



**Tamil Nadu Curriculum Framework 2025**  
**Proposed Draft Syllabus, Pedagogical Approaches and Assessment Strategies**  
**Classes 9 & 10 - Science**

**Introduction:**

The Tamil Nadu State Education Policy 2025 envisions Science education at the secondary level as a progression towards advanced conceptual understanding, analytical thinking and rigorous scientific reasoning. The Science curriculum for Classes 9 and 10 is designed to strengthen students' capacities in systematic observation, hypothesis formulation, experimentation, quantitative analysis, data interpretation and logical explanation. It enables learners to explore and understand physical, chemical, biological and earth science phenomena through structured inquiry, empirical evidence and real-world applications. The curriculum places strong emphasis on the development of scientific temper, critical thinking, problem-solving ability and evidence-based reasoning, preparing students to analyse complex situations, evaluate scientific claims, interpret data critically and construct coherent logical arguments. Through laboratory investigations, field-based studies, simulations and contextual problem-solving tasks, students connect scientific principles with everyday life, environmental challenges, technological innovations and societal concerns, fostering meaningful and purposeful learning.

The curriculum promotes interdisciplinary learning, ethical awareness, safety consciousness, environmental responsibility and collaborative inquiry, enabling students to appreciate the interconnected nature of scientific knowledge. Through hands-on exploration, reflective thinking and sustained inquiry, learners develop intellectual independence, curiosity and lifelong learning skills, laying a strong foundation for higher scientific studies, informed decision-making, responsible citizenship and meaningful engagement with science and technology in a rapidly evolving world.

This draft syllabus is open for review and further refinement.

| COMPETENCY                                                                                                                                                                                                                                                                                                                                 | CLASS 9                                                                                                                                                                                                                                                                                                                                                                                     | CLASS 10                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CG 1: Understands fundamental concepts of physics to explain natural phenomena, to analyse real-life situations and observe the world critically</b>                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                              |
| <b>C 1.1:</b> Understands and applies the concepts of motion, distinguishes distance and displacement, speed and velocity, acceleration, interpreting graphs, explains equations of motion and applying Newton's laws in real-life                                                                                                         | <b>Equations of motion:</b><br>Distance and Displacement, Speed and Velocity, Real life applications (vehicles, athletes, GPS navigation), distance vs time and speed vs time graph, acceleration, positive, negative (retardation) and zero acceleration, Simple numerical problems, Practical examples: vehicles, falling bodies, sports motion, Kinematic equations and its applications | <b>Newton's laws of motion:</b><br>Inertia and its types, Momentum and impulse, SI units, Applications: catching a ball, airbags, padded surfaces, sports techniques; Newton's laws and its applications, Simple numerical problems.                         |
| <b>C 1.2:</b> Understands and explains the behaviour of light in different medium through refraction, dispersion and total internal reflection; appreciates the applications in real - life contexts<br><br><b>C 1.3:</b> Applies the principles of lens to analyse: image formation, the working of optical instruments and the human eye | <b>Light:</b><br>Laws of refraction, Refraction at a plane surface, refraction at a rectangular glass slab, Refraction through prisms, Dispersion of light, Total internal reflection, Simple numerical problems, Applications - mirages, diamonds, refracting telescopes, periscopes                                                                                                       | <b>Light:</b><br>Types of lenses - Convergent and divergent lenses, Images formed by lenses, Simple numerical problems, Characteristics of images, Optical instruments - Working of camera, comparison with human eye, Limited vision, defects, remediation. |
| <b>C 1.4:</b> Understands the principles of electric circuits and magnetism, calculates energy consumption and domestic electric bills, analyses AC/DC systems and safety devices<br><b>C 1.5:</b> Uses Scientific vocabulary to explain                                                                                                   | <b>Electricity &amp; Magnetism:</b><br>Energy consumption in electric circuit, Units: watt, kilowatt, kilowatt-hour (kWh), Domestic Electric Bill, reading meters, AC/DC (domestic electric bill) advantages/disadvantages of fuses, earth wire and other safety devices, Foundational circuit laws,                                                                                        | <b>Electricity &amp; Magnetism:</b><br>Magnetic Effect of Electric Current, Force on a current carrying conductor, Fleming's Left Hand Rule, Electric Motor, Comparison of DC and AC motors, Electromagnetic Induction (EMI) - Concept of induced            |

