NISHAN-E- SIKHI INTERNATIONAL SCHOOL KHADUR SAHIB
CLASS-9 PEDAGOGICAL PLAN SUBJECT - SCIENCE

MONTH	WEEK	TOPIC	LEARNING OBJECTIVE	ACTIVITIES	ASSESSMENT USED
APRIL	WEEK1 WEEK2	**Chapter 1: Matter in Us Surroundings** Matter Characteristics of the particles of matter. Discussion of practicals to be done in Term – 1 States of matter- forces of attraction and space between particles of matter Interconversion of the states of matter K=C+273 Latent Heat Evaporation Factors affecting the rate of Evaporation Discussion of NCERT exercise.	Describe matter and the characteristics of the particles of matter. Understand the differences between the various states of matter. Evaluate the conditions for the interconversion of various states of matter. Explain latent heat of fusion and latent heat of vaporisation. Discuss Evaporation and explain various factors influencing evaporation.	To determine the melting point of ice and boiling point of water	Class Tests
	WEEK3 WEEK4	**Chapter – 2: Is Matter Around Us Pure?** Elements and Compounds as pure substances. Mixtures and pure substances. Mixtures – homogeneous and heterogeneous. Classification of Elements –metals, nonmetals and metalloids. Physical and chemical changes. Homogeneous Mixtures as solutions or true solutions. Solubility of a substance (Temperature and Pressure dependence) Saturated and unsaturated solution Concentration of solution. Numericals on solubility and concentration of solution. Suspension Colloids Various types of colloids**.**	The students would be able to- • Classify substances as pure (element, compound) and impure (mixture) substances. • Analyse the differences in the properties of elements, compounds and mixtures. classify elements as metals, non-metals and metalloids based on their general physical properties. • Classify mixtures as homogeneous and heterogeneous mixtures with examples from daily lives. • analyse the differences in physical and chemical changes and apply their knowledge and understanding in daily lives.	Ready Reckoner question bank	presentation

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			• analyse the characteristics of true solution and various types of true solution		
MAY	WEEK1 WEEK2	**Chapter 8: Motion** Introduction Rest & motion – Definition with Examples Scalar and vector quantities Motion along a straight line Distance Displacement Uniform motion Non uniform motion Speed Average speed Speed with direction Average velocity SI units Numericals Acceleration and retardation Uniform acceleration and non uniform acceleration Numericals . Graph : concept and importance Graphical representation of motion by d- t graph Calculation of speed from d-t graph. Equations of motion by graphical method- Equation for velocity time relation Equation for position time relation Equation for position velocity relation	Students will be able to Get aware about meaning of rest and motion differentiate between distance and displacement. Students will be able to calculate the average speed in a given situation.	Recognition of the apparatus in the lab. Learning	quiz
	WEEK3 WEEK4	**Chapter 9 : Force and Laws of Motion** Force – Definition , effects Types of force Balanced and unbalanced forces. Newton's first law of motion Definition of inertia Reasoning questions based on first law. Newton's second law of motion. Derive F=ma Momentum, impulse –definition and units. Reasoning questions and numericals based on second law. Newton's third law of motion	The learners would be able to differentiate between balanced and unbalanced forces evaluate the numerical value of force and momentum. The learners would be able to explain the laws of motion in various situations .	Demonstration of newton's second law of motion and third law of motion	Class test
JULY	WEEK3	**Chapter5- the fundamental unit of life** Discovery of cell Unicellular and multicellular and	It will enable the students to: understand the discovery of cells	To prepare stained	Oral test

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	WEEK4	structures of organisms Discovery of cell, microscope Division of labour Cell organelles Plasma Plasma membrane Diffusion and osmosis Cell wall Structures and functions of- -Nucleus -Cytoplasm -Endoplasmic reticulum -Golgi bodies -Lysosome – Mitochondria. -Plastids -Vacuoles membrane Diffusion and osmosis Cell wall Structures and functions of- -Nucleus -Cytoplasm -Endoplasmic reticulum -Golgi bodies -Lysosome - Mitochondria -Plastids -Vacuoles .	understand the importance of types of cells	temporary mounts of: (a) onion peel and (b) human cheek cells and to record observations and draw their labeled diagrams	
AUGUST	WEEK1 WEEK2	**Chapter-6 Tissues** Tissues Types of Tissues Plant tissues Types of Plant Tissues Meristematic Tissues Permanent tissue Types of permanent tissues ,Simple permanent tissue Complex permanent tissue- Animal tissues and its types Epithelial Tissues Connective tissue Muscular tissue Nervous tissue.	It will enable the students to: Understand the meaning and concept of tissues know meaning of tissue and its types.	Identification of Parenchyma, Collenchyma and Sclerenchyma tissues in plants, striped, smooth and cardiac muscle fibers and nerve cells in animals from prepared slides. Drawing of their labeled	quiz

