

**KIDS WORLD SCHOOL, NAGPUR**  
**SESSION – 2026-27**  
**CLASS - IX**  
**SUBJECT – CHEMISTRY**

UNIT		Topic	Sub-Topic	Month		Suggested Ice-Breaking Activity	Teaching Pedagogy	Curricular Goals	Competency	Expected Learning Outcome	Assessment
No	Name			Starting	Closing						
1.	Exploration: Entering the World of Secondary Science	Introduction	Introduction of Physics	April Day 1	June	<p><b>“School Bag Talk”</b>: Ask students to show one item from their bag.            * They explain:            * Why it is important</p> <p>👉 Purpose: Connects learning with daily life.</p>	Explanation with the help of videos on YouTube.	CG 2 – Explores the physical world around them, and understands scientific principles and laws based on observations and analysis.	C 2.1Applies Newton’s laws to explain the effect of forces (change in state of motion displacement and direction, velocity and acceleration, uniform circular motion, acceleration due to gravity). C 2.2 – Explains the relationship between mass and weight using universal law of gravitation, and connect it to the laws of motion.	1.Able to explore the physical world around them, and understands scientific principles and laws based on observations and analysis.	
1.	Exploration: Entering the World of Secondary Science	Introduction	Introduction of Biology	Day 2		<p><b>“My Goal in One Line”</b>: Students complete the sentence:            * “This year, I want to ___.”</p> <p>👉 Purpose: Introduces goal-setting in a simple way.</p>	Explanation with the help of videos on YouTube.	CG 3 – Explores the structure and function of the living world at the cellular level.	C 3.1 – Explains the role of cellular components.	1.Able to explore the structure and function of the living world at the cellular level.	
1.	Exploration: Entering the World of Secondary Science	Introduction	Threads of Curoosity	Day 3		<p><b>“Teacher Says” (Simple Game)</b>            * Use school-related actions:            “Teacher says open your book”            “Teacher says write your name”</p> <p>👉 Purpose: Energizer + listening skills.</p>	Explanation with the help of videos on YouTube.	CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas.	C 5.1 – Explores how literature and arts have influenced Science C 5.2 – Examines a case study related to the use of Science in human life from the perspective of Social Science.	1Able to draw linkages between scientific knowledge and knowledge across other curricular areas.	
1.	Exploration: Entering the World of Secondary Science	Introduction	Threads of Curoosity	Day 4		<p><b>“Quick Introductions”</b>            Students say:            * Name            * Favorite subject (or expected favorite)            * One hobby</p>	Explanation with the help of videos on YouTube.	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	1.Able to explore the nature of Science by doing Science.	

						👉 Purpose: Basic but very effective for bonding.			(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, and communicates findings using scientific terminology).		
5.	Exploring Mixtures and their Separation	5.1 How Can We Classify Mixtures? 5.2 Solutions	Activity 5.1 5.2.1 Concentration of a Solution a) Mass by mass percentage	July Day 1	July	Raise Your Hand” How to do it: Ask: “Raise your hand if you have ever made lemonade.” * “Raise your hand if you have added sugar in milk.”	Explanation with the help of activity on Entab.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions).	1. Learner will be able to classify mixtures as solutions, suspensions, or colloids based on their properties. 2. Learner will be able to define and calculate the concentration of solutions using mass by mass percentage.	
5.	Exploring Mixtures and their Separation	5.2 Solutions	Concentration of a Solution b) Mass by volume percentage	Day 2			Explanation with the help of Entab and Blackboard.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions).	1. Learner will be able to define and calculate the concentration of solutions using mass by volume percentage.	
5.	Exploring Mixtures and their Separation	5.2 Solutions	Concentration of a Solution c) Volume by Volume percentage	Day 3		Quick Imagination Ask: “Imagine you add too much sugar in water. What will happen?” Purpose: Leads to idea of saturation (in a simple way).	Explanation with the help of Entab and Blackboard.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions).	1. Learner will be able to define and calculate the concentration of solutions using volume by volume percentage.	
5.	Exploring Mixtures and their Separation	5.2 Solutions	Numerical 5.2.3 Solubility of Substances	Day 4			Explanation with the help of Blackboard.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions).	1. Student will be able to analyse graphs of solubility and explain how the solubility of substances changes with temperature. 2. Learner will be able to use scientific conventions and standard units to express concentrations.	
5.	Exploring Mixtures and their Separation	5.3 Methods of separation of Homogeneous Mixture	5.3 Crystallisation Activity 5.3 and 5.4	Day 5		Stand or Sit” Stand = possible * Sit = not possible  Example: “Can we separate oil and water?” → Stand * “Can we separate salt from water by hand?” → Sit	Explanation with the help of activity on Entab.	CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas. CG 7 – Develops awareness of the most current discoveries, ideas, and frontiers in all areas of scientific	C 5.1 – Explores how literature and arts have influenced Science. 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.	1. Learner will be able to draw labelled diagrams or flow charts of separation techniques. 2. Learner will be able to demonstrate the use of small-scale or micro-scale experiments, such as crystallisation of copper sulfate, as an alternative to traditional methods.	