|                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| electromagnetic induction and its applications in motors using Fleming's rules                                                                                                                                                                                      | Ohm's law, V-I Characteristics, Combination of resistances and resistivity.                                                                                                                                                                                                                                       | current, Factors affecting induction, Fleming's Right Hand Rule, Applications, Principle of generator.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>C 1.6:</b> Understands and applies the principles of simple machines, evaluates efficiency and mechanical advantage; relates energy transformations in daily life, energy transformations in human body and practises energy conservation                        | <b>Simple Machines:</b><br>Load, Effort, Fulcrum, Types of simple machines, performance of simple machines - Mechanical advantage of simple machines - Velocity Ratio, Efficiency, Simple numerical problems, Applications in daily life, Simple machines in our body – musculo-skeletal system                   | <b>Work, Power and Energy:</b><br>Work done by a force and work done against a force, Power as the rate of doing work, Potential Energy and Kinetic Energy, Conservation of energy, 3R's of electrical energy conservation, greenhouse effect and global warming, Simple numerical problems                                                                                                                                                                                                                                              |
| <b>C 1.7:</b> Understands the Earth–Moon as a system and its gravitational effects<br><br><b>C 1.8:</b> Uses Scientific vocabulary to explain the Moon's cycles and positions; explains the space beyond Solar System, celestial objects and distances between them | <b>Earth and Moon:</b><br>Relationship of the Moon and the Earth, Moon cycle and Relative positions, Gravitation and its laws, Tides, Tidal locking                                                                                                                                                               | <b>Beyond the Solar System</b><br>Early Observations of Space, Telescopes, Working principle and types, Famous Telescopes - Hubble Space Telescope, Webb Space Telescope, Two major Indian telescopes (e.g., Vainu Bappu Telescope, Giant Metrewave Radio Telescope); Applications of Telescopes in Astronomy - Observing the Sun and determining its position, Studying the Milky Way Galaxy, identifying our nearest stars, Measuring Astronomical Distances - Light as a unit of distance, light minutes, light hours and light years |
| <b>CG-2: Investigates the nature of matter by examining its structure, behaviour and interactions at the atomic level and develops an understanding of its physical and chemical properties</b>                                                                     |                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>C 2.1:</b> Understands the classification of elements using periodic laws, electronic configuration, describes its basic properties.<br><b>C 2.2:</b> Analyses periodic trends and group–period properties to predict the chemical                               | <b>Periodic Classification of Elements</b><br>Early Concepts of Classification, Dobereiner's Triads, Newlands' Law of Octaves, Mendeleev's Periodic Law, Modern Periodic Law, Modern Periodic Table, Classification of elements, electronic configuration (only using orbits for 10 elements), Valence electrons, | <b>Periodicity</b><br>Features of Periods, Features of Groups, Periodic Trends in Properties, Atomic Radius, Ionic Radius, Ionisation Energy, Electron Affinity, Electronegativity                                                                                                                                                                                                                                                                                                                                                       |

