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Cambridge Assessment International Education

Cambridge IGCSE™

BIOLOGY **0610/12**

Paper 1 Multiple Choice (Core) **October/November 2025**

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. Any blank pages are indicated.

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1 Which process causes a permanent increase in the dry mass of an organism?

A digestion

B growth

C reproduction

D respiration

2 The scientific names of some plants are listed.

1 *Escallonia resinosa*

2 *Ilex glabra*

3 *Pinus glabra*

4 *Pinus resinosa*

5 *Quercus ilex*

Which plants belong to the same genus?

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

3 An organism has a body with three parts, three pairs of jointed legs and one pair of antennae.

To which group does the organism belong?

A arachnids

B crustaceans

C insects

D myriapods

4 Which term describes a leaf?

A cell

B organ

C organism

D tissue

5 The length of an insect in a diagram is 150 mm.

The magnification of the diagram is ×20.

What is the actual length of the insect?

A 0.13 mm **B** 3.0 mm **C** 7.5 mm **D** 130 mm

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6 What are features of osmosis?

	diffusion is involved	requires a cell wall	requires a partially permeable membrane
A	yes	no	yes
B	yes	no	no
C	no	yes	yes
D	no	yes	no

7 Enzymes are large molecules.

Which small molecules are they made from?

A amino acids

B carbon dioxide and water

C fatty acids

D sugars

8 Why does the active site of an enzyme fit with its substrate?

A They denature at the same temperature.

B They have complementary shapes to each other.

C They have the same amount of kinetic energy.

D They have the same shape as each other.