								knowledge in order to appreciate that Science is ever evolving, and that there are still many unanswered questions.			
5.	Exploring Mixtures and their Separation	5.3 Methods of separation of Homogeneous Mixture	5.3.2 Distillation	June Day 6	July	<p>“Clap if Possible”</p> <p>Gam: “Clap if we can separate salt from water.”</p> <p>* “Clap if we can separate stones from rice.”</p> <p>* “Clap if we can separate milk into parts easily.”</p>	Explanation with the help of videos on Entab.	CG 6 – Understands and appreciates the contribution of India through history, and the	C 6.1 – Knows and explains the significant contributions of India to all matters (concepts, explanations, methods) that are studied within the curriculum in an integrated manner	<p>1.Learner will able to draw labelled diagrams or flow charts of separation techniques</p> <p>2.Learner will able to describe the cultural practices, like traditional methods of distillation</p> <p>3.Learner will able to display awareness about the contributions of Indian scientists.</p>	
5.	Exploring Mixtures and their Separation	5.3 Methods of separation of Homogeneous Mixture	5.3.3 Paper Chromatography Activity 5.5	Day 7		<p>Yes or No Corners”: Label one side of the class “YES” and the other “NO”.</p> <p>👉 “Can we separate sugar from water by hand?”</p> <p>👉 “Can we separate sand from water?”</p>	Explanation with the help of activity on Entab.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level. CG 5-Draws linkages between scientific knowledge and knowledge across other curricular areas.	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions). C 5.1 – Explores how literature and arts have influenced Science.	<p>1.Learner will able to draw labelled diagrams or flow charts of separation techniques. Explain the scientific principles behind different.</p>	
5	Exploring Mixtures and their Separation	5.4 How Can We Separate the Components of Heterogeneous Mixture	5.4.1 Separation of two Immiscible Liquids 5.4.2 Sublimation	Day 8		<p>Show with Actions: How to do it:</p> <p>Filtration → pretend to pour through filter</p> <p>* Handpicking → pretend picking stones</p> <p>* Sieving → shaking motion</p>	Explanation with the help of videos on Entab.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level . CG 5-Draws linkages between scientific knowledge and knowledge across other curricular areas.	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions). C 5.1 – Explores how literature and arts have influenced Science.	<p>1.Learner will able to draw labelled diagrams or flow charts of separation techniques. Explain the scientific principles behind different</p>	
5	5 Exploring Mixtures and their Separation	5.4 How Can We Separate the Components of Heterogeneous Mixture	5.4.3 Suspensions A) Centrifugation B) Coagulation	Day 9		<p>One Word Answer”</p> <p>How to do it: Ask:</p> <p>* “Method to remove stones from rice?” → (Handpicking)</p> <p>* “Method to separate tea leaves?” → (Filtration)</p>	Explanation with the help of videos on Entab.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level. CG 5-Draws linkages between scientific knowledge and knowledge across other curricular areas.	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions) C 5.3 – Applies scientific principles to explain phenomena in other subjects (sound pitch, octave, and amplitude in music; use of muscles in dance form and sports)	<p>1.Learner will able to correlate the phenomenon used in centrifugation to the spinning dance.</p> <p>2. Learner will able to demonstrate separation techniques, such as centrifugation and coagulation.</p>	