|                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| behaviour of elements using the modern periodic table.                                                                                                                                                                                                                                                                             | Valency, Position of hydrogen in the periodic table, Position of Rare Gases, Metals, Non-Metals, Metalloids, Properties of metals and non-metals; Reactivity series, alloys and Amalgam                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>C 2.3:</b> Explains atomic structure, sub-atomic particles and chemical combinations to understand the composition of matter and performs basic chemical calculations.</p> <p><b>C 2.4:</b> Analyses the structure, classification, properties and uses of carbon compounds and understands their role in everyday life.</p> | <p><b>Atomic Structure</b><br/>Discovery of Nucleus and Sub-atomic particles (Electrons, protons and neutrons), Atomic models (Rutherford's Atomic Model, Bohr's Atomic Model) Characteristics of Fundamental particles, Atom and Molecules, Atomic and molecular masses, Mole Concept, Isotopes, Isobars and Isotones. Law of Chemical Combination, Chemical formula of common compounds</p>                                                                                                     | <p><b>Carbon and its Compounds</b><br/>Discovery of Carbon- Milestones, Organic Compounds and Inorganic Compounds of Carbon, Catenation, Tetravalency, Multiple Bonds, Classification of organic compounds based on the pattern of carbon chain, Classes of organic compounds, Physical properties and Chemical properties of Carbon and its compounds, Nomenclature of organic Compounds, Ethanol and Ethanoic Acid – manufacture, physical properties, chemical properties, Uses of Organic Compounds in Daily Life</p> |
| <b>C 2.5:</b> Classifies matter, mixtures and solutions using appropriate separation techniques, understands their composition and purification.                                                                                                                                                                                   | <p><b>Matter Around Us</b><br/>Classification of Matter - Elements, Compounds, Mixtures - Differences Between Compound and Mixture, Solute, Solvent and Solutions. Miscible and immiscible solutions, Colloidal Solutions and Emulsions - A special kind of colloids Suspension, Colloidal and Suspension. Methods of Separation/Purification of mixtures (Sublimation, Centrifugation, Solvent Extraction, Simple distillation, Fractional distillation, Crystallization and Chromatography)</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>C 2.6:</b> Explains chemical reactions, their types and energy changes, types of corrosion and practises methods of preventing corrosion.                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p><b>Chemical Reactions</b><br/>Chemical reactions, Balanced chemical equation, Energy changes in a chemical Reaction (endothermic, exothermic reactions) Types of Chemical reactions (combination, decomposition, displacement, double</p>                                                                                                                                                                                                                                                                              |

|                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | displacement, precipitation), Rate of Chemical reaction, Fast and Slow reactions in day to day life, browning of brinjal, apples, acid base neutralisation, fermentation, ripening of fruits, digestion of food, Corrosion, Types of Corrosion, Methods of preventing Corrosion, Pamban Bridge and Iron pillar in Qutb Minar                                                                                                                                                                                                                  |
| <p><b>C 2.7:</b> Explains chemical bonding using electron configuration, valency. Uses Lewis structures to understand the formation of bonds and analyses the usages of compounds in daily life.</p> <p><b>C 2.8:</b> Analyses the nature, properties and reactions of acids, bases and salts using pH concepts, appreciates their applications in everyday life.</p> | <p><b>Chemical Bonding</b><br/>Kossel – Lewis approach to chemical bonds, Octet rule, Interconnection between Valence electrons and no. of bonds formed, Lewis dot structure, Ionic Bond, formation of Ions-cations and anions from atoms. Ionic compounds in day-to-day life (Table salt NaCl, CaCl<sub>2</sub>, Baking soda- NaHCO<sub>3</sub>, Washing Soda- Na<sub>2</sub>CO<sub>3</sub>, Quick lime - CaO, Chalk- CaCO<sub>3</sub>) Ionic Bond, Covalent Bond, Metallic bond, Drawing Lewis dot structure of H<sub>2</sub>, LiF, BeH<sub>2</sub>, BF<sub>3</sub>, CH<sub>4</sub>, N<sub>2</sub>, O<sub>2</sub>, NH<sub>3</sub>, H<sub>2</sub>O, F<sub>2</sub>, CO<sub>2</sub>, CO, O<sub>3</sub></p> | <p><b>Acids, Bases and Salts</b><br/>Acids, bases and Salts - Classification, Properties, Uses – Acids, bases for cleaning purposes - Bleaching powder, Baking soda, Washing soda - Plaster of Paris - Aquaregia, Types of Acids and bases - Based on Source (Organic, Inorganic) Based on Strength (Strong, Weak) Based on Basicity (mono-, di-, tri-basic) Based on Concentration (Dilute, Concentrated). Tests for Acids and Bases, Strength of Acidic or Basic solutions, pH Scale, importance of pH in everyday life, pH Calculation</p> |
| <b>CG-3: Describes the diversity of living organisms and sustainable practices to protect the environment.</b>                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>C 3.1.</b> Analyses the classification and diversity of living organisms to understand structural organisation and evolutionary relationships.                                                                                                                                                                                                                     | <p><b>Diversity in Living Organisms</b><br/>Fundamentals of 5 kingdom classification- Naming organisms, Major groups and their Salient features - Cryptogams and Phanerogams.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Diversity in Living Organisms</b><br/>Animal Kingdom - Major groups and their Salient features -Invertebrata and Vertebrata.</p>                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>C 3.2.</b> Analyses the relationship between biological systems and environmental management to promote conservation, sustainable agriculture and climate responsibility.                                                                                                                                                                                          | <p><b>Sustainable Development Goals and Practices</b><br/>Quality improvement and management of plant production, Usage of organic fertilizer and manure, Microbial Biotechnology for Sustainable Ecosystems: Role of Bio-fertilizers, Bio-pesticides and Waste Bioremediation, Economy based- sustainable</p>                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>Our Environment</b><br/>Need for conservation - Environmental conservation, National Acts and International Protocols - Ozone layer depletion and International efforts on Climate change.</p>                                                                                                                                                                                                                                                                                                                                          |

