

Photosynthesis: Food Making Process in Plants

A. Choose the Correct Answer:

1. **What is the primary purpose of photosynthesis in plants?**
 - A) To produce oxygen for animals
 - B) To generate food in the form of glucose
 - C) To absorb sunlight for warmth
 - D) To release carbon dioxide into the air
2. **Which pigment is responsible for absorbing sunlight during photosynthesis?**
 - A) Carotene
 - B) Xanthophyll
 - C) Chlorophyll
 - D) Hemoglobin
3. **In which part of the plant does photosynthesis primarily occur?**
 - A) Roots
 - B) Flowers
 - C) Leaves
 - D) Stems

B. Fill in the Blanks:

1. The process of photosynthesis takes place in the _____ of plant cells.
2. The gas released during photosynthesis is _____.
3. The two main raw materials required for photosynthesis are _____ and _____.

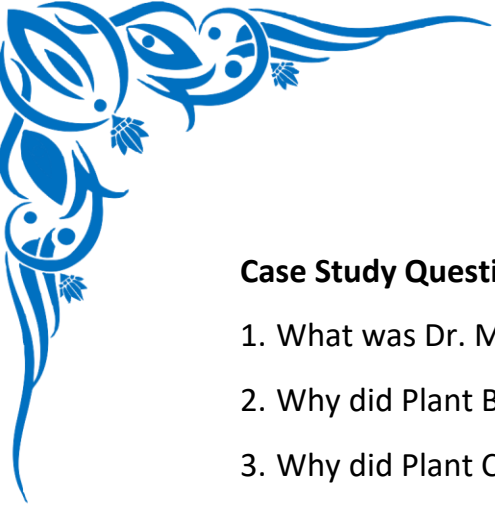
C. Case Study:

A scientist, Dr. Mehra, conducted an experiment on plant growth in different conditions. She placed three identical plants in different environments:

- **Plant A** received sunlight, water, and carbon dioxide.
- **Plant B** was kept in a dark room but received water and carbon dioxide.
- **Plant C** received sunlight and water but was placed in a sealed chamber without carbon dioxide.

After two weeks, Dr. Mehra observed the following results:

- **Plant A** grew well with green leaves.
- **Plant B** became weak and its leaves turned pale.
- **Plant C** also showed poor growth with yellowing leaves.



Case Study Questions:

1. What was Dr. Mehra trying to study through her experiment?
2. Why did Plant B become weak despite receiving water and carbon dioxide?
3. Why did Plant C show poor growth even though it received sunlight and water?
4. Based on the study, what are the essential factors required for photosynthesis?

D. Short Answer Questions:

1. Why is photosynthesis important for all living beings?
2. How do plants store the food produced during photosynthesis?
3. What is the role of stomata in photosynthesis?

E. Long Answer Questions:

1. Explain the process of photosynthesis with the help of a word equation.
2. How do external factors like light intensity, temperature, and carbon dioxide affect the rate of photosynthesis?
3. Discuss the interdependence of plants and animals based on the process of photosynthesis.