

STD X SCIENCE (BIOLOGY)

Chapter 6 LIFE PROCESSES PART 2 - NUTRITION

Source- NCERT textbook and internet.

NUTRITION



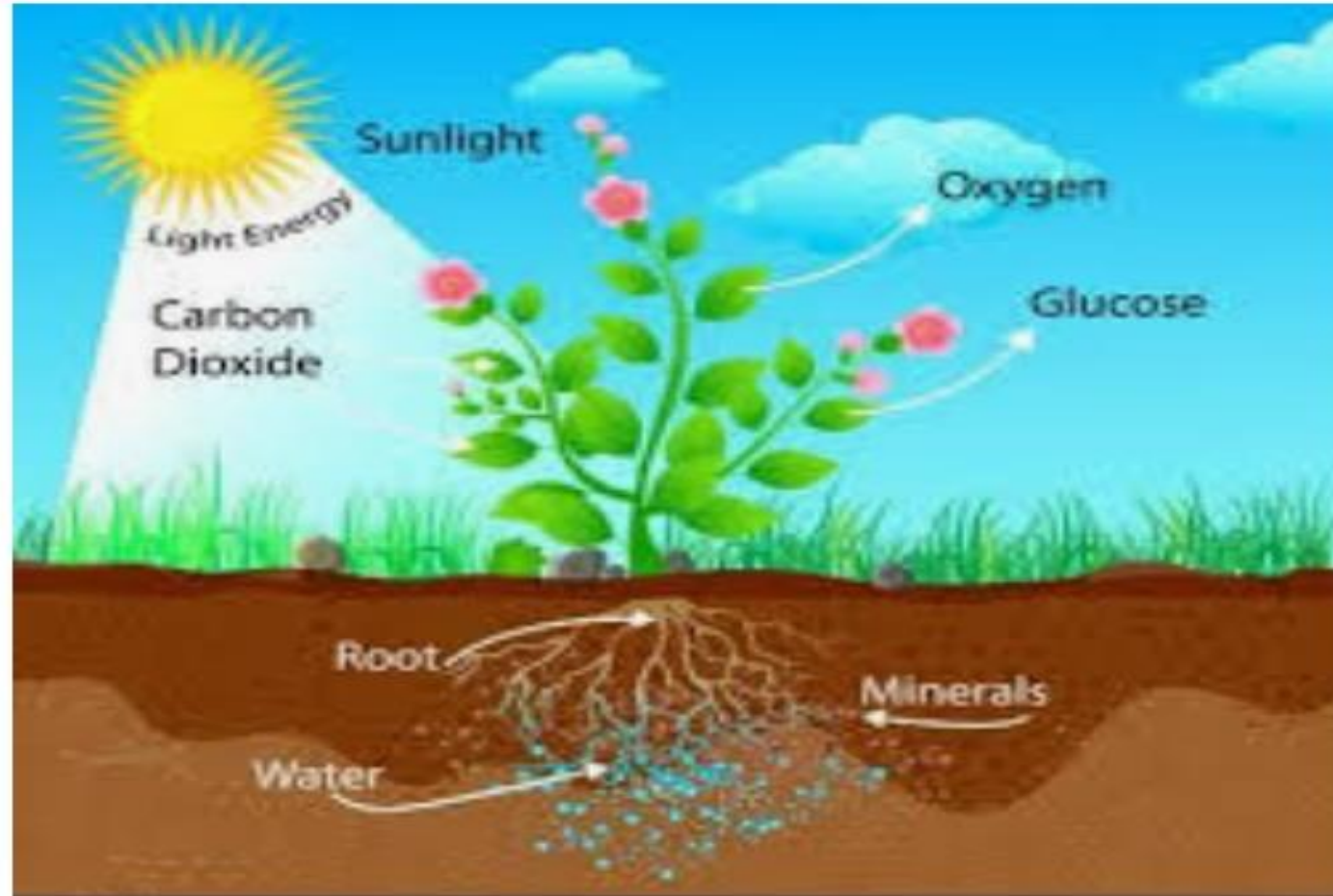
How do living things get their food?/ Modes of Nutrition



Difference between autotrophic and heterotrophic nutrition

Autotrophic nutrition	Heterotrophic nutrition
(i). Food is prepared from CO ₂ , water and sunlight	(i). Food is obtained from other organisms.
(ii). Chlorophyll is required.	(ii). Chlorophyll is not required.
(iii). All green plants and some bacteria have this type of nutrition.	(iii). All animals and fungi have this type of nutrition.
(iv). Food is generally in day time.	(iv). Food can be obtained at all time.

