Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

BIOLOGY **0610/11**

Paper 1 Multiple Choice **October/November 2014**

45 minutes

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

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.

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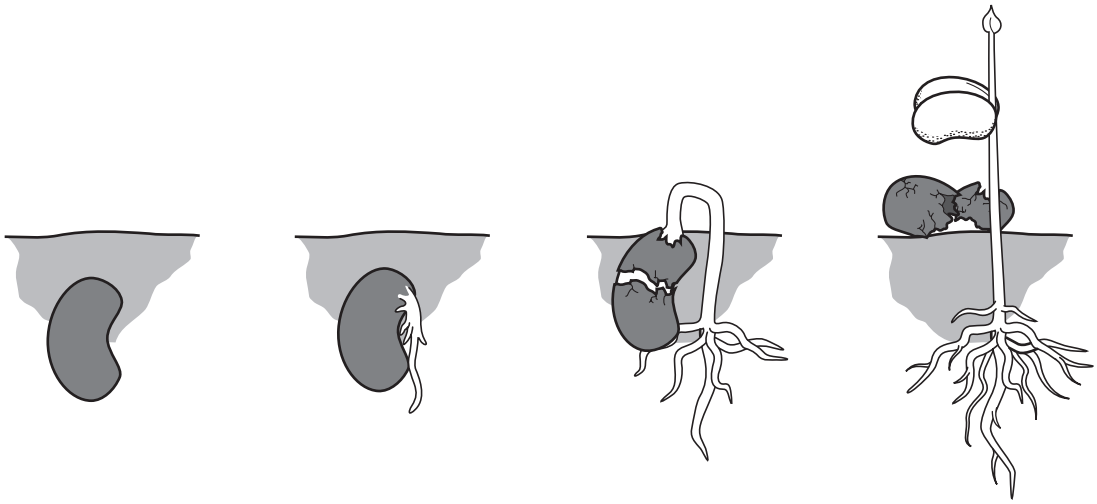
CAMBRIDGE International Examinations

1 The diagram shows how a seed changes after it is planted in well-watered soil.

View solution



Which characteristics of living things are demonstrated by this sequence?

A growth and reproduction

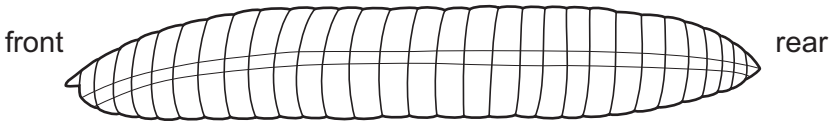
B growth and sensitivity

C nutrition and reproduction

D nutrition and sensitivity

2 The diagram shows the body plan of an invertebrate animal.

View solution



To which group does the animal belong?

A annelid

B crustacean

C insect

D nematode

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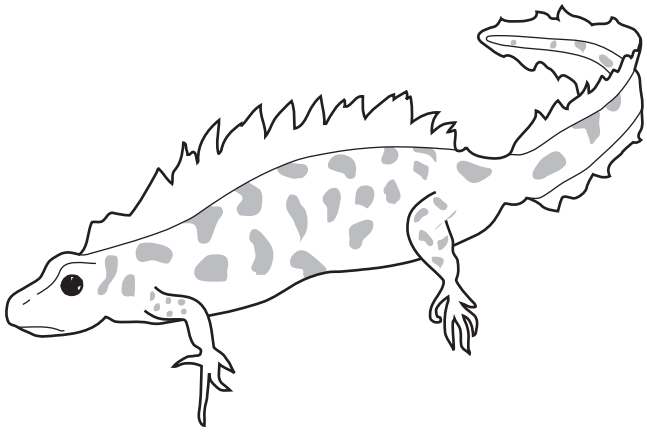
3 The diagram shows an animal.

View solution



Use the key to identify the animal.

1 front limbs with five fingers ..... go to 2

front limbs with four fingers ..... go to 3

2 skin with spots ..... **A**

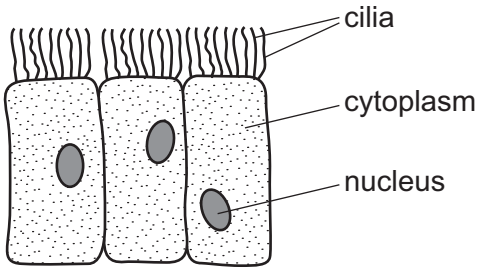
skin without spots ..... **B**

3 tail with fins ..... **C**

tail without fins ..... **D**

4 The diagram shows some cells.

View solution



Where are these cells found?

