UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME	

CENTRE NUMBER					CANDIDATE NUMBER				

BIOLOGY **0610/53**

Paper 5 Practical Test **May/June 2010**

1 hour 15 minutes

Candidates answer on the Question Paper.

Additional Materials: As listed in Confidential Instructions.

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 **10** printed pages and **2** blank pages.

UNIVERSITY of CAMBRIDGE
International Examinations

[Turn over

1   A herbivore is an animal that gets its energy by eating plants.
     A carnivore is an animal that gets its energy by eating other animals.

     Fig. 1.1 shows the skulls with teeth of a sheep and of a dog.

sheep

dog

Fig. 1.1

(a) (i) Describe **one** similarity, related to nutrition, that you can observe betwe~~en the~~ teeth of the two skulls.

....

.... [1]

(ii) Complete Table 1.1. to give two differences, related to nutrition, that you can observe between the teeth of the two skulls.

Table 1.1

	sheep	dog
difference 1		
difference 2		

[2]

For
iner's

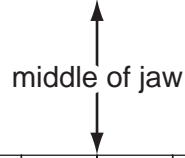**(b) (i)** Using the mirror provided, view your teeth.

Complete the Table 1.2 to show which type of teeth you have present. Write
letter in each box to show the type of tooth, using the following letters to identify
your teeth:

C   =   canine
I   =   incisor
M   =   molar
P   =   premolar
X   =   no tooth present

Table 1.2

teeth of upper jaw

middle of jaw

teeth of lower jaw

[2]

(ii) Describe two ways in which your teeth differ from the teeth of the dog shown in
Fig. 1.1.

....

....

....

.... [2]

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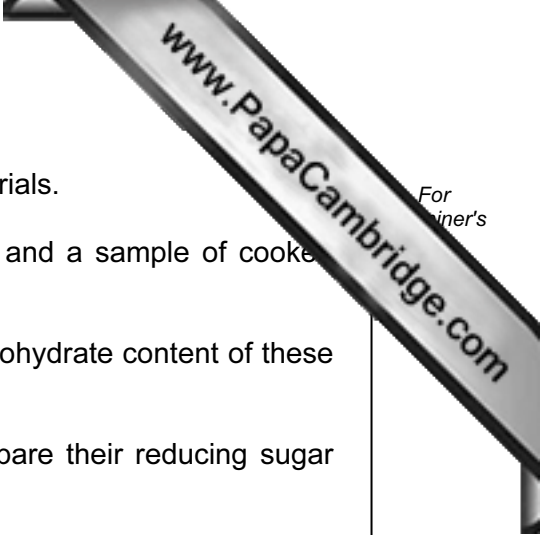
Much of the food that we eat is cooked. This softens the materials.

You are provided with a sample of raw leaves, labelled **S1** and a sample of cooke
leaves of the same species, labelled **S2.**

You are going to investigate the effect of cooking on the carbohydrate content of these leaves.

(c) (i) Describe how you would safely test **S1** and **S2** to compare their reducing sugar content.

....

....

....

....

....

....

.... [5]

(ii) Describe how you would test **S1** and **S2** to compare their starch content.

....

....

.... [2]

(iii) Carry out these tests on **S1** and **S2** and record your observations in Table 1.

Table 1.3

	S1	**S1**
reducing sugar	…………………………… ……………………………	…………………………… ……………………………
starch	……………………………	…………………………

[4]

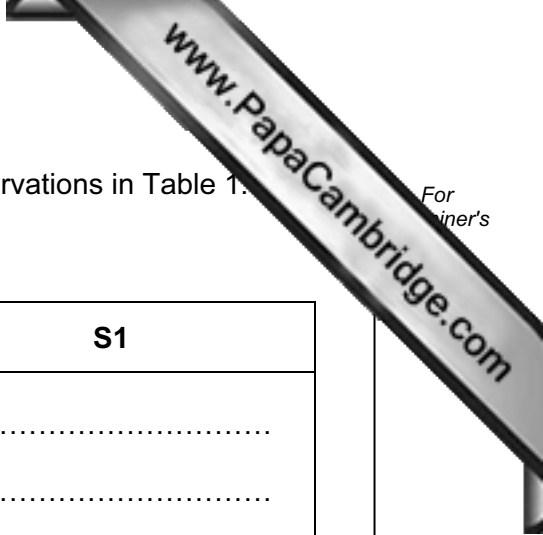**(iv)** What do your results indicate about the effect of cooking on the carbohydrate content of these leaves?

