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Cambridge Assessment International Education

Cambridge IGCSE™

BIOLOGY **0610/11**

Paper 1 Multiple Choice (Core) **October/November 2024**

45 minutes

You must answer on the multiple choice answer sheet.

You will need: Multiple choice answer sheet
Soft clean eraser
Soft pencil (type B or HB is recommended)

INSTRUCTIONS

- 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 multiple choice answer sheet.
- Follow the instructions on the multiple choice answer sheet.
- Write in soft pencil.
- Write your name, centre number and candidate number on the multiple choice answer sheet in the spaces provided unless this has been done for you.
- Do **not** use correction fluid.
- Do **not** write on any bar codes.
- You may use a calculator.

INFORMATION

- The total mark for this paper is 40.
- Each correct answer will score one mark.
- Any rough working should be done on this question paper.

This document has **16** pages.

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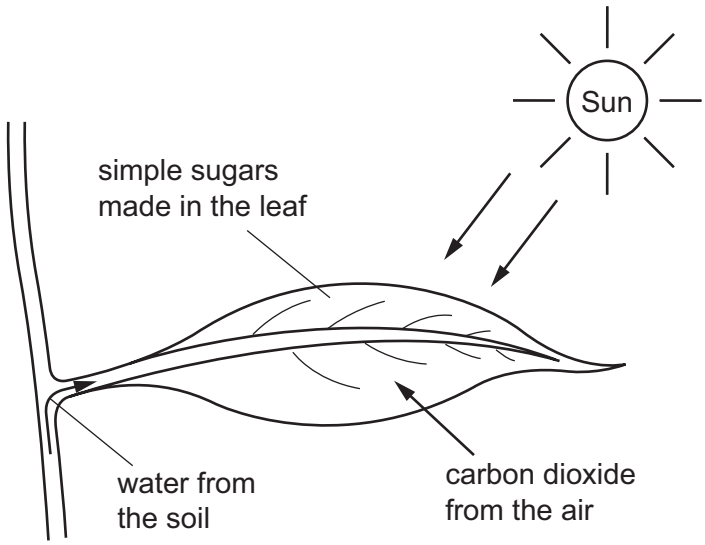
1 The diagram shows a leaf on a plant.



Which characteristic of life is represented by this diagram?

A excretion

B nutrition

C respiration

D sensitivity

2 Which description of a species is correct?

A a group of organisms that can reproduce to produce fertile offspring

B a group of animals that can produce genetically different offspring

C a group of organisms living in the same area at the same time

D all of the populations in an ecosystem

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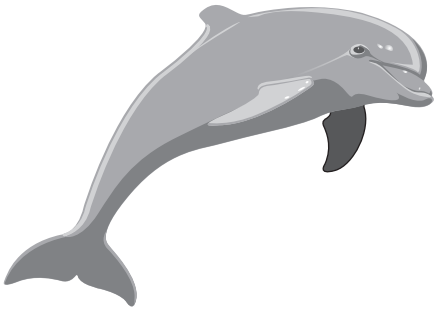
3 The diagram shows a dolphin.



Dolphins are mammals that live in the sea.

Which row correctly identifies some of the features of dolphins?

	organ of gas exchange	produces milk
A	gills	no
B	gills	yes
C	lungs	no
D	lungs	yes

4 Which structures are found in an animal cell?

	cell membrane	cell wall	chloroplast	large vacuole	cytoplasm	nucleus
A	yes	yes	yes	no	no	no
B	yes	no	no	no	yes	yes
C	no	yes	no	no	no	yes
D	no	no	yes	yes	no	no

5 What is the function of ciliated cells in the bronchi?

A to absorb oxygen

B to digest pathogens

C to move mucus

D to produce antibodies

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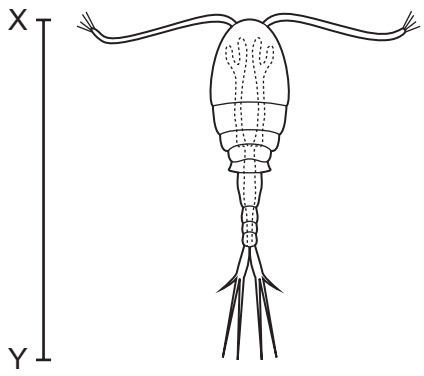
6 The diagram shows an organism called a copepod. The magnification of the diagram is ×30.



