

Name ..... Class ..... Date .....

### The alkene family

#### Specification reference:

- C7.2.1 Structure and formulae of alkenes

#### Aims

This activity will help you to develop your understanding of the structure of alkenes, so that you can achieve the highest grade possible in your GCSE examinations.

#### Learning outcomes

After completing this activity, you should be able to:

- recall the names and formulae of alkene molecules
- draw the displayed formulae of alkene molecules.

#### Task

Answer the questions below.

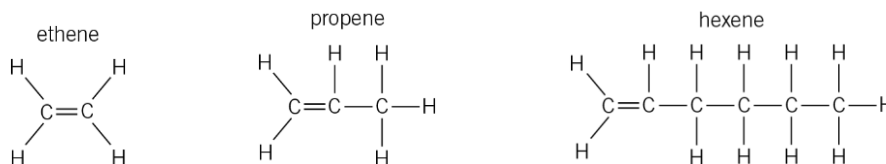


Figure 1

- 1 Alkanes are hydrocarbons. Are alkenes hydrocarbons as well? Justify your answer.

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(2 marks)

- 2 Write down the formula of hexene.

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(1 mark)

- 3 Look at the displayed formula of hexene in Figure 1.

Explain why the second carbon atom only has one hydrogen atom attached.

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(2 marks)

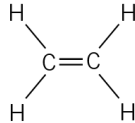
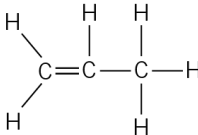
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4 Complete the table below.

The displayed formulae of some of these alkenes have been provided. You will have to work the rest out for yourself.

When drawing the displayed formulae, draw the carbon atoms first and then add the hydrogen atoms. In these simple alkenes, there is only one double bond and it always goes between the first and second carbon atoms.

Looking back at your work on alkanes will help you to name the alkenes.

Number of carbon atoms	Name of alkene	Displayed formula	Molecular formula
2	ethene		
3	propene		
4			
5			
6	hexene		
7			
8			

(7 marks)

5 The general formula for an alkene is  $C_nH_{2n}$ . Explain what this means.

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(1 mark)