Cambridge Assessment International Education

Cambridge IGCSE™

BIOLOGY **0610/11**

Paper 1 Multiple Choice (Core) **October/November 2020**

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. A mark will not be deducted for a wrong answer.
- Any rough working should be done on this question paper.

This document has **16** pages. Blank pages are indicated.

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1 Hedgehogs are mammals. Touching a hedgehog causes it to roll into a ball to protect itself.

Which characteristics is it displaying?

A excretion and movement

B growth and sensitivity

C movement and growth

D movement and sensitivity

2 According to the binomial system, how should a human be named?

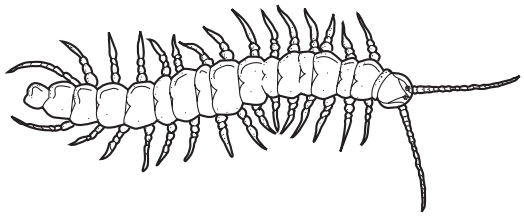
A *Homo Sapiens*

B *Homo sapiens*

C *homo Sapiens*

D *homo sapiens*

3 The diagram shows an arthropod.



Which group does this arthropod belong to?

A arachnid

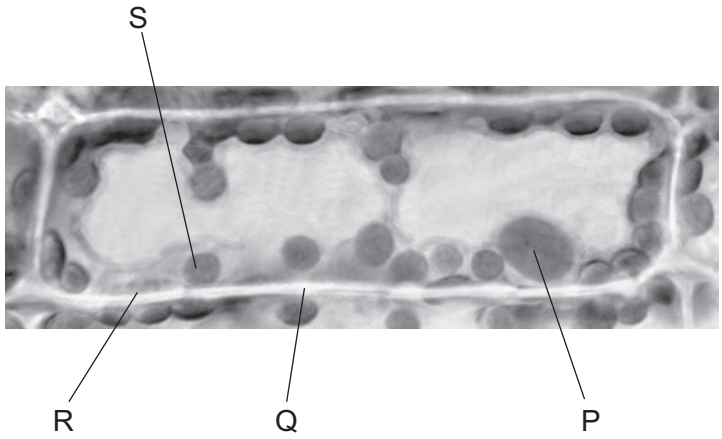
B crustacean

C insect

D myriapod

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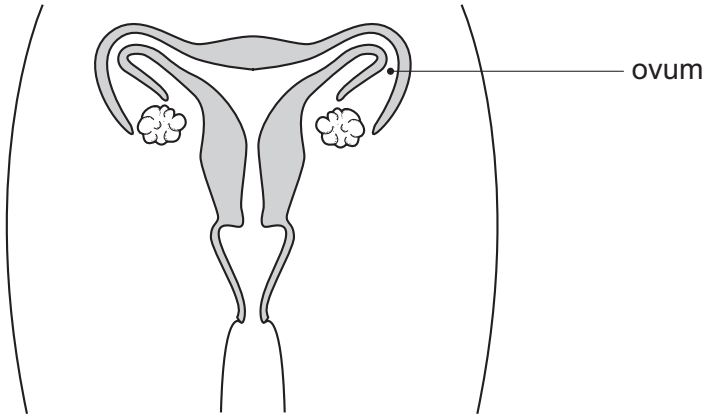
4 The photomicrograph shows a cell from a type of aquatic plant.



Which parts labelled on the photomicrograph indicate that this is a plant cell?

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

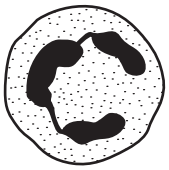
5 The diagram shows the female reproductive system.



At which level of organisation are the ovum and the ovary?

	ovum	ovary
A	cell	organ
B	cell	tissue
C	organ	tissue
D	tissue	organ

6 The cell shown in the diagram has been magnified 3000 times. The diagram is 21 mm wide.



What is the actual diameter of the cell?