A alimentary canal

B blood

C bronchial wall

D plant roots

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5 Which features are possessed by **all** plant cells?

View solution

	a cell wall	chloroplasts
A	✓	✓
B	✓	✗
C	✗	✓
D	✗	✗

6 For which process is a root hair cell adapted?

View solution

A absorption of mineral ions

B support of stem

C translocation of sucrose

D transport of oxygen

7 Which processes produce a continuous space for the flow of water in xylem vessels?

View solution

	break down of the cell walls between adjacent cells	removal of the cytoplasm in each cell
A	yes	yes
B	yes	no
C	no	yes
D	no	no

8 Which characteristics are correct for **both** osmosis and diffusion?

View solution

	require a partially permeable membrane	require a concentration gradient	are energy consuming processes
A	✓	✓	✗
B	✓	✗	✓
C	✗	✓	✗
D	✗	✗	✓

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9 Which substance is transported by haemoglobin?

View solution

A nitrogen

B oxygen

C urea

D water

10 What happens to most enzymes above 60 °C?

View solution

A They are denatured.

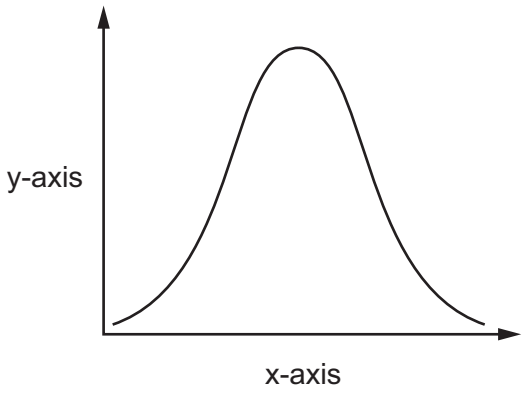
B They are destroyed by white blood cells.

C They are digested.

D They are made more active.

11 An experiment was carried out to investigate the effect of pH on enzyme action. The graph shows the results.

View solution



What are the labels for the x-axis and the y-axis?

	x-axis	y-axis
A	pH	rate of reaction
B	pH	time
C	rate of reaction	pH
D	time	pH

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12 What is the function of the anus?

View solution

A assimilation

B digestion

C egestion

D excretion

13 Which simple molecules are the basic units of protein?

View solution

A amino acids

B fatty acids

C sugars

D vitamins

14 Some liquid is collected from the xylem in the stem of a plant.

View solution

What is present in the liquid?

A cellulose

B inorganic ions

C starch

D sugar

15 What is a function of phloem?

View solution

A translocation

B transpiration

C storage of food

D support

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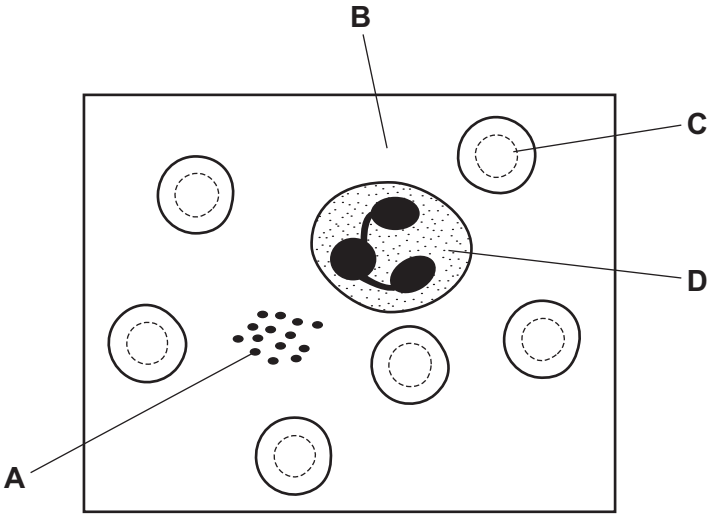
16 The diagram shows human blood as seen through a light microscope.

