

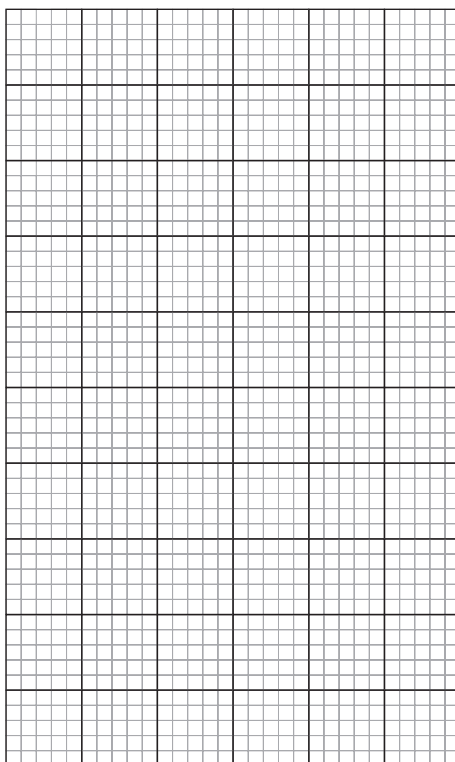
Worksheet 10.1

Alkanes

1 The table below shows information about some saturated hydrocarbons (alkanes).

Number of carbon atoms	Boiling point / °C
5	36
6	69
7	99
9	151
10	174

a Use these values to plot a graph of boiling point against number of carbon atoms.



b What happens to the boiling point as the number of carbon atoms increases?

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c Use your graph to predict the boiling point of octane.

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d In a laboratory experiment, a student collected three fractions from a sample of petroleum.

They boiled over the following ranges of temperature:

- A 50–90°C B 100–140°C C 150–200°C

Which of these could be used as petrol (gasoline)? Explain your answer.

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2 a What is an alkane?

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b Draw the structure of a molecule of butane.

c What are the products when any alkane burns in a plentiful supply of oxygen?

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d Write a balanced equation showing how butane burns in air.

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