

## Introduction to Photosynthesis

Read the following text and answer the questions that follow:

Photosynthesis is the process by which plants, algae, and some bacteria convert light energy from the sun into chemical energy in the form of glucose. This process is essential for life on Earth, as it provides energy and organic compounds for food chains.

1. What is the main function of photosynthesis in plants?
  - o A) To make food for humans
  - o B) To produce oxygen for the atmosphere
  - o C) To create energy for plant growth
  - o D) To absorb water and nutrients from the soil
2. Describe what photosynthesis is. (Maximum 50 words)

3. Label the basic components of a plant cell involved in photosynthesis (e.g., chloroplast, nucleus, cell wall).

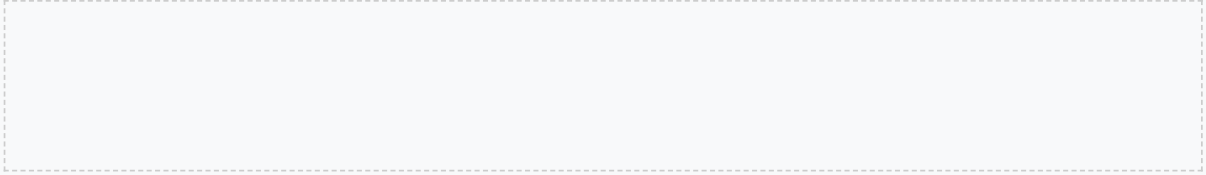
## Foundation Level Questions

Answer the following questions:

1. What are the reactants of photosynthesis?
  - o A) Water, carbon dioxide, and sunlight
  - o B) Oxygen, glucose, and chlorophyll
  - o C) Nitrogen, phosphorus, and potassium
  - o D) Soil, water, and air
2. Explain the role of light in photosynthesis. (Maximum 100 words)

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3. Identify and label the products of photosynthesis in a simple equation.



## Core Level Questions

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Answer the following questions:

1. How do other organisms, such as algae and cyanobacteria, contribute to photosynthesis?
  - A) They absorb carbon dioxide and release oxygen
  - B) They produce glucose and release water
  - C) They contribute to the water cycle
  - D) They enhance soil quality
2. Discuss the importance of photosynthesis in the ecosystem. (Maximum 150 words)

3. Create a simple food web illustrating the relationship between organisms that undergo photosynthesis and those that do not.

## Extension Level Questions

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Answer the following questions:

1. What is the role of chlorophyll in photosynthesis?

2. Explain the difference between C3 and C4 plants.

3. Describe the process of photorespiration.

## Assessment Rubric

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Use the following rubric to assess your understanding of photosynthesis:

Level	Multiple Choice	Short Answer	Diagram Labeling
Foundation	1-2 marks	1-2 marks	2-3 marks
Core	1 mark	2-3 marks	3-4 marks
Extension	1 mark	3-5 marks	4-6 marks

## Conclusion

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*In conclusion, this assessment evaluates students' understanding of photosynthesis, its importance, and its role in the ecosystem.*

By completing this assessment, students will demonstrate their ability to apply knowledge of photosynthesis to understand its importance in the ecosystem.

## Glossary

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Define the following terms:

- Photosynthesis: the process by which plants, algae, and some bacteria convert light energy from the sun into chemical energy in the form of glucose.
- Reactants: the substances that are used up in a chemical reaction.
- Products: the substances that are formed in a chemical reaction.
- Ecosystem: a community of living and non-living things that interact with each other in a specific environment.

## Extension Activity

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Create a poster or infographic illustrating the process of photosynthesis and its importance in the ecosystem.

[Space for creative work]