View solution

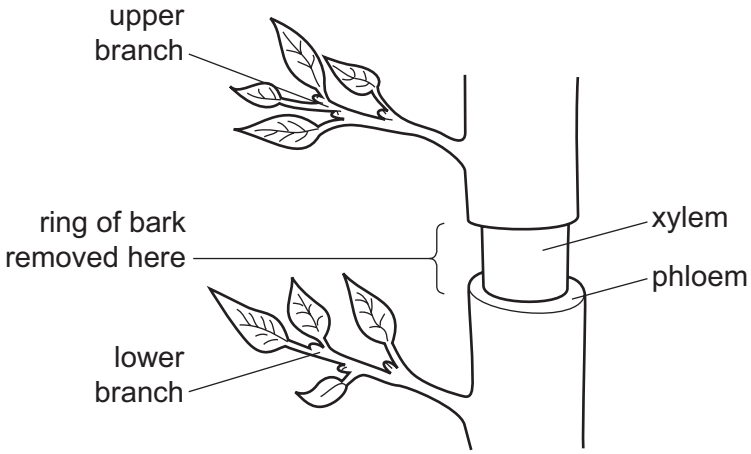
A person's blood is unable to clot.

Which component of the blood is **not** functioning properly?



17 The diagram shows part of the trunk of a small tree with a ring of bark removed. Removing the ring of bark takes away phloem but leaves the xylem intact.

View solution



What effect will removing the bark have on the two branches?

	lower branch		upper branch	
	growth	leaves	growth	leaves
A	normal	normal	normal	wilted
B	normal	wilted	normal	normal
C	reduced	normal	normal	normal
D	reduced	wilted	reduced	wilted

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18 What are the products of anaerobic respiration in muscles?

View solution

A ethanol and carbon dioxide

B ethanol only

C lactic acid and carbon dioxide

D lactic acid only

19 The oxygen carrying capacity of the blood of smokers is less than that of non-smokers.

View solution

Which component of cigarette smoke causes this?

A carbon monoxide

B nicotine

C smoke particles

D tar

20 Why is yeast used in bread-making?

View solution

A to provide carbon dioxide

B to provide ethanol

C to provide lactic acid

D to provide oxygen

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21 The table shows a student's water losses on a cool day.

View solution

	water loss / cm^3
in urine	1500
in faeces	100
in expired air	400
in sweat	800
total	2800

On a hot day the student's water intake was the same as on the cool day.

On the hot day, which water losses would increase and which would decrease?

	increase	decrease
A	in sweat	in expired air
B	in sweat	in urine
C	in urine	in faeces
D	in urine	in sweat

22 After a meal containing carbohydrates, which row shows the changes in concentration of glucose and urea in the blood as it passes through the liver?

View solution

	glucose	urea
A	less	less
B	less	more
C	more	less
D	more	more

23 Which actions straighten the arm at the elbow joint?

View solution

	biceps	triceps
A	contracts	contracts
B	contracts	relaxes
C	relaxes	contracts
D	relaxes	relaxes

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24 Which response is a result of geotropism?

View solution

A flowers being produced

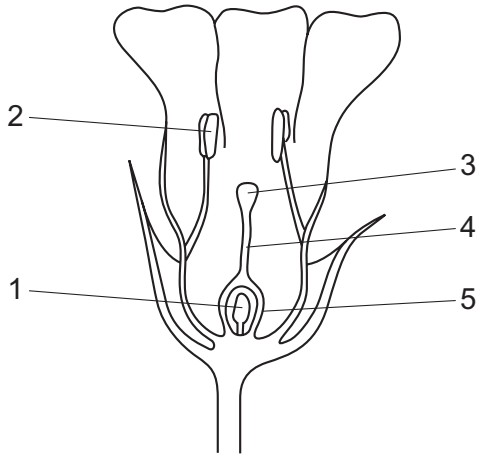
B growing bigger leaves

C roots growing downwards

D seeds germinating

25 The diagram shows a flower in vertical section.

View solution



Which numbered parts of the flower continue to develop after fertilisation?

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

26 A plant has two different alleles of a gene resulting in it having a green seed.

View solution

Which row describes the phenotype and genotype of the seeds of this plant?

	phenotype	genotype
A	Gg	heterozygous
B	Gg	homozygous
C	green	heterozygous
D	green	homozygous

27 To avoid extinction of a rare plant species, a botanical garden keeps a collection of seeds, known as a seed bank.

View solution

Which condition will prevent these seeds germinating whilst in storage?

A high humidity

B high oxygen levels

C low light intensity

D low temperature

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28 What may be defined as 'an increase in dry mass'?

