What is the functional group of an alkene?

(1 mark)

Q7: Describe what the combustion reaction of alkenes looks like and why?

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(2 marks)

Q8: When alkenes react with hydrogen, water or the halogens, describe what happens to the double carbon to carbon bond?

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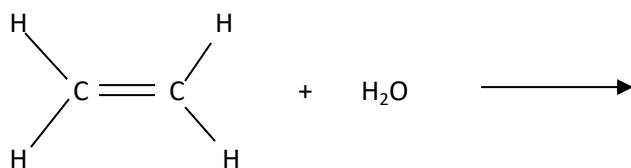
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(2 marks)

Q9: Complete the diagrams for this reaction.



(2 marks)

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### **Alcohols**

Q10: What is the alcohol functional group?

\_\_\_\_\_

(1 mark)

Q11: What are the first four members of the alcohol homologous series?

- 1.
- 2.
- 3.
- 4.

(4 marks)

Q12: Write the formula and draw the diagram for ethanol.

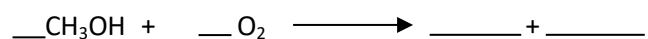
Formula: \_\_\_\_\_

Diagram:

(3 marks)

Q13: Complete these equations for the reaction of methanol with oxygen.

Complete combustion:



(4 marks)

Q14: Complete the word equation for ethanol and sodium.



(2 marks)

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Q15: How are aqueous solutions of ethanol produced?

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(2 marks)

***Carboxylic acids***

Q16: What is the functional group of carboxylic acids?

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(1 mark)

Q17: The formula for ethanoic acid is  $\text{CH}_3\text{COOH}$ . Draw a diagram of it below.

(2 marks)

Q18: Carboxylic acids have typical properties of acids; therefore when they react with carbonates what do they produce?

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(3 marks)

Q19: When carboxylic acids react with alcohols, what do they produce?

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(2 marks)