LOVE DALE CENTRAL SCHOOL, BELGAUM

LEARNING OUTCOMES and STRATEGIES **Session: 2021-2022**

Subject: CHEMISTRY **Grade: IX**

Lesson no	***Lesson (Chapter)***	***Learning Outcomes***	***Strategies (Activities)***
1	Matter in our surroundings	The students would be able to- i) Classify and analyze the matter based on their particles nature. ii) Categorise the matter as solid, liquid, gas based on the different physical properties. iii) Learn the concept of interconversion of states of matter and perroform the activities based on the acquired knowledge. iv) Convert the temperatures from degree celsius to kelvin and vice-versa, by solving numerical problems. v) Apply the knowledge of evaporation to explain various phenomena aroud us in our daily life. vi) Acquire brief idea of Plasma state and BEC state.	* Determination of melting point of ice * Determination of boiling point of water * Making a chart on factors affecting rate of evaporation and on its application
2	Is matter around us pure	The students would be able to- i) Classify substances as pure (element, compound) and impure (mixture) substances. ii) Analyse the differences in the properties of elements, compounds and mixtures. iii) Classify elements as metals, non-metals (including noble gases) and metalloids based on their general physical properties. iv) Classify mixtures as homogeneous and heterogeneous mixtures with examples from daily lives. v) Analyse the differences in physical and chemical changes and apply their knowledge to recognise various changes related to daily lives. vi) Classify mixtures as true solution, suspension and colloid on the basis of properties like-transparency, stability and filtration. vii) Categorise mixtures as true solution, suspension and colloid with examples from daily lives. viii) Apply their knowledge and understanding of solubility and concentration of a solution in numericals. ix) Compare and analyze the parameters of technique to be applied to separate components of various mixtures related to our daily life. x) Appreciate the role of each technique and its applicability in large scenario.	* Preparation of true solution, colloid, suspension and distinguish among them based on certain properties * Separation of components of mixture * Performing the different reaction and classifying them as physical and chemical changes

3	Atoms and Molecules	The students would be able to; i) State the laws of chemical combination with examples. ii) Analyse the importance and interdependence of both the laws of chemical combination on each other by solving numericals. iii) Relate the postulates of Dalton's Atomic Theory with the laws of chemical combination. iv) Give explanation to the postulates of Dalton's Atomic Theory which are being challenged now. v) Differentiate between an atom and a molecule. vi) Write atomicity for similar and dissimilar elements. vii) Give reason for the use of C-12 as standard for atomic mass. viii) Differentiate between an atom and an ion. ix) Define and write examples of cations, anions and polyatomic ions. x) Apply their knowledge of ions in writing chemical formulae. xi) Calculate the molecular mass and molar mass. xii) Define the term mole and explain it's significance in daily life situations. xiii) Apply the concept of mole in terms of mass and number of particles by solving numericals.	* Verification of the law of conservation of mass in chemical reaction * Assignment on deriving the formulae of ionic compounds (CRISS-CROSS method) by using the knowledge of ions & valency * Making a concept map of this lesson
4	Structure of the atom	The students would be able to; i) Analyse Thomson’s model of an atom. ii) Analyse critically, alpha particle scattering experiment by comparing with the previous proposed model. iii) Explain Bohr's model of an atom and critically analyse by comparing with the previous proposed models of atom. iv) Comprehend the meanings of atomic number and mass number and calculate number of sub-atomic particles v) Write the electronic configurations of first twenty elements along with their valency with explanation. vi) Write electronic configuration of the ions formed by the first twenty elements excluding the noble gases. vii) Calculate the average atomic mass of the isotopes and give explanation for fractional atomic masses.	* Preparation of a chart consisting of atomic number, mass number, electronic configuration of first 20 elements * Drawing of atomic stuructures of first 20 elements of periodic table (atomic no 1 to 20)