Centre Number	Candidate Number	Name

CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

BIOLOGY **0610/05**

Paper 5 Practical Test

October/November 2003

1 hour

Candidates answer on the Question Paper.
No additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces provided at the top of this page.
Write in dark blue or black pen in the spaces provided on the Question Paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **both** questions.
The number of marks is given in brackets [ ] at the end of each question or part question.

If you have been given a label, look at the details. If any details are incorrect or missing, please fill in your correct details in the space given at the top of this page.

Stick your personal label here, if provided.

FOR EXAMINER'S USE	
1	
2	
TOTAL	

This document consists of **7** printed pages and a Supervisor's Report.

SP (SC/SLC) S53320/6

University of Cambridge
Local Examinations Syndicate

[Turn over

1 Introduction

Warm-blooded animals need to maintain a constant internal temperature.

In cold weather some of these animals crowd closely together in a group.

To investigate the advantages of crowding together in such a group you will investigate the drop in temperature of hot water in a test-tube.

- Test-tube **A** will be used to represent a single animal as shown in Fig. 1.1.
- Test-tube **B** will be used to represent part of a crowded group of animals using 7 tubes as shown in Fig. 1.2.

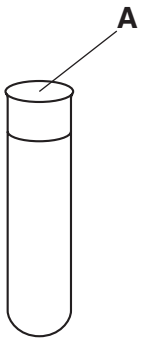


Fig. 1.1

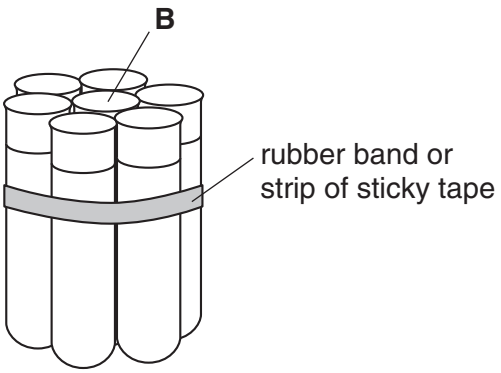


Fig. 1.2

Read the whole question before you begin the experiment.

(a) Prepare a results table to record your readings, which should include the starting temperature and five readings taken at two minute intervals for the single test-tube, **A**, and the central one, **B**, in the group.

Results Table

[5]

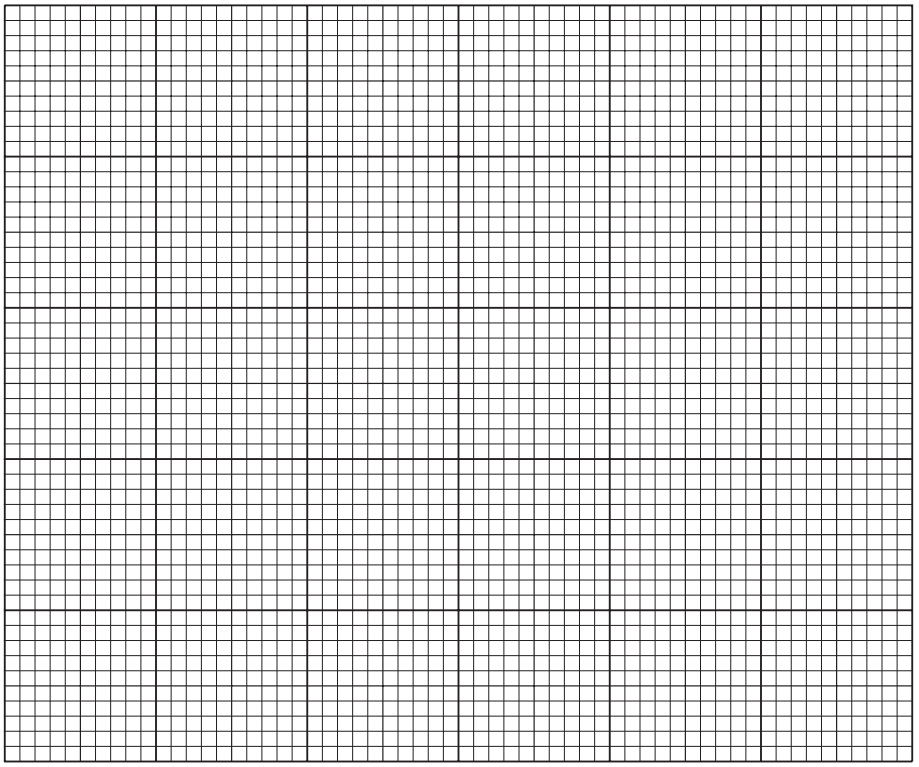
Support the tubes in two containers.