The length of line XY is 45 mm.

What is the actual length of the copepod?

A 0.67 mm **B** 1.5 mm **C** 15 mm **D** 1350 mm

7 Some molecules move through a membrane during osmosis.

Which row shows the molecule that moves and the type of membrane?

	molecule moving	type of membrane
A	oxygen	partially permeable
B	oxygen	permeable
C	water	partially permeable
D	water	permeable

8 What is a feature of active transport?

A It requires energy from respiration.

B It involves the random movement of molecules.

C Substances are moved down a concentration gradient.

D Water is the only substance moved by this process.

9 Which substances are made by linking together glucose molecules only?

A cellulose, glycogen and starch

B fats, cellulose and proteins

C proteins, oils and glycogen

D starch, fats and oils

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10 Four solutions were tested to see if they contained protein, starch or glucose.

The colours of the solutions after the tests are recorded in the table.

Which solution contained protein and glucose but **not** starch?

	biuret test	iodine solution test	Benedict's solution test
A	blue	yellow-brown	brick-red
B	blue	blue-black	blue
C	purple	yellow-brown	brick-red
D	purple	blue-black	blue

11 Which type of biological molecule are enzymes made of?

A carbohydrate

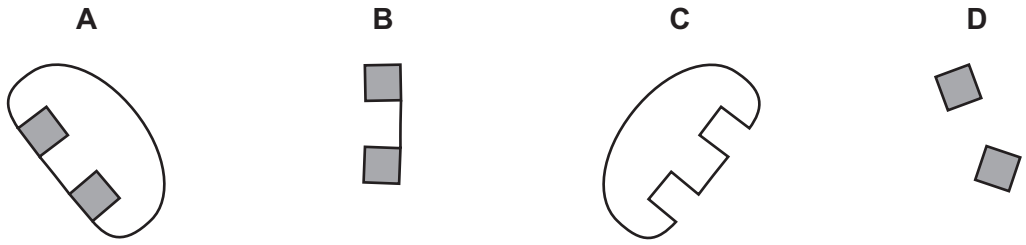
B fat

C oil

D protein

12 The diagrams show molecules involved in the action of a digestive enzyme.

What is the substrate?



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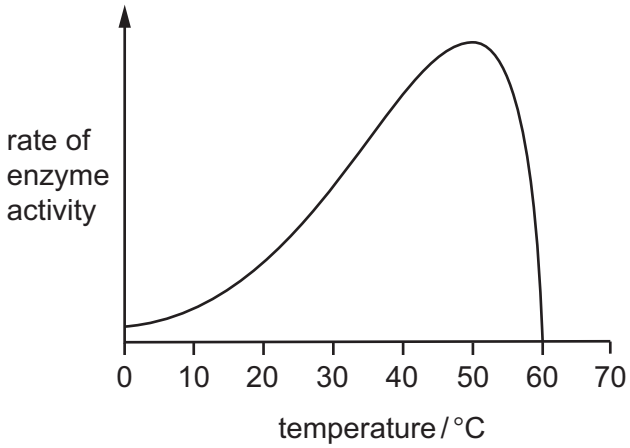
13 The graph shows how the activity of an enzyme varies with temperature.



What is the optimum temperature for this enzyme, and at which temperature is the enzyme completely denatured?

	temperature / °C	
	optimum	completely denatured
A	30	0
B	30	60
C	50	0
D	50	60

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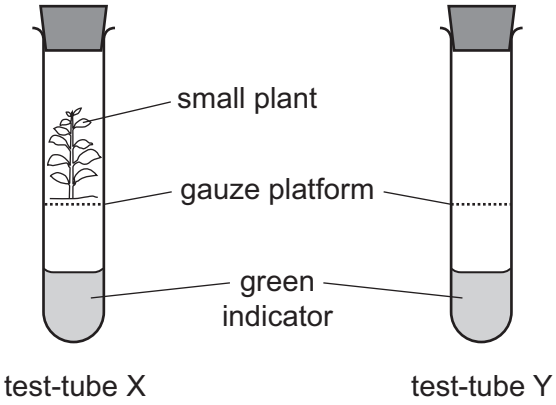
14 An experiment is set up as shown.



