

GCSE Physics A (Gateway)

J249/03 Physics A P1-P4 and P9 (Higher Tier)

Question Set 9

1

A student puts an ice cube into a beaker. The mass of the ice cube is 40 g.

The ice cube melts.

- (a) (i) Write down the mass of the water produced.

Mass= g

[1]

- (ii) Explain your answer to (a)(i).

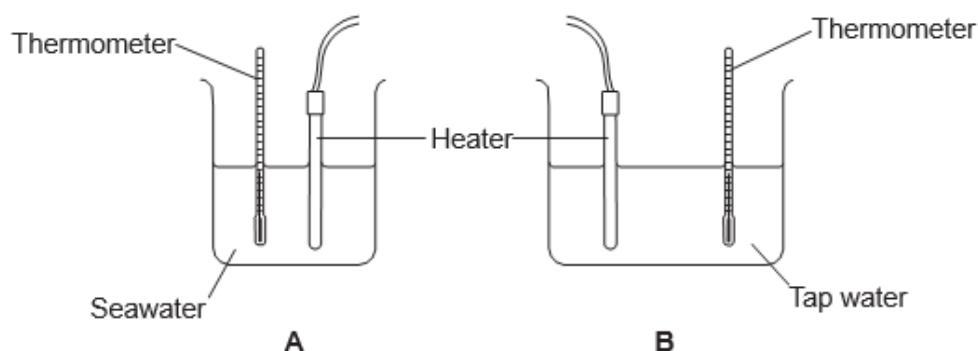
[2]

- (b) Describe **one** difference between a **physical change** and a **chemical change**.

[1]

- (c) A student does an experiment to find the difference between the specific heat capacities of seawater and tap water.

The student places a heater and a thermometer into two beakers, **A** and **B**. Look at the diagram.



- (i) There are 5 steps to the method for this experiment.

Complete the missing steps for this method.

Step 1 – Put seawater into beaker **A** and tap water into beaker **B**.

Step 2 –

Step 3 –

Step 4 –

Step 5 – Calculate the temperature change of beaker **A** and beaker **B**.

[3]

- (ii) Suggest **one** mistake the student made when choosing their equipment.

[1]

Suggest **two** improvements to the method followed

1

2

[2]

Total Marks for Question Set 9: 10

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