



FLORENCE INTERNATIONAL SCHOOL
CLASS- VII
WORKSHEET NO: 9
SCIENCE

NAME:

DATE: 09/04/2020

TOPIC: NUTRITION IN PLANTS

Please follow the previous link and the given link before attempting the worksheet:

<https://www.youtube.com/watch?v=aBghNAghCYY>

KEYWORDS:

- **Nutrients** - Certain substances are present in the foods that help in the survival of the organisms. These special substances are called nutrients for example, proteins, vitamins, carbohydrates, minerals and fats. Some living organisms like green plants synthesize their food by themselves are producers or autotrophs while others such as animals depend upon the plants and other animals for their food.
- **Nutrition** - Nutrition can be defined as a process by which organisms take in the food and utilize it in order to survive.
- **Mode of Nutrition**
Based on the mode of nutrition organisms can be divided into two categories:
- **Autotrophic Organisms** – The mode of nutrition in which the organism make their food by Themselves.
- **Heterotrophic Organisms** - The mode of nutrition in organisms that cannot make their food and depend on others for their food.
- **Materials for photosynthesis**
Plants prepare their food with the help of certain raw materials that they gather from their surroundings:
 1. Water
 2. Carbon dioxide
 3. Sunlight
 4. Minerals
 5. Chlorophyll

The process by which plants prepare their food by using these raw materials is called **Photosynthesis**.

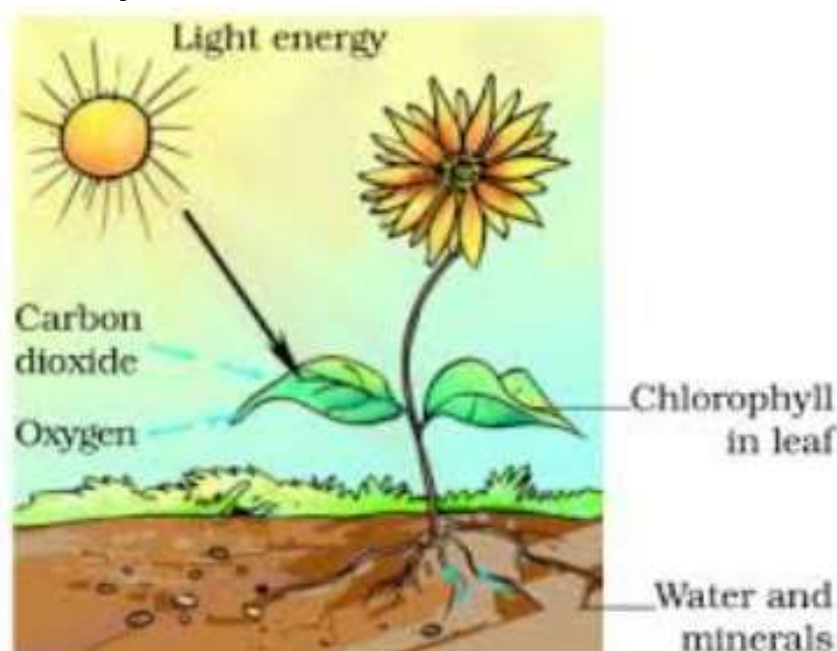


Figure: Photosynthesis

Transportation of water and Minerals in plants - The roots of the plants absorb the water and minerals of the soil and then transport them to the leaves via stems and branches.

- **Vascular Tissues**

Those tissues which transport water, minerals and food to different parts of a plant, are called vascular tissues.

There are two types of vascular tissues in a plant: xylem and phloem

Xylem- The tissue which carries water and minerals from the roots to the leaves of a plant is called xylem.

Phloem- The tissue which carries food from the leaves to other parts of the plant is called phloem.

- **Inhalation of Carbon Dioxide** - There are tiny holes or pores present on the surface of the leaves called **Stomata** that take in the carbon dioxide present in the atmosphere.

