

Photosynthesis Assignment – Student Edition

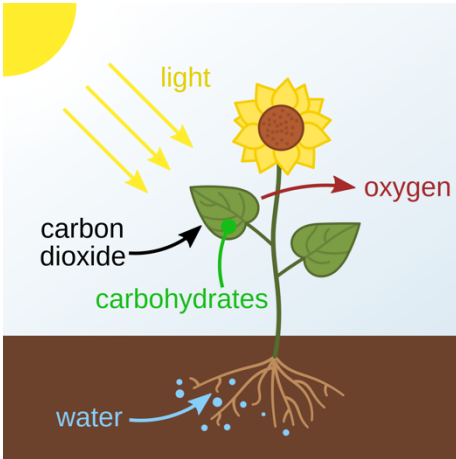
A. Multiple Choice. Choose the letter of the correct answer.

- Which of the following is **not** a requirement for photosynthesis to occur?
 - carbon dioxide
 - oxygen
 - sunlight
 - water
- What is the main pigment involved in photosynthesis?
 - anthocyanins
 - carotenoids
 - chlorophyll
 - xanthophyll
- What is the primary product of photosynthesis?
 - carbon dioxide
 - glucose
 - oxygen
 - water
- Where in the plant cell does photosynthesis occur?
 - cell wall
 - chloroplast
 - mitochondrion
 - vacuole
- What is the correct equation for photosynthesis?
 - $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
 - $\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 \rightarrow 6\text{CO}_2 + 6\text{H}_2\text{O}$
 - $6\text{CO}_2 + 6\text{O}_2 \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O}$
 - $6\text{CO}_2 + \text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 6\text{H}_2\text{O} + 6\text{O}_2$

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B. Paragraph Completion. Complete the paragraph below using the words from the box.

atmosphere	carbon dioxide	cellular	chloroplast
chlorophyll	glucose	oxygen	photosynthesis
roots	sun	sunlight	water



_____ is the process by which plants produce their own food in the presence of _____ (energy), _____ (H_2O), and _____ (CO_2). Photosynthesis occurs in the organelle called _____ which is only found in plants. This organelle contains a green pigment called _____ which absorbs sunlight. Energy from the _____, carbon dioxide from the _____ and water absorbed by the _____ react to produce _____ which acts as a food and fuel for plants to survive. _____ is a gas that is released into the environment for animals and humans to use in _____ respiration.

C. Short and Extended Responses. Answer the following questions.

1. What is the role of chloroplasts in photosynthesis?

2. Differentiate light-dependent and light-independent reactions in photosynthesis.

3. Why is photosynthesis considered as one of the most important biochemical processes on Earth?

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4. Complete the table below by drawing how a diagram that shows photosynthesis, describing photosynthesis in words, and writing the equation for photosynthesis.

Photosynthesis Diagram	Photosynthesis in Words	Photosynthesis in Equation

5. How does photosynthesis benefit other organisms?

6. How might advancements in our understanding of photosynthesis impact agriculture and food production?
