Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

BIOLOGY **0610/11**

Paper 1 Multiple Choice **October/November 2015**

45 minutes

Additional Materials: Multiple Choice Answer Sheet
Soft clean eraser
Soft pencil (type B or HB is recommended)

MODIFIED LANGUAGE

* 2 3 7 7 0 8 5 4 5 3 *

READ THESE INSTRUCTIONS FIRST

Write in soft pencil.
Do not use staples, paper clips, glue or correction fluid.
Write your name, Centre number and candidate number on the Answer Sheet in the spaces provided unless this has been done for you.
DO **NOT** WRITE IN ANY BARCODES.

There are **forty** questions on this paper. Answer **all** questions. For each question there are four possible answers **A**, **B**, **C** and **D**.
Choose the **one** you consider correct and record your choice in **soft pencil** on the separate Answer Sheet.

Read the instructions on the Answer Sheet very carefully.

Each correct answer will score one mark. A mark will not be deducted for a wrong answer.
Any rough working should be done in this booklet.
Electronic calculators may be used.

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **17** printed pages and **3** blank pages.

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1 Which process releases the most energy from one molecule of glucose?

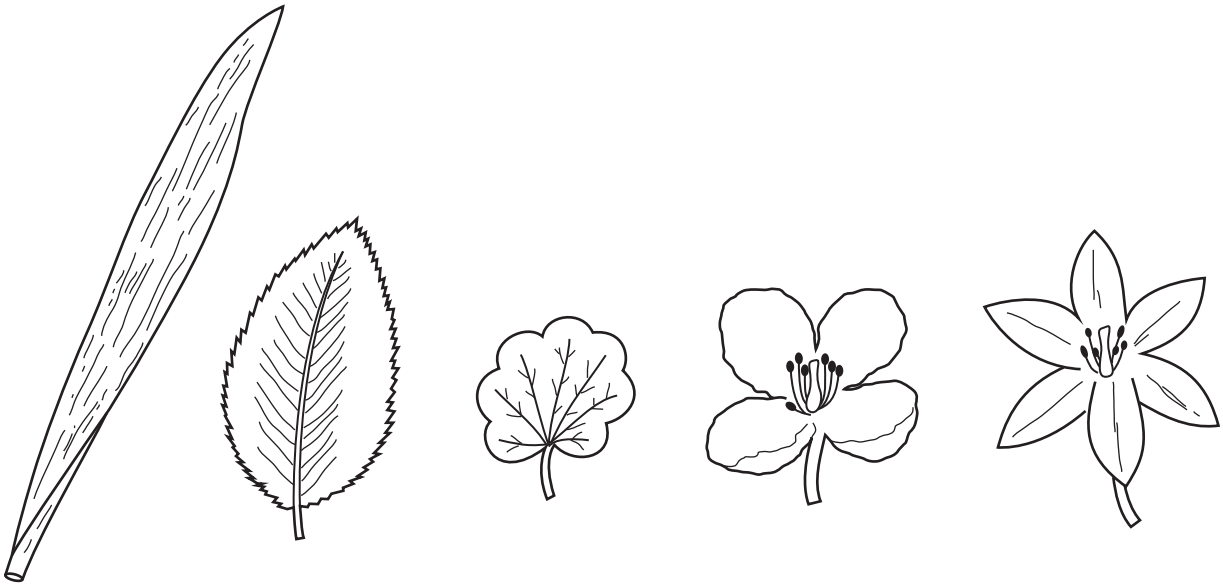
A aerobic respiration

B anaerobic respiration in muscle

C anaerobic respiration in yeast

D photosynthesis

2 The diagram shows some leaves and flowers of different plants.



1 2 3 4 5

Which are from monocotyledons?

A 1 and 3 **B** 1 and 5 **C** 2 and 4 **D** 2 and 5

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3 The list shows the scientific names for eight animals, using the binomial system.

Alderia modesta

Arenicola cristata

Arenicola marina

Austrominius modestus

Bittium reticulatum

Botrylloides leachii

Botryllus schlosseri

Clypeostoma reticulatum

Which two animals are most closely related?

