Answer Key - Grades 8

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Explanation: The correct answer is B. Photosynthesis requires carbon dioxide (CO_2) from the air, which enters through small pores on leaves called stomata. Water (H_2O) is absorbed from the soil by the roots and transported to the leaves. Sunlight provides the energy needed to convert these raw materials into food. Oxygen is a product of photosynthesis, not an input. Nitrogen and other minerals are essential for plant growth but are not directly involved as reactants in the chemical equation for photosynthesis. Answer 2 Correct Answer: Not specified Explanation: The correct answer is C. The primary food produced by plants during photosynthesis is glucose, a simple sugar. This glucose is then used by the plant for energy, growth, or converted into more complex carbohydrates like starch for storage. The other crucial product released into the atmosphere is oxygen gas. Oxygen is vital for the respiration of most living organisms, including humans and animals, making plants essential for sustaining life on Earth. Answer 3 Correct Answer: Not specified Explanation: The correct answer is B. Deforestation directly reduces the number of trees and plants available to perform photosynthesis, which means less oxygen is produced and less carbon dioxide is removed from the atmosphere. Air pollution, often from vehicles and industries, contains particulate matter and harmful gases. This pollution can settle on plant leaves, blocking stomata (the pores through which plants absorb CO_2) and reducing the amount of sunlight that reaches the chlorophyll. This directly inhibits the rate of photosynthesis, leading to less food production for the plant and reduced oxygen release into the environment, negatively impacting air quality and ecosystem health.