scientific investigations etc. and use of rubrics for assessing them objectively. This will also have a weightage of 05 marks towards the final result.

ii) For 5 marks - Practical / Laboratory work that is done throughout the year. The students should maintain record of the same. Practical Assessment should be continuous. All practical work listed in the syllabus must be completed.

iii) For 5 marks - Portfolio that includes classwork and other sample of student's work.

**COURSE STRUCTURE**
**CLASS IX (2025-26)**
**(Annual Examination)**

**Time: 03 Hours** **Marks: 80**

| Unit No. | Unit | Marks |
|---|---|---|
| I | Matter - Its Nature and Behaviour | 25 |
| II | Organization in the Living World | 22 |
| III | Motion, Force and Work | 27 |
| IV | Food; Food Production | 06 |
| | **Total** | **80** |
| | **Internal assessment** | **20** |
| | **Grand Total** | **100** |

**Theme: Materials**

**Unit I: Matter-Nature and Behaviour**

**Matter in Our Surroundings:** Definition of matter; Particulate Nature of Matter; States of Matter: solid, liquid and gas and their characteristics; change of state- melting (absorption of heat), freezing, evaporation (cooling by evaporation), condensation, sublimation.

**Is Matter Around Us Pure:** Elements, compounds and mixtures. Heterogeneous and homogenous mixtures, colloids and suspensions. Physical and chemical changes (excluding separating the components of a mixture); Pure and Impure substances.

**Atoms and Molecules:** Atoms and molecules, Law of Chemical Combination, Chemical formula of common compounds, Atomic and molecular masses.

**Structure of atom:** Sub-atomic particles: Electrons, protons and neutrons, Models of atom; Valency, Atomic Number and Mass Number, Isotopes and Isobars.

## Theme: The World of the Living

### Unit II: Organization in the Living World

**Cell - Basic Unit of life:** Cell as a basic unit of life; prokaryotic and eukaryotic cells, multicellular organisms; cell membrane and cell wall, cell organelles and cell inclusions; chloroplast, mitochondria, vacuoles, endoplasmic reticulum, Golgi apparatus; nucleus, chromosomes - basic structure, number.

**Tissues, Organs, Organ System, Organism:**

Structure and functions of animal and plant tissues (only four types of tissues in animals; Meristematicand Permanent tissues in plants).

*The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. The reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.*

**Health and Diseases:** Health and its failure. Infectious and Non-infectious diseases, their causes and manifestation. Diseases caused by microbes (Virus, Bacteria and Protozoans) and their prevention; Principles of treatment and prevention. Pulse Polio programmes.

## Theme: Moving Things, People and Ideas

### Unit III: Motion, Force and Work

**Motion:** Distance and displacement, velocity; uniform and non-uniform motion along a straight line; acceleration, distance-time and velocity-time graphs for uniform motion and uniformly accelerated motion, elementary idea of uniform circular motion.

**Force and Newton's laws:** Force and Motion, Newton's Laws of Motion, Action and Reaction forces,Inertia of a body, Inertia and mass, Momentum, Force and Acceleration.

*The following topic is included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. The reduces academic stress while ensuring meaningful learning. Schools can integrate this with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.*

Elementary idea of conservation of Momentum

**Gravitation:** Gravitation; Universal Law of Gravitation, Force of Gravitation of the earth (gravity),Acceleration due to Gravity; Mass and Weight; Free fall.

**Floatation:** Thrust and Pressure. Archimedes' Principle; Buoyancy.

**Work, Energy and Power:** Work done by a Force, Energy, power; Kinetic and Potential energy; Lawof conservation of energy (excluding commercial unit of Energy).

**Sound:** Nature of sound and its propagation in various media, speed of sound, range of hearing inhumans; ultrasound; reflection of sound; echo.

## Theme: Food

### Unit IV: Food Production

Plant and animal breeding and selection for quality improvement and management; Use of fertilizersand manures; Protection from pests and diseases; Organic farming.

**Note for Teachers:** The NCERT text books present information in boxes across the book. These help studentsto get conceptual clarity. However, the information in these boxes would not be assessed in the year-end examination.

## PRACTICALS

**Practicals should be conducted alongside the concepts taught in theory classes.**

**(LIST OF EXPERIMENTS)**

**1.** Preparation of: **Unit-I**

a) a true solution of common salt, sugar and alum

b) a suspension of soil, chalk powder and fine sand in water

c) a colloidal solution of starch in water and egg albumin/milk in water and distinguishbetween these on the basis of

- transparency
- filtration criterion
- stability

**2.** Preparation of **Unit-I**

a) A mixture

b) A compound

using iron filings and sulphur powder and distinguishing between these on the basis of:

- appearance, i.e., homogeneity and heterogeneity

- behaviour towards a magnet
- behaviour towards carbon disulphide as a solvent
- effect of heat

**3.** Perform the following reactions and classify them as physical or chemical changes: **Unit-I**

a) Iron with copper sulphate solution in water
b) Burning of magnesium ribbon in air
c) Zinc with dilute sulphuric acid
d) Heating of copper sulphate crystals
e) Sodium sulphate with barium chloride in the form of their solutions in water

**4.** Preparation of stained temporary mounts of (a) onion peel, (b) human cheek cells & to record observations and draw their labeled diagrams **Unit - II**

**5.** Identification of Parenchyma, Collenchyma and Sclerenchyma tissues in plants, striped, smooth and cardiac muscle fibers and nerve cells in animals, from prepared slides. Draw their labeled diagrams. **Unit-II**

**6.** Determination of the melting point of ice and the boiling point of water. **Unit-I**

**7.** Verification of the laws of reflection of sound. **Unit-III**

**8.** Determination of the density of solid (denser than water) by using a spring balance and a measuring cylinder. **Unit-III**

**9.** Establishing the relation between the loss in weight of a solid when fully immersed in **Unit-III**

a) Tap water
b) Strongly salty water with the weight of water displaced by it by taking at least two different solids.

**10.** Determination of the speed of a pulse propagated through a stretched string/ slinky (helical spring). **Unit-III**

**11.** Verification of the law of conservation of mass in a chemical reaction. **Unit-III**