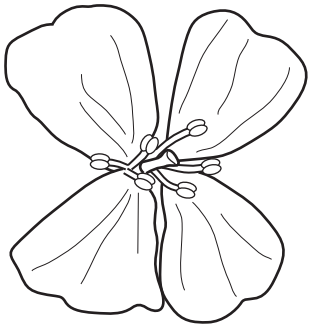
A *Alderia modesta* and *Austrominius modestus*

B *Arenicola cristata* and *Arenicola marina*

C *Bittium reticulatum* and *Clypeostoma reticulatum*

D *Botryllus schlosseri* and *Botrylloides leachii*

4 The diagram shows a flower seen from above.



Use the key to find the name of the family to which it belongs.

1	four petals	.....	go to 2
	five petals	.....	go to 3
2	two stamens	.....	**A** *Scrophulariaceae*
	six stamens	.....	**B** *Brassicaceae*
3	petals joined	.....	**C** *Caryophyllaceae*
	petals separate	.....	**D** *Rosaceae*

5 Three cell structures are listed.

1 cell wall

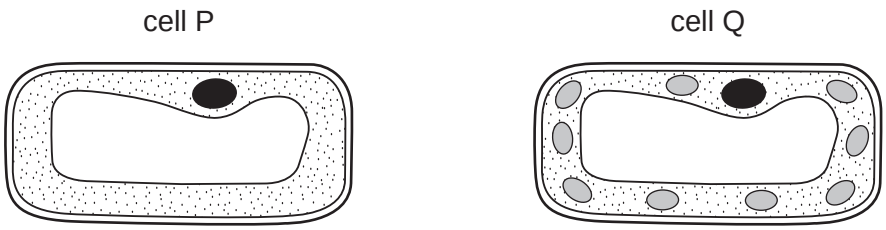
2 cytoplasm

3 nucleus

Which structures are found in palisade cells **and** in liver cells?

A 1 and 2 **B** 1 only **C** 2 and 3 **D** 3 only

6 The diagram shows two plant cells, P and Q.



How does cell P differ from cell Q?

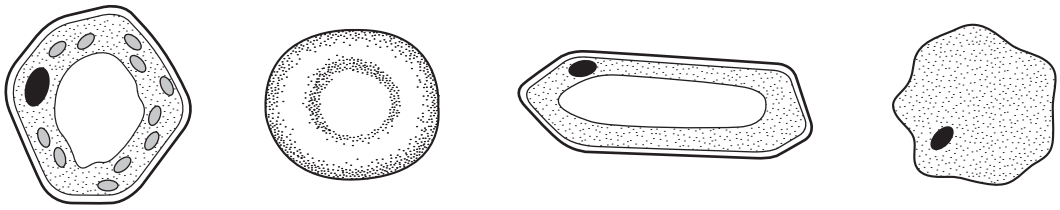
A It has no cell wall.

B It has no chloroplasts.

C It has no nucleus.

D It has no vacuole.

7 The diagram shows different types of cells.



Which structure do all these cells have?

A cell membrane

B cell wall

C chloroplast

D nucleus

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8 The diagram shows a male gamete.



Which term describes the level of organisation of this gamete?

A cell

B organ

C organism

D tissue

9 Which description of xylem is correct?

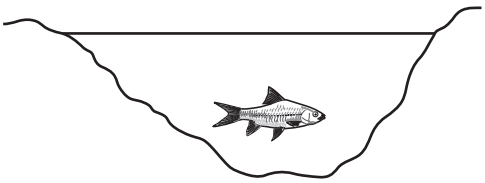
A a cell used for absorption

B a tissue used for support

C an organ system used for conduction

D an organ used for transport

10 The diagram shows a fish in a pond.



Why does oxygen diffuse from the air into the water before reaching the fish?

A Oxygen is more concentrated in the air than in the water.

B Oxygen is more concentrated in the water than in the air.

C Oxygen is needed by the fish for aerobic respiration.

