



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE
NAME

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NUMBER

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BIOLOGY

0610/63

Paper 6 Alternative to Practical

October/November 2010

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 on all the work you hand in.

Write in dark blue or black pen.

You may use a pencil for any diagrams or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer **all** 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 | |
| 3 | |
| Total | |

This document consists of **9** printed pages and **3** blank pages.



- 1 Bread can be prepared from a mixture of flour, yeast, sugar and water. The resulting mixture is called dough. Some bakers add a flour improver to make the dough rise quickly.

An investigation was carried out to compare two types of dough, one of which contained a flour improver and the other did not.

Dough **A** was prepared without a flour improver and dough **B** with a flour improver.

Fig. 1.1 shows the dough in two measuring cylinders after 20 minutes.

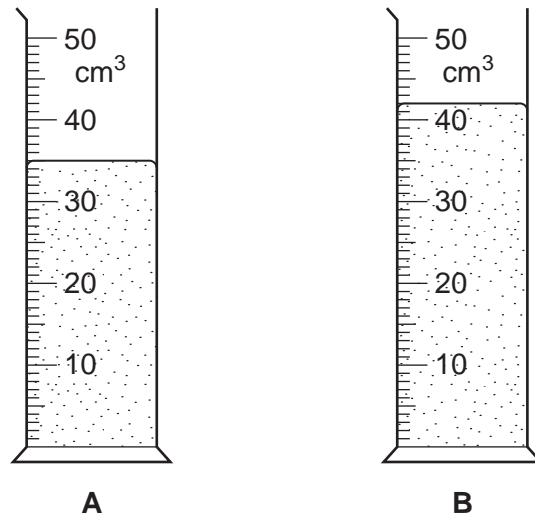


Fig. 1.1

- (a) (i) Measure the volumes of dough **A** and dough **B** in the measuring cylinders shown in Fig.1.1. Record your measurements in Table 1.1.

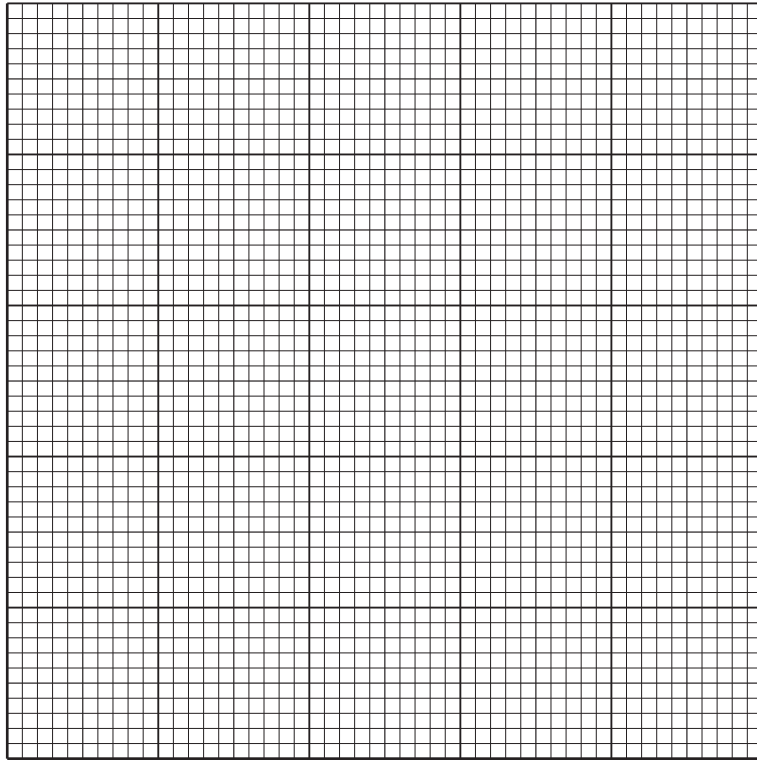
Table 1.1

| time / minutes | volume of dough A / cm ³ | volume of dough B / cm ³ |
|----------------|--|--|
| 0 | 20 | 18 |
| 10 | 27 | 32 |
| 20 | | |
| 30 | 44 | 50 |
| 40 | 50 | 63 |

[2]

(ii) Plot the data in Table 1.1 to show the volumes of dough A and dough B against time. Plot the data for A and B on the same pair of axes.