|                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                             | agriculture and forest management. Livestock Development in India- Aquaculture, Apiculture, Vermiculture, Cattle breeding, Poultry farming                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>CG-4: Analyses the Structural and Functional organisation of living organisms to understand life processes and Evolution.</b>                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>C 4.1.</b> Analyses cellular structure to understand the physiological functions.</p> <p><b>C 4.2.</b> Understands genetic inheritance and evolutionary evidence to explain the continuity and diversity of life.</p> | <p><b>The Unit of Life</b></p> <p>Cell Theory, Cell sizes and shapes, Cell Division, Types of Cell Division- Mitosis and Amitosis - Onion Root Tip showing various stages of mitosis. Structure of Chromosomes, Structure of DNA, Gene as the functional unit of DNA, various genetic traits in population (Table), Experiments of Mendel's laws of inheritance- Genotype and phenotype Heredity.</p>                                                                                                                                                                                                                                     | <p><b>Origin and Evolution of Life</b></p> <p>Evolution, Origin of Life, Evidence of Evolution, Evidences from Morphology, Evidences from Anatomy and Embryology, Evidence from Paleontology, Natural Selection, Variation - Modern theory of evolution (how genetics is used to reinforce the natural selection theory of Charles Darwin, introductory level)</p>                                                                                                                                                                                                                                                                                                                    |
| <p><b>C 4.3.</b> Analyses essential life processes and physiological systems in plants and animals to explain growth, reproduction, coordination and health.</p>                                                            | <p><b>Physiology of Plants and Animals</b></p> <p><b>Nutrition, respiration and transportation in Plants:</b> Photosynthesis in plants, Respiration in Plants, Transport in Plants, Means of Transport in Plants-Diffusion, Active Transport, Osmosis.</p> <p><b>Nutrition, Respiration, Circulation and excretion in animals:</b></p> <p>Human Digestive system, Human respiratory system, Human Circulatory system, Circulatory systems in different animals (Table). Blood, Blood Vessels - Arteries, Veins and capillaries, Human excretory system and its functions, Diseases and disorders due to lifestyle modifications, NCDs</p> | <p><b>Physiology of Plants and Animals</b></p> <p><b>Reproduction in plants</b> - Asexual Reproduction, Sexual Reproduction in Plants. <b>Reproduction in Animals</b> - Asexual reproduction in animals and Sexual Reproduction in Humans, Sexual Hygiene and Sexual awareness. Sexually Transmitted Diseases (STD) and its prevention. <b>Nervous System and Mental Health</b> – Human Nervous System, Central Nervous System, Reflex action, Stress Management and mental health (Basic level), Endocrine glands and hormones - Plant Hormones, Human Endocrine Glands, Deficiencies of hormones at a glance, Role of fast food in hormonal imbalance of our body (Basic level)</p> |

