



General Certificate of Secondary Education
2010–2011

Centre Number

71

Candidate Number

Science: Single Award (Modular)

Staying Alive

Module 1

Higher Tier

[GSC12]



WEDNESDAY 23 FEBRUARY 2011, MORNING

TIME

45 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Write your answers in the spaces provided in this question paper.
Answer **all six** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 45.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's
use only

Question Number	Marks
1	
2	
3	
4	
5	
6	

Total
Marks

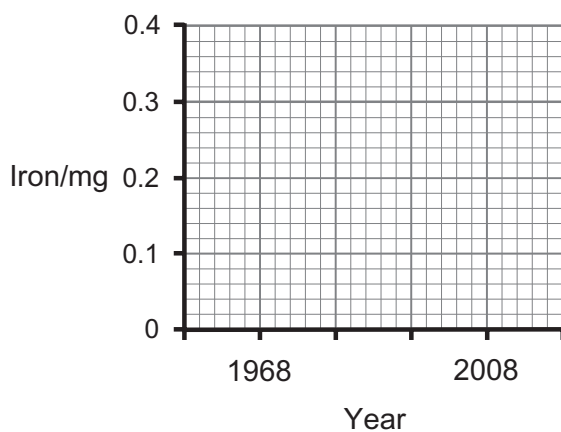
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- 3 According to some nutritionists, the mineral content of cheese is less today than it was forty years ago. The table below shows their analysis of two cheeses.

Mineral	Year	Cheddar	Mozzarella
Iron/mg	1968	0.21	0.24
	2008	0.10	0.07
Calcium/mg	1968	210	212
	2008	189	120

- (a) (i) Draw a bar chart on the grid below to show how the iron content of both cheeses has changed.



[3]

- (ii) Calculate the reduction in iron content for mozzarella cheese between 1968 and 2008.

_____ mg [1]

Examiner Only	
Marks	Remark

(b) (i) For each mineral suggest one way that a low intake may affect human health.

Iron _____ [1]

Calcium _____ [1]

The nutritionists who produced these results make and sell mineral supplements.

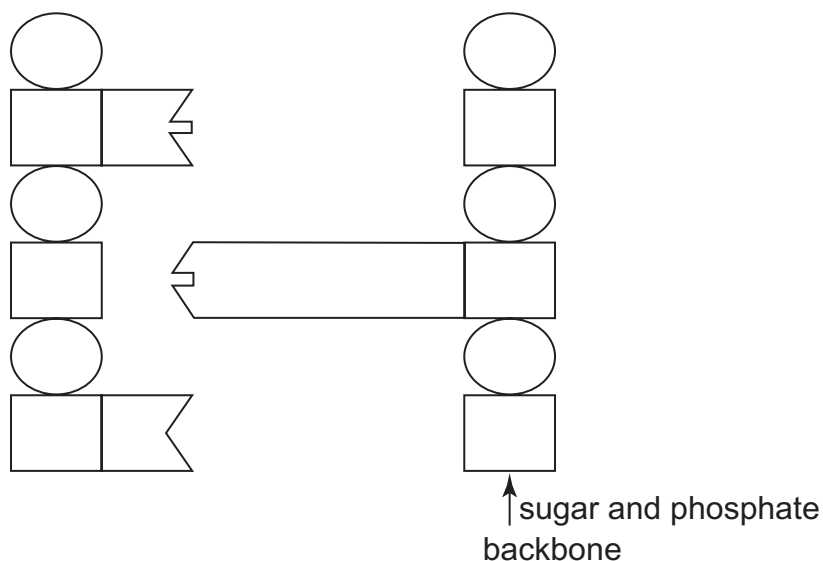
(ii) Explain why this might make you question their results.

_____ [2]

Examiner Only	
Marks	Remark

6 (a) Below is a partially completed diagram of the structure of DNA.

(i) Complete the diagram by drawing in the missing bases. [1]



(ii) How many different bases does your completed diagram show?

_____ [1]

(iii) State **one** fact that Watson and Crick discovered about these bases.

_____ [1]

(iv) Name **one** other scientist who researched the bases in DNA.

_____ [1]

(b) State how the **base triplet hypothesis** explains the link between the DNA code and the formation of proteins.

 _____ [3]

THIS IS THE END OF THE QUESTION PAPER

Examiner Only	
Marks	Remark

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