TOPIC	INNOVATIVE/ART INTEGRATION/EXPERENTIAL LEARNING/INTER-DISCIPLINARY	Expected Learning Outcomes
1.Matter in Our Surroundings	**EXPERENTIAL LEARNING** 1) Detection of leakage of LPG and necessary steps to stop the leakage. 2) Use of thermometer for measurement of temperature. 3) Use of pressure cooker at high altitude to cook food faster and save fuel. 4) Use of desert coolers,cotton cloths to provide relief in summers. 5) Use earthern pots to keep water cool. 6) Use of ice in making kulfi/ice cream. 7) Use of naphthalene balls and odonil etc. **ART INTEGRATION** Drawing of matter triangle **INTERDISCIPLINARY** Integrated with mathematics	Tabulate matter around us in three different states. Learn about the physical properties of solids, liquids and gases. Analyze the effect of Kinetic energy on diffusion of particles. Understand the effect of temperature and pressure on interconversion of matter Define Sublimation Describe Latent Heat of Fusion and Vapourization. Understand the effect of pressure on inter-conversion of matter. Define Evaporation. Describe the effect of temperature, pressure, surface area and humidity on Evaporation.

| 2.Is Matter Around Us Pure? | **EXPERENTIAL LEARNING**
1) Appreciate the scattering of light by colloidal particles in dark room,in cinema halls and formation of rainbow.
2) Learning of preparation of various drinks, medicines or food stuff with particular concentration.
3) Identification of metals and non-metals.

ART INTEGRATION

Presentation of Tyndall effect and Brownian motion.

INTERDISCIPLINARY

Integrated with mathematics and english. | Classify matter has pure and impure substances
State examples of pure and impure substances
Define an element
Classify elements as metals and non metals.
State examples of metals and non metals
State physical properties of metals and non metals
Learn few scientific terms such as malleability, ductility,sonority etc.
Define compound and mixture
Classify substances as pure/impure
Distinguish between a mixture and a compound
State examples of mixture and compound
Classify mixtures as homogeneous and heterogeneous.
Classify mixtures on basis of their particle size
Study properties of solutions
State examples of solution
Study saturated, unsaturated and supersaturated solutions
Observe the effect of temperature on these solutions
Solve numerical based on mass by volume percentage of a solution.
Define suspension.
Tell the properties and examples of suspension.
Define colloids.
Tell the properties and examples of colloids. |

| 3. Atoms and Molecules | **EXPERENTIAL LEARNING**
1) Verification of law of conservation of mass.

ART INTEGRATION

Formula formation by using criss-cross method.

INTERDISCIPLINARY
Integrated with mathematics,english and history | Define law of conservation of mass.
Justify the law of conservation of mass.
Define the law of constant proportion.
Justify the law of constant proportion.
List the postulates of Daltons' Atomic Theory.
Solve the numerical based on the law of conservation of mass.
Describe atom.
Explain the size of an atom.
List the symbols of elements.
Memorise the symbols used for the element.
Define atomic mass unit (amu).
Explain the significance of atomic mass unit.
Describe molecule.
Differentiate between molecule of element and molecule of compound.
Define atomicity.
Describe ions.
Define polyatomic ions.
List polyatomic ions, symbol and valency.
List the name of ion, its symbol and valency.
Memorise the name of ion, is symbol and valency.
Write the chemical formulae of compounds.

Conceptualize molecular mass and mole.
Calculate the molecular mass of compounds.
Calculate the formula unit mass of compounds. |

| 4.Structure of Atom | **EXPERENTIAL LEARNING**
1) Working of discharge tubes with special reference of cathode rays and anode rays.
2) Presentation of structure of atom according to Thomson model and alpha particle scattering experiment.

ART INTEGRATION

Pictorial representation of structure of atoms of various elements.

INTERDISCIPLINARY
Integrated with mathematics and history. | Describe the structure of an atom.
Tell the charge particles of an atom.
Describe the charge and mass on sub-atomic particles of an atom.
Explain Thomson Model of an atom.
Describe the Rutherford Model of an Atom.
List the observation, inference and conclusion based on Rutherford Model of Atom.
Explain the drawback of Rutherford Model of an atom.
List the postulates of Bohr's Model of Atom.
Explain the distribution of electrons in different orbits.
Define valency.
Explain valency.
Memorise the valency of elements.
Define atomic number and mass number.
List the significance of atomic number and mass number.
Define Isotopes and Isobars.
Differentiate between isotopes and isobars.
Tell the examples of isotopes and isobars.
List the applications of Isotopes. |