

Chapter – 6: The Green Plants

New Words-

1. Chlorophyll.
2. Stomata
3. Photosynthesis
4. Carbon dioxide
5. Oxygen
6. Glucose

Define the Following-

1. Food Chain : A food chain is a sequence of living organisms in which each organism is eaten by the next one.
Example: Grass → Grasshopper → Frog → Snake → Eagle
2. Glucose : The food prepared by the process of photosynthesis is called glucose.

Answer the Following Questions

Q1. What are stomata? How do they help the plants?

Ans: Tiny openings present underside of the leaves to let flow air in and out of the leaf are called stomata.

Stomata help plants in many ways-

1. They take in and give out air.
2. They remove water vapour and oxygen after photosynthesis from the plant.

Q2. Define photosynthesis. Name the raw materials needed by plants for it.

Ans. The process by which green plants make their own food with the help of chlorophyll is called photosynthesis.

The raw materials needed by plants are – sunlight, water and carbon dioxide.

Q3. How do green leaves get things needed for photosynthesis?

Ans: Green leaves get the things needed for photosynthesis in the following ways-

1. Water is absorbed by the roots and carried through the stem to the leaves.
2. When sunlight falls on the leaves, it is absorbed by chlorophyll.
3. Carbon dioxide is taken in through stomata.

Q4. How would you test a leaf for starch?

Ans. To test a leaf for starch-

1. Pluck a leaf that was out in sun and boil it in water.
2. Dip it in spirit and then wash it in cold water.
3. Put a few drops of iodine solution on the leaf.
4. If starch is present in the leaf, the colour of the leaf will change into bluish-black and if it is absent, the colour will be yellowish-brown.

Q5. Describe how plants and animals are dependent on each other.

Ans: Plants and animals are dependent on each other in many ways-

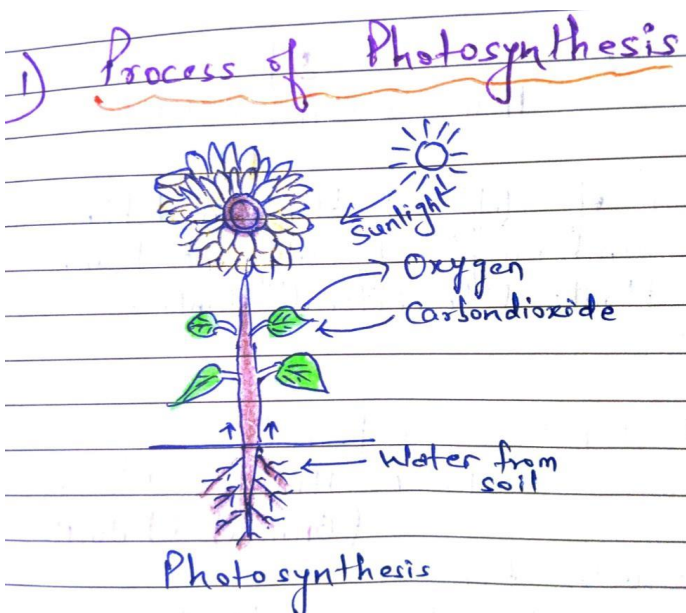
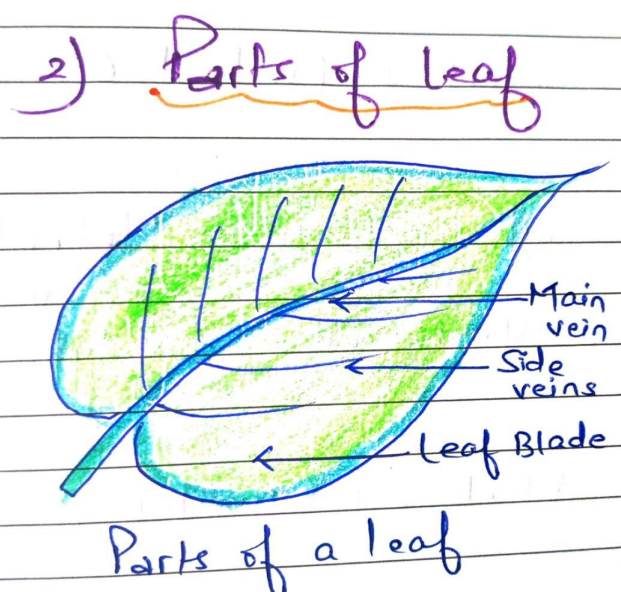
1. Plants give us food to eat and oxygen to breathe.
2. In return, animals give out carbon dioxide, which is needed by the plants for photosynthesis.