The green indicator:

- turns yellow when the carbon dioxide concentration increases
- turns blue when the carbon dioxide concentration decreases.

After several hours, the indicator in test-tube X turned blue. The indicator in test-tube Y remained green.

Which process caused the colour change?

A germination

B photosynthesis

C respiration

D transpiration

15 What is a description of transpiration?

A the breakdown of nutrient molecules to release energy

B the flow of energy through living organisms

C the loss of water vapour from leaves

D the pressure of water inside cells pressing outwards on the cell wall

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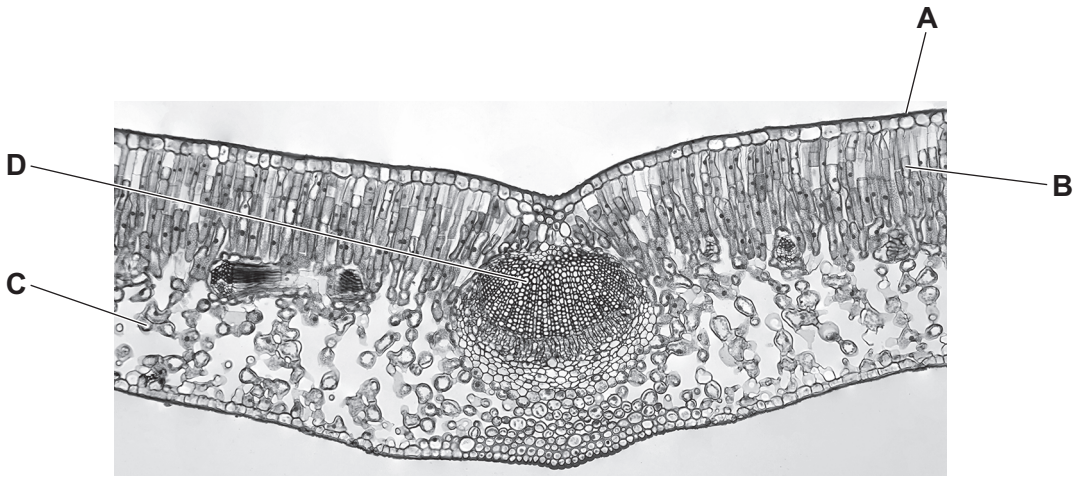
16 The photomicrograph shows a cross-section through a leaf.

Which structure is the cuticle?



17 What is lacking in the diet of a person with scurvy?

A calcium

B iron

C vitamin C

D vitamin D

18 What is a part of the small intestine?

A anus

B colon

C ileum

D rectum

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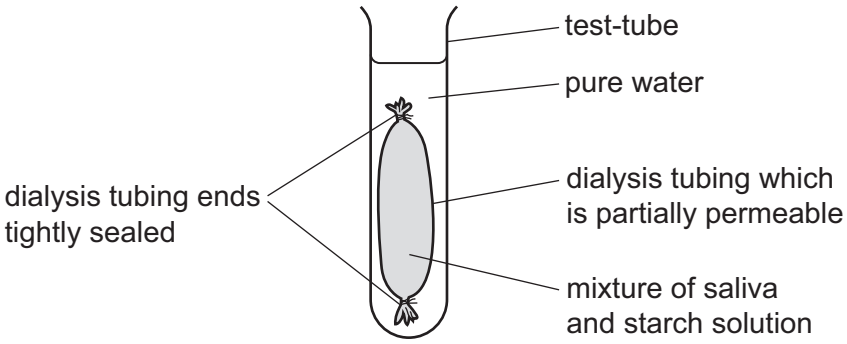
19 The diagram shows the apparatus used in an experiment to demonstrate two processes that take place in the body.



After one hour, the water outside the dialysis tubing contained reducing sugars.

Which two processes are represented by this experiment?

