

GENERAL SCIENCE

COURSE OUTCOMES:

1. The Science of Life and Origin of Life:

- ✚ Students will understand the fundamental concepts related to the origin of life on Earth.
- ✚ They will be able to explain various theories and hypotheses regarding the emergence of life.
- ✚ Students will appreciate the significance of studying the science of life in understanding our existence.
- ✚ Students will classify biological entities into the four main groups: prokaryotes, protists, fungi, plants, and animals.
- ✚ They will differentiate between the five kingdoms: Monera, Protista, Fungi, Plantae, and Animalia.
- ✚ Students will recognize the diversity of life and the importance of each kingdom.

2. Basic Cell Biology:

- ✚ Students will describe the structure and functions of cells.
- ✚ They will understand the significance of cell divisions (mitosis and meiosis) in growth, repair, and reproduction.
- ✚ Students will appreciate the role of cells as the fundamental units of life.

3. States of Matter:

- ✚ Students will identify the characteristics and phases of matter (solid, liquid, gas).
- ✚ They will explain the behaviour of matter during phase transitions.
- ✚ Students will apply their knowledge to real-world scenarios involving different states of matter.
- ✚ Students will differentiate between mixtures and solutions. They will understand solubility and factors affecting it.
- ✚ Students will perform calculations related to concentration and dilution. Students will comprehend the concept of a mole and Avogadro's number.
- ✚ They will apply mole calculations to chemical reactions and stoichiometry.
- ✚ Students will appreciate the importance of the mole concept in chemistry.

4. Chemistry in Everyday Life:

- ✚ Students will recognize the role of acids and bases in daily life.
- ✚ They will understand pH scales and their significance.
- ✚ Students will explore the practical applications of salts, drugs, dyes, soaps, glass, cement, coal, and radioactivity.

5. Mechanics:

- ✚ Students will grasp Newton's laws of motion and their applications.
- ✚ They will classify different types of motion (linear, circular, projectile, etc.).
- ✚ Students will calculate forces, work, energy, and power in various contexts.