D Oxygen is needed by the fish for anaerobic respiration.

11 Which structure provides the best surface for diffusion?

A atrium

B bronchioles

C ileum

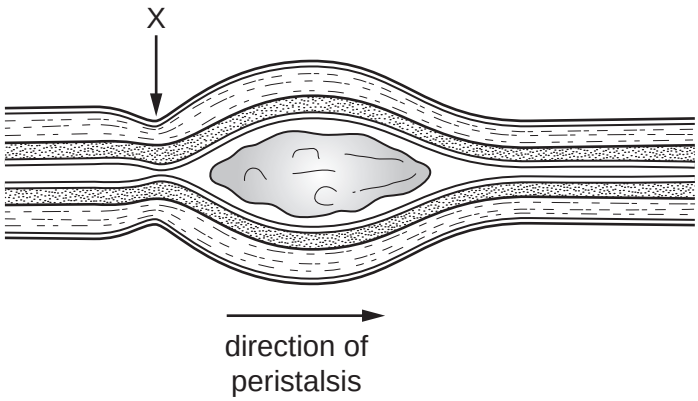
D trachea

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12 What is true of **all** enzymes?

	they are sugars	they are most effective at pH7
A	✓	✓
B	✓	✗
C	✗	✓
D	✗	✗

13 The diagram shows a piece of small intestine during peristalsis.

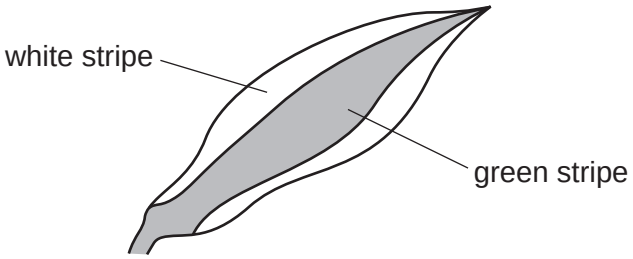


What is happening at X?

	circular muscles	longitudinal muscles
A	contracted	contracted
B	contracted	relaxed
C	relaxed	contracted
D	relaxed	relaxed

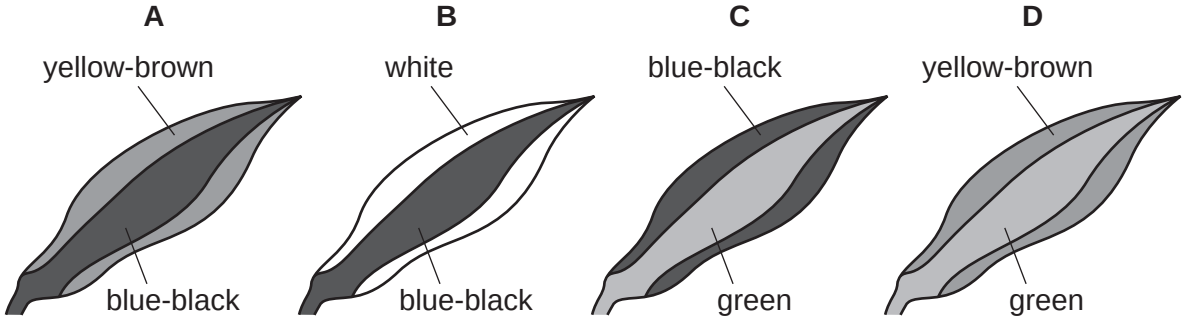
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14 A plant with striped leaves similar to the one below was kept in bright light for six hours.



