



General Certificate of Secondary Education
2024

Centre Number

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Candidate Number

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Biology

Unit 1

Foundation Tier



[GBL11]

GBL11

FRIDAY 17 MAY, MORNING

TIME

1 hour 15 minutes.

INSTRUCTIONS TO CANDIDATES

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

You must answer the questions in the spaces provided.

Do not write outside the boxed area on each page or on blank pages.

Complete in black ink only. **Do not write with a gel pen.**

Answer **all eleven** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is **75**.

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

Quality of written communication will be assessed in Question **7(b)**.



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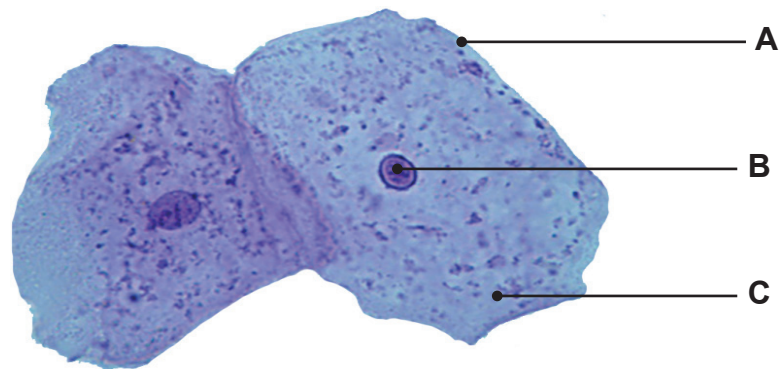
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24GBL1102



1 The photograph shows two cheek cells viewed under a light microscope.



Source: © Getty Images

Look at the photograph.

(a) Name and give the function of parts **A**, **B** and **C**.

A Name _____

Function _____

B Name _____

Function _____

C Name _____

Function _____

_____ [6]

(b) Give **one** structure found in plant cells which is **not** found in animal cells.

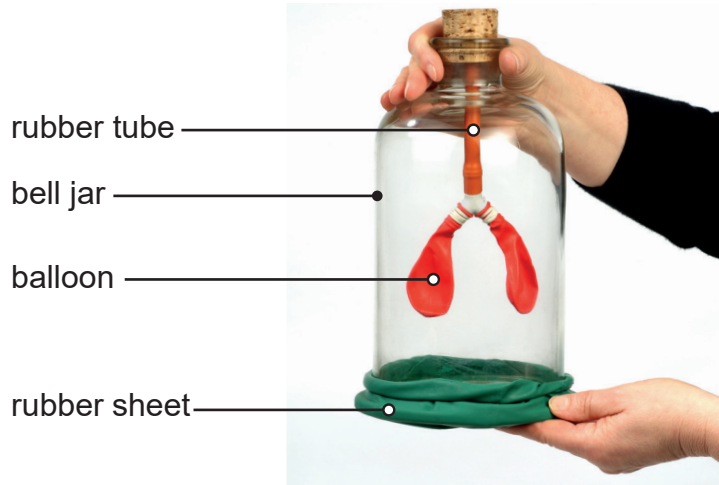
[1]

[Turn over



2 Photographs **A** and **B** show a model of the respiratory system being used to demonstrate breathing.

A



Source: © Martyn F. Chillmaid / Science Photo Library

B



Source: © Martyn F. Chillmaid / Science Photo Library



Look at the photographs.

(a) Name the parts of the respiratory system represented by the

bell jar. _____

balloon. _____

rubber sheet. _____

[3]

Photograph B demonstrates **breathing in**.

(b) Give **two** pieces of evidence which show this.

1. _____

2. _____

_____ [2]

[Turn over



3 (a) Proteins are large biological molecules.

(i) Name the smaller molecules which make up proteins.

_____ [1]

(ii) Give **one** function of proteins in the body.

_____ [1]

(b) Samples of food can be tested for protein.

(i) Name the reagent used to test a sample of food for protein.

Circle the correct answer.

