

HANSRAJ MODEL SCHOOL
PUNJABI BAGH, NEW DELHI
CURRICULUM PLAN
SESSION: 2024-2025
SUBJECT: SCIENCE
CLASS: VII

MONTH	TOPIC / SUB TOPICS	LEARNING INTENTIONS	ACTIVITIES	ASSIGNMENTS
<p style="text-align: center;">April</p> <p style="text-align: center;">No. of Working Days-23</p>	<p><u>L -1: NUTRITION IN LIVING ORGANISMS - PLANTS.</u></p> <ul style="list-style-type: none"> ● Photosynthesis—Food Making Process in Plants ● Other modes of nutrition in plants. ● Modes of nutrition in other organisms ● How are nutrients replenished in soil? 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● understand nutrition in green plants ● explain nutrition in non-green plants ● apply concept of ‘SYMBIOSIS’ in daily life. ● Develop skills like social responsibility and environmental awareness. 	<ul style="list-style-type: none"> - Make a collage depicting the features of various modes of Nutrition along with pictures. - Demonstration of activity based on exchange of gases (like carbon dioxide and oxygen) in leaf from the atmosphere. 	<p>Assignment 1 Page no. -11 Question D(1,2,3,4)</p> <p>Assignment 2 Page no.- 11&12 Question E(2,3,4)</p>

<p>April</p>	<p><u>L-2: NUTRITION IN LIVING ORGANISMS – ANIMALS AND MAN</u></p> <ul style="list-style-type: none"> ● Modes of intake of food. ● Food habits of animals. ● Modes of nutrition ● Nutrition in humans. ● Nutrition in cud chewing animals. ● Nutrition in amoeba 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Will be able to learn about changes that takes place in food during digestion. ● Discuss about two sets of teeth in humans and types of teeth. ● Describe the process of rumination. ● Grow psychomotor skills, communication, and collaboration. 	<ul style="list-style-type: none"> - Make a model of the digestive system using clay, cloth, plastic etc. or any other material available at home. - Draw a colourful diagram to show any one of the following - Human Digestive System , Tongue and Nutrition in Amoeba 	<p>Assignment 3 Page No.- 28 Question-D(1,2,3,5,7)</p> <p>Assignment 4- Page No.- 29 Question- D(8) E(1,4,6)</p>
<p>May</p> <p>No. of Working Days-17</p>	<p><u>L-7:</u></p> <p><u>RESPIRATION IN ORGANISMS</u></p> <ul style="list-style-type: none"> ● Types of respiration. ● Respiration in plants. ● Respiration in animals. ● Respiration in humans. 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Define the term respiration. ● Learn the process of cellular respiration. ● Differentiate between aerobic and anaerobic respiration. ● Understand mechanism of breathing in human beings. ● Investigate real-world problems and finding creative ways to solve them and advance into information literacy. 	<ul style="list-style-type: none"> - Depict a model of the respiratory system using simple materials like thermocol, straw, balloons, th read, clay etc. or a working model to show inhalation and exhalation processes. - Find out about any five dishes prepared by the process of fermentation in various parts of India. Also paste their pictures. 	<p>Assignment 5- Page No.- 113 Question- D(2,3,4,5,6)</p> <p>Assignment 6- Page No.- 113 Question- E(1,2,3,5)</p>

May		<ul style="list-style-type: none"> ● Establish critical thinking and creative skills. 	<ul style="list-style-type: none"> – Demonstration to show anaerobic respiration in Yeast. – Demonstration to show that respiration produces heat energy 	
	<p><u>L-11: ELECTRIC CHARGE AT REST</u></p> <ul style="list-style-type: none"> ● Charged and Uncharged objects ● Conductors and insulators ● Kinds of charges in nature ● Charges are produced in pairs ● Charging by friction/ rubbing ● Charging by contact/ conduction ● Earthing ● Charging by induction ● Charges in nature- production of lightning ● Lightning conductor ● Advantages and disadvantages of lightning ● Precaution during lightning 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Differentiate between conductors and insulators ● Classify the various objects into charges objects and uncharged objects ● Demonstrate the properties of charged objects ● Compare the various methods of charging the objects ● Appreciate the production o charges in nature. ● List the precautions taken during lightning ● Develop Literacy skills like information, media, and technology as well as learning skills like critical thinking, 	<ul style="list-style-type: none"> – Paste pictures to show precautions to be taken during Lightening – Hands on activity using balloon/ thermocol ball /pith ball/comb/paper to show method of charging by rubbing and conduction. 	<p>Assignment 7- Page No.- 173 Question- D(2,3,4,5,6)</p> <p>Assignment 8- Page No.- 173 Question- E(2,3,4,5)</p>

		<p>collaboration, and communication.</p> <ul style="list-style-type: none"> ● Apply, adapt and innovate to the things available to them 		
<p>July</p> <p>No. of Working Days-25</p>	<p><u>L-3: CHEMICAL SUBSTANCES AND PROCESSES</u></p> <ul style="list-style-type: none"> ● Chemical symbols ● Chemical formula ● Chemical changes and physical changes ● Chemical equation ● Balancing of chemical equations- ● Types of chemical reactions- combination, decomposition, displacement, double displacement 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● compare physical changes and chemical changes. ● Write the chemical equation and balance it. ● Differentiate between various types of reactions. ● Classify elements compounds and mixtures. ● Represent chemical substances and symbols. ● Derive chemical formula of substances. ● List positive ions and negative ions. ● Develop digital literacy, critical thinking, and creativity. 	<ul style="list-style-type: none"> - Make a fun flappable/ foldable depicting symbol of elements, ions and chemical formula. - Modelling atoms, molecules, elements and compounds using clay/ beads/ buttons/ blocks etc to learn their identification and differences. - Fish Ion Game - Game will be designed using magnets and symbols of ions to make them understand the making of formula. 	<p>Assignment 9 Page No. -44 Question -D (1,2,3,4)</p> <p>Assignment 10 Page No. -45 Question - D(5,6,7) E (5)</p>

July	<u>L-4: ACIDS, BASES AND SALTS</u>	Learners will be able to - <ul style="list-style-type: none"> ● Classify acids bases mineral acids and organic acids. ● Understand what an indicator and its uses is. ● Perform an activity to understand the process of neutralization. ● differentiate between acidic, basic, and neutral salts. ● Share thoughts, questions, ideas, solutions and analyze. ● Explore and blossom love for things from nature which can be used for learning. 	<ul style="list-style-type: none"> - Making of turmeric and China rose indicator at home and checking the nature (Acidic/ Basic) of the substances available at home and documenting it. - Magic painting with acid and bases or card making using turmeric and China rose as indicators. - Paste /Draw pictures of different items to show different types of acids in daily life. 	<p>Assignment 11 Page No. 56 Question -D all parts</p> <p>Assignment 12 Page No. -57 Question -E(3,4,5)</p>
	<u>L-6: MOTION AND TIME</u>	Learners will be able to - <ul style="list-style-type: none"> ● Describe motion. ● Differentiate between uniform motion and non-uniform motion. ● Calculate average speed. 	<ul style="list-style-type: none"> - Make a device sundial which was developed by early scientists to measure time intervals using paper/ pencil etc. 	<p>Assignment 13 Page No. -97,98 Question -D(1,2,6,7)</p> <p>Assignment 14 Page No. -98,99</p>

	<ul style="list-style-type: none"> ● Speed. ● Uniform and non-uniform motion. ● Time ● Measuring speed Graph 	<ul style="list-style-type: none"> ● Draw distance time graphs. ● Understand graphical representation of motion. ● Consistently cultivate higher-order thinking skills. ● Collaborate with others. ● