

Aerobic Respiration

Question Paper

Level	O Level
Subject	Biology
Exam Board	Cambridge International Examinations
Topic	Respiration
Sub Topic	Aerobic Respiration
Booklet	Question Paper

Time Allowed: 27 minutes

Score: /22

Percentage: /100

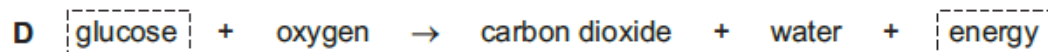
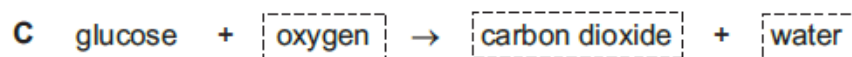
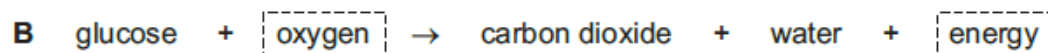
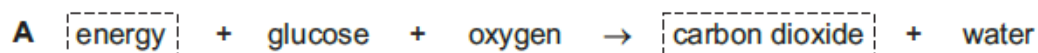
1 Which of these processes rely on respiration?

- 1 movement of water into cells
- 2 muscle contraction
- 3 protein synthesis

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

2 In the equations that follow, represents energy or an energy-rich compound.

Which equation best represents aerobic respiration?



3 Which word equation shows anaerobic respiration in yeast?

- A** glucose → ethanol
- B** glucose → ethanol + carbon dioxide
- C** glucose → lactic acid
- D** glucose → lactic acid + carbon dioxide

4 What are the products of aerobic respiration in a muscle?

- A** carbon dioxide, water and ethanal
- B** heat, lactic acid and water
- C** lactic acid, heat and carbon dioxide
- D** water, carbon dioxide and heat

5 Which process does **not** result in an overall loss of energy from the organism?

- A a boy running a hundred metres
- B photosynthesis in a green plant
- C respiration in an animal
- D the germination of a seed of a flowering plant

6 Which process does **not** require energy?

- A focussing of eye
- B growth of hair
- C secretion of sweat
- D tissue respiration

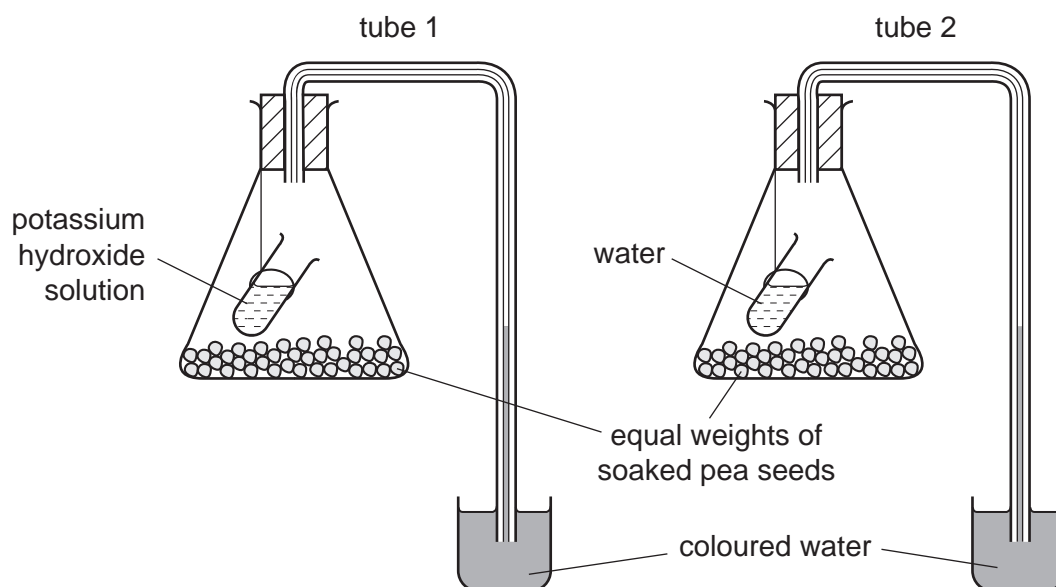
7 What are the products of aerobic respiration in yeast?

	alcohol	carbon dioxide	lactic acid	water
A	✓	x	✓	x
B	✓	✓	x	✓
C	x	✓	x	✓
D	x	x	✓	✓

8 What is correct for the organisms at the beginning of every food chain?

- A They cause decay and provide minerals for the ecosystem.
- B They feed on animals and recycle energy.
- C They feed on plants and provide food for animals.
- D They absorb nutrients and photosynthesise.

