

GCSE Biology A (Gateway)

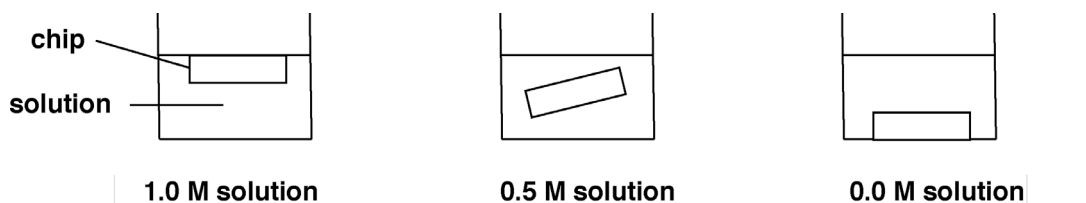
J247/03 B1-B3 and B7 Higher (Higher Tier)

Question Set 5

1

A student investigates how different concentrations of sucrose solutions affect potatoes.

- Three chips are cut from a potato.
- Each chip is 5.0 cm long.
- Each chip is left in a different concentration of sucrose solution for two hours.



These are the results.

Concentration of sucrose solution	Length of potato chip	
	Start (cm)	After two hours (cm)
1.0 M	5.0	4.5
0.5 M	5.0	5.0
0.0 M	5.0	5.5

(a) Explain why the length of the chip increases in the **0.0 M solution**.

[2]

(b) Explain why the length of the chip stays the same in the **0.5 M solution**.

[2]

(c) (i) Calculate the percentage change in the length of the chip in the **1.0 M solution**.

[2]

(ii) In experiments like this, what is the advantage of calculating percentage change, rather than just the actual change?

[1]

- (d) (i) Measuring the length of the chips is a quick and easy way to get results. However, it does **not** measure the total change to the chips.

Explain why.

[1]

- (ii) What could the students measure to see the total change to the chips?

[1]

Total Marks for Question Set 5: 9

OCR

Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge