AQA GCSE Combined Science - Trilogy | 8464

SPECIFICATION POINT 5.8.1.2

Formulations

Past-paper questions

Tier	**Foundation**
Question groups	**1**
Available paper years	**2018–2018**

Using this booklet

1. Answer the questions in order and show your working.
2. Original question numbers and marks are retained.
3. Print at actual size (100%) for measuring questions.
4. Use the companion answer booklet to check your work.

Name: _____ **Date:** _____

Whole questions are retained for context, so some parts assess other specification points. Current and legacy sources are labelled. Continue on extra paper if needed.

5.8.1.2 Formulations

Question 01

June 2018 | 8464/C/2F | Original Q4

0 4 . 1 What percentage of the Earth's atmosphere is nitrogen?

[1 mark]

Tick **one** box.

5% ☐ 20% ☐ 50% ☐ 80% ☐

0 4 . 2 During the first billion years of the Earth's existence the amount of nitrogen in the atmosphere increased.

Give **one** source of this nitrogen.

[1 mark]

_____

0 4 . 3 Nitrogen is used to make ammonia.

The word equation for the reaction is:

nitrogen + hydrogen _____ ammonia

Write the correct symbol in the equation to show that it is a reversible reaction.

[1 mark]

0 4 . 4 A reversible reaction can reach equilibrium.

Complete the sentence.

[1 mark]

Equilibrium is reached when the forward reaction and the reverse reaction happen at the same _____ .

0 4 . 5 Fertilisers are formulations containing nitrogen.

What is a formulation?

[1 mark]

_____

_____

5.8.1.2 Formulations

Question 01 · continued

0 4 . 6 **Table 4** shows percentages of chemical elements in a fertiliser.

Table 4

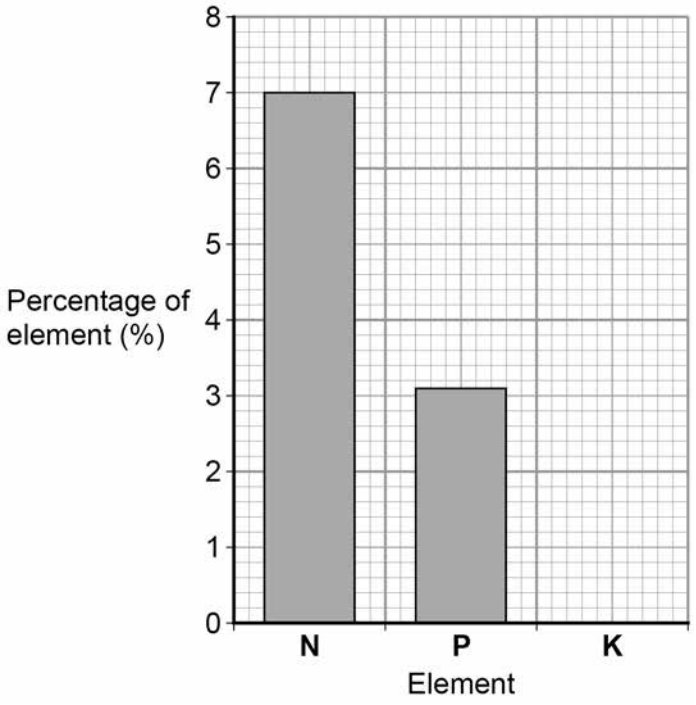
Element	Percentage (%)
Nitrogen (N)	7.0
Phosphorus (P)	3.1
Potassium (K)	5.8

Draw the bar for potassium on **Figure 8**

Use the information in **Table 4**

[1 mark]

Figure 8



5.8.1.2 Formulations

Question 01 · continued

0 4 . 7 A fertiliser contains 0.225 g of iron per 3.0 g of fertiliser.

Which calculation gives the percentage of iron in the fertiliser?

[1 mark]

Tick **one** box.

$\frac{0.225}{3.0 \times 100}$ ☐

$\frac{3.0 \times 100}{0.225}$ ☐

$\frac{0.225 \times 3.0}{100}$ ☐

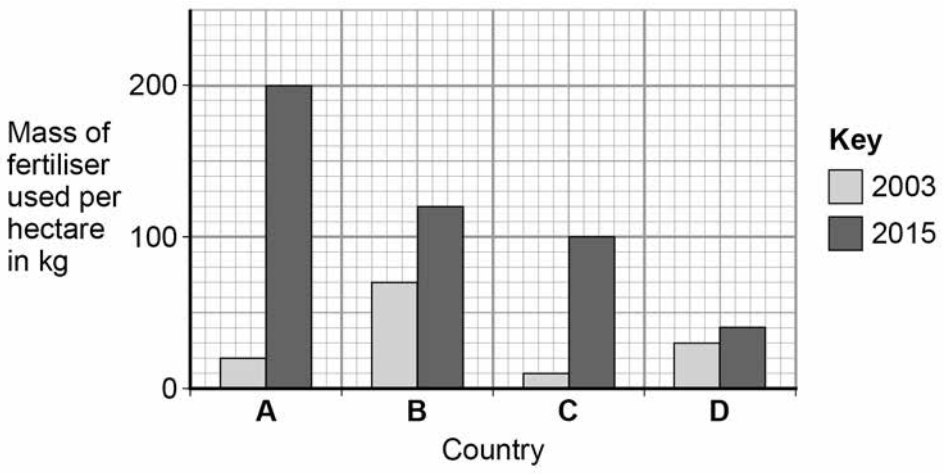
$\frac{0.225 \times 100}{3.0}$ ☐

5.8.1.2 Formulations

Question 01 · continued

0 4 . 8 **Figure 9** shows the use of fertiliser in four different countries, **A**, **B**, **C** and **D**, in 2003 and 2015

Figure 9



A student said:

'**much** more fertiliser was used in 2015 than in 2003'

Is the student correct?

Use data from **Figure 9** to justify your answer.

[3 marks]

10