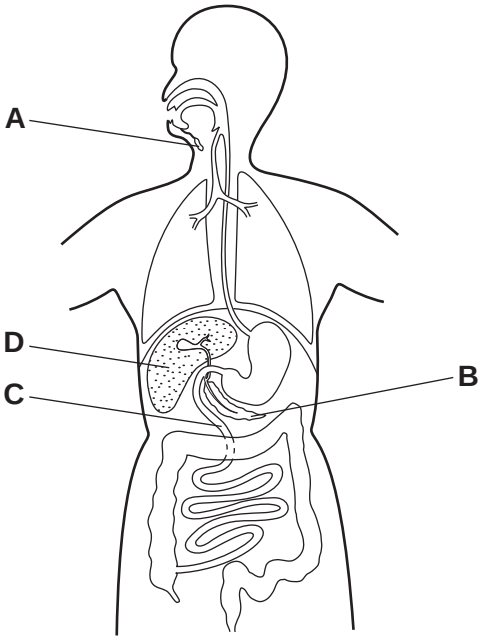
A leaf was taken from the plant and the chlorophyll removed. It was then tested for starch using iodine solution.

Which diagram shows the result of the test?



15 The diagram shows the human alimentary canal.

Which structure does **not** secrete digestive enzymes?



16 Which substance is lost from the body of a healthy person by the kidneys, but **not** by the lungs?

A carbon dioxide

B glucose

C urea

D water

17 Which statement is correct for **most** veins in the human body?

A They carry blood at high pressure.

B They have a pulse.

C They have valves.

D They take blood away from the heart.

18 What is transported in the phloem and what is the direction of transport?

A starch, up and down

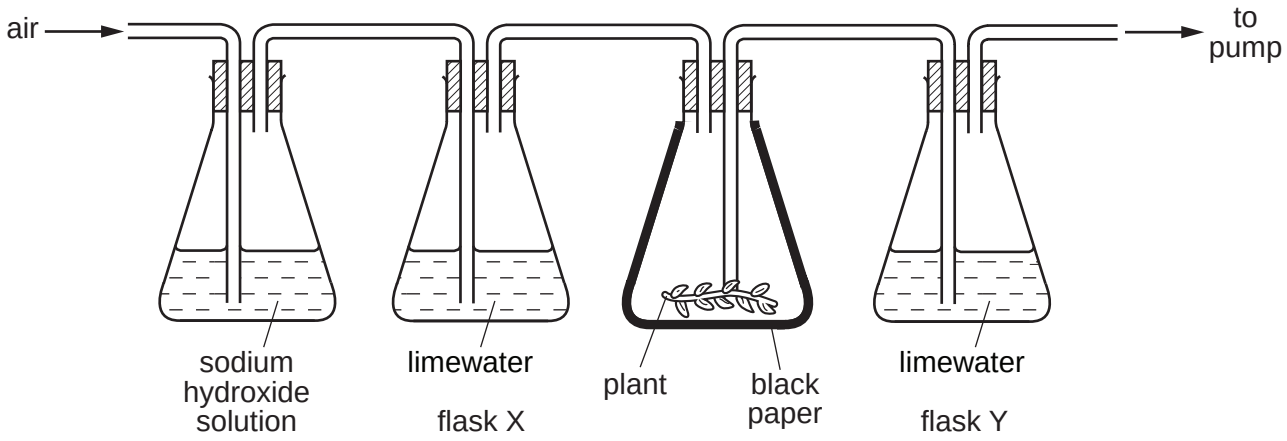
B starch, up only

C sucrose, down and up

D sucrose, down only

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19 Apparatus was set up as shown.

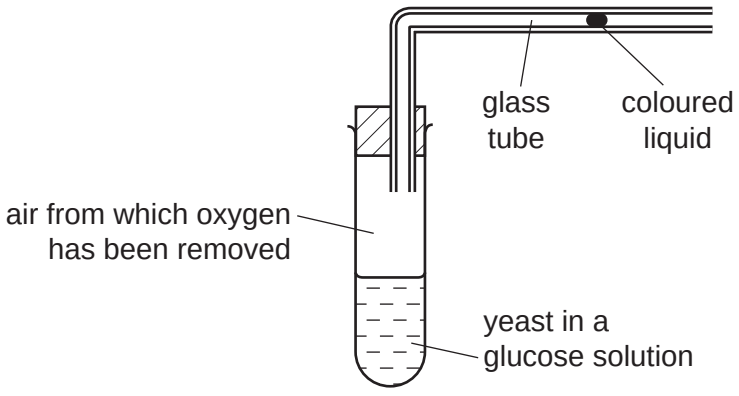


Sodium hydroxide removes carbon dioxide from the air. Limewater goes cloudy if carbon dioxide is bubbled through it.