5	Exploring Mixtures and their Separation	5.4 How Can We Separate the Components of Heterogeneous Mixture	5.4.4 Colloids	Day 10		Ask students to draw how they: Separate tea * Clean grains Purpose: Visual thinking + fun start.	Explanation with the help of videos on Entab.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions).	1.Learner will able to classify mixtures as colloids based on their properties.	
5	Exploring Mixtures and their Separation	5.5 Tyndall Effect		Day 11		“Clap if Possible” Game: “Clap if we can separate salt from water.” * “Clap if we can separate stones from rice.” * “Clap if we can separate milk into parts easily.”	Explanation with the help of videos on Entab.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.2 – Investigates the nature and properties of chemical substances (distillation, crystallisation, chromatography, centrifugation, types and properties of mixtures, solutions, colloids, and suspensions)	1.Learner will able to classify mixtures as solutions, suspensions, or colloids based on their properties.	
5	Exploring Mixtures and their Separation	1.To prepare a true solution of common salt, sugar and alum in water and distinguish between these on the basis of transparency, filtration criterion, and stability. 2.To prepare a suspension of soil, chalk powder and fine sand in water and distinguish between these on the basis of transparency, filtration criterion	Lab Activity	Day 12			Hands on Science by visiting into the Chemistry Lab.	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 and represents data.	1.Learner will able to formulate hypotheses about scientific phenomena based on prior knowledge and understanding of scientific concepts, and predict the results of an experiment or investigation based on their hypotheses. 2.Learner will able to accurately use scientific instruments, apparatus and chemicals to collect data. 3. Learner will able to analyse results and findings using scientific terms.	
		Preparation of A mixture, A compound using iron filings and sulphur powder and distinguishing between these on the basis of:		Day 13			Hands on Science by visiting into the Chemistry Lab.	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,	1.Learner will able to formulate hypotheses about scientific phenomena based on prior knowledge and understanding of scientific concepts, and predict the results of an experiment or investigation based on their hypotheses.	

		1. Appearance, i.e., homogeneity and heterogeneity 2. Behaviour towards a magnet 3. Behaviour towards carbon disulphide as a solvent 4. Effect of heat							accurately uses scientific instruments and represents data.	2. Learner will be able to accurately use scientific instruments, apparatus and chemicals to collect data. 3. Learner will be able to analyse results and findings using scientific terms.	
5.	Exploring Mixtures and their Separation		Buffer Class If Required	Day 13							
8.	Journey Inside the Atom	8.1 Rediscovering the Roots of Atomic Theory 8.2 A short Historical Journey Through Atomic Models	8.2.1 Thomson Model of An Atom	August Day 1	September	1. "One Word About School"  * Ask each student to say one word about how they feel about secondary school (e.g., "excited", "nervous", "curious").  👉 Purpose: Builds comfort and emotional expression.	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level. CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas. CG 6 – Understands and appreciates the contribution of India through history, and the present time to the overall field of Science.	C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure. C 5.1 – Explores how literature and arts have influenced Science. C 6.1 – Knows and explains the significant contributions of India to all matters (concepts, explanations, methods)	1. Learner will be able to differentiate between subatomic particles (electrons, protons, and neutrons) based on their charge, and position in the atom. 2. Learner will be able to draw labelled diagrams of various atomic models, such as Thomson's model. 4. Learner will be able to display awareness about the contributions of the ancient Indian philosophers.	Assessment As learning
8	Journey Inside the Atom	8.2 A short Historical Journey Through Atomic Models	8.2.2 Rutherford Model of An Atom	Day 2		2. "Find Someone Who..."  Give simple prompts:  * Find someone who is new to the school  👉 Purpose: Helps students interact and make new friends.	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level. CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas. CG 6 – Understands and appreciates the contribution of India through history, and the present time to the overall field of Science.	C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure. C 5.1 – Explores how literature and arts have influenced Science. C 6.1 – Knows and explains the significant contributions of India to all matters (concepts, explanations, methods)	1. Learner will be able to draw labelled diagrams of various atomic models, such as Thomson's model, Rutherford's model. 2. Learner will be able to create and present a role play of 'Journey Inside the Atom' to display awareness about the contributions of key scientists in the discovery and development of atomic structure. 3. Learner will be able to display awareness about the contributions of the ancient Indian philosophers.	