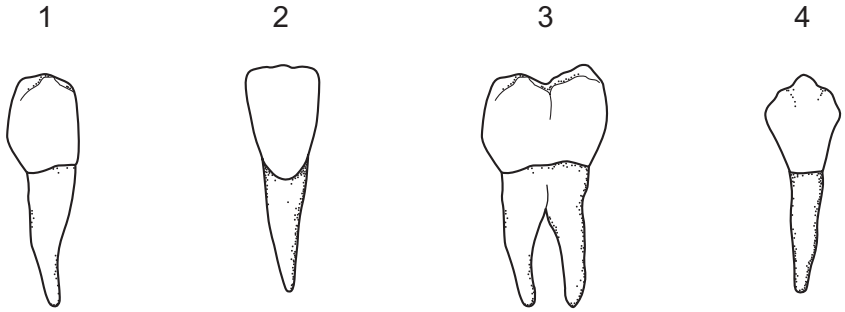
A absorption and digestion

B absorption and egestion

C digestion and egestion

D digestion and ingestion

20 Which row identifies the four types of human teeth shown?



	1	2	3	4
A	canine	incisor	molar	premolar
B	premolar	incisor	molar	canine
C	canine	premolar	incisor	molar
D	premolar	molar	incisor	canine

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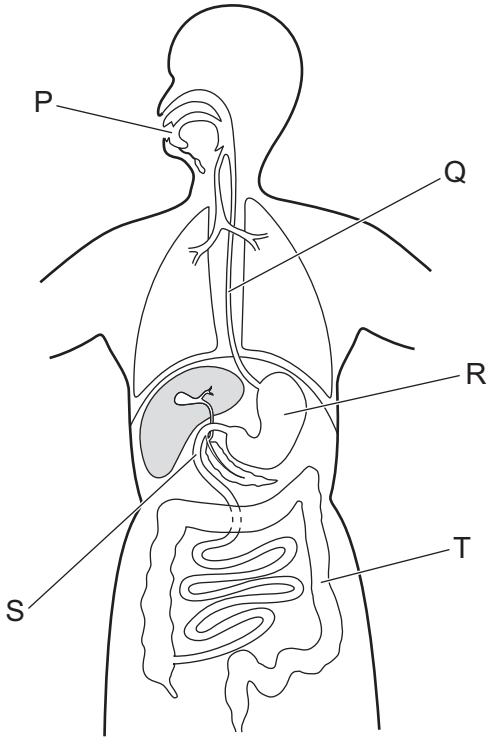
21 The diagram shows the human digestive system.



Which letters show where amylase acts during digestion?

A P and R **B** P and S **C** Q and R **D** Q and T

22 Which row describes transport in a plant?

	transport tissue	transport tissue found in a vascular bundle	substances transported
A	phloem	yes	sucrose and amino acids
B	phloem	no	water and mineral ions
C	xylem	yes	sucrose and amino acids
D	xylem	no	water and mineral ions

23 In humans, which structures provide cells with oxygen and nutrients?

A arteries

B capillaries

C lungs

D veins

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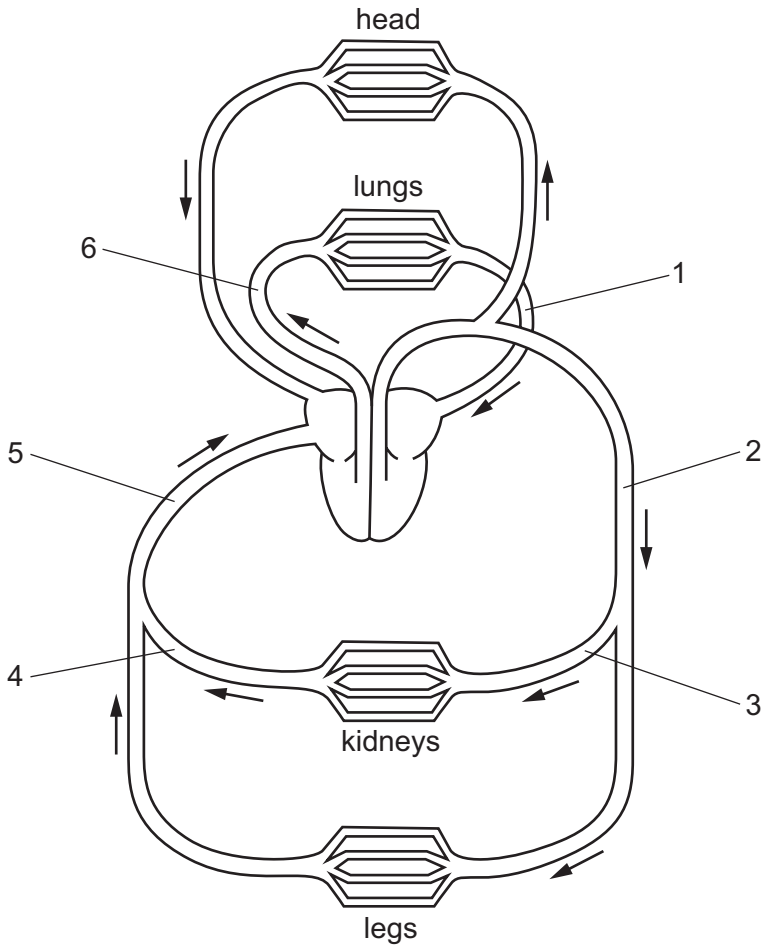
24 The diagram shows part of the human circulatory system.