What happens to the limewater in flasks X and Y when the pump is switched on?

	flask X	flask Y
A	goes cloudy	goes cloudy
B	goes cloudy	stays clear
C	stays clear	goes cloudy
D	stays clear	stays clear

20 The diagram shows apparatus used to investigate anaerobic respiration in yeast.



What happens to the coloured liquid?

A moves rapidly to the left

B moves slowly to the left

C moves to the right

D stays still

21 Why do mammals sweat?

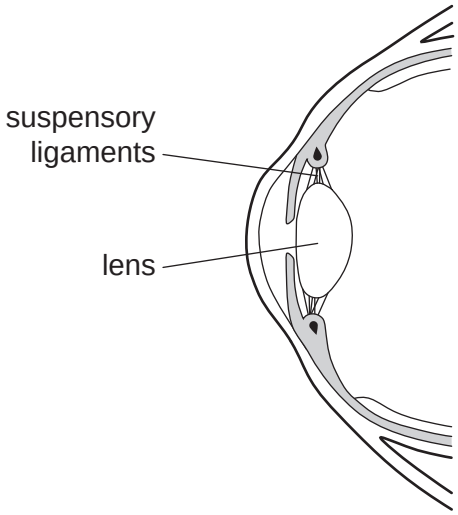
A to cool the body

B to lose water vapour through the skin surface

C to release energy through the oxidation of glucose

D to remove glucose from the blood

22 The diagram shows a section through part of the human eye.



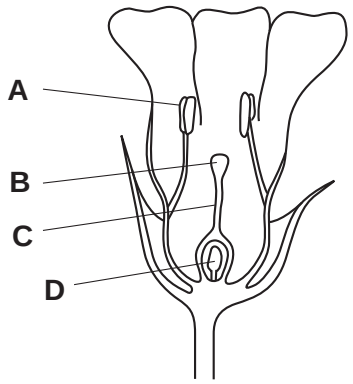
When a person looks at an object which is far away from their eye, which of the following happens?

	suspensory ligaments	lens
A	slacken	becomes fatter
B	slacken	becomes thinner
C	tighten	becomes fatter
D	tighten	becomes thinner

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23 The diagram shows half a flower.

On which structure would pollen be deposited in pollination?



24 In which region does diffusion of materials take place between mother and fetus?

A amniotic sac

B ovary

C placenta

D umbilical cord

25 During childbirth, what must happen to the cervix and the uterus wall?

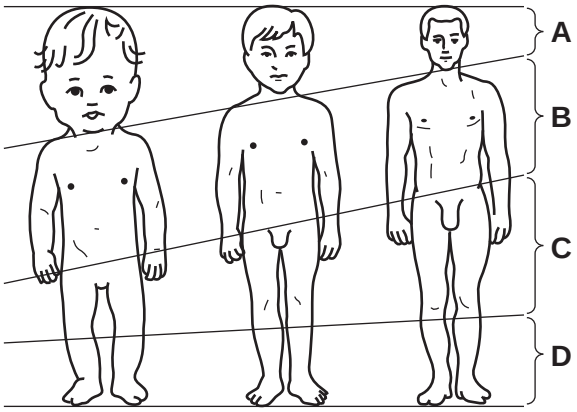
	cervix	uterus wall
A	contracts	contracts and relaxes
B	contracts	relaxes
C	dilates	contracts and relaxes
D	dilates	relaxes