9 Which processes in plants transfer energy from light into energy in chemicals?

	photosynthesis	respiration
A	yes	yes
B	yes	no
C	no	yes
D	no	no

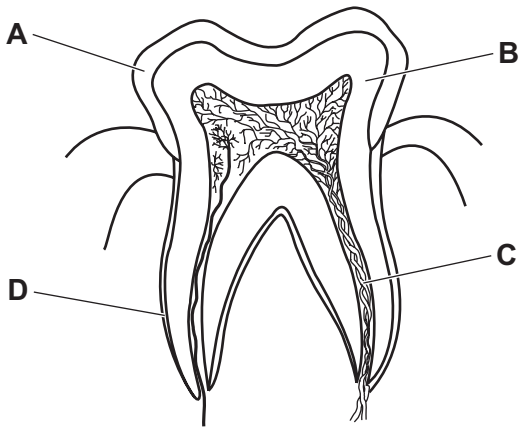
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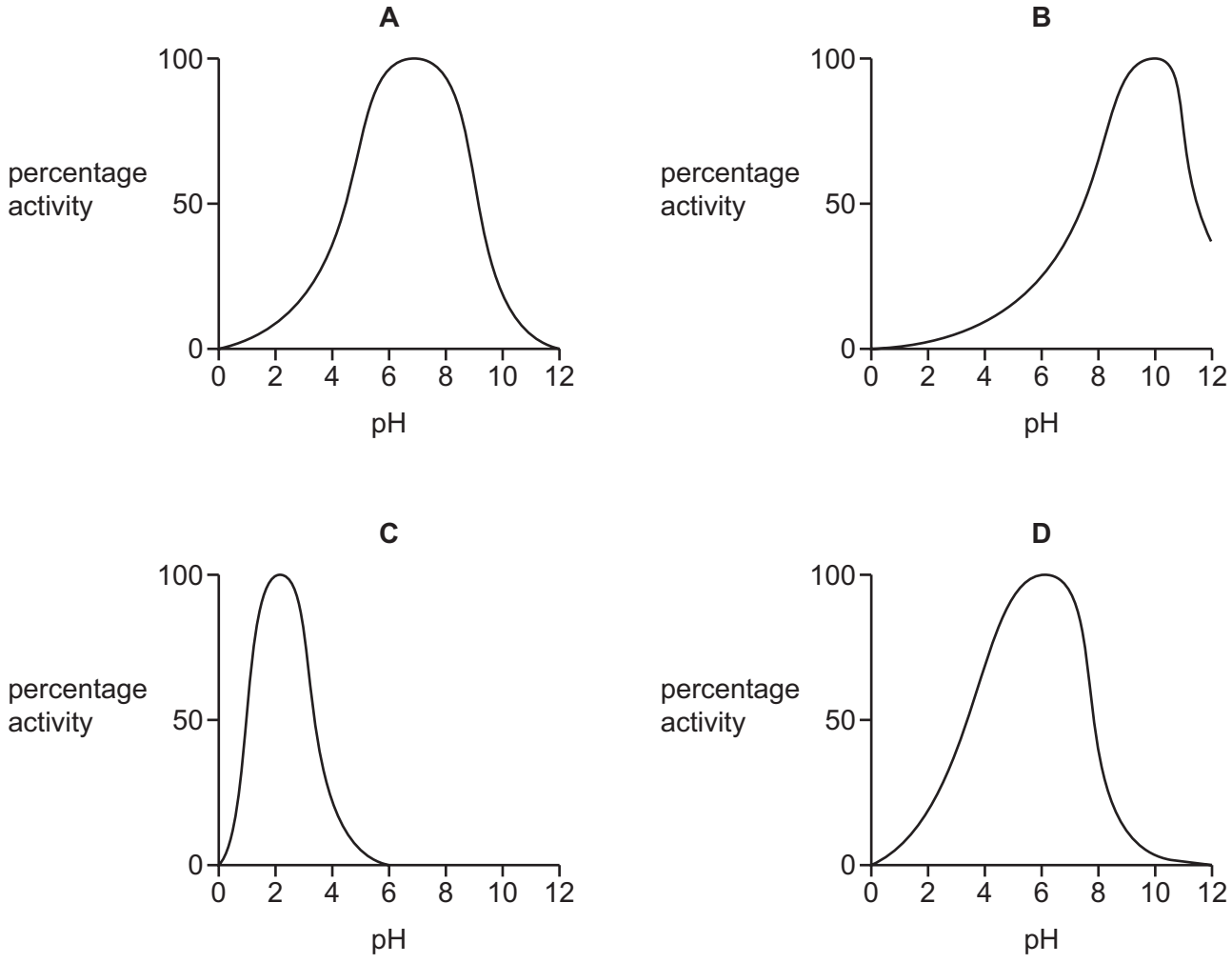
10 The diagram shows a cross-section of a molar tooth.

Which letter identifies the dentine?



11 The graphs show the effect of pH on the activity of four different digestive enzymes.

Which enzyme is most active in the stomach?



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12 In which organ does physical digestion and chemical digestion occur?

A gall bladder

B liver

C pancreas

D stomach

13 Which pathway is taken by water from the roots to the leaves?

A root cortex cells → root hair cells → mesophyll cells → xylem

B root cortex cells → root hair cells → xylem → mesophyll cells

C root hair cells → root cortex cells → mesophyll cells → xylem

D root hair cells → root cortex cells → xylem → mesophyll cells

14 What is a function of red blood cells?

A production of antibodies

B transport of glucose

C transport of hormones

D transport of oxygen

15 Which term can be used to describe all disease-causing organisms?

A bacteria

B decomposers

C pathogens

D viruses

16 Which row shows how the composition of expired air differs from inspired air?

	carbon dioxide concentration	oxygen concentration
A	higher	higher
B	higher	lower
C	lower	higher
D	lower	lower

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17 Which substance is produced in human muscles during anaerobic respiration?

A alcohol

B carbon dioxide

C lactic acid

D urea

18 In humans, a ureter and a urethra are two structures involved in excretion.

Which comparison between a ureter and a urethra is correct?