What are the numbered blood vessels?

	vena cava	pulmonary vein	renal artery
A	5	6	4
B	2	1	3
C	5	1	3
D	2	6	4

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25 Some methods of transmitting pathogens are listed.

1 drinking contaminated water

2 contact with another person's blood

3 contact with another person's saliva

4 touching contaminated surfaces

How many are **indirect** methods of transmitting pathogens?

A none

B one

C two

D three

26 Which substances are used and produced in aerobic respiration in a plant cell?

	substances used in aerobic respiration	substances produced in aerobic respiration
A	carbon dioxide and glucose	oxygen and water
B	carbon dioxide and water	glucose and oxygen
C	glucose and oxygen	carbon dioxide and water
D	glucose and water	carbon dioxide and oxygen

27 Which organ excretes urea?

A bladder

B kidney

C liver

D lung

28 Which statements about hormones are correct?

1 The ovaries secrete oestrogen.

2 The pancreas secretes adrenaline.

3 The pancreas secretes insulin.

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

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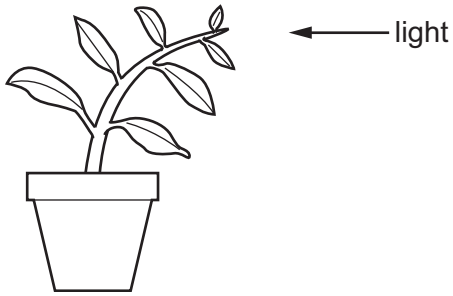
29 The diagram shows a plant shoot growing towards the light.



What is the name of this plant shoot's response to light?

A gravitropism

B photosynthesis

C phototropism

D reflex

30 Parts of an insect-pollinated flower are listed.

1 anther

2 filament

3 stigma

4 style

Which parts are in a carpel?

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

31 What is treated with antibiotics?

A a bacterial infection

B rickets

C scurvy

D a viral infection

32 Which statement describes asexual reproduction?

A the production of genetically different offspring from one parent

B the production of genetically different offspring from two parents

C the production of genetically identical offspring from one parent

D the production of genetically identical offspring from two parents

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33 In humans, why are sperm cells produced in much greater numbers than egg cells?

A Many sperm cells are needed to fertilise an egg cell.

B Sperm cells are small in size.

C Sperm cells are non-motile.

D The chance of one sperm cell reaching an egg is very small.

34 What is the ball of cells that implants into the lining of the uterus during sexual reproduction in humans?

A embryo

B gamete

C placenta

D zygote

35 Which sex chromosomes need to be present in a sperm cell to produce a male offspring?

A X only **B** Y only **C** XX **D** XY

36 ABO blood groups are an example of one type of variation.

What is the cause of this type of variation?

