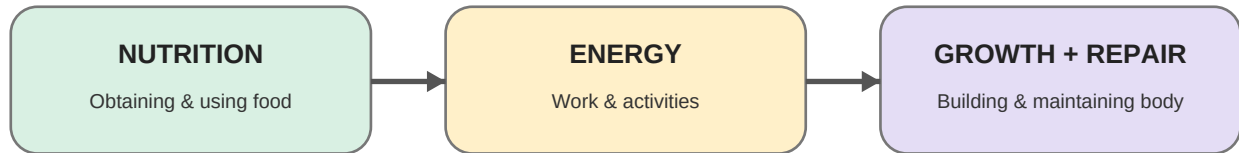


CLASS 10 BIOLOGY

Interactive Demo Lecture • Nutrition

NUTRITION: THE BIG PICTURE



Food is used by the body for life processes

Duration: 10–12 minutes **Approach:** Interactive explanation + questioning + visual learning

1. Learning Objectives

By the end of the session, students should be able to:

- define nutrition in their own words.
- explain why food is necessary for living organisms.
- distinguish between autotrophic and heterotrophic nutrition.
- describe photosynthesis at a basic Class 10 level.
- arrange the five steps of human nutrition in the correct sequence.
- connect the concept of nutrition with energy, growth and repair.

2. Opening the Concept — Nutrition

“Think about your body after a long day at school. You feel tired. What does your body need?”

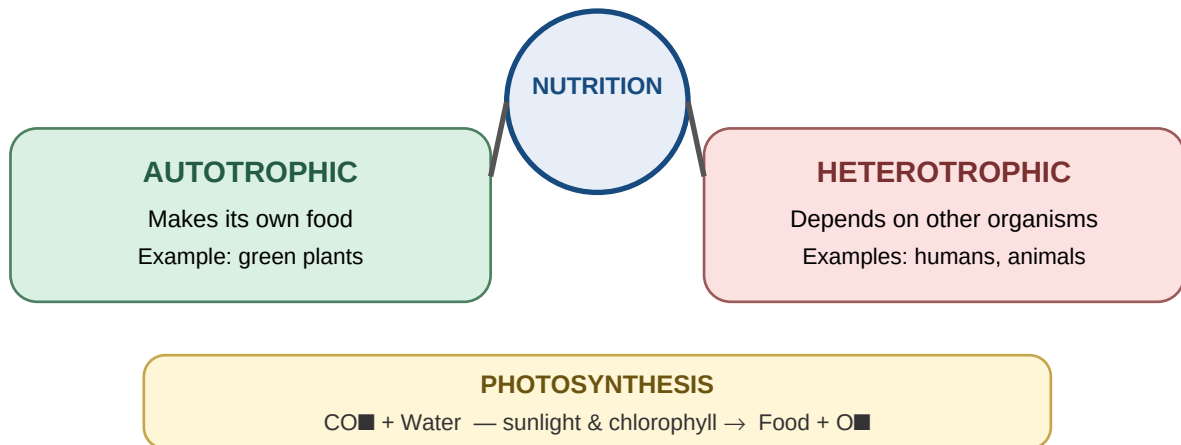
Food is one of the basic requirements of life. It supplies materials and energy needed for growth, repair and the normal functioning of the body.

Nutrition is the process by which an organism obtains food and uses it for energy, growth, repair and maintenance.

Easy connection: Food → Energy + Growth + Repair

3. Two Types of Nutrition

TWO MAIN TYPES OF NUTRITION



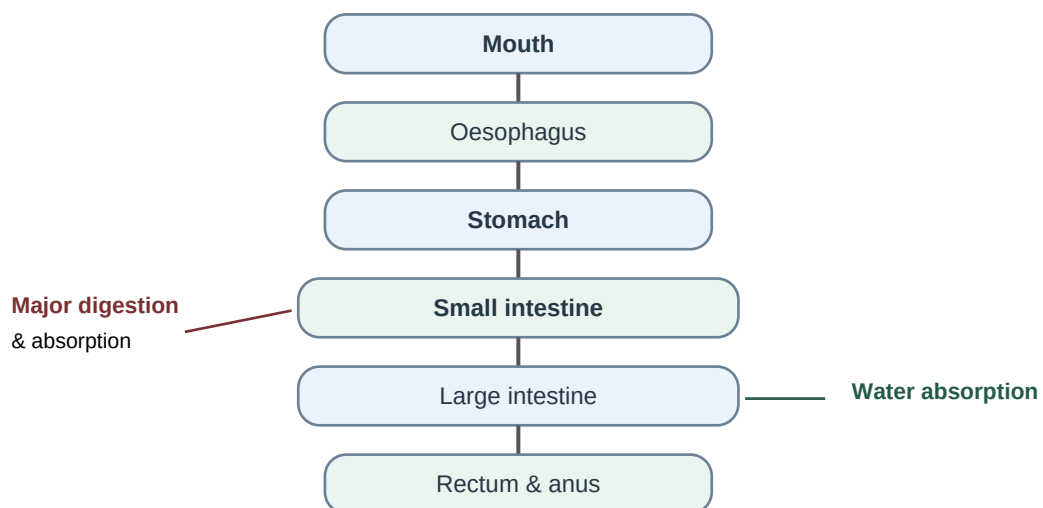
Autotrophic nutrition: Organisms make their own food. Green plants use carbon dioxide and water in the presence of sunlight and chlorophyll to prepare food.

Heterotrophic nutrition: Organisms cannot make their own food and obtain it from other organisms. Humans and animals are common examples.

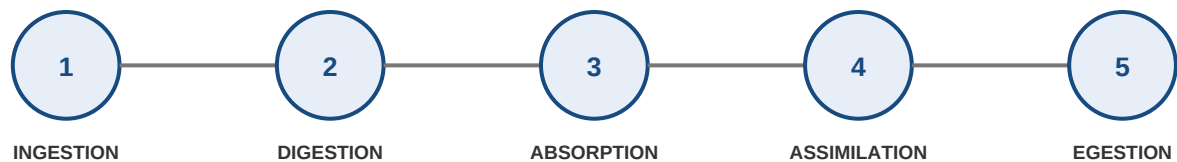
Key difference: Autotrophs *make* their food; heterotrophs *obtain* food from external sources.

4. Nutrition in Humans

HUMAN NUTRITION: THE JOURNEY OF FOOD



When we eat, food does not become useful to the body immediately. It passes through a series of processes that make nutrients available to cells.



Ingestion: taking food into the body.

Digestion: breaking complex food into simpler substances.

Absorption: movement of digested nutrients into the blood.

Assimilation: use of absorbed nutrients by body cells.

Egestion: removal of undigested food from the body.

5. Quick Classroom Check

1. What is nutrition?
2. Why does our body need food?
3. Name the two main types of nutrition.
4. Which type of nutrition is found in green plants?
5. What is photosynthesis?
6. Why are humans called heterotrophs?
7. Put these in order: Absorption, Ingestion, Egestion, Digestion, Assimilation.
8. Which process allows digested nutrients to enter the blood?

6. Summary

Nutrition is essential for life because it provides the materials and energy needed by organisms. Green plants show **autotrophic nutrition** and prepare food by **photosynthesis**. Humans show **heterotrophic nutrition**. Human nutrition can be understood through five steps: **Ingestion** → **Digestion** → **Absorption** → **Assimilation** → **Egestion**.

The central idea to remember: **Food must be obtained, digested, absorbed and used by the body.**

Teaching aids used: board/marker, simple plant/photosynthesis diagram, digestive-system pathway diagram, and oral questioning. The lecture deliberately uses everyday connections and short questions so that students participate rather than only listen.