View solution

A growth

B nutrition

C reproduction

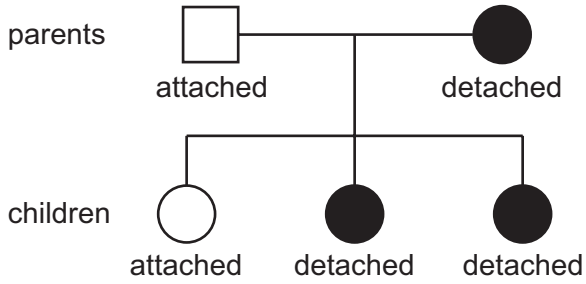
D respiration

29 The shape of a person's earlobes is determined by a single gene. This gene has dominant and recessive alleles.

View solution

The allele for detached earlobes is dominant to the allele for attached earlobes.

The diagram shows the inheritance of earlobe shape in a family.



What is the probability of the next child from the same parents having detached earlobes?

A 0% **B** 25% **C** 50% **D** 75%

30 Which sex chromosomes are present in all mature human sperm cells?

View solution

A both X and Y chromosomes

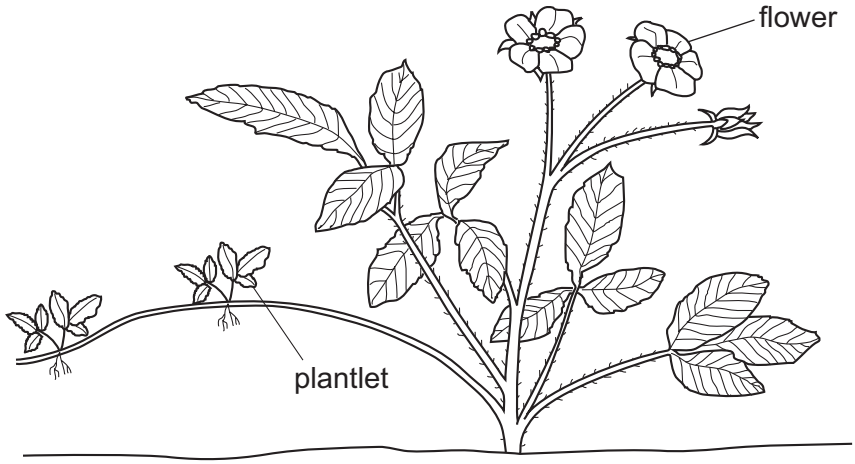
B either X or Y chromosomes

C only X chromosomes

D only Y chromosomes

31 The diagram shows a plant that is producing small plantlets.

View solution



Which statement about the plantlets is correct?

A They are genetically different from the parent plant.

B They are genetically identical to the parent plant.

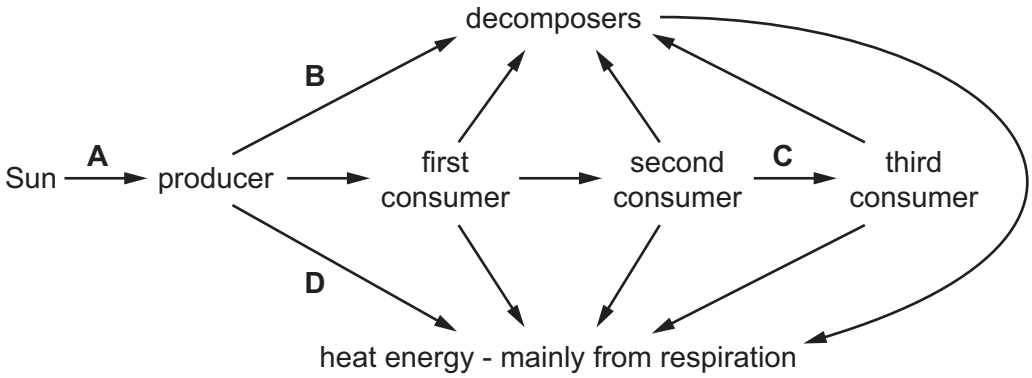
C They are produced as a result of the fusion of nuclei.

D They are produced by fertilising the flowers.