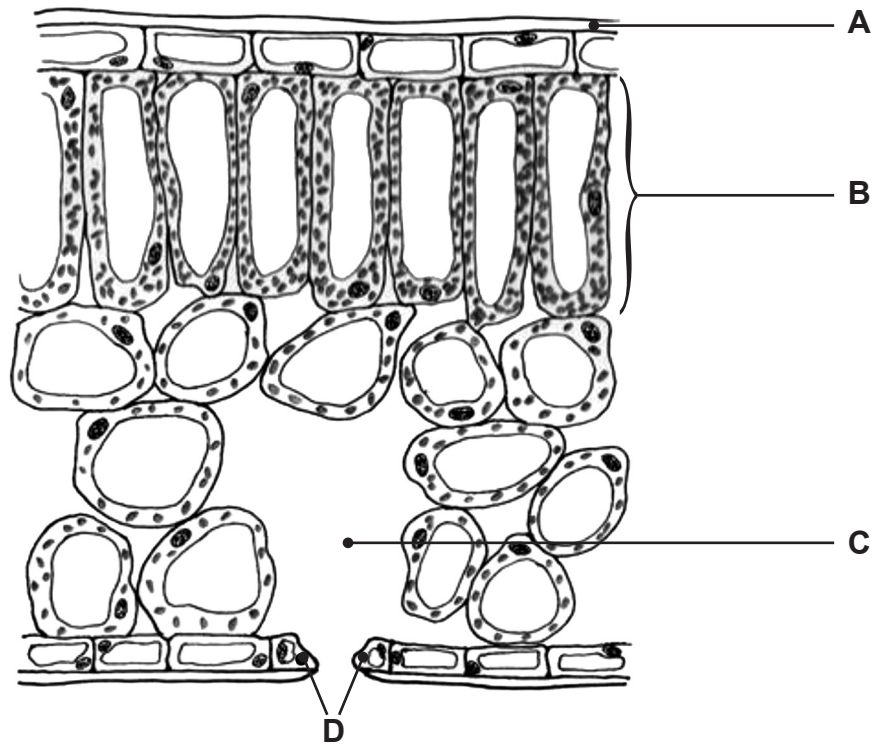
Benedict's Biuret Iodine solution [1]

(ii) Give the colour change in the reagent which shows that protein is present.

From _____ to _____ [2]



4 The diagram shows a section through a leaf.



Source: Chief Examiner

Look at the diagram.

Use the diagram to help you complete the table.

| Part of a leaf | Label | Function |
|--------------------|-------|--|
| palisade mesophyll | | contains tightly packed cells with many chloroplasts |
| air space | | |
| | D | control opening and closing of stomata |
| waxy cuticle | | |

[6]

[Turn over



5 Stem cells are found in animals and plants.

(a) What are stem cells?

[2]

(b) Give **two** sources of stem cells in animals.

1. _____

2. _____

[2]

(c) Name the growing points of plants which produce stem cells.

[1]





