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Life Processes in Plants

FILL IN THE BLANKS

1. The green pigment present in leaves is called _____.
2. Plants store food mainly in the form of _____.
3. The gas required for photosynthesis is _____.
4. Oxygen is released as a _____ of photosynthesis.
5. Tiny pores present on the leaf surface are called _____.
6. The process by which plants make food is called _____.
7. _____ tissue transports water and minerals in plants.
8. Food prepared in leaves is transported by _____.
9. Plants release energy during the process of _____.
10. Glucose is converted into _____ for storage in plants.

MULTIPLE CHOICE QUESTIONS

1. Which of the following is essential for photosynthesis?
(a) Nitrogen (b) Oxygen (c) Carbon dioxide (d) Hydrogen
2. Which part of the plant is the main site of photosynthesis?
(a) Leaf (b) Stem (c) Root (d) Flower
3. Which tissue carries food in plants?
(a) Xylem (b) Cortex (c) Phloem (d) Cambium
4. Which substance turns blue-black with iodine?
(a) Protein (b) Starch (c) Fat (d) Sugar
5. Plants respire
(a) Only during day (b) Only during night
(c) Only during photosynthesis (d) Both day and night
6. Which gas is released during respiration in plants?
(a) Hydrogen (b) Nitrogen (c) Oxygen (d) Carbon dioxide
7. Which part absorbs water from soil?
(a) Leaves (b) Roots (c) Stem (d) Flowers
8. Which structure helps in gas exchange?
(a) Veins (b) Stomata (c) Phloem (d) Root hairs
9. Photosynthesis requires energy from
(a) Wind (b) Water (c) Soil (d) Sunlight
10. Which is NOT a product of photosynthesis?
(a) Glucose (b) Oxygen (c) Energy (d) Carbon dioxide

SHORT ANSWER QUESTIONS

Q1. Why is chlorophyll important for plants?

Ans: _____

Q2. What are stomata? State their function.

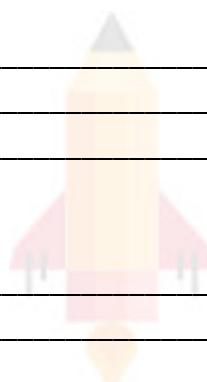
Ans: _____

Q3. Why are leaves broad and flat?

Ans: _____

Q4. What is the role of xylem?

Ans: _____



Q5. Why do plants need energy?

Ans: _____

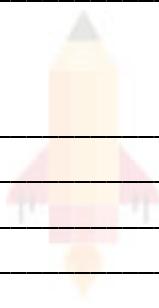
LONG ANSWER QUESTIONS

Q1. Explain the process of photosynthesis with a word equation.

Ans: _____

Q2. Describe an experiment to show that sunlight is necessary for photosynthesis.

Ans: _____



One Point Learning

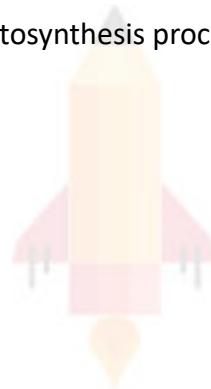
Q3. Describe respiration in plants with equation.

Ans: _____

Q4. Explain why photosynthesis and respiration are essential for life.

Ans: _____

Q5. Draw and label the diagram showing photosynthesis process.



ASSERTION & REASON

Q1. Assertion: Leaves are green.

Reason: Leaves contain chlorophyll.

Q2. Assertion: Plants need sunlight.

Reason: Sunlight provides energy for photosynthesis.

One Point Learning

Q3. Assertion: Xylem carries food.

Reason: Xylem carries water.

Q4. Assertion: Oxygen is released during photosynthesis.

Reason: Oxygen is a by-product.

Q5. Assertion: Plants respire all the time.

Reason: Energy is required continuously.