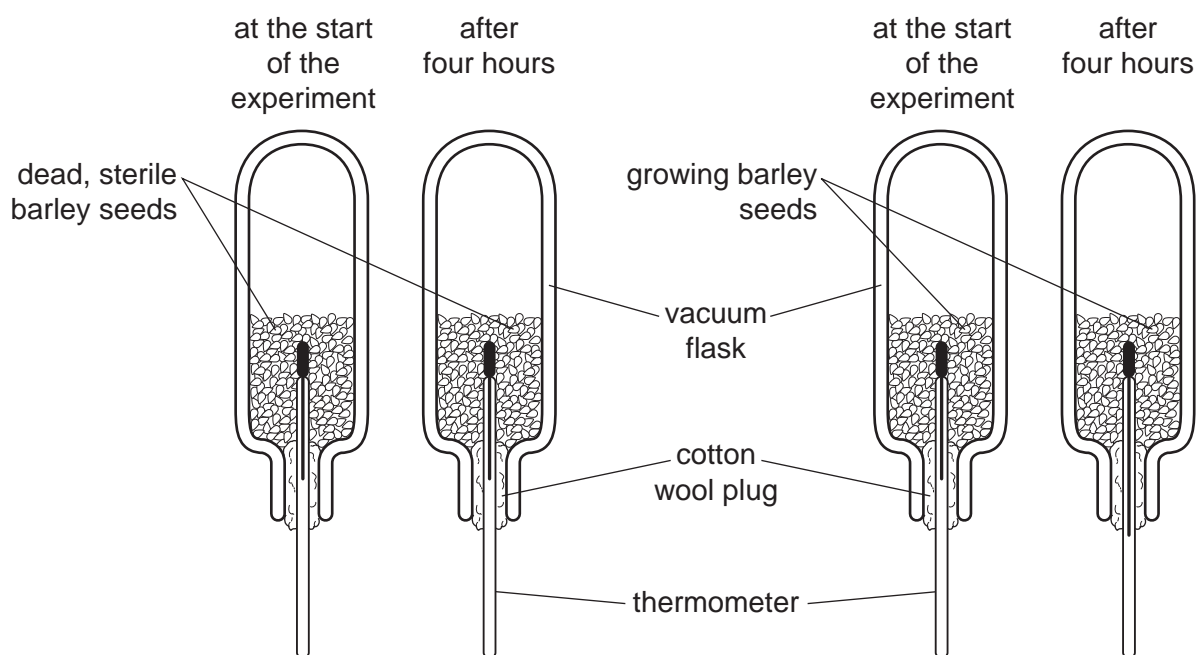
9 An experiment is set up as shown.



After four hours, the coloured water will

- A have gone down by the same amount in both tubes.
- B be higher in tube 1 than in tube 2.
- C be higher in tube 2 than in tube 1.
- D have gone up by the same amount in both tubes.

10 The diagram shows an experiment to study respiration in growing barley seeds.

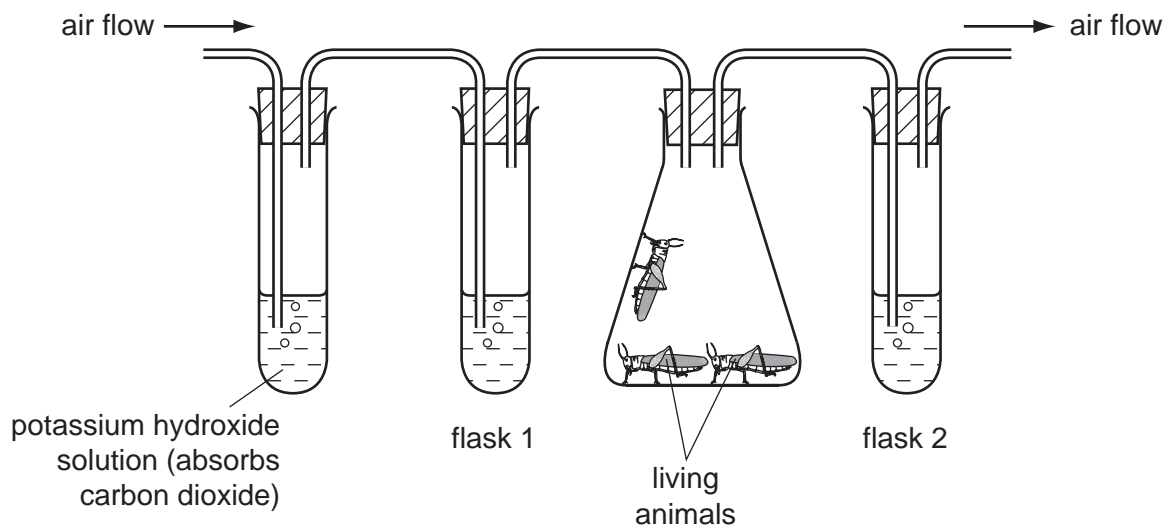


The results of this experiment show that respiration

- A produces carbon dioxide.
- B releases energy.
- C requires glucose.
- D uses up oxygen.

