Topic: Nutrition

This unit explores how living organisms obtain and use food to support life processes. It emphasizes the role of nutrition in growth, energy supply, repair, and overall health, while comparing strategies across plants, animals, and humans.

Key areas of focus include:

- **Introduction to Nutrition** – the meaning of nutrition and why it is essential for all living things.
- **Autotrophic Nutrition** – how green plants manufacture their own food through photosynthesis; the structure of the leaf, raw materials required, and factors affecting the process.
- **Heterotrophic Nutrition** – how animals and humans depend on plants and other organisms for food; modes of nutrition such as holozoic, parasitic, and saprophytic.
- **Human Nutrition** – the structure and function of the digestive system, including ingestion, digestion, absorption, assimilation, and egestion.
- **Food Groups and Nutrients** – carbohydrates, proteins, fats, vitamins, minerals, water, and fibre; their sources, functions, and importance in a balanced diet.
- **Balanced Diet and Malnutrition** – the concept of a balanced diet, consequences of deficiencies or excesses, and the impact of poor nutrition on health.
- **Nutrition in Context** – the relationship between nutrition, lifestyle, and disease prevention; the importance of food security and sustainable practices.

By the end of this topic, students should be able to:

- Define nutrition and explain its importance in living organisms.
- Describe autotrophic and heterotrophic modes of nutrition.
- Explain the process of photosynthesis and its role in sustaining life.
- Outline the structure and function of the human digestive system.
- Identify the main classes of food and their functions.
- Evaluate the importance of a balanced diet and the effects of malnutrition.

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This topic provides a foundation for understanding how energy and nutrients flow through living systems, linking biology to health, agriculture, and environmental sustainability.

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