

field of Science, including the disciplines that constitute it	
CG-7 Develops awareness of the most current discoveries, ideas, and frontiers in all areas of scientific knowledge in order to appreciate that Science is ever evolving, and that there are still many unanswered questions	C-7.1 States concepts that represent the most current understanding of the matter being studied, ranging from mere familiarity to conceptual understanding of the matter as appropriate to the developmental stage of the students C-7.2 States questions related to matters in the curriculum for which current scientific understanding is well recognised to be inadequate
CG-8 Explores the nature of Science by doing Science	C-8.1 Develops accurate and appropriate models (including geometric, mathematical, graphical) to represent real-life events and phenomena using scientific principles and use these models to manipulate variables and predict results C-8.2 Designs and implements a plan for scientific inquiry (formulates hypotheses, makes predictions, identifies variables, accurately uses scientific instruments, represents data, primary and secondary, in multiple modes, draws inferences based on data and understanding of scientific concepts, theories, laws, and principles, communicates findings using scientific terminology)

It is important to note that the Curricular Goals are interdependent, and not separate curricular pieces of study.

(Reference: National Curriculum Framework for School Education – 2023.)

The competencies, as defined by the NCFSE 2023, are designed to encompass the entire secondary stage (classes IX-XII). Attainment of the competencies shall be done through transaction of the curriculum using appropriate pedagogy; these shall be assessed through an integrated evaluation scheme.

General Instructions for Assessment:

1. There will be an Annual Examination based on the entire syllabus.
2. The Annual Examination will be of 80 marks and 20 marks weightage shall be for Internal Assessment.
3. For Internal Assessment:
 - i) There will be Periodic Assessment that would include:
 - For 5 marks- Three periodic tests conducted by the school. Average of the best two tests to be taken that will have a weightage of 05 marks towards the final result.
 - For 5 marks - Diverse methods of assessment as per the need of the class dynamics and curriculum transaction. These may include - short tests, oral test, quiz, concept maps, projects, posters, presentations and enquiry based

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; Meristematic and 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. This 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. This 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; Law of conservation of energy (excluding commercial unit of Energy).

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

Theme: Food

Unit IV: Food Production

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

Note for Teachers: The NCERT text books present information in boxes across the book. These help students to 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 distinguish between these on the basis of
 - transparency
 - filtration criterion
 - stability

2. Preparation of **Unit-I**
 - a) A mixture
 - b) A compoundusing 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

- Iron with copper sulphate solution in water
- Burning of magnesium ribbon in air
- Zinc with dilute sulphuric acid
- Heating of copper sulphate crystals
- 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**

- Tap water
- 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**