

VII SCIENCE LESSON 1 NUTRITION IN PLANTS

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Key Words:

1. **AUTOTROPHIC:** The mode of nutrition in which organisms make food themselves from simple substances.
2. **CHLOROPHYLL:** The green pigment present in leaves which take part in photosynthesis.
3. **HETEROTROPHS:** Organisms which are dependent on others for their nutrition (ex) All animals & few plants.
4. **HOST:** The organism from which a parasite obtains its nutrition or shelter.
5. **INSECTIVOROUS:** Plants that derive their nutrition by consuming insects and other organisms.
6. **NUTRIENT:** A substance which an organism obtains from surroundings and uses it for their body functions. Ex. Carbohydrates, proteins, fats, vitamins, and minerals.
7. **NUTRITION:** It is the mode of taking food by an organism and its utilization by the body.
8. **PARASITE:** An organisms that lives in or on another organism and gets its food from it.
9. **PHOTOSYNTHESIS:** The process by which green plants make their own food from carbon dioxide and water by using sunlight energy in the presence of chlorophyll.
10. **SAPROTROPHS:** Organisms which obtain their food from dead and decaying matters.
11. **SAPROTROPHIC:** The made of nutrition in which organisms obtain their food from dead and decaying matters.
12. **STOMATA:** A large number of tiny pores on the surface of the leaves of plants.

EXERCISE:

1. **Why do organisms need to take food?**

Organisms need to take food to get energy and perform life processes. The life processes include nutrition, respiration, growth, excretion, reproduction and response to stimuli which can only be done by intake of food.

2. Distinguish between a parasite and a saprotroph.

i. PARASITE:

- a. The organism, which depends upon other organisms for its nourishment and growth is known as parasite.
- b. It has intracellular digestion.
- c. It causes harm to the organism.

ii. SAPROTROPH:

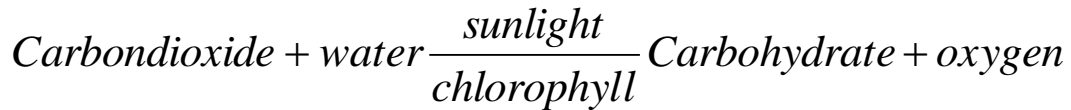
- a. The organism which grows on dead and decaying material for its growth is known as saprotroph.
- b. It shows extra cellular digestion.
- c. It does not depend on living host.

3. How would you test the presence of starch in leaves?

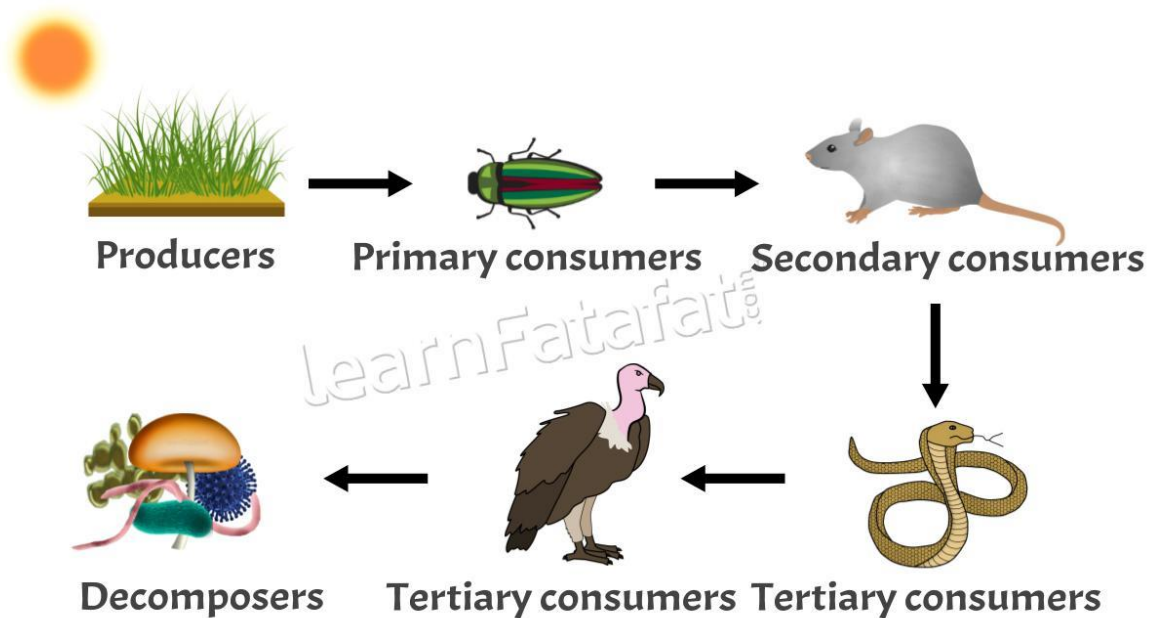
The presence of starch in leaves can be tested by the iodine test. When we remove chlorophyll from the leaf by boiling in alcohol and then put two drops of iodine solution. It's colour change to blue indicates the presence of starch.

4. Give a brief description of the process of synthesis of food in green plants.

The process of synthesis of food in green plants is called photosynthesis. This process takes place in the cells containing the green pigment chlorophyll. The raw materials of this process are water, carbon dioxide and sunlight. Water and minerals present in the soil are absorbed by the roots and transported to the leaves. Carbon dioxide from air is taken in through the stomata present on the leaf surface. During photosynthesis, chlorophyll containing cells of leaves in the presence of sunlight, use carbon dioxide and water to synthesis carbohydrates. This process can be represented as an equation.



5. Show with the help of a sketch that the plants are the ultimate source of food.



6. Name the following.

- i. A parasitic plant with yellow, slender and tubular stem - **Amarbel(cuscuta)**
- ii. A plant that has both autotrophic and heterotrophic mode of nutrition - **Pitcher plant.**
- iii. The pores through which leaves exchange gases – **Stomata.**

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