



Centre Number

71

Candidate Number

General Certificate of Secondary Education  
2010

## Science: Double Award (Modular)

Paper 1  
Foundation Tier

[G8201]



FRIDAY 21 MAY, MORNING

### TIME

1 hour.

### INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.  
Answer **all four** questions.

### INFORMATION FOR CANDIDATES

The total mark for this paper is 80.

Quality of written communication will be assessed in question **3(d)**.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Details of calculations should be shown.

Units must be stated in numerical answers where appropriate.

For Examiner's  
use only

Question Number	Marks
1	
2	
3	
4	

Total  
Marks

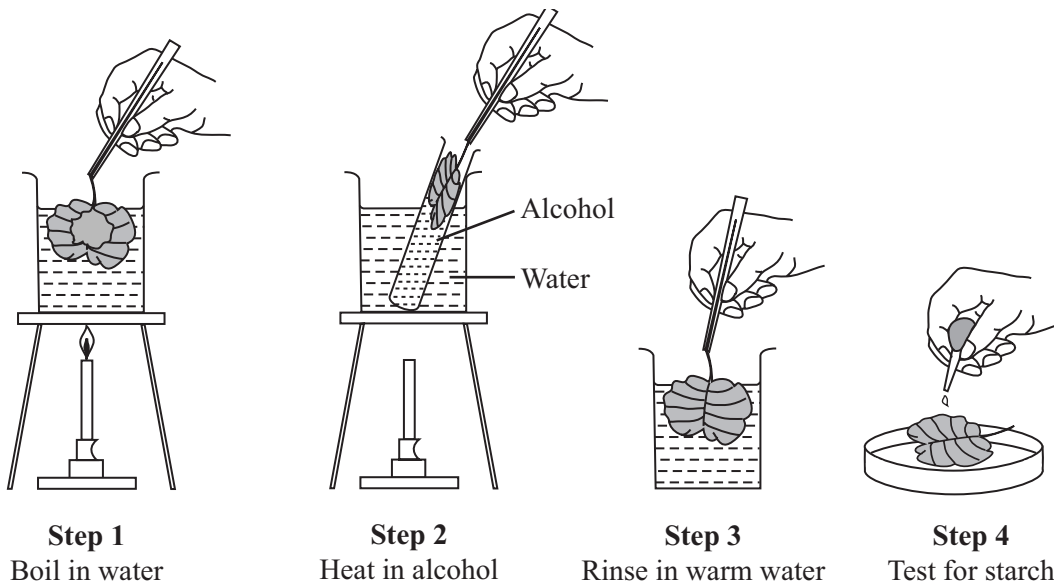
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The diagrams show the stages in the starch test on the leaves from the plant.

Examiner Only	
Marks	Remark



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(ii) What is the purpose of

Step 2 \_\_\_\_\_

Step 3? \_\_\_\_\_ [2]

(iii) Why is the Bunsen burner turned off before Step 2?

\_\_\_\_\_ [1]

(iv) In Step 4, iodine solution is added to the leaves to test for starch.