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[5]

(iii) Describe the results.

.....
.....
.....
..... [3]

(iv) Suggest how you would carry out this investigation to obtain reliable results.

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.....
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.....
.....
..... [4]

Yeast plays an important part in making some types of bread.

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(b) Explain how yeast makes the dough rise.

.....
.....
.....
..... [2]

Fig. 1.2 shows some yeast cells dividing.



Fig. 1.2

(c) (i) Name the type of reproduction shown by these cells.

..... [1]

(ii) Measure the length of yeast cell X in Fig. 1.2.

Draw a line on Fig. 1.2 to show where you have made your measurement.

length of yeast cell X in Fig. 1.2 mm [1]

(iii) Calculate the actual length of yeast cell X.

Show your working.

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actual length of yeast cell X mm [2]

[Total: 20]

2 Fig. 2.1 shows one complete leaf from a pea plant made of a number of smaller leaflets.



Fig. 2.1

(a) (i) Make a large, labelled drawing of the leaf.

[4]

(ii) Describe how the leaflets in Fig. 2.1 are modified for different functions.

.....

.....

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.....

.....

.....

.....

[3]

(b) (i) State **three** environmental conditions needed for germination of seeds.

.....
..... [1]

(ii) Describe how you would grow germinated pea seeds until they produce flowers.

.....
.....
.....
.....
.....
..... [3]

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Table 2.1 shows the measurements of height of some pea plants in a garden at the time of flowering.

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Table 2.1

| height of plants / cm |
|---|
| 38.0; 11.0; 58.0; 64.0; 61.0; 45.5; 12.5; 16.0; 56.0; 43.5; 36.5; 18.2; |
| 18.6; 48.0; 50.0; 63.0; 37.0; 44.6; 15.0; 13.6; 55.0; 60.9; 11.7; 19.0 |

(c) What can you conclude about the height of these pea plants from the data in Table 2.1?

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.....

.....

..... [4]

[Total: 15]

3 Fig. 3.1 shows three animals belonging to different groups.

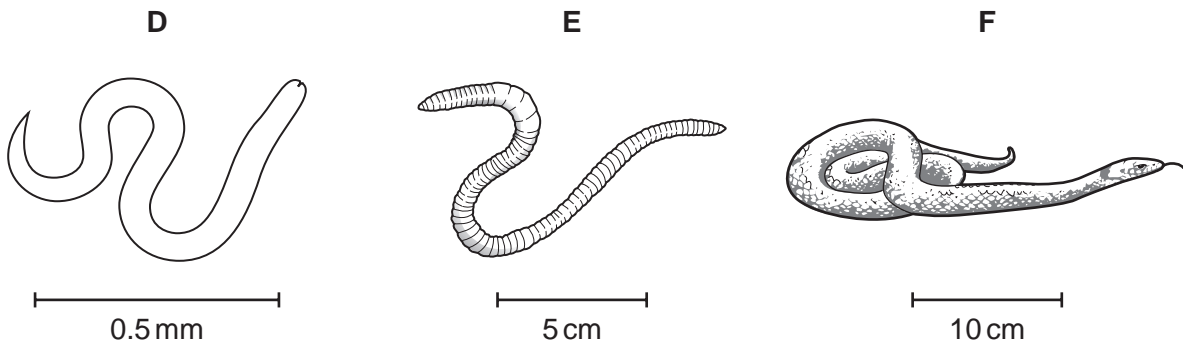


Fig. 3.1

In Table 3.1, name the group to which these animals, **D**, **E** and **F**, belong and give your reasons based on external features **visible in Fig. 3.1** only. **D** has been identified for you.

Table 3.1

| | animal group | reasons |
|----------|--------------|-------------------------|
| D | nematode | |
| E | | |
| F | | |

[5]

[Total : 5]

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