UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

5657921613

Biology **0610/53**

Paper 5 Practical Test **October/November 2010**

1 hour 15 minutes

Candidates answer on the Question Paper

Additional Materials: As listed in Instructions to Supervisors

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a medium (HB) pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **both** questions.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

For Examiner's Use	
1	
2	
Total	

This document consists of **8** printed pages.

© UCLES 2010

For Examiner's Use

1 Three similar pieces of apple labelled **W1**, **W2** and **W3** have been stored for different lengths of time.

(a) (i) In Table 1.1, describe the appearance and the texture of each piece of apple.

Table 1.1

	W1	W2	W3
appearance			
texture			

[3]

(ii) Suggest which piece of apple, **W1**, **W2** or **W3**, has been stored for the longest time. Explain your choice.

.....

..... [1]

Chemical changes occur in apples during storage.

(b) (i) Describe how you could safely test the pieces of apple for starch and reducing sugar.

.....

.....

.....

.....

.....

..... [4]

© UCLES 2010

For Examiner's Use

(ii) Carry out these tests safely on samples of **W1**, **W2** and **W3**.

If you require hot water, raise your hand and it will be brought to you.

Record your observations in Table 1.2.

Table 1.2

test	observations		
	W1	**W2**	**W3**
starch			
reducing sugar			

[5]

(iii) What can you deduce about the effect of storage time on the starch and reducing sugar content of the pieces of apple, **W1**, **W2** and **W3**?

.....

.....

.....

.....

.....

..... [3]

In a different investigation, some apples were stored for 10 days. The apples were weighed at intervals and the results recorded in Table 1.3.

For Examiner's Use

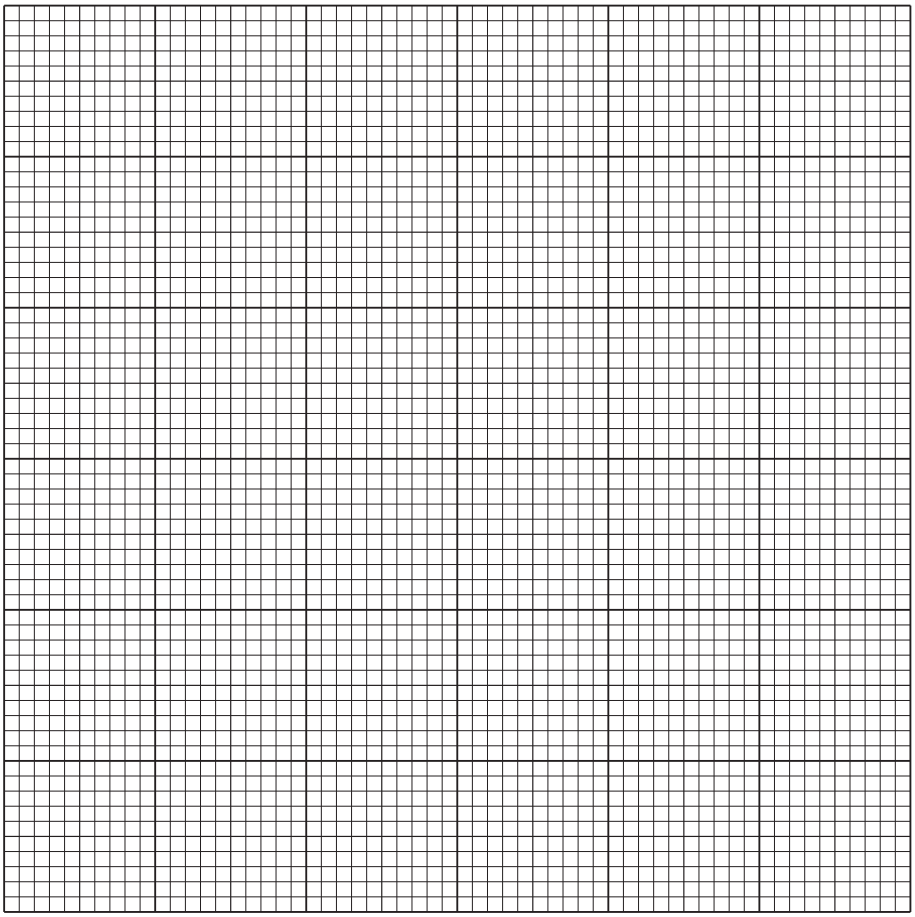
Table 1.3

time / days	mass of apples / g	total loss in mass / g
0	730.0	0
2	719.9	10.1
4	694.5	35.5
6	663.7	
8	636.5	
10	620.5	

(c) (i) Complete Table 1.3, by calculating the total loss in mass of apples stored for 6, 8 and 10 days.

[1]

(ii) Plot the total loss in mass of apples against time.



[4]

For Examiner's Use

(iii) Suggest **one** process that would cause the loss in mass of apples.

.....

[1]

(iv) Suggest how apples might be stored to prevent loss of mass.

.....

.....

.....

.....

.....

.....

[3]

[Total: 25]

For Examiner's Use

2 **W4** is the shell of an animal that lives in water. The shell consists of two parts.

(a) Make a large, labelled drawing of **W4** to show the external features of both parts of the shell.

[4]

(b) Suggest and explain **one** way in which the shell is an adaptation to the habitat of this animal.

.....

.....

.....

..... [2]

Fig. 2.1 shows the shell of a different animal belonging to the same group.

For Examiner's Use

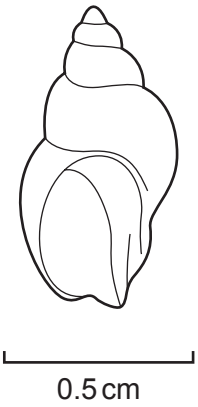


Fig. 2.1

(c) (i) The animals that have the shell **W4** and the shell shown in Fig. 2.1 belong to the same group. Name this group.

..... [1]

(ii) Calculate the actual length of the shell shown in Fig. 2.1.

Show your working.

Write the answer to the nearest 0.1 mm.

Answer ..... mm [3]

Question 2 continues on page 8

For Examiner's Use

Hydrogencarbonate indicator solution is red.

The indicator changes colour when the pH changes.

In acid conditions it goes yellow.

In alkaline conditions it goes purple.

Two test-tubes containing hydrogencarbonate indicator solution were set up.
One test-tube, labelled **A**, contained a small animal.
The other test-tube, labelled **P**, contained a piece of water plant.
Both tubes were kept in the light for two hours.
The animal and the piece of water plant were then removed.

(d) Describe the colour in each test-tube and explain the change from red.

colour of indicator in test-tube **A** (contained an animal) .....

explanation, ...

.....

.....

colour of indicator in test-tube **P** (contained a plant) .....

explanation. .....

.....

.....

..... [5]

[Total:15]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations 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.