32 The diagram shows energy passing through an ecosystem.

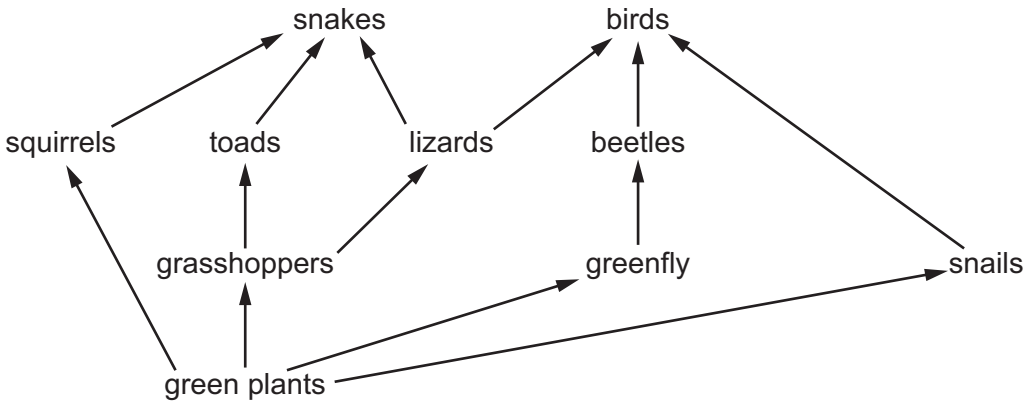
View solution

Which arrow shows energy leaving the food web?



33 The diagram shows a food web.

View solution



Which organisms will increase in number, if the number of snakes increases?

A birds

B grasshoppers

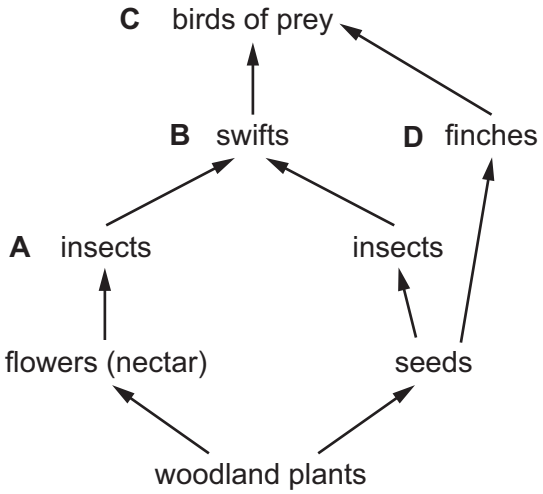
C lizards

D squirrels

34 The diagram shows some feeding relationships in a woodland area.

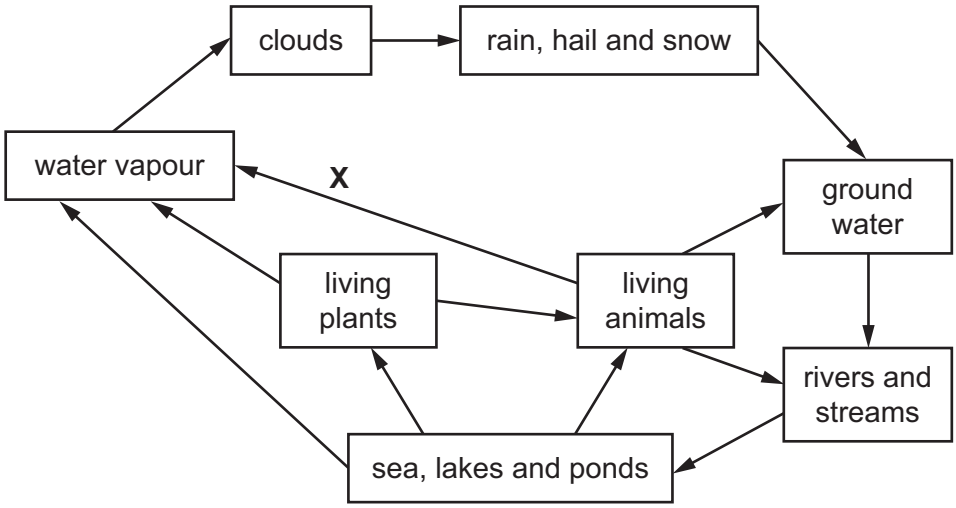
View solution

Which of the labelled animals are in competition with seed-eating insects for their food?



35 The diagram shows the water cycle.

View solution



Which process is represented by **X**?