11 An experiment is set up as shown.

Flasks 1 and 2 contain lime water. Air is pumped through the flasks.



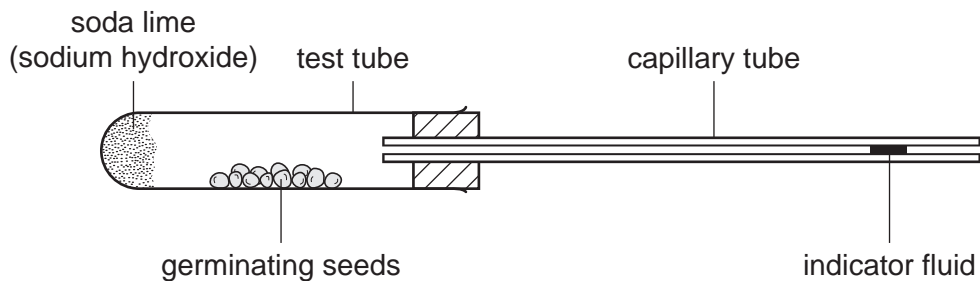
What is the appearance of limewater in flasks 1 and 2 after a period of ten minutes?

	flask 1	flask 2
A	clear	clear
B	clear	white / cloudy
C	white / cloudy	clear
D	white / cloudy	white / cloudy

12 Which does **not** produce carbon dioxide?

- A** a muscle fibre
- B** a sensory neuron
- C** blood
- D** saliva

13 The diagram shows an investigation into the respiration of germinating seeds.



The indicator fluid in the capillary tube shown in the diagram above will

- A move away from the test-tube because of oxygen output by the seeds.
- B move towards the test-tube because of carbon dioxide intake by the seeds.
- C move towards the test-tube because of oxygen intake by the seeds.
- D remain stationary, because carbon dioxide output and oxygen intake are equal.

14 Which process does **not** depend on respiration?

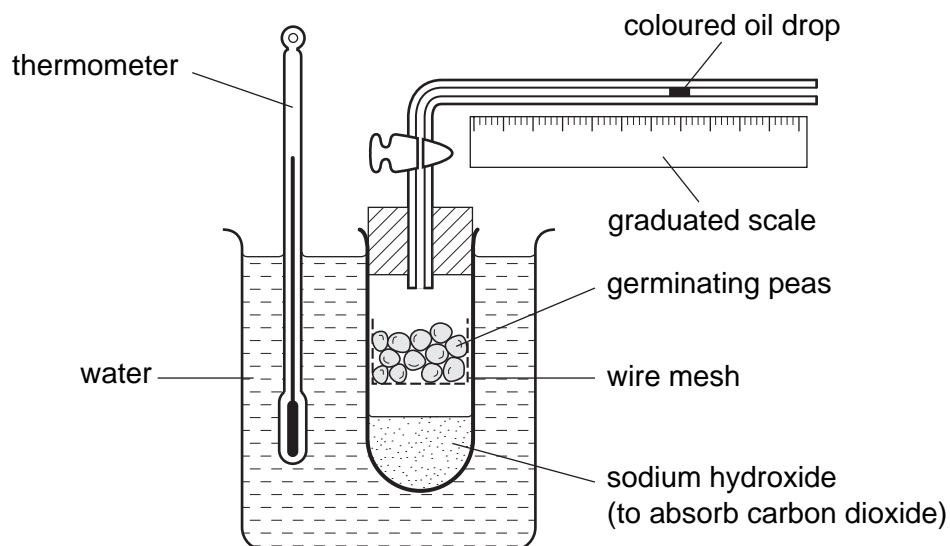
- A active uptake of ions
- B conduction of nervous impulses
- C diffusion of glucose
- D muscle contraction