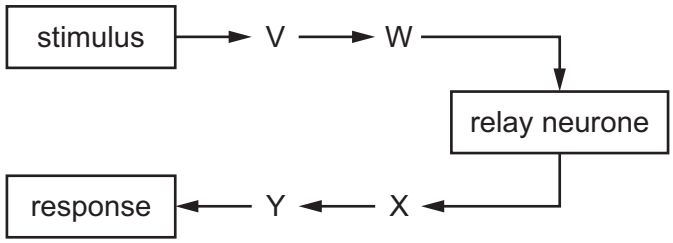
A Only fluid passing through a ureter contains excess mineral ions and water.

B Only fluid passing through a urethra contains urea.

C Only a ureter is directly attached to the bladder.

D Only a ureter is directly attached to the kidney.

19 The diagram shows the pathway of a reflex arc.



Which row identifies the parts of the reflex arc?

	V	W	X	Y
A	effector	motor neurone	sensory neurone	receptor
B	effector	sensory neurone	motor neurone	receptor
C	receptor	motor neurone	sensory neurone	effector
D	receptor	sensory neurone	motor neurone	effector

20 A person is being chased. This causes a hormone to be released.

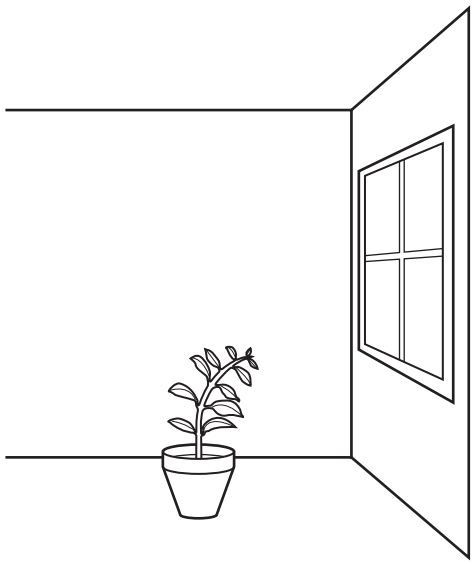
Which row shows how this hormone affects the breathing rate, heart rate and pupil diameter?

	breathing rate	heart rate	pupil diameter
A	increases	increases	increases
B	increases	decreases	decreases
C	decreases	increases	increases
D	decreases	decreases	decreases

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21 A plant is placed on the floor in a room, near a window that lets in a lot of light.

The shoot of the plant grows towards the window.



What could explain this response?

1 growth away from gravity

2 growth towards gravity

3 growth away from the light source

4 growth towards the light source

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

22 A person measures their reaction time five times before and after drinking a cup of coffee. The table shows the results.

	reaction time / s				
before drinking coffee	0.25	0.30	0.20	0.35	0.15
after drinking coffee	0.20	0.15	0.10	0.20	0.10

Which statement describes the results?

A The mean reaction time after drinking coffee is 0.25 s.

B The mean reaction time before drinking coffee is longer than after drinking coffee.

C The mean reaction time before drinking coffee is 0.15 s.

D The mean reaction time is **not** affected by drinking coffee.

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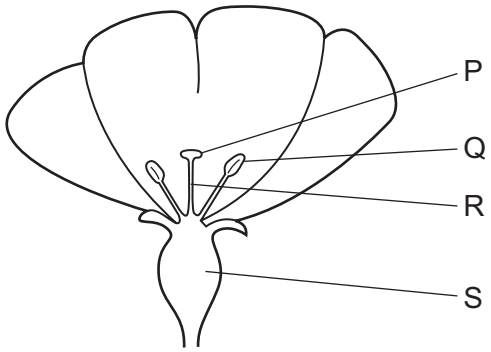
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23 Which set of conditions do most seeds require for germination?