A 21 mm

B $\frac{21\text{mm}}{3000}$

C 21 mm × 3000

D $\frac{3000}{21\text{mm}}$

7 What are features of osmosis?

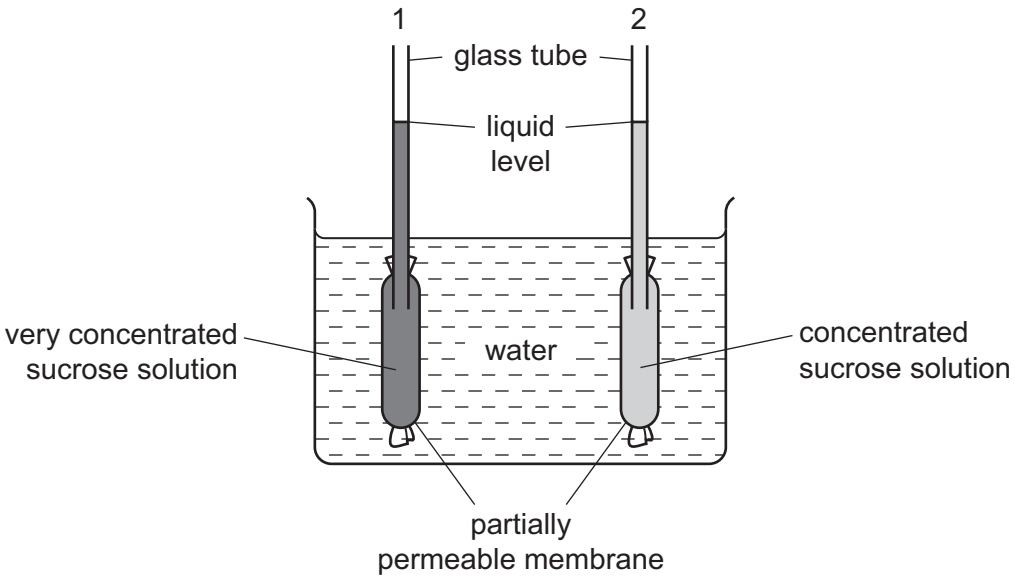
	diffusion is involved	requires cell walls	requires a partially permeable membrane
A	✓	✗	✓
B	✓	✗	✗
C	✗	✓	✓
D	✗	✓	✗

key

✓ = yes

✗ = no

8 The diagram shows apparatus which can be used to demonstrate osmosis.



After one hour, what would happen to the liquid levels in the glass tubes?

	liquid level in tube 1	liquid level in tube 2
A	falls	falls
B	falls	rises
C	rises	falls
D	rises	rises

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

A cellulose, glycogen and starch

B fats, cellulose and proteins

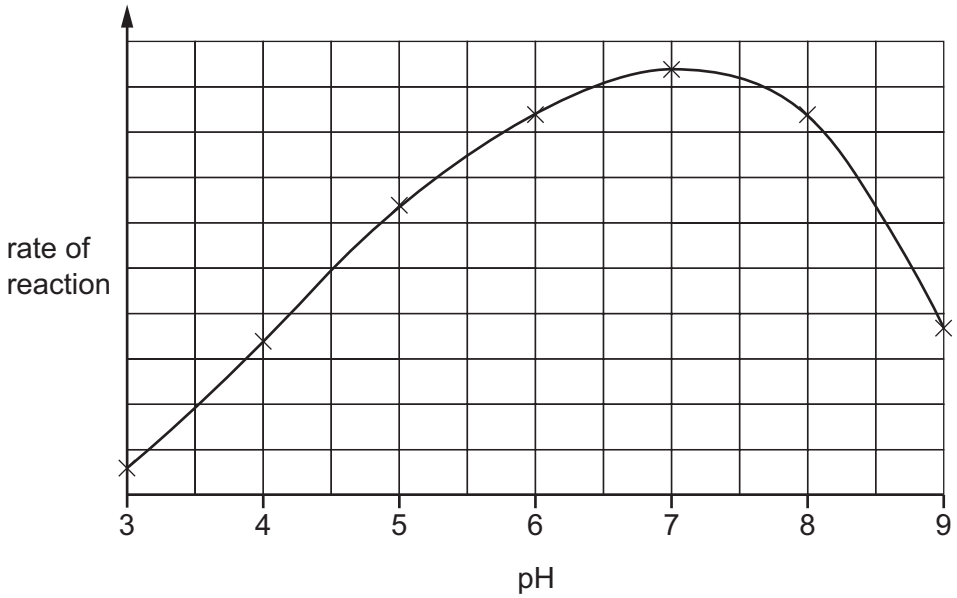
C proteins, oils and glycogen

D starch, fats and oils

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[Turn over

10 The graph shows the effect of pH on the rate of reaction of an enzyme.



What does the graph show?