....

....

....

.... [2]

(v) Suggest an explanation for the results you obtained.

....

....

.... [1]

[Total: 21]
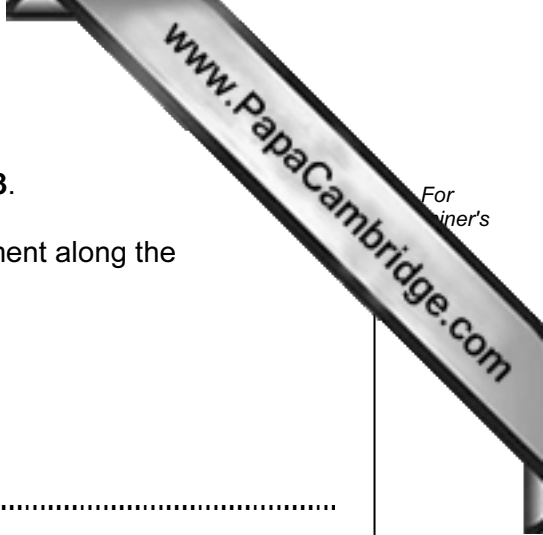
2 You are provided with ten leaves attached to a branch, labelled **S3**.

The leaves vary in size as they are at different stages of development along the branch.

Lay the branch flat on the bench.

(a) (i) Describe the arrangement of the leaves on the branch.

....

....

.... [2]

(ii) Make a large, labelled drawing of the lower surface of the largest leaf while still attached to the branch.
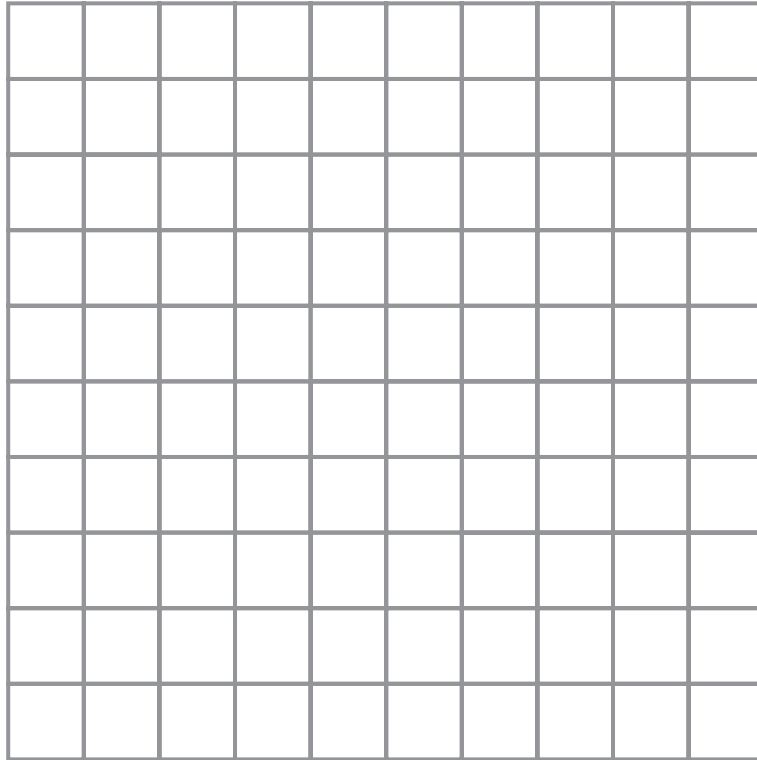
[4]

For
iner's

(iii) Measure the size of the grid squares**.**

Remove the leaf you have drawn and lay it flat on the printed grid below.