Indicate to your Supervisor, by raising your hand, when you are ready to fill the test-tubes.

Quickly fill **all** of the test-tubes with the same depth of hot water. Test-tubes should be filled to within 2 cm of the top.

As soon as the water is in the test-tubes, start the clock or record the time. Use thermometers and record the temperature in tubes **A** and **B** at the start and every two minutes until 10 minutes have passed.

(b) Plot a graph of the results to show clearly the difference between the two sets of data.



[5]

(c) **(i)** Describe the results of tube **A**.

.....

.....[2]

(ii) Describe the differences between the results for tube **A** and those for tube **B**.

.....

.....

.....[2]

(iii) Explain how the results shown in the graph show the effects of crowding together of animals in cold conditions.

.....

.....[2]

(iv) Suggest and explain two ways you could extend the investigation if you had more time.

1 .....

.....

.....

2 .....

.....

.....[4]

[Total : 20]

2 You are provided with an insect, labelled **W1**.

(a) (i) Make a simple, outline drawing of **W1** to show the features that enable this animal to be classified as an insect. Label clearly **three** of these insect features. Details of the legs are **not** required.

[6]

(ii) Measure the length of the insect and the length of your drawing. Draw a line on your drawing to show the length you have measured. Calculate the magnification of your drawing.

length of insect .....

length of drawing .....

magnification .....[3]

[Turn over

(b) One method of catching insects, such as ground-living beetles, is to use a pit-fall trap. A tin or alternative container is sunk into the ground so the rim is level with the soil surface as shown in Fig. 2.1.

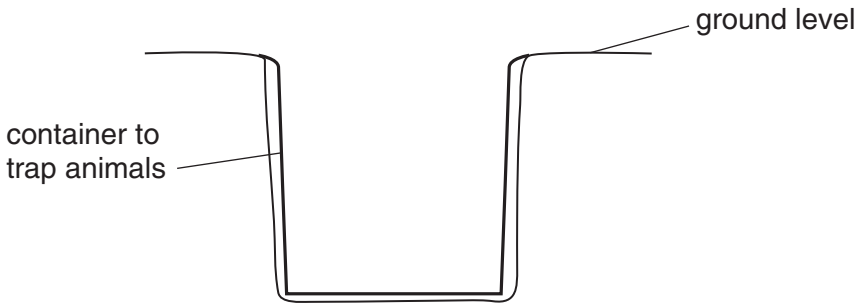


Fig. 2.1

Suggest and explain briefly **two** precautions you might take or improvements you might make when catching insects, such as ground-living beetles, using pit-fall traps.

.....

.....

.....

.....

.....

.....[4]

(c) You are provided with another insect labelled **W2**.

(i) Look carefully at the heads of the two insects **W1** and **W2**.
Describe the mouthparts of each insect.

W1 .....

W2 .....[2]

Suggest how each insect might obtain its food.

W1 .....

W2 .....[2]

(ii) Describe three other visible differences between the two insects.

1 .....

.....

2 .....

.....

3 .....

.....[3]

[Total : 20]

SUPERVISOR'S REPORT

**The Supervisor or Teacher responsible for the subject is asked to answer the following questions.*

1 Was any difficulty experienced in providing the necessary material? If so, give brief details.

2 Did the candidate experience any difficulty during the examination as a result of faulty material? If so, give brief details.

3 Did the candidate suffer any accidents with apparatus or materials? If so, give brief details.

4 Please state any other information that is likely to assist the Examiner, especially if this cannot readily be discovered from the answers.

5 Please identify **W1** and **W2**.

W1 .....

W2 .....

Declaration (to be signed by the Principal, and completed on the top script from the Centre)

The preparation of the practical examination has been carried out so as fully to maintain the security of the examination.

Signed .....

Name (in block capitals) .....

***Information that applies to all candidates need be given only once.**

N.B. If scripts are required by CIE to be despatched in more than one envelope, it is essential that a copy of the relevant Supervisor's Results (when requested), the Supervisor's Report and the appropriate seating plan are sent inside **each envelope**