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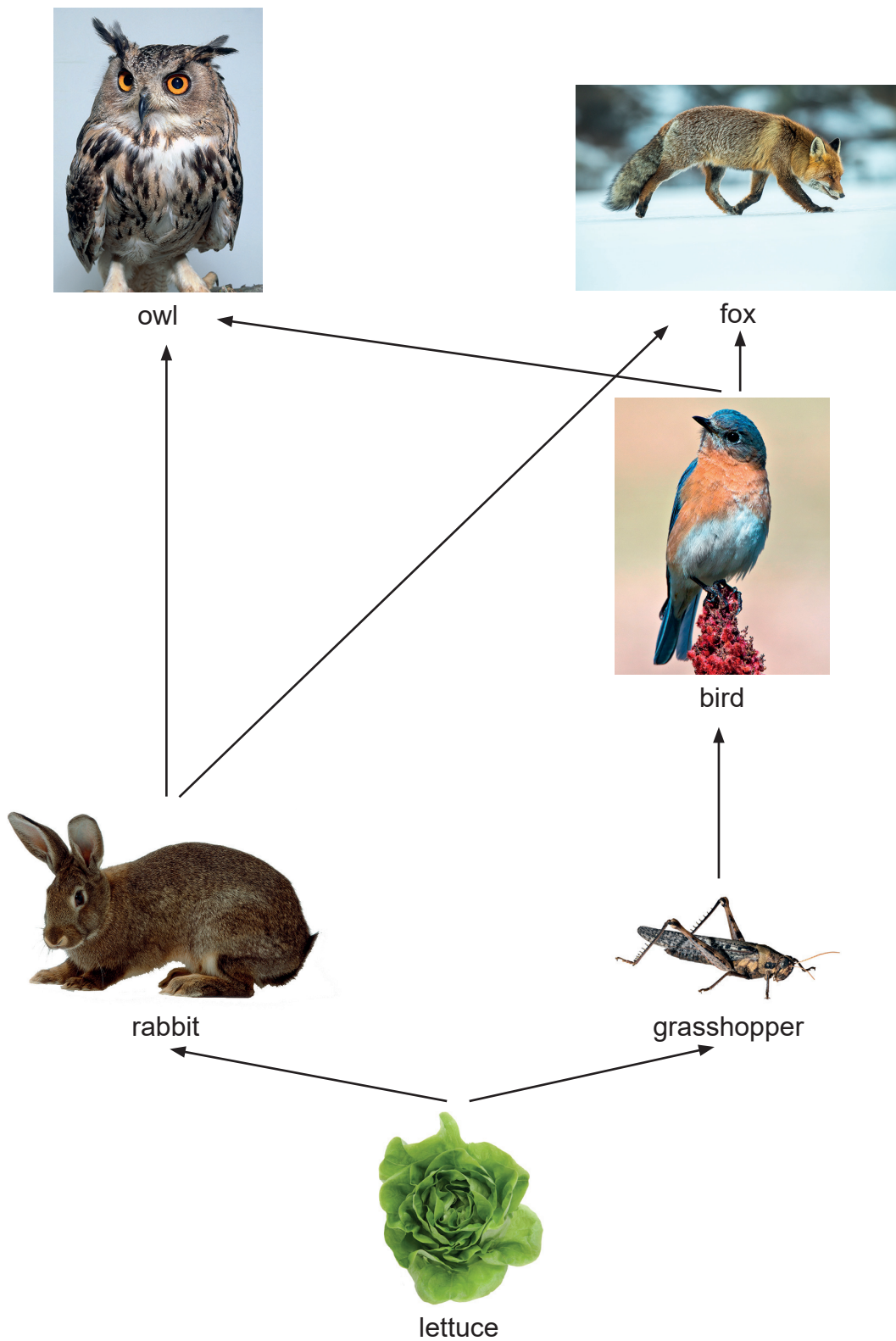
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(Questions continue overleaf)

[Turn over



6 The diagram shows part of a food web.



Source: www.sciencephoto.com

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24GBL1110

Look at the food web.

(a) What is the source of energy for this food web?

_____ [1]

(b) (i) Name a primary consumer from this food web.

_____ [1]

(ii) Name an organism from this food web that feeds at **two** trophic levels.

_____ [1]

(c) Use information from this food web to **complete the food chain**.

lettuce

owl

[2]



(d) The diagram shows the energy flow through another food chain from this food web.



(i) Calculate the percentage of the energy in the lettuce which is passed on to the rabbit.

Show your working.

_____ % [3]

(ii) Give **one** way energy is lost between the lettuce and the rabbit.