A The enzyme is destroyed at pH 9.

B The enzyme works best at pH 6.

C The rate of reaction halves as the pH changes from pH 5 to pH 7.

D The rate of reaction is the same at pH 5 and pH 8.5.

11 What kind of molecule is an enzyme?

A fat

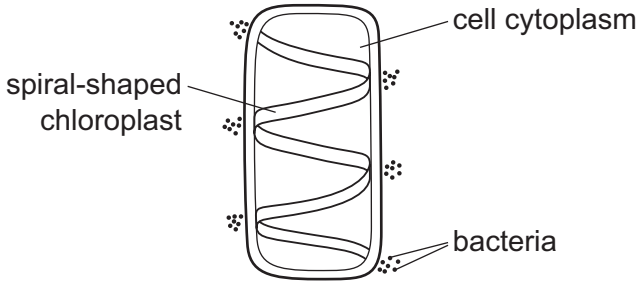
B glucose

C protein

D starch

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12 The diagram shows a cell with groups of bacteria around its edge.



The bacteria move to areas of high oxygen concentration.

Which process in the cell causes the bacteria to form these groups?

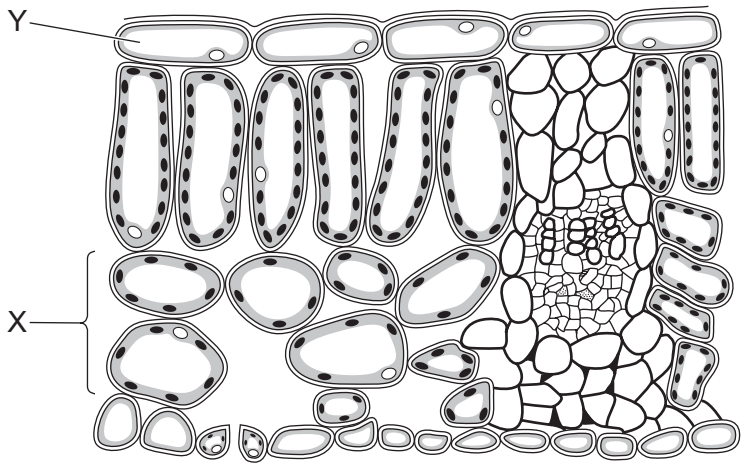
A digestion

B photosynthesis

C reproduction

D respiration

13 The diagram shows a section through a leaf.



Which row correctly identifies tissues X and Y?

	X	Y
A	palisade mesophyll	cuticle
B	palisade mesophyll	upper epidermis
C	spongy mesophyll	cuticle
D	spongy mesophyll	upper epidermis

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[Turn over

14 Which stage of nutrition takes place when food molecules become part of a body cell?

A absorption

B assimilation

C digestion

D ingestion

15 What is the definition of chemical digestion?

A Large insoluble molecules are changed into smaller soluble molecules.

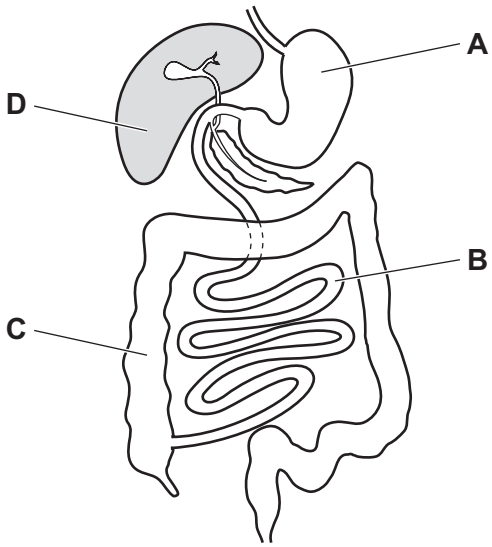
B Large soluble molecules are changed into smaller soluble molecules.

C Small insoluble molecules and ions are passed through the wall of the small intestine.

D Small soluble molecules and ions are passed through the wall of the small intestine.