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[Turn over

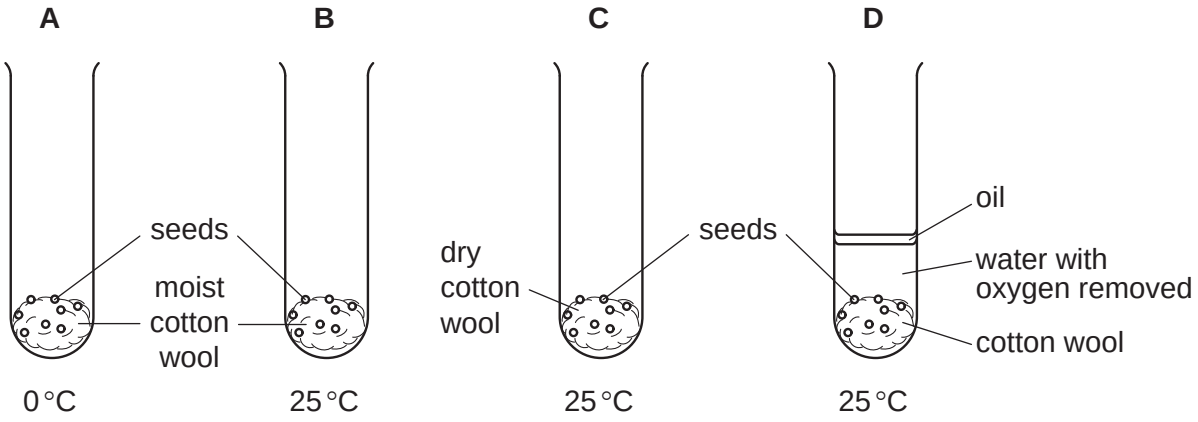
26 The diagram shows a baby, a child and an adult (not drawn to the same scale).

As a baby grows into an adult, which labelled region grows the **most**?



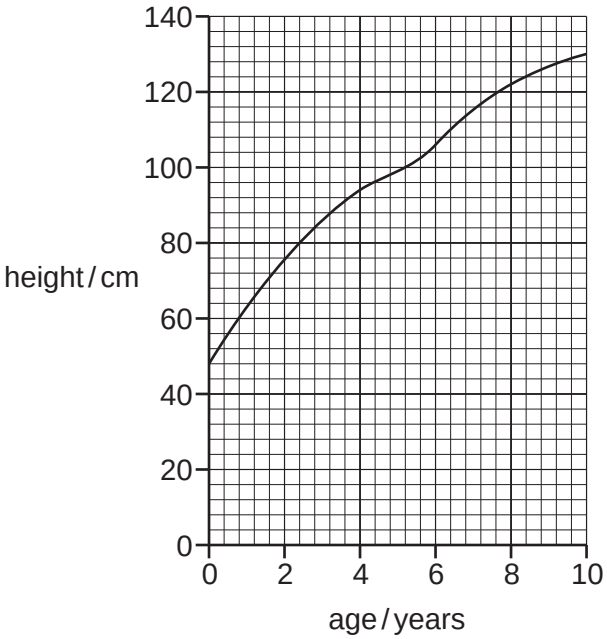
27 Four tubes were set up as shown and placed in the dark.

In which tube would the seeds germinate first?



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28 The graph shows the height of a child, from birth to the age of 10.



What was the approximate height of the child at 7 years of age?

A 106 cm **B** 116 cm **C** 122 cm **D** 130 cm

29 Which statement about the human sex chromosomes is correct?

A All boys have two Y chromosomes.

B Everybody has at least one X chromosome.

C Girls have a Y chromosome and an X chromosome.

D Nobody has two X chromosomes.

30 What results from meiosis of a diploid cell?

A genetically different diploid cells

B genetically different haploid cells

C genetically identical diploid cells

D genetically identical haploid cells

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31 Which pathway is taken by energy from the Sun?

