ENGLAND GCSE COMBINED SCIENCE AQA TRILOGY FOUNDATION · 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 sunflower is left in bright light. Its leaves photosynthesise faster than in dim light. What else would increase the rate?**

A less chlorophyll in the leaves of the plant

B a lower temperature

C more carbon dioxide in the air

D less water in the soil

Understand It with Pulse | Flag a mistake

2 **Red apples provide energy. Which nutrient in apples provides most energy?**

- A protein, for growth
- B fat, for insulation
- C carbohydrates
- D fibre, for digestion

Understand It with Pulse | Flag a mistake

3 **A sandwich contains bread and cheese. Where does digestion begin?**

- A in the mouth
- B in the stomach
- C in the large intestine
- D in the small intestine

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4 **A forest provides a habitat. What does habitat mean?**

- A how an organism breeds
- B what an organism eats
- C where an organism lives
- D when an organism sleeps

Understand It with Pulse | Flag a mistake

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

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

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6 **A school lunch tray holds a meal with bread, cheese and an apple. Which food group is the bread from?**

- A vitamins, for health
- B proteins, for growth
- C carbohydrates
- D fats, for insulation

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7 **A person breathes 20 times per minute. How many breaths is that in one hour?**

- A 2400
- B 1200
- C 1140
- D 1260

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8 **Photosynthesis produces oxygen at a rate of 2 cm cubed per minute. How much oxygen is produced in 10 minutes?**

- A 40 cm^3
- B 30 cm^3
- C 10 cm^3
- D 20 cm^3

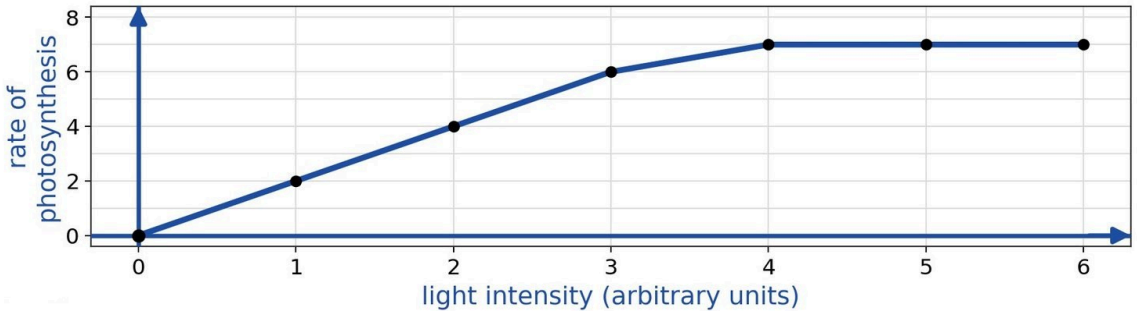
Understand It with Pulse | Flag a mistake

9 **A food contains 200 kJ of energy per 100 g. How much energy is in 300 g of the food?**

- A 1200 kJ
- B 550 kJ
- C 650 kJ
- D 600 kJ

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



A 4

B 2

C 3

D 6

Understand It with Pulse | Flag a mistake

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

A 60

B 180

C 120

D 90

Understand It with Pulse | Flag a mistake

12 **Where in a leaf does photosynthesis happen?**

A in the nucleus

B in the mitochondria

C in the chloroplasts

D in the vacuole

Understand It with Pulse | Flag a mistake

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

A cellulose

B starch

C lipids

D protein

Understand It with Pulse | Flag a mistake

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

A energy used in exercise

B energy stored as fat

C energy used at rest

D energy from food

Understand It with Pulse | Flag a mistake

15 **What happens to lactic acid after exercise?**

A it stays in the muscles forever

B it is breathed out

C it is broken down using oxygen

D it turns into glucose at once

Understand It with Pulse | Flag a mistake

16 **Which type of respiration releases the most energy per glucose molecule?**

A fermentation

B anaerobic respiration

C aerobic respiration

D photosynthesis

Understand It with Pulse | Flag a mistake

17 **Photosynthesis produces oxygen at a rate of 2 cm cubed per minute. How much oxygen is produced in 20 minutes?**

- A 80 cm^3
- B 30 cm^3
- C 50 cm^3
- D 40 cm^3

Understand It with Pulse | Flag a mistake

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

- A pollination
- B respiration
- C transpiration
- D photosynthesis

Understand It with Pulse | Flag a mistake

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

A it stops

B it decreases

C it stays the same

D it increases

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20 **What is the word equation for aerobic respiration?**

A carbon dioxide plus water gives glucose plus oxygen

B glucose plus oxygen gives carbon dioxide plus water

C glucose gives lactic acid

D glucose plus oxygen gives lactic acid

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

- A 270
- B 600
- C 330
- D 300

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

24 **Where does aerobic respiration happen?**

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

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 5 glucose molecules?**

A 150

B 300

C 180

D 120

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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