	oxygen	warmth	water
A	✓	✗	✓
B	✓	✓	✗
C	✗	✓	✓
D	✓	✓	✓

key
✓ = required
✗ = **not** required

24 The diagram shows part of a flower.

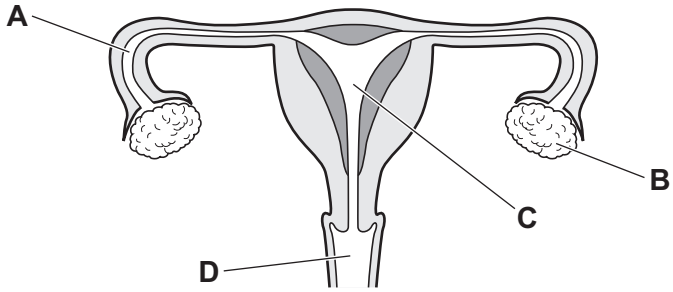


After pollination, where would pollen grains be found?

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

25 The diagram shows the human female reproductive system.

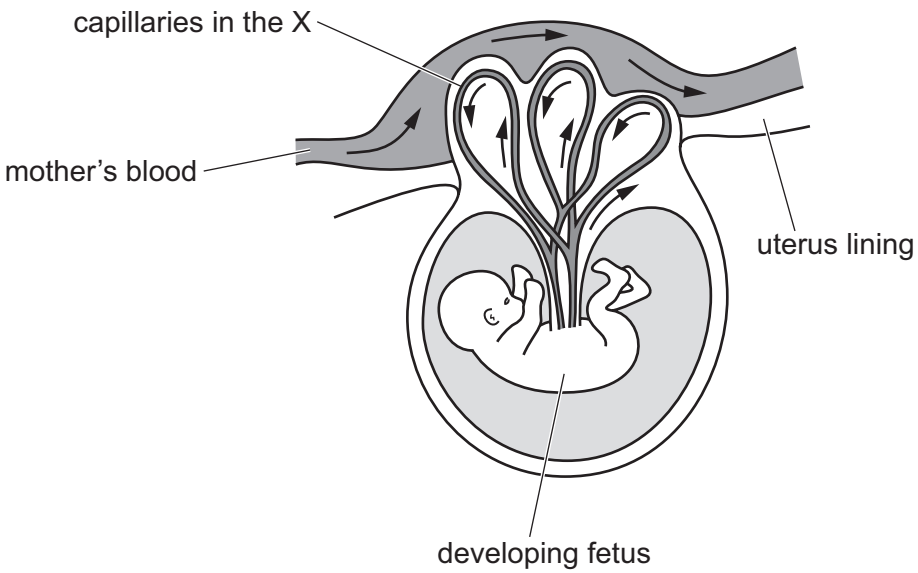
Where does fertilisation normally take place?



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26 The diagram shows a developing fetus.



Which structure is represented by X?

A amniotic sac

B cervix

C placenta

D umbilical cord

27 Which statements describe methods of transmission of HIV?

1 eating contaminated food

2 exchange of blood between individuals

3 from a mother to a fetus in pregnancy

4 insect bites

5 unprotected sex

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

28 What does a gene code for?

A a carbohydrate

B a fat

C a protein

D DNA

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29 In a species of mammal, the allele for short hair, H, is dominant and the allele for long hair, h, is recessive.

A heterozygous individual breeds with a long-haired individual.

What is the expected ratio of the phenotypes in the offspring?

A 100% short-haired, 0% long-haired

B 75% short-haired, 25% long-haired

C 50% short-haired, 50% long-haired

D 25% short-haired, 75% long-haired

30 Which statement about variation and example is correct?

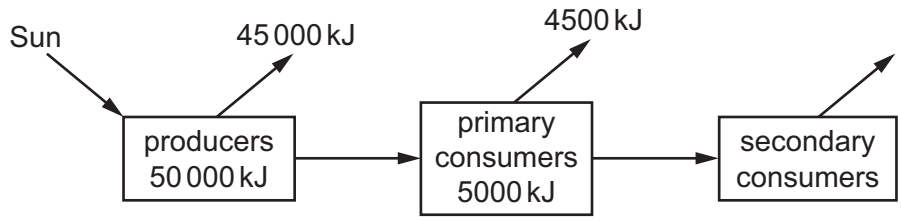
A Continuous variation is caused by the environment and genes. An example is ABO blood groups.

