BHARTIYA VIDYA MANDIR SENIOR SECONDARY SCHOOL
SECTOR-39, CHANDIGARH ROAD, LUDHIANA
SYLLABUS OF CLASS IX

BOOK: NCERT **SUBJECT : SCIENCE** **SESSION : 2024-25**

CHEMISTRY

Month	Unit/Chapter/Topic	Learning Objectives	Resources/Art-integarted pedagogy tools used	E-Resources	Learning Outcomes/ Skills learnt by students
APRIL	**CH-1 MATTER IN OUR SURROUNDINGS**	To enable the students to: 1) Define matter 2) Classify matter on the basis of physical and chemical properties of matter. 3) Understand the characteristic of particles of matter. 4) Classification of matter into solid, liquid and gases on the basis of their physical properties. 5) Know various scales of measuring temperature 6) Understand the effect of change of temperature and pressure on different states of matter. 7) Define melting and boiling point 8) Define latent heat of vaporisation and fusion 9) Define sublimation and evaporation 10) Differentiate between evaporation and boiling 11) Understand various factors affecting evaporation.	TOOLS:* Questioning * Contextual teaching and learning * Discussion **ACTIVITY** To observe sublimation of ammonium chloride.	**https://www.youtube.com/live/40OiAt2t658?si=DZ_aQY0XZGsbZFXs**	The students have learnt about: 1) Matter and classification of matter on the basis of physical and chemical properties. 2) The characteristics of particles of matter. 3) Classification of matter into solid, liquid and gases on the basis of their physical properties. 4) Various scales of measuring temperature. 5) Effect of change of temperature and pressure on different states of matter. 6) Melting and boiling point 7) Latent heat of vaporisation and fusion 8) Difference between evaporation and boiling 9) Understand various factors affecting evaporation. 10) Apply the process of evaporation in various area where cooling is needed. SKILLS: *Scientific temper *Critical thinking *Experimentation
MAY	**CH-2 IS MATTER AROUND US PURE**	To enable the students to: 1)Know about pure and impure substances. 2)Classify pure substances as element and compound. 3)Classify mixture into homogeneous and heterogeneous substances. 4)Learn various ways of expressing concentration. 5)Calculate concentration in terms of mass and volume%. 6)Understand solubility and factors affecting solubility.	TOOLS: * Questioning * Contextual teaching and learning * Discussion **ACTIVITY :** **To study the difference between compound and mixture on the basis of:** ***Homogeneous and heterogeneous nature** ***Behaviour towards magnet** *** Behaviour towards carbon disulphide**		1) The students have learned about pure and impure substances. 2) The students have learned the classification pure substances as element and compound. 3) The students have learned the various ways of expressing the concentration. 4) The students have learned how to calculate concentration in terms of mass and volume%. 5) The students have learned about solubility and factors affecting solubility. SKILLS: *Scientific temper *Critical thinking *Experimentation
JUNE	**SUMMER VACATIONS**				
JULY	**CH-2 IS MATTER AROUND US PURE**	Students will be able to: 1) Classify solution into true solution, colloidal solution and suspension. 2) Illustrate the properties of true solution, colloidal solution and suspension. 3) Illustrate Tyndall effect and its applications. 4) Understand the various techniques to separate the components of mixture. 5) Understand the difference between physical and chemical changes. 6) Differentiate between element, compound and mixture.	TOOLS: Chalk and board method, Explanation and discussion, demonstration method, concept mappings and flow charts.	https://youtu.be/f7GBlXHq20c?si=K65CHaAKiA4y0B42	1) The students have learned the properties of true solution, colloidal solution and suspension. 2)The students have learned the differences between element, compound and mixture. 3)The students have understood tyndall effect, physical and chemical changes. SKILLS: *Scientific temper *Critical thinking

AUGUST	**CH-3 ATOMS AND MOLECULES**	The students will be able to 1) Understand various laws of chemical combination 2) Solve the numerical based on law of conservation of mass and law of constant proportion 3) Perform an experiment to verify law of conservation of mass. 4) Understand the postulates of Dalton atomic theory.	TOOLS: Chalk and board method, Explanation and discussion, demonstration method, concept mappings and flow charts , brainstorming. ACTIVITY: To verify law of conservation of mass with the help of double displacement reaction.	https://youtu.be/2kP15SzZ_eY?si=JXUaqhezX4eZOcAo	1)The students have learned about laws of conservation of mass and law of constant proportion. 2) The students have learned about the postulates of Dalton's atomic theory. 3) The students have learned about the differences between molecule of element and molecules of compound. SKILLS: *Experimentation *Observation *Analysis *Conclusion
SEPTEMBER	**TERM-1 EXAMINATION**				
OCTOBER	**CH-3 ATOMS AND MOLECULES**	The students will be able to: 1)Differentiate between molecule of element and molecule of compound. 2) Appreciate the significance of relative atomic mass, molecular mass. 3)Understand formula formation by using criss cross method.	TOOLS: Explanation and discussion, lecture method, chalk and board , flowcharts.	https://youtu.be/Ae4kytMo_tM?si=sAbxcntfO_HUkzN6	1) The students have learned about the formation of chemical compound by criss cross method. 2)The students have learned the difference between molecular mass and formula unit mass of compounds. SKILLS: *Experimentation *Observation *Analysis *Conclusion
NOVEMBER	**CH-4 STRUCTURE OF ATOM**	To enable the students to : 1) Understand the discharge tube experiment and discovery of electron, proton and neutron. 2) Understand the characteristics of anode rays and cathode rays. 3) Describe Thomson model, Rutherford model and Bohrs model of an atom	TOOLS: Explanation and discussion, lecture method, chalk and board .	https://www.youtube.com/live/a-0_EQ701UU?si=Hwrv320zRlh0X3fI	The students have learned about 1) The discovery of discharge tube experiment. 2) The students have learned discovery of electron, proton and neutrons. 3) The students have learned about Thomson model of an atom, Rutherford model of an atom and Bohr model of an atom. 4) Students have learned about the drawback of Rutherford model of an atom SKILLS: *Scientific temper *Critical thinking.
DECEMBER	**CH-4 STRUCTURE OF ATOM**	To enable the students to: 1) Represent an atom with the help of symbols. 2) Write the configuration of atom. 3) Define the terms isotopes and isobar 4) Calculate average atomic mass of an atom 5) Determine the valency of an element. 6) Recall the uses of isotopes.	TOOLS: Explanation and discussion, lecture method, chalk and board .	https://youtu.be/DDpNTWNzxdc?si=mx90stnPq_7GL7hS	The students have learned about: 1)Symbols of atoms, their electronic configurations, calculation of average atomic mass and molecular mass. 2)valency , isotopes , isobars . 3)real life applications/uses of isotopes . SKILLS: *Critical thinking *Calculation *Collaboration.
JANUARY	**PRE-ANNUAL EXAMINATION**				
FEBRUARY	**ANNUAL EXAMINATION**				