_____ [1]





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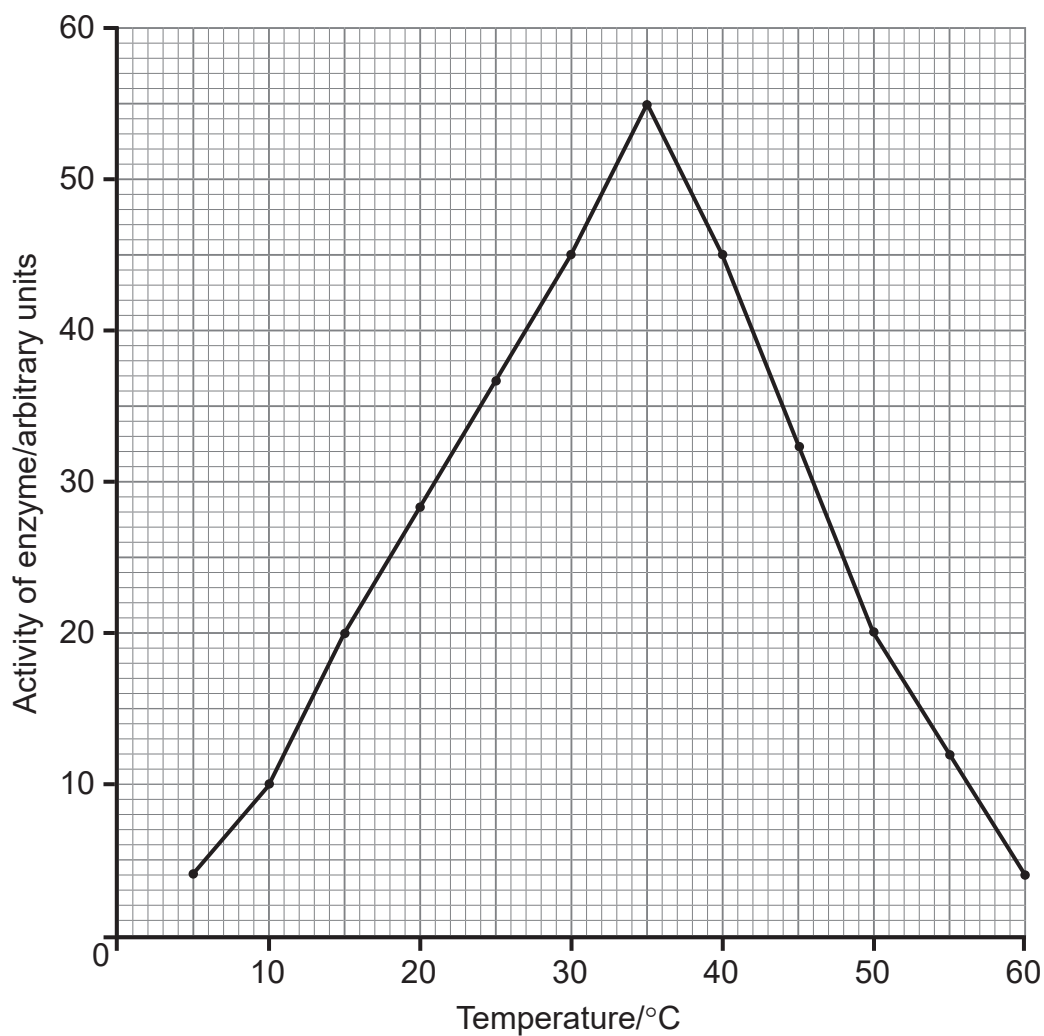
24GBL1113

7 (a) What is an enzyme?

[2]

A group of students carried out an experiment to show the effect of temperature on the activity of an enzyme.

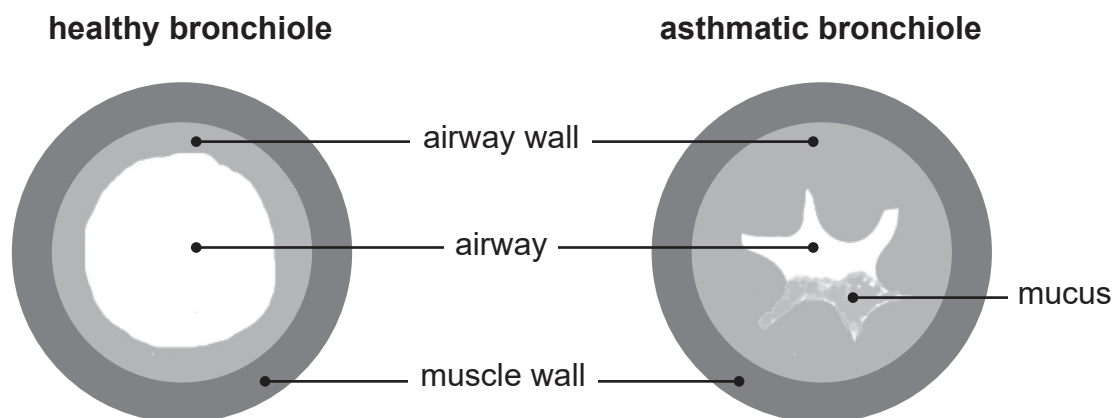
The graph shows their results.