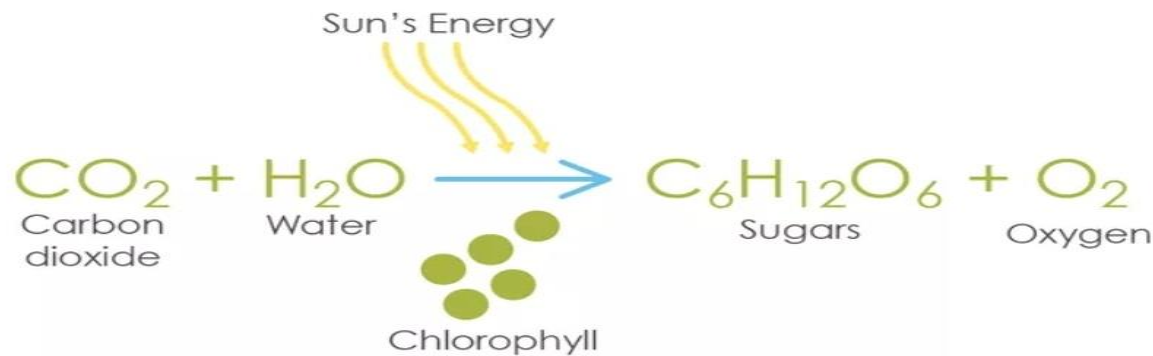
Autotrophic Nutrition/ Photosynthesis



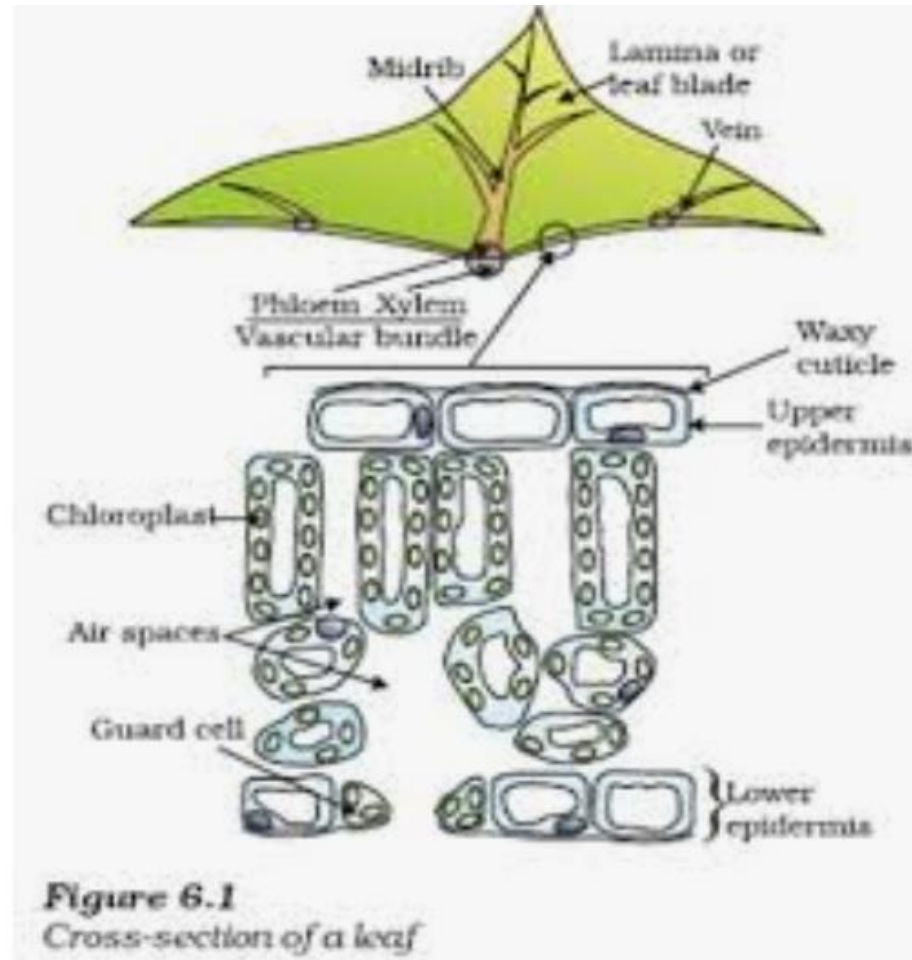
Definition and chemical equation for photosynthesis

Definition- Photosynthesis is the process by which autotrophs take in substances from the outside and convert them into stored forms of energy. This material is taken in the form of carbon dioxide and water which is converted into carbohydrates in the presence of sunlight and chlorophyll.

$6 \text{ CO}_2 + 12 \text{ H}_2\text{O} \xrightarrow{\text{Sunlight and Chlorophyll}} \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 + 6 \text{ H}_2\text{O}$ (in the presence of sunlight and chlorophyll)



Site of Photosynthesis- Mainly Leaves
and other green parts of the plant.
(Chloroplast)



Major events that occur during photosynthesis

Light reaction

1. Absorption of light energy by chlorophyll.
2. Conversion of light energy to chemical energy and splitting of water molecules into hydrogen and oxygen.

Dark reaction

Reduction of carbon dioxide to carbohydrates OR carbon dioxide fixation

Home work

- ▶ Define Nutrition.
- ▶ What are the different modes of Nutrition followed by Liiving organisms?
- ▶ Define photosynthesis and write the chemical equation for photosynthesis.
- ▶ What are enzymes?
- ▶ Draw a neat and well labelled diagram of a cross section of a leaf.
- ▶ What are the events that takes place during photosynthesis?

Thank you!