Draw the outline of the leaf and calculate the leaf area of this leaf.

Show your working.

Space for working

leaf area .... [2]

For
iner's

(b) Detach the leaf at one end of the branch.

(i) Measure the length of the blade of this leaf in mm and record it in Table 2.1. If th
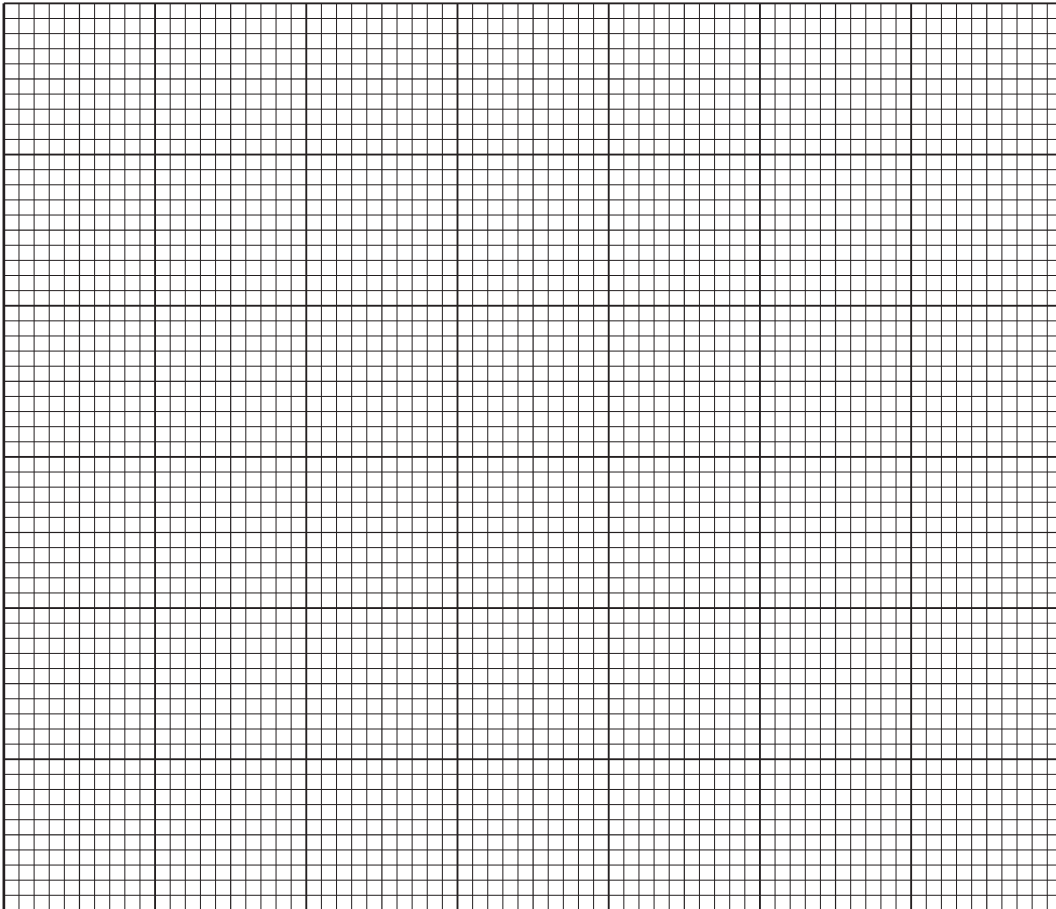leaf has a leaf stalk, do **not** include this in the measurement.

Repeat for all the remaining leaves on the branch, in order, including the leaf you
measured in **(a)(iii)**.

Table 2.1

Leaf number from end of branch	Length of leaf blade / mm
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

[3]

For
iner's

(ii) Plot the data to show the relationship between the position of the leaf on the branch and the length of leaf blade.

[5]

(iii) Using your graph, describe the relationship between the position of the leaf on the branch and the length of leaf blade.

....

....

....

.... [3]

[Total: 19]

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