Let's Apply (Page No. 77)

Q1. Poonam put a few drops of iodine in a sugar solution, rice water and salt solution. In which of them will iodine turn bluish-black? Why?

Ans. In rice water. Because it has starch.

Diagrams

Process of Photosynthesis	Parts of a Leaf
 1) <u>Process of Photosynthesis</u> Sunlight Oxygen Carbon dioxide Water from soil Photosynthesis	 2) <u>Parts of leaf</u> Main vein Side veins Leaf Blade Parts of a leaf

TEXT BOOK EXERCISE

LET'S UNDERSTAND-

A. Fill in the blanks with the correct words.

1. Most plants on the Earth are green. (green/non-green).
2. The stomata (veins/stomata) let air flow in and out of the leaf.
3. Green plants make their own food with the help of chlorophyll (stomata/chlorophyll) in the leaves.
4. The stem (stem/root) takes the prepared food from the leaves to other parts of the plant.
5. Extra food prepared by the leaves is stored as starch (iodine/starch) in different parts of the plant.

B. Match the following.

Column A	Column B	Ans.
1. Veins	a. Stored food	1. b
2. Photosynthesis	b. Transport within the leaf	2. d
3. Stomata	c. Prepared food	3. e
4. Glucose	d. Process of preparing food	4. c
5. Starch	e. Taking in and giving out air	5. a

C. Choose the correct option.

1) Which of these help to transport substances within the leaf?

- a. Stomata b. Leaf blade c. Chlorophyll ✓d. Veins

2) Which of these help to absorb water and minerals for the plant?

- ✓a. Roots b. Stem c. Leaves d. Veins

3) Which part of the leaf removes water vapour and oxygen after photosynthesis?

- a. Leaf blade b. Main vein ✓ c. Stomata. d. Side vein

4) Which of these will not be needed by leaves for making food?

- a. Carbon dioxide b. Water c. Sunlight ✓d. None of these

5) Which of these is NOT true about photosynthesis?

- a. Food prepared is in the form of sugar.
- ✓b. Food prepared is in the form of starch.
- c. Carbon dioxide, water, and light are needed as raw materials.
- d. Chlorophyll is needed to absorb light.

6) Which of these shows the presence of starch?

a. Iodine turns reddish brown b. Starch turns to glucose.

✓ c. Iodine solution turns bluish black d. Leaves turn green.

7) Which of these are the main producers of food?

✓ a. Green plants. b. Animals c. Sun. d. None of these

8) Which of these shows dependence of animals on plants?

a. Plants give off oxygen that animals use for breathing.

b. Animals make food for the plants.

c. Animals depend on green plants for food.

✓ d. Both a and c.

II. Very short answer type questions-

A. Give one word for the following.

1) The green substance present in leaves- Chlorophyll

2) The flat surface of the leaf- Leaf lamina

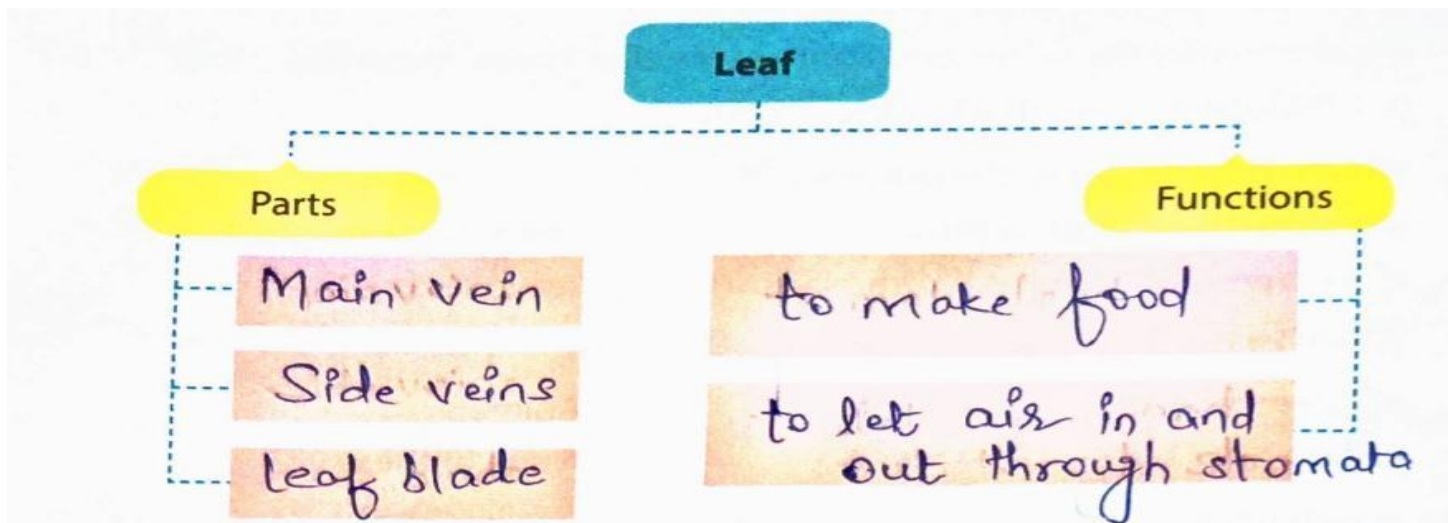
3) The process by which green leaves prepare their own food- Photosynthesis