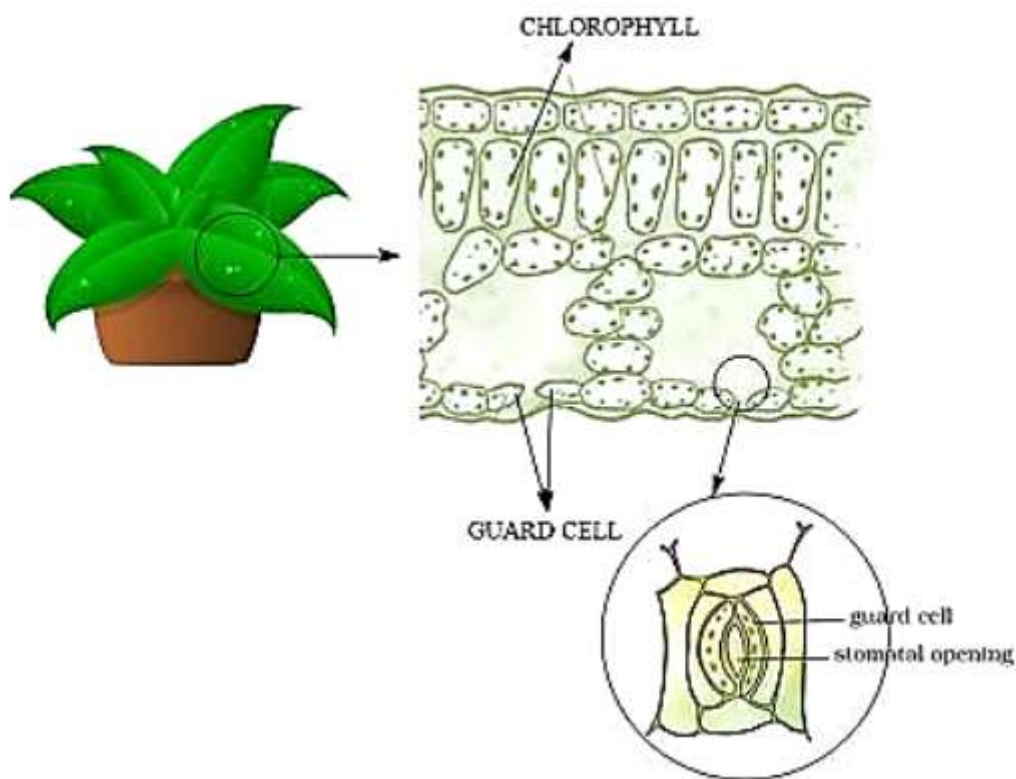


Figure: Stomata on leaves and the Chlorophyll

- **Presences of Chlorophyll in the Leaves** - A substance called Chlorophyll is present in the leaves of the plants. It is a green colour pigment. The chlorophyll not only provides green colour to the leaves but also helps in the process of photosynthesis. Chlorophyll captures the sunlight and along with other raw materials prepares the food in the leaves. This process of photosynthesis only occurs in the daytime in the presence of Sunlight hence it is called **Photosynthesis**, photo means light.
- **Sun is called the ultimate source of energy for all living organisms**
We know that the plants use solar energy to make their food. The herbivores animals depend upon the plants for their food. Animals (carnivores) that do not eat plants depend upon the herbivores animals. Therefore, all of the living organisms directly or indirectly receive their energy from the Sun.



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Q1. Fill in the blanks:

- a) The gas produced during photosynthesis is _____
- b) The mode of nutrition shown by cuscuta is _____
- c) The leaf portion that is not exposed to sunlight will not make _____
- d) _____ is a root vegetable.

Q2. What is meant by nutrition? What do you mean by autotrophic and heterotrophic mode of nutrition?

Q3. Differentiate between Xylem and Phloem

Xylem	Phloem

Q4. How do plants prepare their food?

Q5. Draw well labelled diagram of Stomata.

Q6. Why sun is called ultimate source of energy for all living organisms?

Q7. What are the different modes of nutrition? Explain briefly.

Q8. Describe vascular system present in plants.

Q9. Give reason why no life form can exist without Sun.