Source: Chief Examiner



8 The diagrams show a bronchiole from a healthy person and a bronchiole from a person with asthma (asthmatic bronchiole).



Source: Principal Examiner

Look at the diagrams.

(a) Give **two** differences between the healthy bronchiole and the asthmatic bronchiole.

1. _____

2. _____

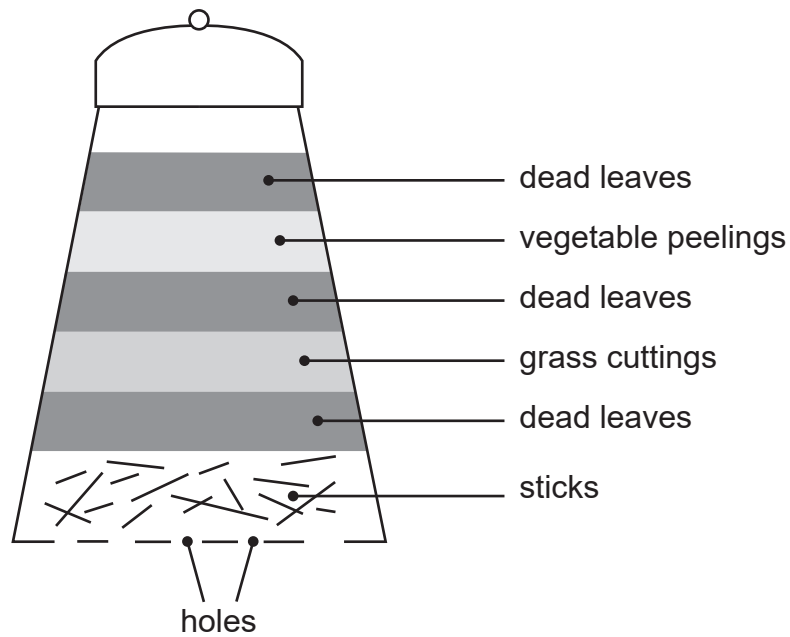
_____ [2]

(b) Suggest and explain what effect these differences may have on gas exchange.

_____ [2]



9 (a) The diagram shows dead plant material in a compost bin.



Source: Principal Examiner

Dead plant material is broken down physically and chemically by organisms in a compost bin.

In **physical** breakdown, some organisms grind up the dead plant material into small pieces.

In **chemical** breakdown, saprophytic organisms decompose the dead plant material.

Look at the diagram.

(i) Name **two** types of saprophytic organisms.

1. _____

2. _____

[2]



(ii) Describe how saprophytic organisms break down dead plant material.

[3]

Decomposition is much faster if the dead plant material is physically broken down before the chemical breakdown starts.

(iii) Suggest why.

[2]

(b) Suggest how holes and sticks in the bottom of the compost bin help speed up decomposition.

[1]