A chemical energy in carbohydrates → stored in plants → trapped by chlorophyll

B stored in plants → chemical energy in carbohydrates → trapped by chlorophyll

C stored in plants → trapped by chlorophyll → chemical energy in carbohydrates

D trapped by chlorophyll → chemical energy in carbohydrates → stored in plants

32 The diagram shows a food chain.

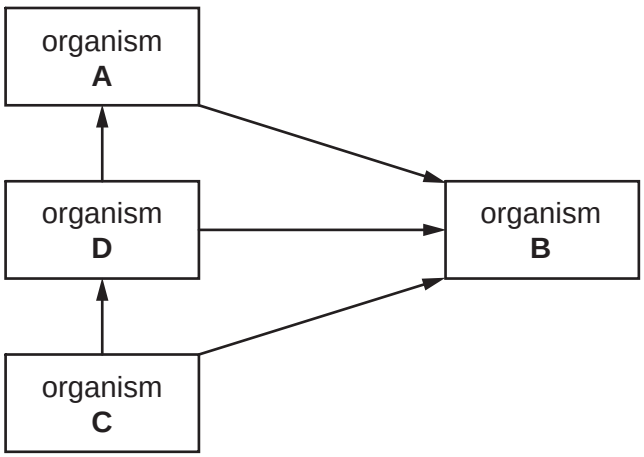


If the hawks are removed from this food chain, what is likely to happen to the numbers of the other organisms in this chain?

	greenflies	ladybirds	insect-eating birds
A	decrease	increase	decrease
B	decrease	increase	increase
C	increase	decrease	decrease
D	increase	decrease	increase

33 The diagram shows a food web including a producer, consumers and a decomposer.

Which organism is the decomposer?



34 Which organisms remove carbon dioxide from the atmosphere?

A carnivores

B decomposers

C herbivores

D producers

35 Which process is **not** part of the carbon cycle?

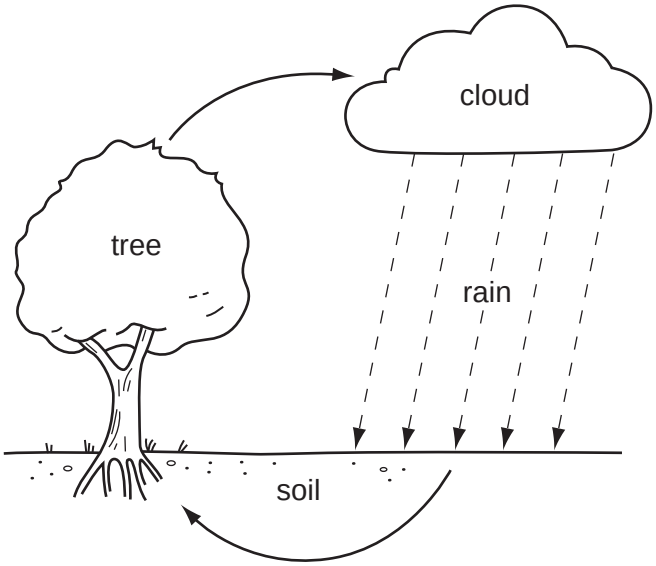
A combustion

B photosynthesis

C respiration

D transpiration

36 The diagram shows a simple water cycle.



What is responsible for water loss from the tree?

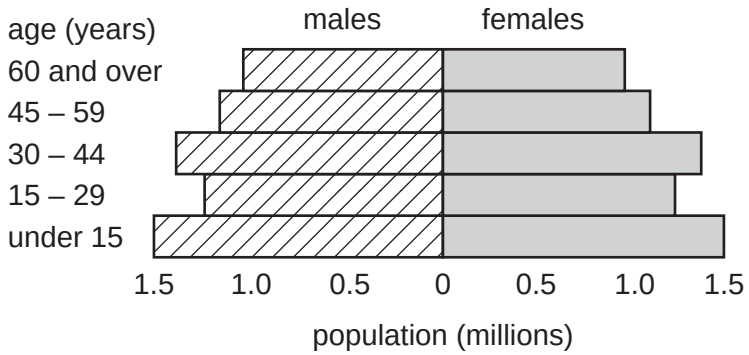
A evaporation

B photosynthesis

C respiration

D translocation

37 The diagram shows the age structure of a human population.



Which age group has the largest number of people?