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				diagrams.	
	WEEK3 WEEK4	**Chapter 7: Diversity in Living Organisms** Basic features of organisms Importance of diversity Basis of classification Hierarchy of Classification . Five Kingdoms of classification Archae-bacteria and Eubacteria Kingdom Monera -types and various features Kingdom Protista -types and various features Kingdom Fungi – -Various features and types Plant classification Division Plantae Thallophyta Bryophyta, Pteridophyta ,Gymnospermae, Angiospermae.	It will enable the students to: understand the concept and importance of diversity explain the method of classification**.**	Study of the characteristics of Spirogyra / Agaricus, Moss / Fern, Pinus (either with male or female cone) and an Angiospermic plant. Drawing and providing two identifying features of the groups they belong to. Study of the external features of root, stem, leaf and flower of monocot and dicot plants.	brainstroming
SEPTEMBER	WEEK1 WEEK2	**Chapter 13: Why Do We Fall Ill?** Health Difference between healthy Symptoms and signs of a disease Acute and Causes of a disease Infectious and non- infectious disease Infectious agents Spreading of a disease	It will enable the students to: understand meaning of health correlate diseases with their symptoms and signs differentiate between acute and chronic disease.	Discussion of practical based Questions	Written test

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		Principle of treatment Vaccination principle and diseased person chronic disease Organ and tissue specific manifestations .			
OCTOBER	WEEK1 WEEK2	**Chapter 14: Natural Resources** Chapter 14 Natural Resources Wind formation Role of air in temperature control Air pollution Acid rain Smog Water as a resource Importance of water for a living organism Water pollution Effects of water pollution Weathering of rocks Agents of soil formation- Introduction Agents of soil formation- wind, water, sun, organisms Soil pollution.	It will enable the students to understand the concept of air as blanket explain the causes of air pollution	Discussion of practical based Questions	quiz
	WEEK3 WEEK4	**Chapter-15: Improvement in Food Resources** Manure and fertilizers Irrigation Cropping patterns Crop protection- pests and weeds Storage of grains . Animal husbandry Cattle farming Cattle feed Indigenous variety and exotic variety Poultry farming Cross breeding Egg and broiler production Poultry feed and management Fish production Inland fisheries.	It will enable the students to: differentiate between manure and fertilizers explain ways for crop variety improvement explain the cropping patterns .	Discussion of practical based Questions	Oral test
NOVEMBER	WEEK1 WEEK2	**Chapter 10 : Gravitation** Thrust Pressure Applications Numericals on Thrust and pressure . Up thrust Buoyancy Why do objects float and sink? Archimedes Principle Numericals Density Relative density . Numericals based on density and relative density	Students will be able to to explain the applications of thrust and pressure. understand the concept of flotation.	To determine density of solid (denser than water) by using a spring balance and a measuring cylinder.	Written test

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	WEEK3 WEEK4	**Chapter 11: work and energy** Introduction Work done by constant force , Positive and negative work Numericals.	Students will be able to Identify and list different types of energy. understand the phenomenon of transformation of energy understand the relation between commercial and SI unit of energy	To establish the relation between the loss in weight of a solid when fully immersed in (a) tap water (b) strongly salty water, with the weight of water displaced by it by taking at least two different solids	Quiz
DECEMBER	WEEK1 WEEK2	**Chapter 12 : Sound** Introduction Production of sound Propagation of sound. Sound needs medium to travel Types of waves – Longitudinal and transverse waves Characteristics of wave – Wavelength , speed ,	Students will be able to understand the phenomena of production as well as the propagation of sound list various characteristics of a wave.	To determine velocity of a pulse propagated through a stretched	Oral test

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		amplitude and frequency Numericals Speed of sound in different media Reflection of sound Echo Numericals based on echo.		string/slinky To verify laws of relection of sound	
JANUARY	WEEK1 WEEK2	**Chapter 3: Atoms and Molecules** Ions Writing chemical formulae Molecular mass Formula unit mass Molar mass Molar mass Introduction to Mole concept (relationship of mole and mass of a substance) Numericals on mole concept (relationship of mole and number of particles	The students will be able to- Discuss various ions and using them for writing chemical formula. Calculate Molecular Mass and Molar Mass	Revision of numericals on laws of chemical combination.	Class test
	WEEK3 WEEK4	**Chapter – 4 Structure of Atom** Charged particle in matter. Thomson's model of Atom. Rutherford's model of an Atom- (Observations and Conclusions) Nuclear model of an atom by Rutherford Limitations of Rutherford's model of an atom.	The students will be able to:- Understand the significance of mole in terms of mass and number of particles.	Revision of ions and chemical formula.	Written test