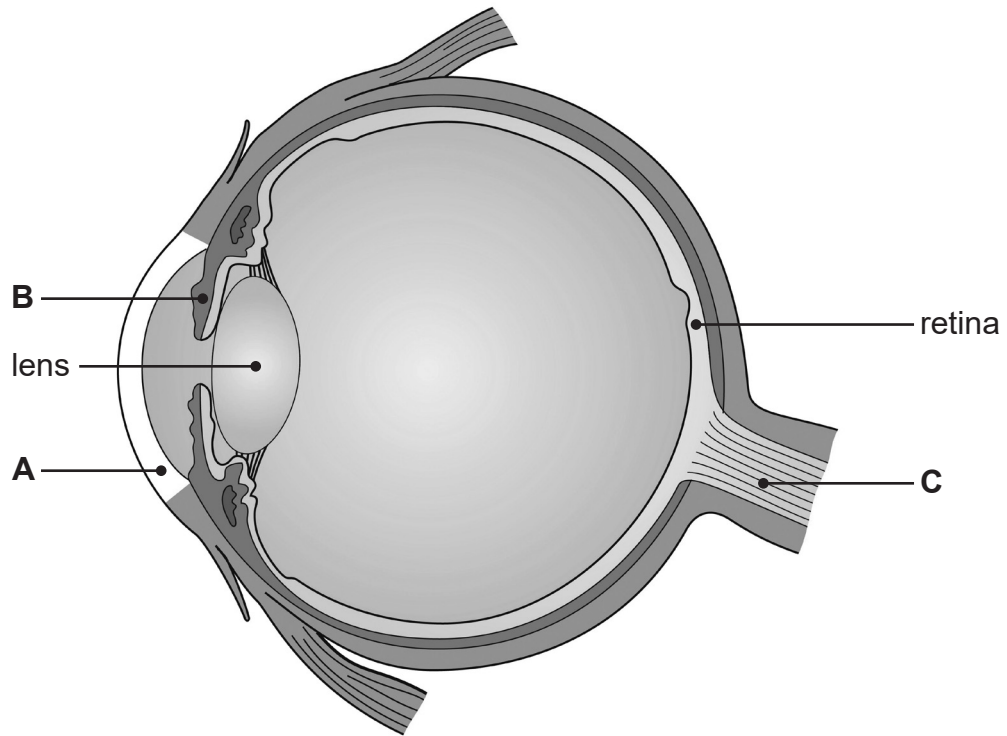
(c) What name is given to the decomposed plant material in the soil?

[1]

[Turn over



10 The diagram shows a section through an eye.



Source: © Science Photo Library

(a) Name parts **A**, **B** and **C**.

A _____

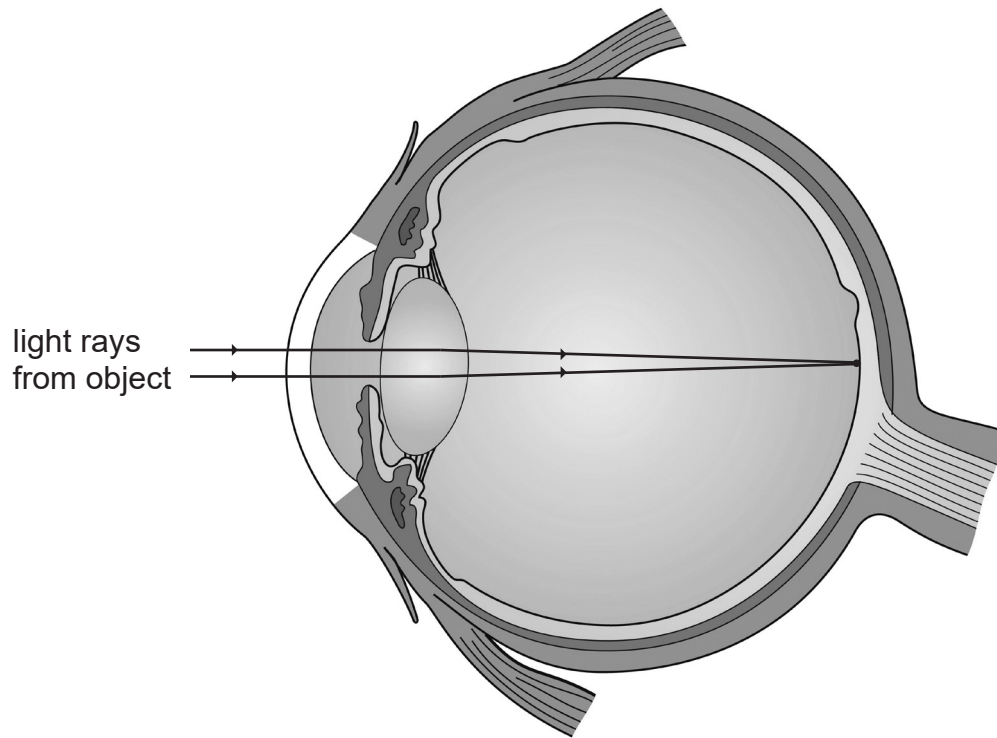
B _____

C _____

[3]



The diagram shows light rays from an object entering the eye through the pupil.