15 In the body of a human, which processes consume energy from respiration?

	absorption of water	cell division	protein synthesis
A	✓	✓	✓
B	✓	✓	x
C	✓	x	✓
D	x	✓	✓

key
 ✓ = needs energy
 x = does not need energy

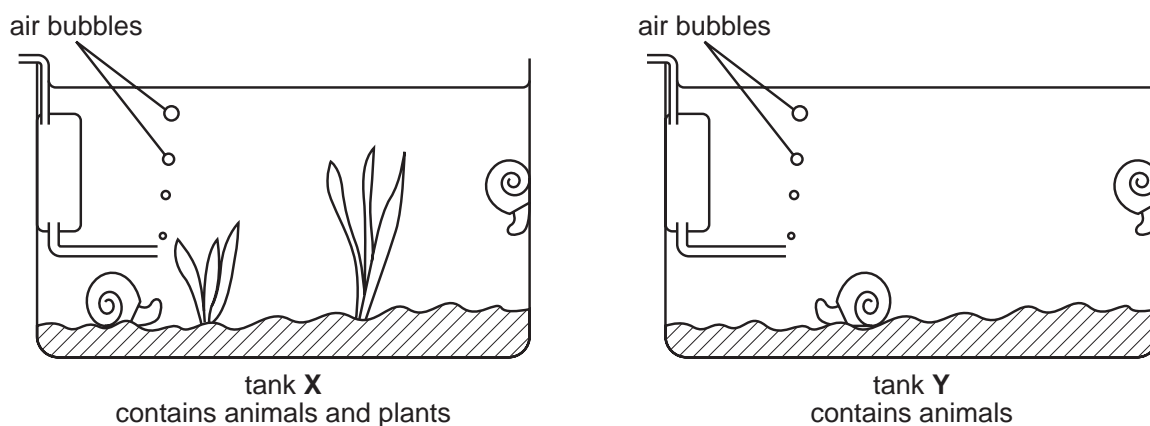
16 The diagram shows apparatus used to investigate respiration.



What change will be seen and what is the explanation?

	change	expla
A	oil drop moves left	oxygen is used up by the peas
B	oil drop does not move	oxygen is used up as fast as carbon dioxide is released
C	oil drop does not move	carbon dioxide is absorbed
D	oil drop moves right	peas release carbon dioxide

- 17 Two aquarium tanks are set up as shown.



After a week, all the animals in tank Y show signs of distress.

This was because the animals have run out of

- A carbon dioxide.
 - B food.
 - C nitrate.
 - D oxygen.
- 18 Which substance is produced in both aerobic respiration in humans and anaerobic respiration in yeast?
- A carbon dioxide
 - B ethanol
 - C lactic acid
 - D water

19 What is the equation for aerobic respiration?

- A carbon dioxide + water \rightarrow glucose + oxygen + energy
- B carbon dioxide + water \rightarrow alcohol + oxygen + energy
- C oxygen + glucose \rightarrow carbon dioxide + alcohol + energy
- D oxygen + glucose \rightarrow water + carbon dioxide + energy

20 When yeast is used in bread-making, what type of respiration occurs and which product is useful?

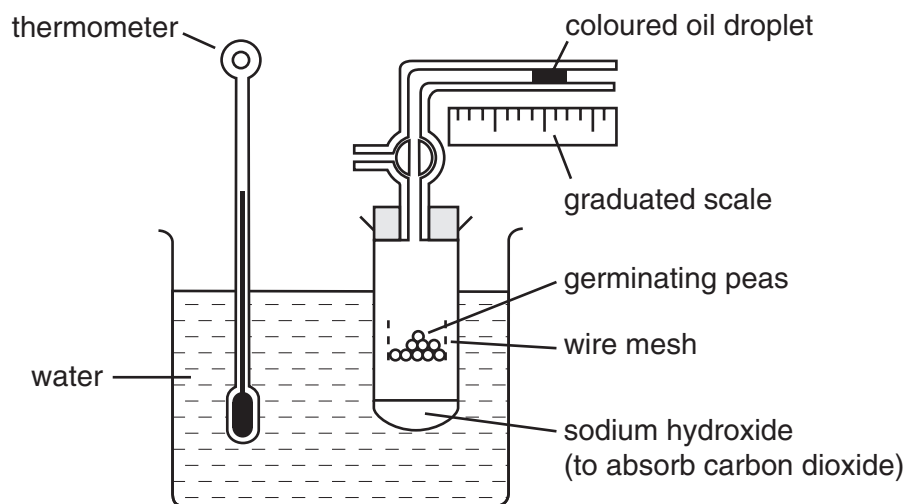
	respiration	product
A	aerobic	carbon dioxide
B	aerobic	ethanol
C	anaerobic	carbon dioxide
D	anaerobic	ethanol

21 Yeast respire using sugar.

What conditions are needed to make which product?

	conditions	product
A	aerobic	alcohol
B	aerobic	lactic acid
C	anaerobic	alcohol
D	anaerobic	lactic acid

22 The diagram shows apparatus used to investigate respiration.



What can be measured using this apparatus?

- A carbon dioxide released
- B heat energy released
- C oxygen released
- D oxygen used