16 The diagram shows the human alimentary canal.

Where is most digested food absorbed into the blood?



17 In which order does water pass through these structures in a plant?

A mesophyll → root hair → xylem

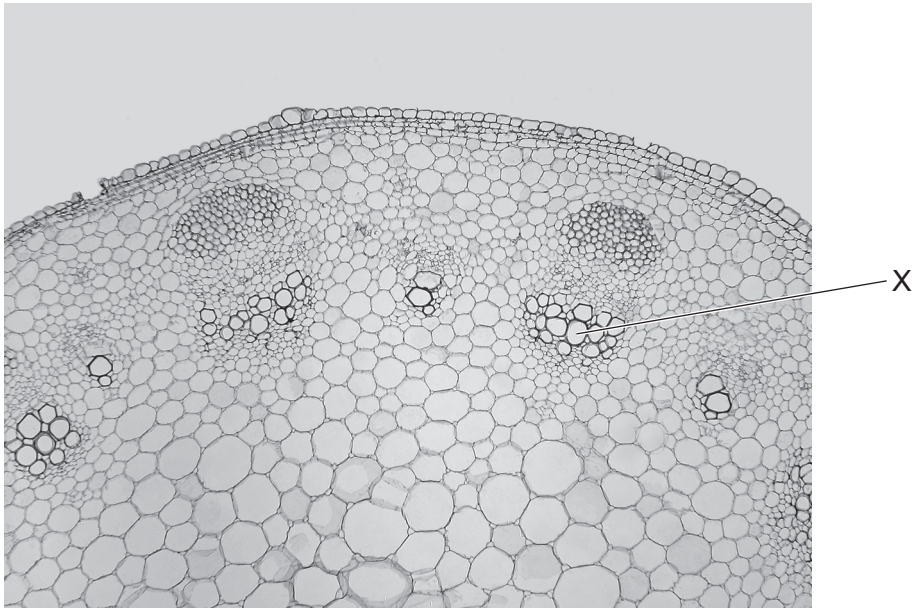
B mesophyll → xylem → root hair

C root hair → mesophyll → xylem

D root hair → xylem → mesophyll

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18 The photomicrograph shows a cross-section through a plant stem.



What is the name and function of the tissue labelled X?

	tissue	function
A	phloem	transports sugars
B	phloem	transports water and minerals
C	xylem	transports sugars
D	xylem	transports water and minerals

19 The table shows some features of blood vessels.

Which row shows the features of a vein?

	direction of blood flow	size of the central hole (lumen)	thickness of wall
A	away from the heart	large	thick
B	away from the heart	small	thick
C	towards heart	small	thin
D	towards heart	large	thin

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[Turn over

20 Which component of the blood releases antibodies in response to an infection by bacteria?

A blood plasma

B platelets

C red blood cells

D white blood cells

21 Which is an example of a transmissible disease?

A coronary heart disease caused by eating a high fat diet

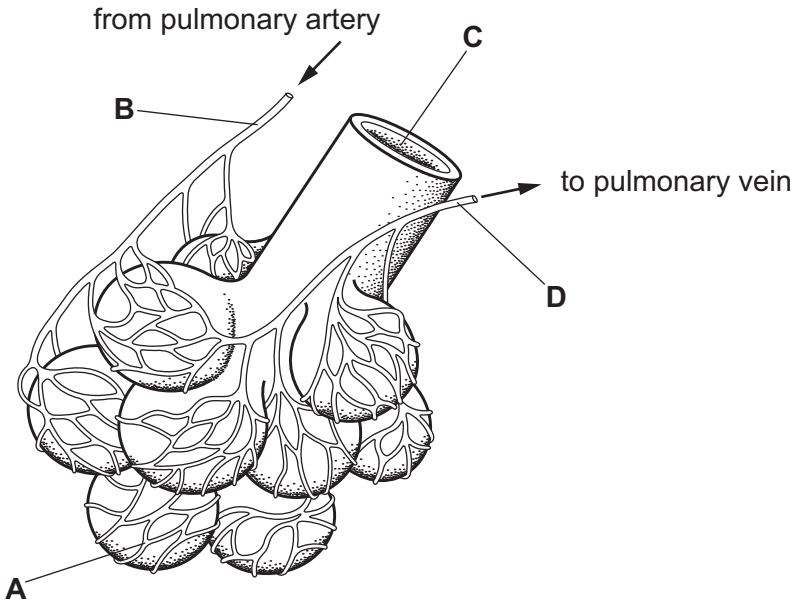
B AIDS

C liver disease caused by excessive alcohol consumption

D scurvy

22 The diagram shows some of the structures in a human lung.

Where is the carbon dioxide concentration highest?