Source: © Science Photo Library

(b) Use the diagram to explain how we see an image of an object.

[4]

[Turn over

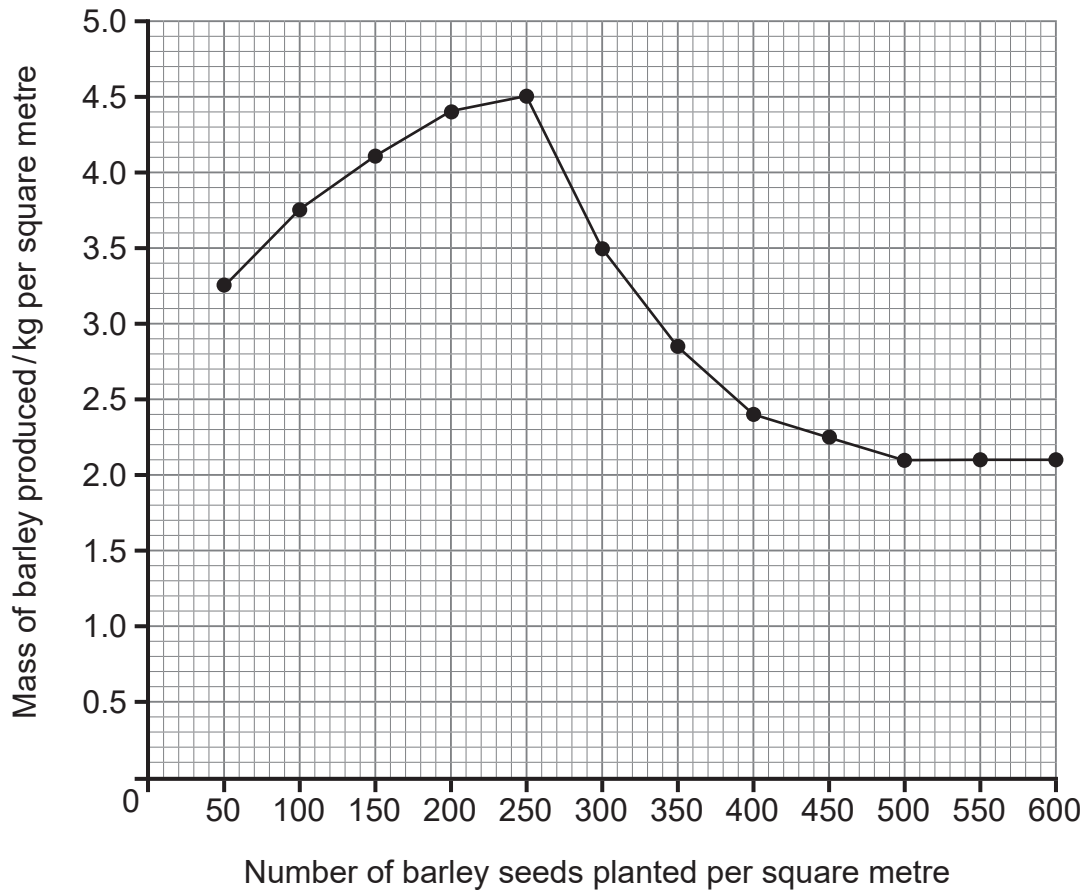


- 11 Scientists carried out an investigation into the mass of barley produced when different numbers of barley seeds were planted in test plots.

The scientists planted different numbers of barley seeds per square metre in these test plots.

They recorded the mass of barley produced in each test plot after six weeks.

The graph shows their results.



Source: Chief Examiner



Sources:

- Q6-Owl.....© DK Images / Science Photo Library
- Q6-Fox.....© Laurent Geslin / Nature Picture Library / Science Photo Library
- Q6-Bluebird.....© Michael P. Gadomski / Science Photo Library
- Q6-Rabitt.....© DK Images / Science Photo Library
- Q6-Grasshopper.....© Phil Degginger / Science Source / Science Photo Library
- Q6-Lettuce.....© GUSTOIMAGES / Science Photo library

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| For Examiner's use only | |
|-------------------------|-------|
| Question Number | Marks |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
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| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |

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| Total Marks | |
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Examiner Number

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