What colour would you expect to obtain when iodine is added to the leaf from

Flask 1 \_\_\_\_\_

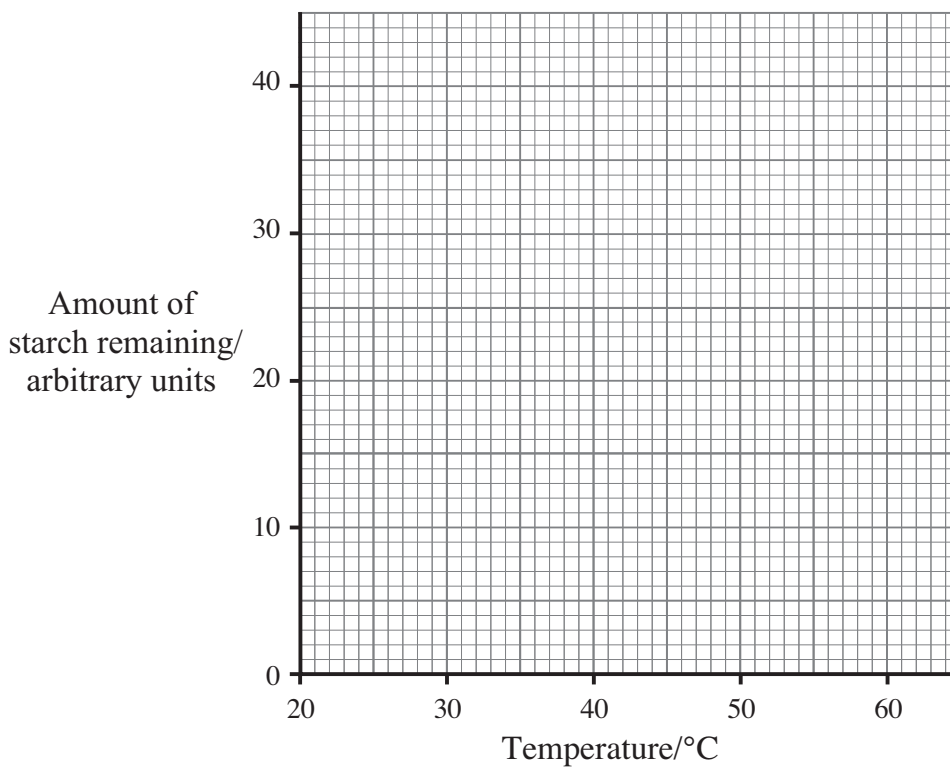
Flask 2? \_\_\_\_\_ [2]

- (c) The enzyme amylase breaks down starch. John carried out an experiment with amylase to see how much starch remained after 15 minutes at different temperatures.

The table gives his results.

Temperature/°C	Amount of starch remaining/ arbitrary units after 15 minutes
20	30
30	16
40	10
50	25
60	35

- (i) Draw a line graph of the results.

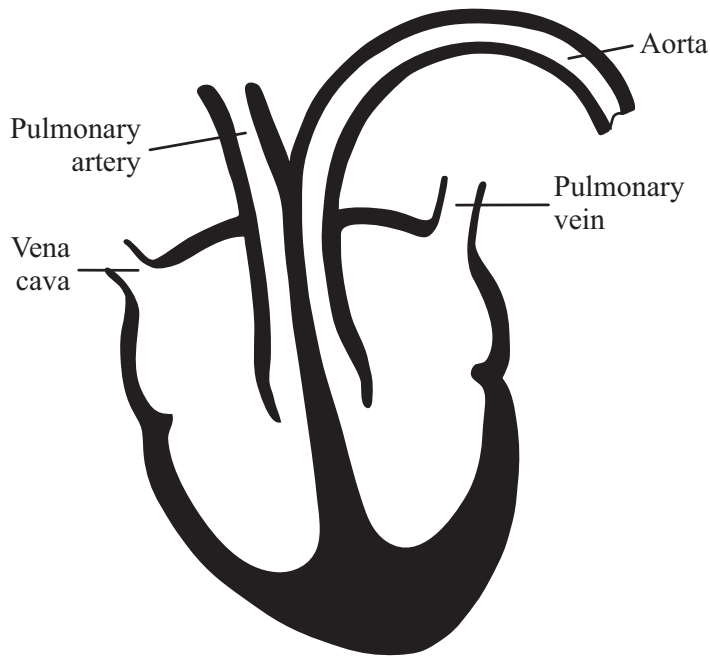


[3]

Examiner Only	
Marks	Remark



(f) The diagram shows a cross section of the heart and its blood vessels.



Use the diagram to help answer the following questions.

(i) Name the blood vessel that carries blood from the heart to the lungs.

\_\_\_\_\_ [1]

(ii) Which **two** blood vessels shown carry oxygenated blood?

