



THE VILLAGE
INTERNATIONAL SCHOOL
"We Nurture Dreams"

GRADE 7 SCIENCE
CHAPTER 1: NUTRITION IN PLANTS
QUESTION BANK

A. Multiple choice questions

Choose the correct options. There may be more than one correct option for some questions.

- Excess _____ is converted into starch during photosynthesis.
a. glucose b. fats c. proteins d. nitrogen
- _____ is an example of saprophytes.
a. Venus flytrap b. mushroom c. mistletoe d. sundew
- _____ shows a symbiotic relationship.
a. Dodder growing on a tomato plant.
b. Pitcher plant with a trapped fly.
c. An alga growing in the filaments of a fungus (lichen).
d. Mushroom growing on a rotting plant.
- Certain bacteria present in the soil convert atmospheric _____ into other forms that are used by plants to make proteins.
a. oxygen b. carbon dioxide c. nitrogen d. hydrogen
- Rhizobium* is a/an _____ found in the root nodules of leguminous plants.
a. bacterium b. fungus c. alga d. insect

Ans: 1. a 2. b 3. c 4. c 5. a

B. Answer in brief.

- Why are some plants heterotrophic?

Ans: Some plants do not have the pigment chlorophyll to carry out photosynthesis and though some plants are capable to photosynthesise they depend on other organisms for certain nutrients. These plants depend on other organisms for food. They are thus heterotrophic.

2. What is the function of the xylem tissue?

Ans: Water along with other minerals is transported from the roots to the leaves through pipe-like structures called the xylem. These pipe-like structures are present throughout, from the root to the leaves through the stem.

3. (i) Where are guard cells present? What is their function?

Ans: Guard cells are present on either side of the stomata. They regulate the opening and closing of the stomata.

(ii) What are the final products of photosynthesis? What happens to the excess glucose produced during photosynthesis?

Ans: Glucose and oxygen are the final products of photosynthesis. Excess glucose is rapidly converted to starch which is stored in leaves, stems and roots. Plants also convert glucose to fats and proteins.

C. Answer in detail.

1. Describe with the help of a diagram how raw materials needed for photosynthesis are obtained by a green plant.

Ans: For photosynthesis to take place, carbon dioxide and water are the two raw materials that need to be present in the leaves. Carbon dioxide from air is directly taken in by the leaves through small pores, present on the undersides, called the stomata.

Water from the soil is absorbed by the roots and transported to the leaves through the xylem tissue.

Diagram: Refer the course book.

2. Describe how leaves of Venus flytrap are modified to trap insects.

Ans: Modified structures formed by the leaves of insectivorous plants help them trap insects and small animals. The Venus flytrap also has modified leaves. The lamina on each side of the midrib is modified into a lobe. When an insect sits on the inside of a lobe, it triggers a mechanism that closes the lobes quickly. The trapped insect is digested and absorbed.

3. How is nitrogen replenished naturally in soil?

Ans: Plants use nitrogen and other minerals from the soil for their growth. This results in a depletion of minerals in the soil. Nitrogen content in the soil can be naturally replenished by the following methods:

- (i) Decomposers break down proteins from dead plants and animals into substances that are used by plants to make proteins. This way the nutrients that were taken from the soil are returned to the soil by the decomposers.
- (ii) By growing leguminous (peanuts and beans) crops in the fields. Leguminous plants harbour the *Rhizobium* bacteria in their roots and provide them with food. In turn, these bacteria fix atmospheric nitrogen into a form that can be readily used by the plants.

D. Match the words in the two columns.

Column A	Column B
1. symbiosis	a. dodder
2. saprophytes	b. pitcher plant
3. insectivorous	c. bacteria
4. parasites	d. mushroom
5. decomposers	e. lichens

Ans: 1. e 2. d 3. b 4. a 5. c