8	Journey Inside the Atom	8.2 A short Historical Journey Through Atomic Models	8.2.3 Bohr's Model of An Atom	Day 3		<p>3. "My New Subject Guess"</p> <p>* Teacher names subjects (Math, Science, History, etc.).</p> <p>* Students guess:</p> <ul style="list-style-type: none"> <li>* What they think they will learn</li> <li>* Say one word or sentence</li> </ul> <p>👉 Purpose: Creates curiosity about new subjects.</p>	Explanation with help of Textbook and Entab Videos.	<p>CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.</p> <p>CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas.</p> <p>CG 6 – Understands and appreciates the contribution of India through history, and the present time to the overall field of Science.</p>	<p>C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure.</p> <p>C 5.1 – Explores how literature and arts have influenced Science.</p> <p>C 6.1 – Knows and explains the significant contributions of India to all matters (concepts, explanations, methods)</p>	<p>1. Learner will able to draw labelled diagram of various atomic models, such as Bohr's model</p> <p>2. Learner will able to illustrate how electrons are distributed in different energy levels, such as K, L, M, N ... or by numbers <math>n = 1, 2, 3, 4 \dots</math></p> <p>3. Learner will able to display awareness about the contributions of the ancient Indian philosophers.</p>	
8	Journey Inside the Atom	8.3 What Components Contribute to the Mass of an Atom?	8.3.1 Discovery of the Neutron and proton	Day 4		<p>5. "School Bag Talk"</p> <p>* Ask students to show one item from their bag.</p> <p>* They explain:</p> <ul style="list-style-type: none"> <li>* Why it is important</li> </ul> <p>👉 Purpose: Connects learning with daily life.</p>	Explanation with help of Textbook and Entab Videos.	<p>CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.</p> <p>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.</p>	<p>C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure.</p> <p>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.</p>	<p>1. Learner will able to differentiate between subatomic particles (electrons, protons, and neutrons) based on their charge, and position in the atom.</p> <p>2. Learner will able to calculate the number of electrons, protons, and neutrons of an element using its atomic and mass numbers.</p>	
8	Journey Inside the Atom	8.4 Symbols of Elements		Day 5		<p>4. "Two Truths and One Dream"</p> <p>* Each student says:</p> <ul style="list-style-type: none"> <li>* 2 true things about themselves</li> <li>* 1 dream for secondary school</li> </ul> <p>Others guess the dream.</p> <p>👉 Purpose: Builds confidence and sharing.</p>	Explanation with help of Textbook and Entab Videos.	<p>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.</p>	<p>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.</p> <p>C 7.2 – States questions related to matters in the curriculum for which current scientific understanding is well-recognised.</p>	<p>1. Learner will able to recognise and accurately apply the chemical symbols for the first eighteen elements according to IUPAC.</p> <p>2. Learner will able to use scientific conventions as per international standards, such as notations for electron.</p>	
8	Journey Inside the Atom	8.5 Atomic Number 8.6 Mass Number		Day 6		<p>6. "Yes or No Corners"</p> <p>* Label two corners: YES / NO</p> <p>Ask questions:</p> <ul style="list-style-type: none"> <li>* "Are you excited for new subjects?"</li> </ul>	Explanation with help of Textbook and Entab Videos.	<p>CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas.</p>	<p>C 5.3 – Applies scientific principles to explain the phenomena.</p>	<p>Learner will able to design and develop games that utilise atomic number, mass number, and subatomic particle clues to accurately</p>	

