PHOTOSYNTHESIS · PART 9 OF 9 · AGES 11–16

Photosynthesis Quiz

Ten questions on the whole series. Answer them all, then turn the page round to check.



1 Which gas do plants take in from the air for photosynthesis?

- A Oxygen
- B Nitrogen
- C Carbon dioxide
- D Hydrogen

2 Which is the balanced symbol equation for photosynthesis?

- A $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$
- B $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$
- C $CO_2 + H_2O \rightarrow C_6H_{12}O_6 + O_2$
- D $6CO_2 + 6O_2 \rightarrow C_6H_{12}O_6 + 6H_2O$

3 In which layer of a leaf does most photosynthesis happen?

- A Upper epidermis
- B Palisade mesophyll
- C Spongy mesophyll
- D Phloem

4 What do guard cells do?

- A Carry water up the plant
- B Open and close the stomata
- C Store starch
- D Make chlorophyll

5 Where does the oxygen released by photosynthesis come from?

- A Carbon dioxide
- B Glucose
- C Water
- D The soil

6 Pondweed makes bubbles faster as a lamp gets brighter, then the rate levels off. Why?

- A Light is still limiting
- B Another factor is now limiting
- C The plant stops respiring
- D The chlorophyll is used up

7 A lamp is moved from 10 cm to 20 cm away from a plant. What happens to the light intensity?

- A It halves
- B It falls to a quarter
- C It doubles
- D It stays the same

8 When do plants respire?

- A Only at night
- B Only in the light
- C All the time
- D Never: only animals respire

9 Which product made from glucose strengthens plant cell walls?

- A Starch
- B Cellulose
- C Oil
- D Amino acids

10 Who showed in 1779 that plants need light to 'restore' air?

- A Joseph Priestley
- B Jan Baptist van Helmont
- C Jan Ingenhousz
- D Melvin Calvin

ANSWERS

1. C: Carbon dioxide
2. A: $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$ (B is aerobic respiration)
3. B: Palisade mesophyll
4. B: Open and close the stomata
5. C: Water (shown with an oxygen isotope tracer in 1941)
6. B: Another factor, such as CO_2 or temperature, is now limiting
7. B: It falls to a quarter ($1 \div 2^2 = ¼$)
8. C: All the time, day and night
9. B: Cellulose
10. C: Jan Ingenhousz

SERIES COMPLETE

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