| Practical experiments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Class – 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Class – 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Plot Distance – Time graph for a moving object with uniform velocity</li> <li>2. Free falling body – calculate acceleration due to gravity</li> <li>3. Reflection of light in a rectangular glass slab</li> <li>4. Build basic electric circuits</li> <li>5. Identify nature of the given solution</li> <li>6. Measurement of volume of liquids</li> <li>7. Separation of mixtures using paper chromatography</li> <li>8. Determination of melting point of solids</li> <li>9. Observation of mitosis in onion root tip – ICT experiment / microscopic slide</li> <li>10. Demonstration of osmosis</li> <li>11. Demonstration of photosynthesis</li> <li>12. Experiment to show transport of water in plants</li> <li>13. Measurement of breathing rate</li> <li>14. Impact of chemicals on heart beat – ICT experiment</li> <li>15. Observation of models - human heart</li> <li>16. Identification of diseases and disorders</li> </ol> | <ol style="list-style-type: none"> <li>1. Determination of weight of objects using principle of moments</li> <li>2. Determination of focal length of convex lens</li> <li>3. Verification of Fleming's rule</li> <li>4. Acceleration in an inclined plane</li> <li>5. Determination of resistivity</li> <li>6. Test for Acids and Bases</li> <li>7. Finding whether the reaction is exothermic or endothermic</li> <li>8. Identification of types of reactions</li> <li>9. Testing the solubility of salts</li> <li>10. Demonstration of Plant hormones</li> <li>11. Identification of Plant asexual reproduction</li> <li>12. Experiment to show transport of water in plants</li> <li>13. Identification of Biogeochemical cycles</li> <li>14. Observation of models - human brain</li> <li>15. Identification of endocrine glands</li> <li>16. Observation of Hormone deficiencies</li> <li>17. Features of Invertebrates and Vertebrates</li> </ol> |

## **Pedagogical Approaches**

The pedagogical strategies for Science at High School level are grounded to inquiry-based, experiential and application-oriented learning. Instruction is driven by “big questions” that stimulate curiosity and promote hypothesis formation, observation, experimentation and logical inference. Students engage in hands-on investigations using simple, locally available, low-cost or no-cost materials, ensuring contextual relevance and learning by-doing. Project-based learning connects scientific concepts to real-life challenges such as waste management, water conservation, energy use and environmental sustainability. Predict–Observe–Explain cycles are used systematically to surface misconceptions and strengthen conceptual clarity. Field-based explorations, including nature walks, garden studies and local industry visits, support ecological awareness and experiential understanding. ICT tools, simulations, gamification and virtual laboratories extend learning where physical experimentation is limited. Collaborative investigations, science journaling, structured data tabulation, evaluation and gamification enhance engagement, analytical thinking, reflection and meaningful integration of science with everyday life. The relationship between science, technology, engineering, arts and mathematics will be introduced to nurture STEAM perspective.

## **Assessment Strategies**

At the Secondary level (Classes 9–10), assessment shall emphasise conceptual depth, analytical reasoning, experimental precision and application of scientific principles to authentic and community-linked contexts. Written assessments shall include structured examinations, case-based questions, data interpretation tasks, numerical problem-solving, diagrammatic analysis and higher-order competency-based items. Laboratory practicals shall evaluate experimental skills, accuracy in data recording, graphical representation, analysis and viva voce. This comprehensive assessment approach ensures balanced evaluation of knowledge, processes, skills and scientific dispositions, thereby promoting meaningful, experiential and inquiry-based learning in Science across Secondary stages.