						<p>* “Do you like group work?”</p> <p>👉 Purpose: Makes learning active and fun.</p>				<p>predict and identify elements.</p> <p>2. Learner will able to explain atomic number and atomic mass.</p> <p>3. Learner will able to calculate the number of electrons, protons, and neutrons of an element using its atomic and mass numbers.</p>	
8	Journey Inside the Atom	8.7 How Are Electrons Distributed in Different Energy Levels?		Day 7		<p>7. My Goal in One Line.</p> <p>* Students complete the sentence: * “This year, I want to __.”</p> <p>👉 Purpose: Introduces goal-setting in a simple way.</p>	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.3 – Describes and represents chemical interactions and changes using symbols.	<p>1. Learner will able to illustrate how electrons are distributed in different energy levels, such as K, L, M, N ... or by numbers <math>n = 1, 2, 3, 4 \dots</math></p> <p>2. Learner will able to calculate the number of electrons, protons, and neutrons of an element using its atomic and mass numbers.</p> <p>3. Learner will able to interpret data, such as atomic mass, maximum number of electrons in a shell, and valency to classify elements accurately.</p>	Assessment For learning
8	Journey Inside the Atom	8.7 How Are Electrons Distributed in Different Energy Levels?		Day 8		<p>8. “Teacher Says” (Simple Game)</p> <p>* Like “Simon Says”</p> <p>* Use school-related actions: * “Teacher says open your book” * “Teacher says write your name”</p> <p>👉 Purpose: Energizer + listening skills.</p>	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.3 – Describes and represents chemical interactions and changes using symbols.	<p>1. Learner will able to illustrate how electrons are distributed in different energy levels, such as K, L, M, N ... or by numbers <math>n = 1, 2, 3, 4 \dots</math></p> <p>2. Learner will able to interpret data, such as atomic mass, maximum number of electrons in a shell, and valency to classify elements accurately.</p> <p>3. Learner will able to use scientific conventions as per international standards, such as notations for electron, proton, neutron, and unified atomic mass unit (u).</p>	
8	Journey Inside the Atom	8.8 Combining Capacity of an Atom: Valency		Day 9		9. “Pass the Smile”	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure.	<p>1. Learner will able to explain valence electrons and valency.</p> <p>2. Learner will able to calculate the number</p>	

						<p>* One student smiles at another without speaking. * The smile is passed around the class.</p> <p>👉 Purpose: Creates a positive classroom environment.</p>				<p>of electrons, protons, and neutrons of an element using its atomic and mass numbers. 3. Learner will be able to interpret data, such as atomic mass, maximum number of electrons in a shell, and valency to classify elements accurately.</p>	
8	Journey Inside the Atom	8.9 Deeper Look into Atomic Structure	8.9.1 Isotopes	Day 10		<p>10. "Quick Introductions"</p> <p>* Students say: * Name * Favorite subject (or expected favorite) * One hobby</p> <p>👉 Purpose: Basic but very effective for bonding.</p>	Explanation with help of Textbook and Entab Videos.	<p>CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.</p> <p>CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas.</p>	<p>C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure. C 5.3 – Applies scientific principles to explain the phenomena.</p>	<p>1. Learner will be able to display awareness about the societal impact of science in making life healthier, like the use of various isotopes in medicines to treat different diseases, and atomic energy in power generation. 2. Learner will be able to explain isotopes and their in day-to-day life.</p>	
8	Journey Inside the Atom	8.9 Deeper Look into Atomic Structure	Average Atomic Mass	Day 11			Explanation with help of Textbook and Entab Videos.	<p>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.</p>	<p>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</p>	<p>1. Learner will be able to describe the use of the atomic mass unit (u) to measure the mass of atoms as per IUPAC recommendations. 2. Learner will be able to describe scientific discoveries that explain how the structure of the atom has evolved over time through various atomic models proposed by different scientists. 3. Learner will be able to use scientific conventions as per international standards, such as notations for electron, proton, neutron, and unified atomic mass unit (u).</p>	
8	Journey Inside the Atom	8.9 Deeper Look into Atomic Structure	8.9.2 Isobars	Day 12			Explanation with help of Textbook and Entab Videos.	<p>CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.</p>	<p>C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure.</p>	<p>1. Learner will be able to define and interpret isobars.</p>	
8	Journey Inside the Atom	Lab Activity	To determine the melting point of ice and boiling	Day 13			Hands on Science by visiting into the Chemistry Lab.	<p>CG 8 – Explores the nature of Science by doing Science.</p>	<p>C 8.1 – Develops accurate and appropriate models (including geometric, mathematical, graphical) to represent real-life events and phenomena using scientific</p>	<p>1. Learner will be able to formulate hypotheses about scientific phenomena based on prior knowledge and</p>	Assessment Of learning