A osmosis

B photosynthesis

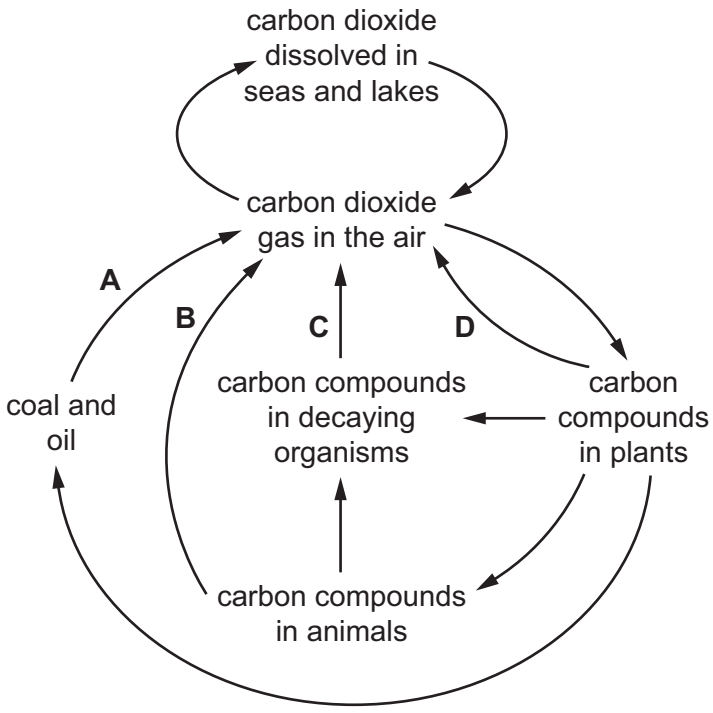
C respiration

D transpiration

36 The diagram shows the carbon cycle.

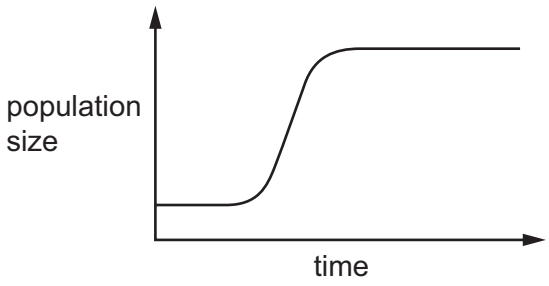
View solution

Which process produces carbon dioxide from substances made by photosynthesis millions of years ago?



37 The graph shows part of a growth curve for a bacterial population.

View solution



What is missing from the graph?

A the death phase

B the exponential phase

C the lag phase

D the stationary phase

38 Over-use of fertilisers on farmland causes the chemicals in the fertilisers to be washed into ponds and lakes.

View solution

This causes eutrophication resulting in the following events.

1 algae grow

2 fish die

3 bacteria grow

4 oxygen decreases

What is the correct sequence of these events?

A $1 \rightarrow 3 \rightarrow 4 \rightarrow 2$

B $1 \rightarrow 4 \rightarrow 3 \rightarrow 2$

C $3 \rightarrow 4 \rightarrow 2 \rightarrow 1$

D $4 \rightarrow 1 \rightarrow 2 \rightarrow 3$

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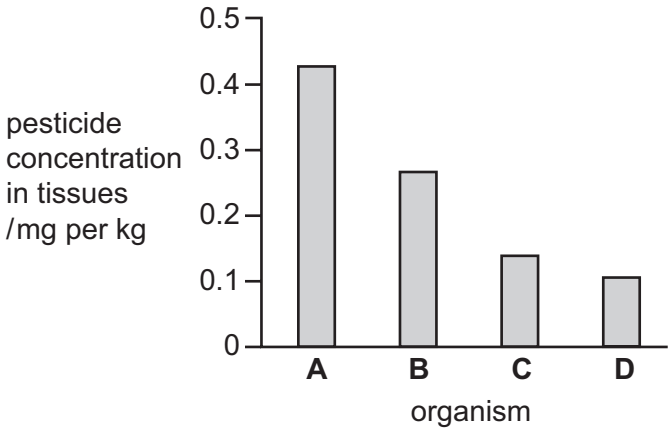
39 The concentration of a pesticide in the tissues of the organisms in the following food chain was measured.

View solution

plants → small fish → large fish → birds of prey

Which bar on the chart represents the large fish?



View solution

40 Which activity will be **least** likely to lead to the extinction of species?

A conservation

B deforestation

C use of herbicides

D use of pesticides

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