4) The food prepared by the process of photosynthesis- Glucose / Sugar

5) A chain that shows a series of organisms where each member depends on the lower member in the series for food- Food chain

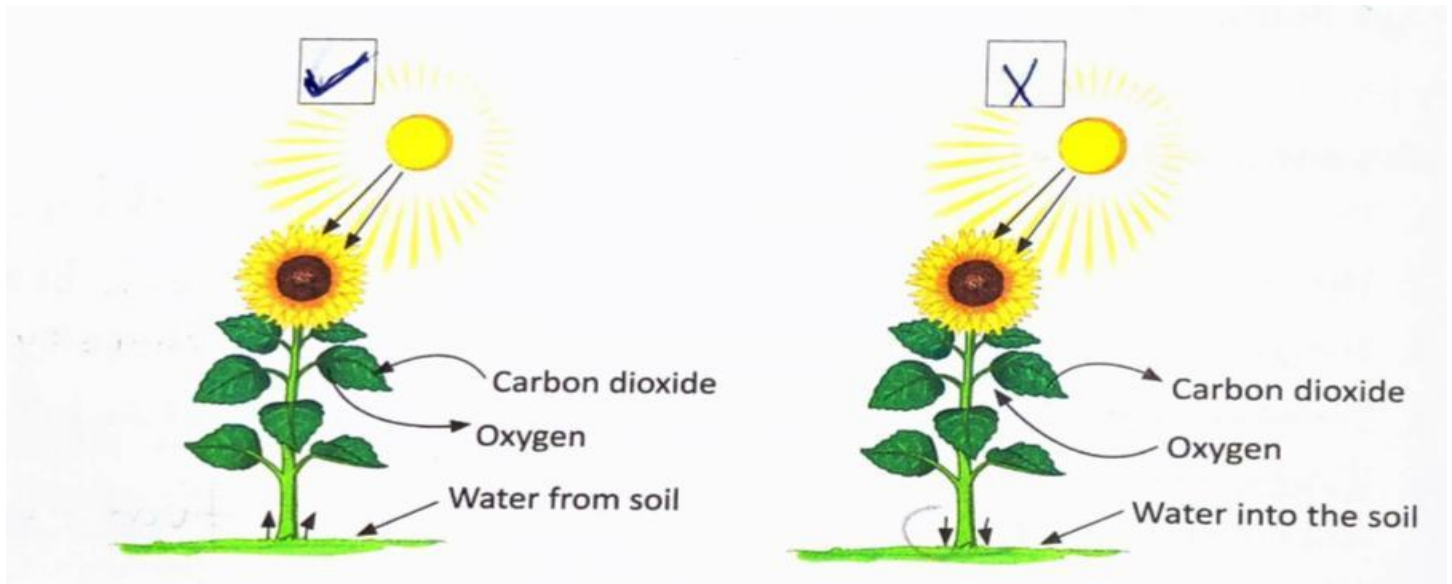
LET'S RECALL

Recall and complete the concept map given below.



LET'S OBSERVE

A. Which one of the following pictures shows the process of photosynthesis correctly? Put a tick (✓) on the correct picture.



B. Look at the picture and answer the questions.

In what form does the potato plant store its extra food?

Starch (Vitamins / Starch)

If you put a few drops of iodine on a cut potato, what would you observe?

Iodine turns bluish – black colour.

LET'S ANALYSE AND EVALUATE

Examine which part of the leaf will turn iodine blue-black. Why?

Ans. **The green part because it has starch.**

Estimate two things that the leaf must be giving out into the air after making its food.

Ans. **Oxygen, water**