A 60 and over

B 45-59

C 30-44

D under 15

38 What is a reason for conserving plant species?

A to absorb oxygen from the air

B to decrease rainfall

C to obtain drugs for medicinal use

D to release carbon dioxide into the air

39 What is **reduced** after deforestation?

A force of rain hitting the ground

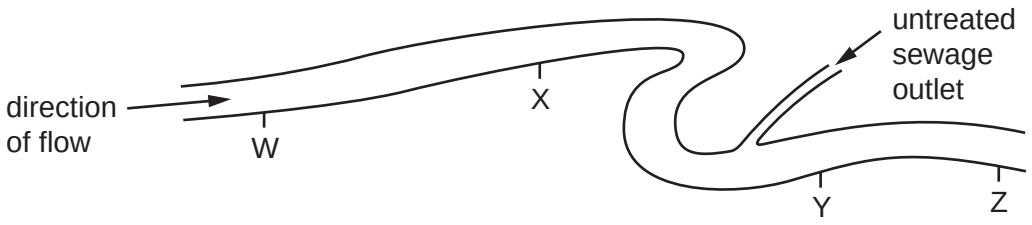
B rainwater run-off

C soil erosion

D soil fertility

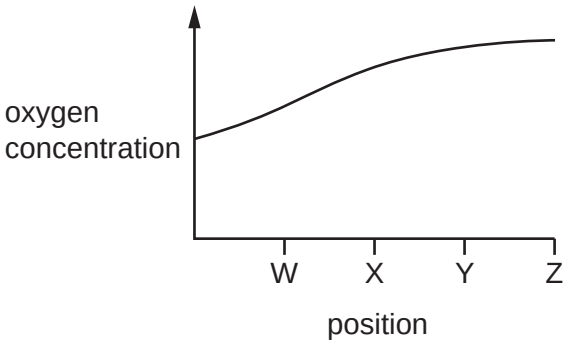
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40 The diagram shows four positions on a river where water samples were taken.

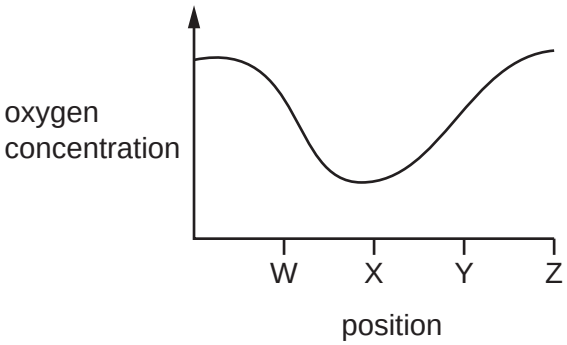


Which graph shows oxygen concentrations in the river?

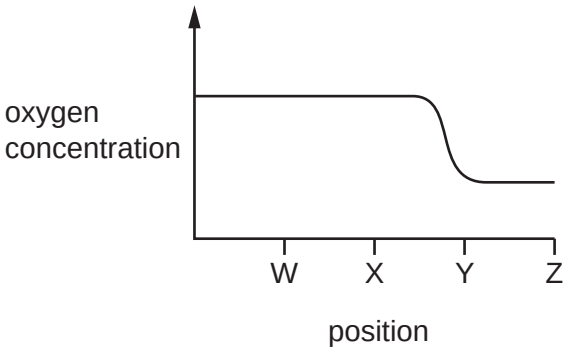
A



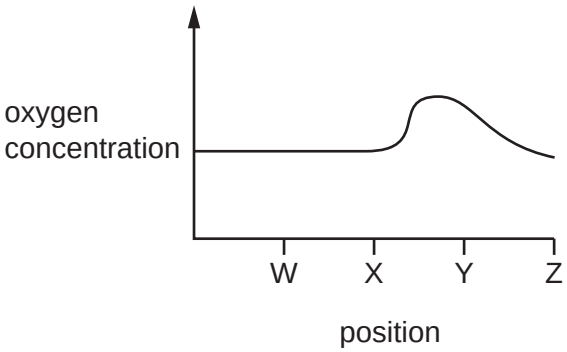
B



C



D



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