One Point Learning

Answers**Fill in the Blanks**

1. Chlorophyll
2. Starch
3. Carbon dioxide
4. By-product
5. Stomata
6. Photosynthesis
7. Xylem
8. Phloem
9. Respiration
10. Starch

Multiple Choice Questions (MCQs)

1. (c) Carbon dioxide
2. (a) Leaf
3. (c) Phloem
4. (b) Starch
5. (d) Both day and night
6. (c) Oxygen
7. (b) Roots
8. (b) Stomata
9. (d) Sunlight
10. (d) Carbon dioxide

SHORT ANSWER QUESTIONS

Q1. Ans: Chlorophyll is a green pigment that absorbs sunlight. The absorbed light energy is used to convert carbon dioxide and water into food during photosynthesis.

Q2. Ans: Stomata are tiny pores present on the surface of leaves. They help in the exchange of gases such as oxygen and carbon dioxide during photosynthesis and respiration.

Q3. Ans: Leaves are broad and flat to provide a large surface area for absorbing maximum sunlight, which increases the rate of photosynthesis.

Q4. Ans: Xylem transports water and dissolved minerals from the roots to the stem and leaves of the plant.

Q5. Ans: Plants need energy for growth, repair, reproduction, and other life processes. This energy is obtained through respiration.

LONG ANSWER QUESTIONS

Q1. Ans:

Photosynthesis is the process by which green plants prepare food using carbon dioxide and water in the presence of sunlight and chlorophyll. The food formed is glucose, which is stored as starch. Oxygen is released as a by-product.

Word Equation:

Carbon dioxide + Water \rightarrow Glucose + Oxygen
(Sunlight and chlorophyll required)

Q2. Ans:

Two similar plants are taken. One is kept in sunlight and the other in darkness. After some time, iodine test is performed on their leaves. The leaf from the plant kept in sunlight turns blue-black, showing presence of starch, while the leaf from the plant kept in dark does not. This proves sunlight is necessary for photosynthesis.

Q3. Ans:

Respiration is the process in which glucose is broken down using oxygen to release energy. Carbon dioxide and water are produced. Respiration is very important life processes for all living organisms.

Equation:



Q4. Ans:

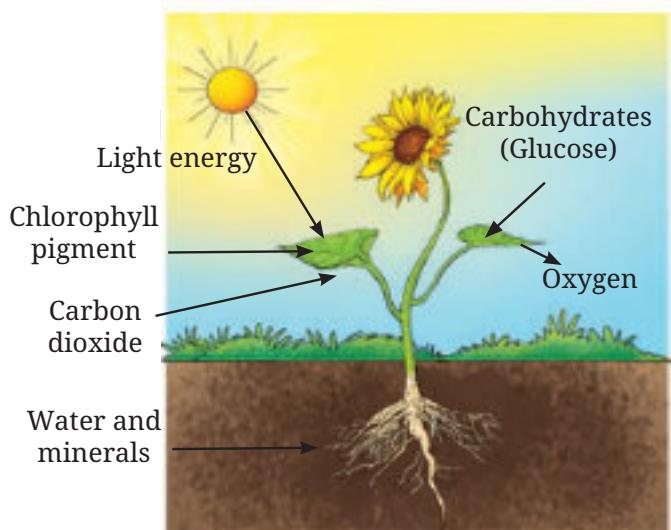
Photosynthesis and respiration are two essential life processes that help living organisms survive.

Photosynthesis is the process by which green plants prepare food using carbon dioxide and water in the presence of sunlight and chlorophyll. It provides food for plants and is the ultimate source of food and energy for all living organisms. Photosynthesis also releases oxygen, which is necessary for respiration.

Respiration is the process by which food is broken down in the presence of oxygen to release energy. This energy is required for growth, movement, repair, and other life activities in all living organisms.

Thus, photosynthesis supplies food and oxygen, while respiration releases energy from food. Together, they maintain the balance of gases in nature and make life on Earth possible.

Q5. Ans



ASSERTION & REASON

Q1. Ans: Both A and R are true and R explains A.

Q2. Ans: Both true, R correct.

Q3. Ans: A false, R true.

Q4. Ans: Both true, R correct.

Q5. Ans: Both true, R correct.