			point of water.						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 and represents data.	understanding of scientific concepts, and predict the results of an experiment or investigation based on their hypotheses. 2.Learner will be able to accurately use scientific instruments, apparatus and chemicals to collect data. 3. Learner will be able to analyse results and findings using scientific terms.	
9.	Atomic Foundations of Matter	Physical Change Chemical Change	Activity 9.1 Let us investigate a physical change Activity 9.2 Let us investigate a chemical change	November Day 1	January	<b>“Solid, Liquid, Gas Game”</b> Call out names like: Air, Water, Stone, Milk Students show actions: Solid = stand still Liquid = move slowly Gas = move freely 👉 Helps recall states of matter.	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level. 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 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure. C 7.2 – States questions related to matters in the curriculum for which current scientific understanding is well-recognised.	1.Learner will be able to differentiate between chemical species based on their properties or characteristics, such as atoms and molecules, elements and compounds, ionic and covalent compounds, cations and anions, formula unit mass and molecular mass.	
9.	Atomic Foundations of Matter	9.1 Law of Conservation of Mass	Activity 9.3 Let us verify the Law	Day 2		<b>“Guess the Object”</b> Bring small object (chalk, leaf, spoon, magnet). Hide it in your hand or bag. Give clues like: “I am used in the classroom” “I am hard” Students guess the object. 👉 Connect to observation skills in science.	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level. 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 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure. C 7.2 – States questions related to matters in the curriculum for which current scientific understanding is well-recognised.	1.Learner will be able to differentiate between chemical species based on their properties or characteristics, such as atoms and molecules, elements and compounds, ionic and covalent compounds, cations and anions, formula unit mass and molecular mass. 2.Learner will be able to plan and demonstrate activities to observe and verify the law of conservation of mass.	
9.	Atomic Foundations of Matter	9.2 Law of Constant Proportions 9.3 Dalton’s Atomic Theory		Day 3		<b>“Hot or Cold?”</b> Say a statement: The Sun is a planet. “Water boils at 100°C” Students say <b>“Hot” (correct)</b>	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level. CG 6 – Understands and appreciates the contribution of India	C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure. C 6.1 – Knows and explains the significant contributions of India to	1.Learner will be able to explain the Dalton’s atomic theory and the law of constant proportions. 3.Learner will be able to display awareness	

						or <b>“Cold” (wrong)</b> 👉 Makes revision fun and interactive.		through history, and the present time to the overall field of Science.	all matters (concepts, explanations, methods)	about the contributions of Indian scientists.	
9.	Atomic Foundations of Matter	9.4 How Atoms Combine?	9.4.1 Bonding by sharing of electrons – Covalent Bond A. Molecules of Elements	Day 4		<b>“Nature Around Me”</b> Ask students: Name 3 things around you that are natural” They quickly respond (tree, air, sunlight). 👉 Builds awareness of surroundings.	Explanation with help of Textbook and Entab Videos.	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.	1.Learner will able to describe the basic concepts that matter are made of particles; elements combine in fixed ratios to form compounds; and different types of bonding (ionic and covalent).	
9.	Atomic Foundations of Matter	9.4 How Atoms Combine?	B. Molecules of Compounds C. Naming Covalent Compounds	Day 5		<b>“Body Science”</b> Ask: Touch something soft Touch something rough 👉 Connects science to real-life senses.	Explanation with help of Textbook and Entab Videos.	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.	1.Learner will able to describe the basic concepts that matter are made of particles; elements combine in fixed ratios to form compounds; the law of conservation of mass; and different types of bonding (ionic and covalent)	
9.	Atomic Foundations of Matter	9.4 How Atoms Combine?	9.4.2 Bonding by electron transfer- Ionic bond	Day 6		<b>“One Word Science”</b> Say a topic (e.g., “Water”) Each student says one related word: Drink, river, rain, etc. 👉 Encourages quick thinking.	Explanation with help of Textbook and Entab Videos.	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.	1.Learner will able to describe the basic concepts that matter are made of particles; elements combine in fixed ratios to form compounds; the law of conservation of mass; and different types of bonding (ionic and covalent).	
9.	Atomic Foundations of Matter		A Naming Ionic compounds	Day 7		<b>“Blow and Think”</b> Ask students to blow air on their hand. Ask: “What do you feel?” 👉 Introduces concept of air and temperature.	Explanation with help of Textbook and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds (including carbon compounds) are formed based on the atomic structure.	1.Learner will able to explain and tell the naming of ionic compounds.	

