ENGLAND GCSE COMBINED SCIENCE AQA TRILOGY HIGHER · UNIT 4 · 25 QUESTIONS

Bioenergetics — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button so it can be fixed.

1 **A sandwich provides energy. Which process releases energy from food in cells?**

- A fermentation
- B photosynthesis
- C respiration
- D digestion

Understand It with Pulse | Flag a mistake

2 **A sunflower is left in bright light. Its leaves photosynthesise faster than in dim light. What else would increase the rate?**

- A less water in the soil
- B more carbon dioxide in the air
- C a lower temperature
- D less chlorophyll in the leaves of the plant

Understand It with Pulse | Flag a mistake

3 **A forest is cut down. What happens to the carbon stored in the trees?**

- A it disappears
- B it turns to oxygen
- C it is released
- D it is stored forever

Understand It with Pulse | Flag a mistake

4 **Red apples are cut and left in air. Why do they turn brown?**

- A they dry out in the air
- B they freeze in the cold
- C they ferment into alcohol
- D enzymes react with oxygen

Understand It with Pulse | Flag a mistake

5 **A school lunch tray holds a meal. Why do we need food?**

- A for fun only, not for health
- B to feel full after eating
- C to stay awake at night
- D for energy and growth

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6 **A cheese pizza contains cheese made from milk. What is milk rich in?**

- A fibre
- B iron
- C calcium
- D vitamin C

Understand It with Pulse | Flag a mistake

7 **What is produced by anaerobic respiration in muscle cells?**

A carbon dioxide

B ethanol

C lactic acid

D oxygen

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8 **A food contains 150 kJ of energy per 100 g. How much energy is in 300 g of the food?**

A 450 kJ

B 400 kJ

C 500 kJ

D 900 kJ

Understand It with Pulse | Flag a mistake

9 **What happens to heart rate during exercise?**

A it stops

B it stays the same

C it decreases

D it increases

Understand It with Pulse | Flag a mistake

10 **One glucose molecule releases 30 molecules of ATP in respiration. How many ATP molecules are released from 5 glucose molecules?**

A 120

B 150

C 180

D 300

Understand It with Pulse | Flag a mistake

11 **Photosynthesis produces oxygen at a rate of 3 cm cubed per minute. How much oxygen is produced in 10 minutes?**

- A 30 cm^3
- B 20 cm^3
- C 40 cm^3
- D 60 cm^3

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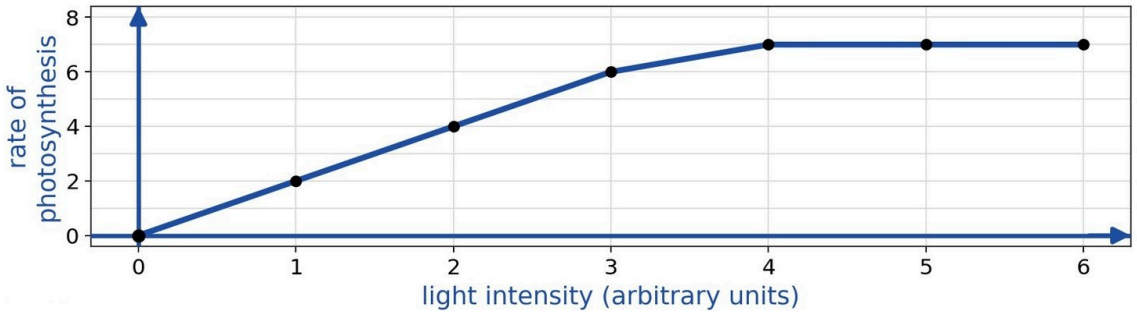
12 **A person breathes 15 times per minute. How many breaths is that in one hour?**

- A 1800
- B 900
- C 840
- D 960

Understand It with Pulse | Flag a mistake

13 **The graph shows the rate of photosynthesis at different light intensities. At which light intensity does the rate first reach its maximum?**



A 2

B 3

C 4

D 6

Understand It with Pulse | Flag a mistake

14 **A food contains 100 kJ of energy per 100 g. How much energy is in 300 g of the food?**

- A 350 kJ
- B 250 kJ
- C 300 kJ
- D 600 kJ

Understand It with Pulse | Flag a mistake

15 **Why does breathing rate increase during exercise?**

- A to take in more carbon dioxide
- B to take in more oxygen
- C to slow the heart
- D to cool the blood

Understand It with Pulse | Flag a mistake

16 **One glucose molecule releases 30 molecules of ATP in respiration. How many ATP molecules are released from 3 glucose molecules?**

- A 90
- B 120
- C 60
- D 180

Understand It with Pulse | Flag a mistake

17 **What does a plant make from glucose for energy storage in seeds?**

- A starch
- B protein
- C cellulose
- D lipids

Understand It with Pulse | Flag a mistake

18 **What is the basal metabolic rate?**

A energy used in exercise

B energy used at rest

C energy from food

D energy stored as fat

Understand It with Pulse | Flag a mistake

19 **A food contains 200 kJ of energy per 100 g. How much energy is in 200 g of the food?**

A 350 kJ

B 450 kJ

C 800 kJ

D 400 kJ

Understand It with Pulse | Flag a mistake

20 **Photosynthesis produces oxygen at a rate of 5 cm cubed per minute. How much oxygen is produced in 10 minutes?**

A 100 cm^3

B 60 cm^3

C 50 cm^3

D 40 cm^3

Understand It with Pulse | Flag a mistake

21 **Which of these is a use of glucose in a plant?**

A respiration

B photosynthesis

C transpiration

D pollination

Understand It with Pulse | Flag a mistake

22 **A person breathes 12 times per minute. How many breaths is that in one hour?**

- A 780
- B 720
- C 1440
- D 660

Understand It with Pulse | Flag a mistake

23 **What is the word equation for photosynthesis?**

- A glucose plus oxygen gives carbon dioxide plus water
- B glucose plus water gives carbon dioxide plus oxygen
- C carbon dioxide plus water gives glucose plus oxygen
- D carbon dioxide plus oxygen gives glucose plus water

Understand It with Pulse | Flag a mistake

24 **Where does aerobic respiration happen?**

- A in the nucleus
- B in the vacuole
- C in the chloroplasts
- D in the mitochondria

Understand It with Pulse | Flag a mistake

25 **One glucose molecule releases 30 molecules of ATP in respiration. How many ATP molecules are released from 2 glucose molecules?**

- A 60
- B 90
- C 120
- D 30

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. C
2. B
3. C
4. D
5. D
6. C
7. C
8. A
9. D
10. B
11. A
12. B
13. C
14. C
15. B
16. A
17. D
18. B
19. D
20. C
21. A
22. B
23. C
24. D
25. A

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