

Class: 11
Subject: Biology
Topic: Photosynthesis in higher plants
No. of Questions: 25

- Q1. What is the primary source of energy for living beings on earth?
- Q2. Are there chloroplasts in cyanobacteria?
- Q3. Which chemical element is central in the chlorophyll molecule?
- Q4. How do chloroplasts multiply?
- Q5. How can the hypothesis that asserts that chloroplasts as well as mitochondria were primitive prokaryotes that associated in mutualism with primitive anaerobic eukaryotic cells be corroborated?
- Q6. What are the main structures of chloroplasts?
- Q7. In which chloroplast structure are chlorophyll molecules found?
- Q8. What do ATP and ADP mean? What are the roles of these molecules for the cellular energetic metabolism?
- Q9. What is ADP phosphorylation? What respectively are photophosphorylation and oxidative phosphorylation?
- Q10. What are the stages into which photosynthesis is divided?
- Q11. What are the processes of the photochemical stage of the photosynthesis process?
- Q12. How is the photic energy absorbed by chlorophyll transferred to ATP molecules in photophosphorylation? How will be the resulting ATP used?

- Q13. Is it correct to consider water decomposition by the action of light the basis of the photosynthesis process?
- Q14. What are the chemical substances produced by water photolysis? What is the destination of each of those substances?
- Q15. In sulfur photosynthetic bacteria what is the molecule that donates hydrogen for photosynthesis?
- Q16. Why is it said that during photosynthesis carbon dioxide is enriched to form glucose?
- Q17. What is an example of a lab experiment that shows the variation of the photosynthesis efficiency in relation to different photic energy frequencies to which the reaction is exposed? Was it expected that green light frequency favored the reaction?
- Q18. What are the divisions of white light according to the electromagnetic spectrum? Which are the two most efficient colors for photosynthesis?
- Q19. What is NADP and NADPH?
- Q20. Photosynthesis is the most important producer of molecular oxygen (O_2) on our planet. From which molecule do oxygen atoms liberated by photosynthesis come? From which other molecule could one suspect they have come? What are the destinations of those oxygen atoms?
- Q21. Where do the photochemical and the chemical stages of photosynthesis occur?
- Q22. Which are the sub products of the photochemical stage that are essential for the chemical stage of photosynthesis?
- Q23. What are the roles of NADPH and ATP in the chemical stage of photosynthesis?
- Q24. Why is the nickname “dark reactions” not entirely correct for the chemical stage of photosynthesis?

Q25. What is the general chemical equation of photosynthesis? Why doesn't that equation clearly show the real origin of the molecular oxygen liberated?

askITians