9.	Atomic Foundations of Matter	9.5 Writing Chemical Formulae	9.5.1 Writing chemical formulae of covalent compounds 9.5.2 Writing chemical formula of ionic compounds	Day 8		<p><b>“Move if True”</b> Say statements: Water is a liquid” The Moon is a star” Students <b>stand up or sit down</b> based on answer 👉 Fun movement activity.</p>	Explanation with help of Textbook and Entab Videos.	CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas.	C 5.3 – Applies scientific principles to explain phenomena in other subjects (sound pitch, octave, and amplitude in music; use of muscles in dance form and sports).	1.Learner will able to design educational games to write chemical formulae using symbols.	
9.	Atomic Foundations of Matter	9.5 Writing Chemical Formulae	9.5.2 Writing chemical formula of ionic compounds	Day 9		<p><b>“What’s in My Bag?”</b> Ask students to name <b>science-related items</b> in their school bag 👉 Connects science to daily life.</p>	Explanation with help of Textbook, Blackboard and Entab Videos.	CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas.	C 5.3 – Applies scientific principles to explain phenomena in other subjects (sound pitch, octave, and amplitude in music; use of muscles in dance form and sports).	1.Design educational games to write chemical formulae using symbols.	
9.	Atomic Foundations of Matter	9.6 Properties of the Ionic and the Covalent Compounds	Activity 9.4 Let us experiment	Day 10		<p><b>“Same or Different”</b> Say two things: Milk and water” Sun and Moon” Students say “same” or “different” and why 👉 Develops thinking skills.</p>	Explanation with help of Textbook, Blackboard and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level.	C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds are formed based on the atomic structure and properties (valency).	1.Learner will able to explain the properties of ionic and covalent compounds.	Assessment As learning
9.	Atomic Foundations of Matter	9.7 Molecular Mass of Covalent Compounds 9.8 Formula unit mass of Ionic Compounds		Day 11		<p><b>“Colour Hunt”</b> Ask students to find something: Green (leaf), Transparent (water bottle) 👉 Links science with surroundings.</p>	Explanation with help of Textbook, Blackboard and Entab Videos.	CG 1 – Explores the world of matter, its interactions, and properties at the atomic level. CG 5 – Draws linkages between scientific knowledge and knowledge across other curricular areas.	C 1.1 – Describes classification of elements in the Periodic Table, and explains how compounds are formed based on the atomic structure and properties (valency). C 5.3 – Applies scientific principles to explain phenomena in other subjects (sound pitch, octave, and amplitude in music; use of muscles in dance form and sports).	1.Learner will able to calculate the charge on an ion, valency from the atomic number, the molecular and formula unit mass.  2.Learner will able to design educational games to write chemical formulae using symbols.	
9.	Atomic Foundations of Matter	Lab Activity	Perform the following reactions and classify them as physical or chemical changes: a) Iron with copper sulphate solution in water b)	Day 12			Hands on Science by visiting into the Chemistry Lab.	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,	1.Learner will able to formulate hypotheses about scientific phenomena based on prior knowledge and understanding of scientific concepts, and predict the results of an experiment or investigation based on their hypotheses.	Assessment For learning

			<p>Burning of magnesium ribbon in air</p> <p>c) Zinc with dilute sulphuric acid</p> <p>d) Heating of copper sulphate crystals</p> <p>e) Sodium sulphate with barium chloride in the form of their solutions in water</p>						accurately uses scientific instruments and represents data.	<p>2.Learner will able to accurately use scientific instruments, apparatus and chemicals to collect data.</p> <p>3. Learner will able to analyse results and findings using scientific terms.</p>	
9.	Atomic Foundations of Matter	Lab Activity	To Verify the Law of Conservation of mass in a chemical reaction.	Day 13			Hands on Science by visiting into the Chemistry Lab.	CG 8 – Explores the nature of Science by doing Science.	<p>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.</p> <p>C 8.2 – Designs and implements a plan for scientific inquiry (formulates hypotheses, makes predictions, identifies variables, accurately uses scientific instruments and represents data.</p>	<p>1.Learner will able to formulate hypotheses about scientific phenomena based on prior knowledge and understanding of scientific concepts, and predict the results of an experiment or investigation based on their hypotheses.</p> <p>2.Learner will able to accurately use scientific instruments, apparatus and chemicals to collect data.</p> <p>3. Learner will able to analyse results and findings using scientific terms.</p>	Assessment Of learning