A environment only

B genes only

C genes and environment

D mutation and environment

37 Which statement is an example of natural selection?

A choosing donkeys with desirable characteristics to breed

B choosing to cross-pollinate wheat plants with the highest yields

C inserting genes into a crop plant to improve its nutritional qualities

D in wild flowers, the development of petals that look like insects to attract pollinators

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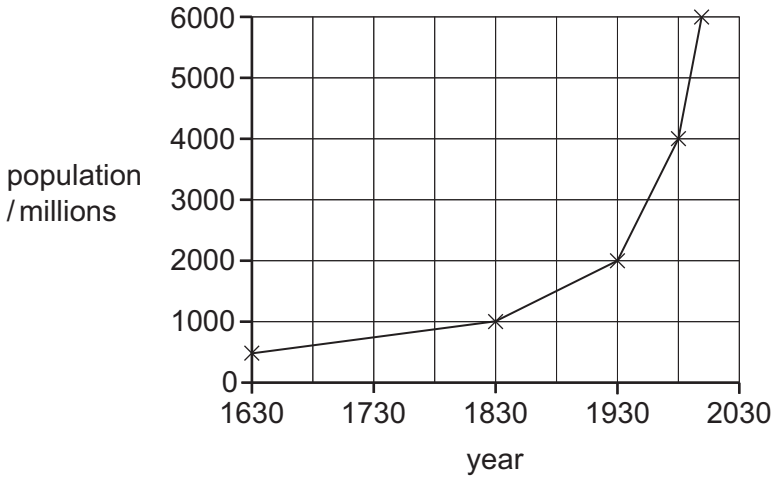
38 The graph shows the increase in the human population of the world since 1630.



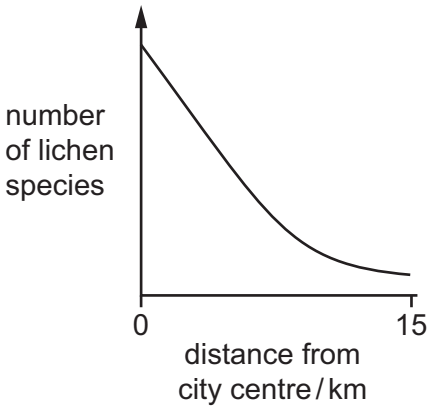
What was the longest time taken for the population to double?

A 100 years **B** 200 years **C** 300 years **D** 400 years

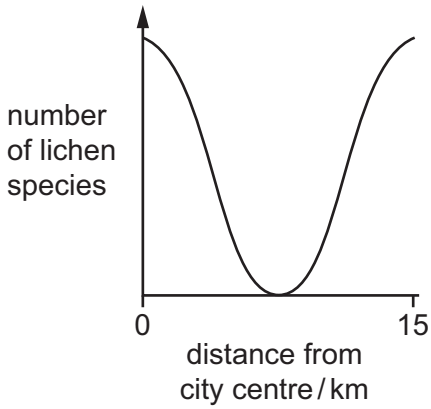
39 Lichens are organisms that do **not** grow well in polluted air.

Which graph shows the change in the number of lichen species from the centre of a polluted city to the unpolluted countryside 15 km away?

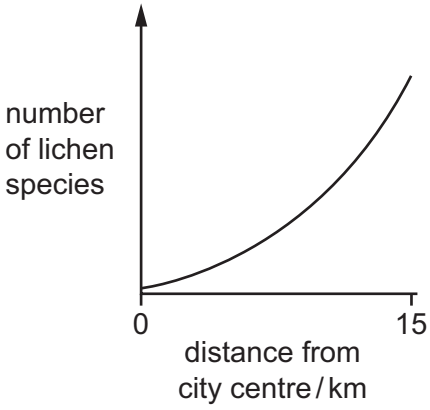
A



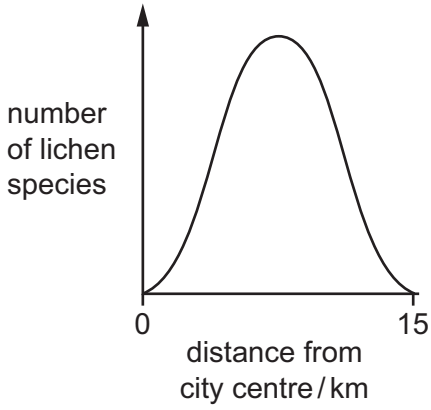
B



C



D



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40 Which trophic level describes an organism that only eats herbivores?

A producer

B primary consumer

C secondary consumer

D tertiary consumer

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