B Continuous variation is usually caused by genes only. An example is body mass.

C Discontinuous variation is caused by both the environment and genes. An example is body mass.

D Discontinuous variation is usually caused by genes only. An example is ABO blood groups.

31 The diagram shows the energy within the producers in an ecosystem and how much is transferred to primary consumers and eventually lost to the environment.



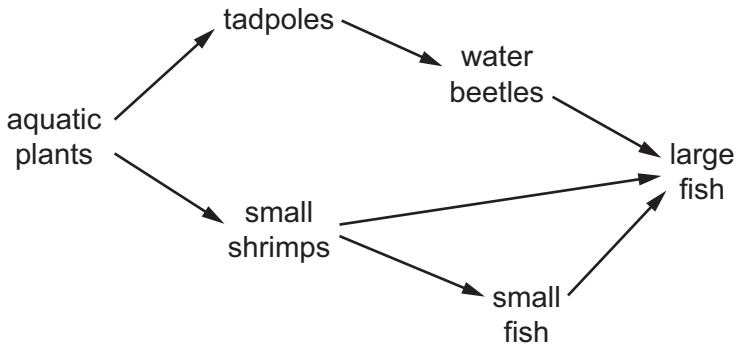
How much energy is transferred from primary consumers to secondary consumers?

A 5 kJ **B** 50 kJ **C** 500 kJ **D** 5000 kJ

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32 The diagram represents part of an aquatic food web.



Which organisms are primary consumers in this food web?

A small shrimps and tadpoles

B tadpoles and small fish

C water beetles and large fish

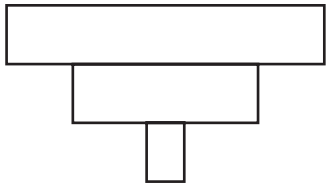
D water beetles and small fish

33 In a greenhouse there were many aphids feeding on 10 tomato plants.

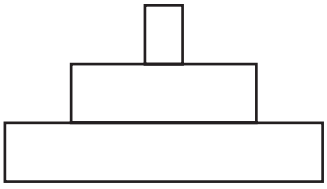
A population of 20 ladybirds, which are a predator of aphids, was introduced into the greenhouse.

Which pyramid of numbers correctly represents this food chain?