23 The list shows some processes that happen in the human body.

1 water enters cells by osmosis

2 muscles contract

3 impulses travel along neurones

4 oxygen diffuses into cells

Which of these require energy released by respiration?

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

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24 The amount of urea in the blood increases as it passes through organ X.

What is organ X?

A heart

B kidney

C liver

D pancreas

25 Which is the correct sequence of structures through which a nerve impulse passes in a reflex arc?

A effector → motor neurone → relay neurone → sensory neurone → receptor

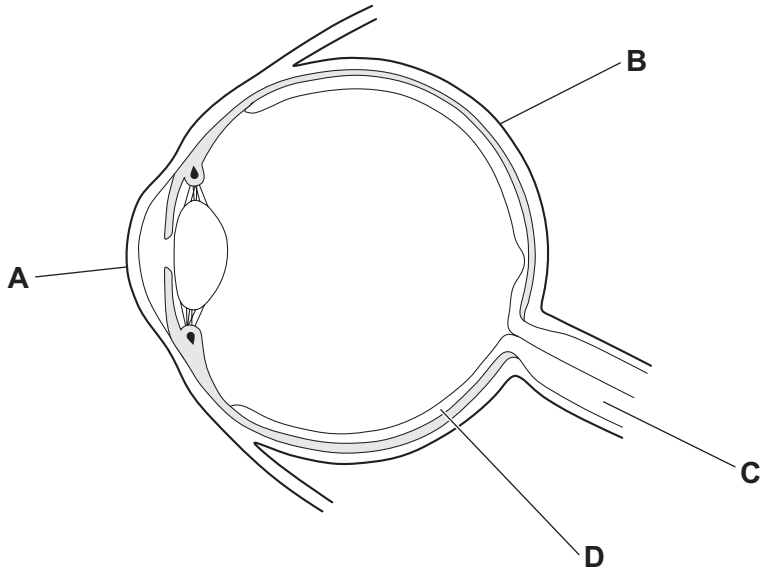
B effector → sensory neurone → relay neurone → motor neurone → receptor

C receptor → motor neurone → relay neurone → sensory neurone → effector

D receptor → sensory neurone → relay neurone → motor neurone → effector

26 The diagram shows an eye.

Which labelled part contains cells that are sensitive to light?



27 Which hormone stimulates the development of male gametes?

A adrenaline

B insulin

C oestrogen

D testosterone

28 A drug is defined as a substance taken into the body that

A causes addiction.

B cures disease.

C kills bacteria.

D modifies or affects chemical reactions.

29 What is an example of asexual reproduction?

A a single bacterium dividing to produce two genetically identical bacteria

B a mammal giving birth to four offspring

C a female bird laying six eggs which will hatch into the same species

D a tomato plant producing fruits which contain many seeds

30 What is the sequence of events when a woman gives birth?

	1st	2nd	3rd
A	delivery of afterbirth	cervix dilates	passage of fetus through vagina
B	cervix dilates	passage of fetus through vagina	umbilical cord cut
C	passage of fetus through vagina	amniotic sac breaks	cervix dilates
D	umbilical cord cut	passage of fetus through vagina	delivery of afterbirth

31 Some types of birth control are listed.

1 condom

2 diaphragm

3 IUD

4 vasectomy

Which types are barrier methods?

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

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32 In humans, sex determination is controlled by the X and Y chromosomes.

A man and a woman have three children, two boys and a girl.

What is the probability that their next child will be a girl?