\_\_\_\_\_ and \_\_\_\_\_ [2]

Examiner Only	
Marks	Remark

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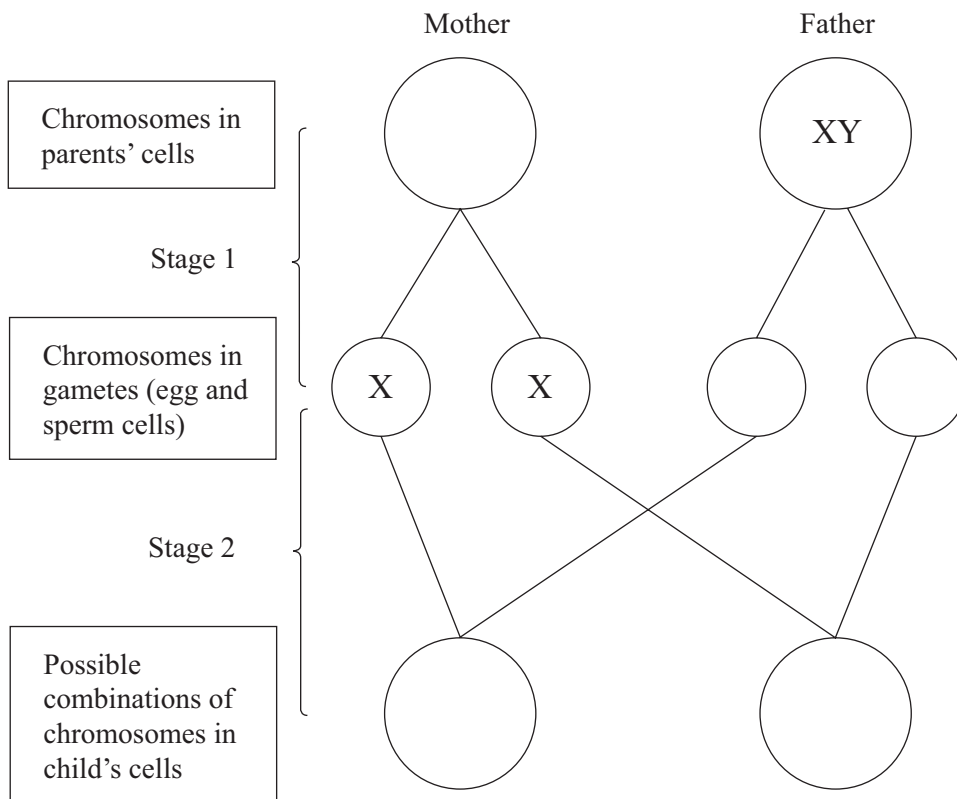
(ii) What are short sections of chromosomes called?

\_\_\_\_\_ [1]

(iii) What chemical are chromosomes made from?

\_\_\_\_\_ [1]

(c) The diagram shows how the sex of a child depends on the chromosomes it inherits from its parents.

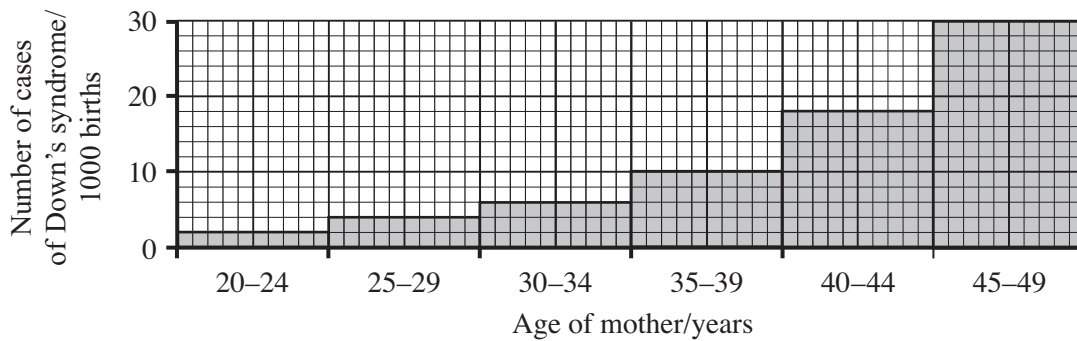


Complete the diagram above to show the sex chromosomes found in each cell. [3]

Examiner Only	
Marks	Remark

- (d) Down's syndrome is one example of an inherited disease where all the cells of the individual have 47 chromosomes rather than 46.

The histogram shows how the risk of having a child with Down's syndrome increases with the age of the mother.



Use the histogram to calculate how many times more likely it is for a 42 year old woman to have a Down's syndrome baby than a 32 year old woman. Show your working.

\_\_\_\_\_ times [2]

Examiner Only	
Marks	Remark

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**THIS IS THE END OF THE QUESTION PAPER**

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