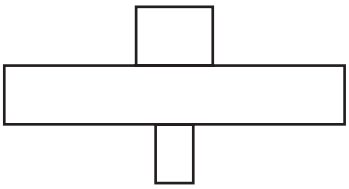
A



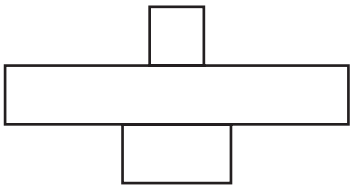
B



C



D

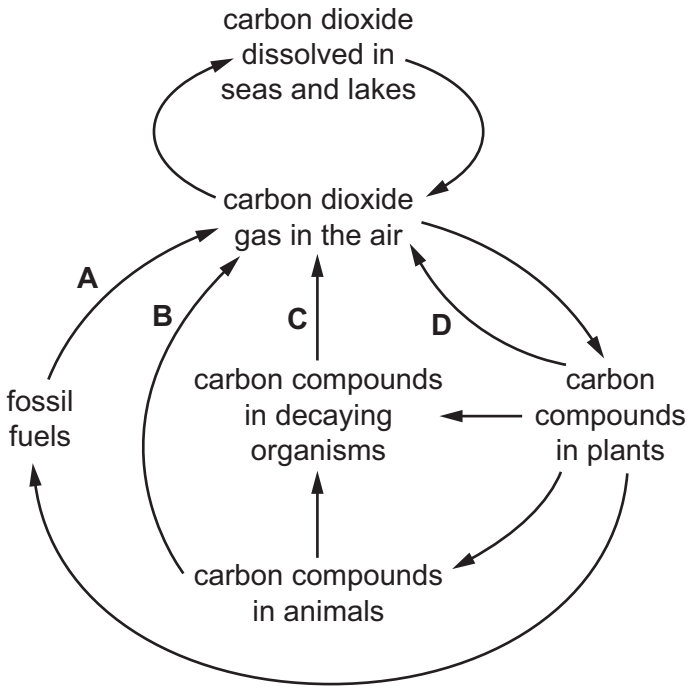


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34 Which arrow represents respiration in plants?



35 What is the correct sequence for the stages in a sigmoid population growth curve?

A lag → log → stationary

B log → lag → stationary

C stationary → lag → log

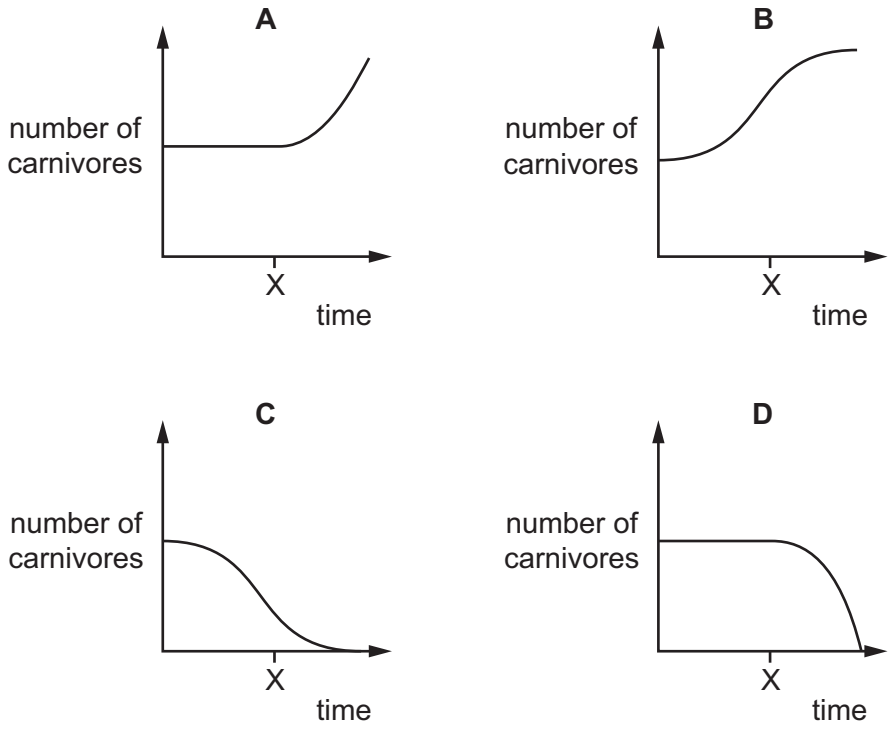
D stationary → log → lag

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36 The graphs show the number of carnivores in a habitat over a period of time. At time X, the herbivores in the food chain are removed from the habitat.

Which graph shows the likely effect of this on the number of carnivores?



37 What is used to reduce competition from weeds when growing crops?

A deforestation

B fertiliser

C herbicide

D insecticide

38 Which statements describe the effects of deforestation?

1 Biodiversity increases.

2 The level of carbon dioxide in the atmosphere increases.

3 Soil is lost from the area.

4 There is a decrease in flooding.

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

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39 Which substance is a greenhouse gas?

A herbicide

B insecticide

C methane

D oxygen

40 Biological washing powders contain enzymes.

Which enzyme removes an oil stain from clothes?

A amylase

B lipase

C pectinase

D protease

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