A 25% **B** 50% **C** 75% **D** 100%

33 Mitosis is a type of cell division.

Which row about mitosis is correct?

	cells produced	functions
A	genetically different	growth and repair of tissues
B	genetically different	production of gametes
C	genetically identical	growth and repair of tissues
D	genetically identical	production of gametes

34 Which statement is best used to describe differences in height in humans?

A continuous variation resulting in a limited number of phenotypes

B continuous variation resulting in a range of phenotypes

C discontinuous variation resulting in a limited number of phenotypes

D discontinuous variation resulting in a range of phenotypes

35 A student wrote some statements describing the stages involved during selective breeding of plants.

1 Farmers select individual plants with desirable features.

2 Farmers cross these individuals to produce the next generation.

3 The farmers then select the offspring with the desirable features.

Which statements are correct?

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

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36 The diagram shows a food chain.

clover plant → rabbit → fox

Which terms can be used to describe the fox in this food chain?

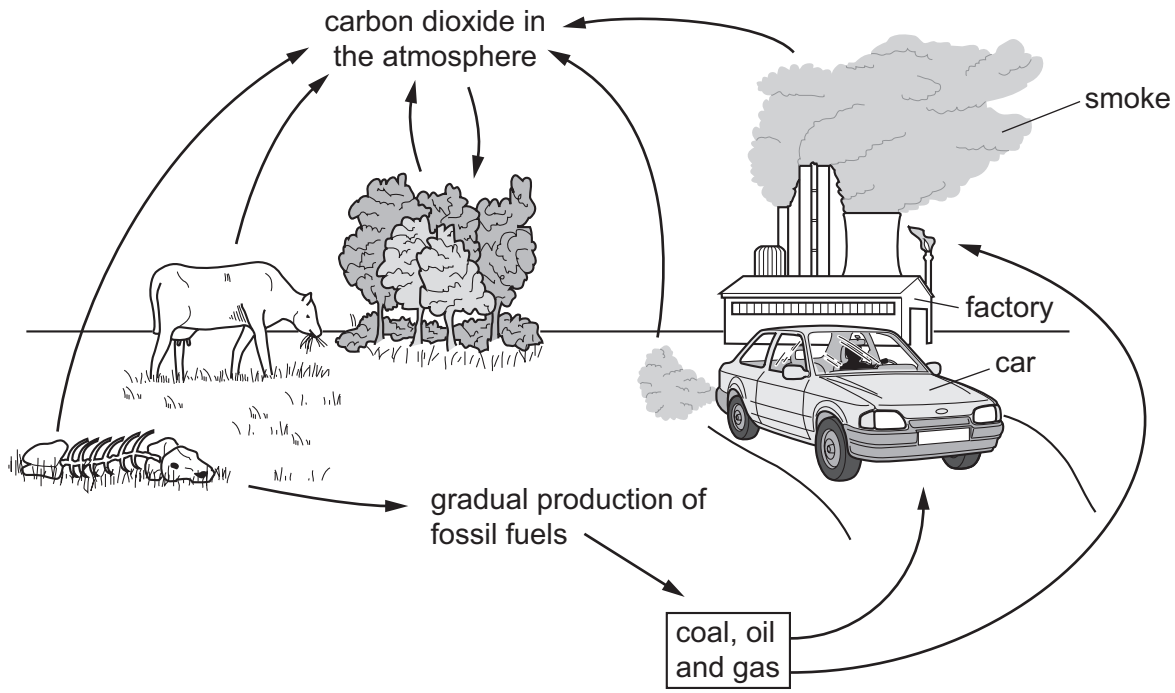
A carnivore and primary consumer

B carnivore and secondary consumer

C carnivore and tertiary consumer

D carnivore only

37 The diagram represents the carbon cycle.



Which process produces the carbon dioxide from the factory and the car?

A combustion

B condensation

C decomposition

D precipitation

38 In the water cycle, which stage is **only** carried out by plants?

A condensation

B evaporation

C precipitation

D transpiration

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39 Yeast carries out anaerobic respiration, making carbon dioxide and ethanol as end products.

Which end products can be used to make biofuel and bread?

	biofuel	bread
A	carbon dioxide	carbon dioxide
B	carbon dioxide	ethanol
C	ethanol	carbon dioxide
D	ethanol	ethanol

40 What is the effect of replacing tropical rainforest with plantations of oil palm trees, which are grown as crop plants?

A increased carbon dioxide in the atmosphere

B increased flooding

C reduced number of species

D reduced pollution

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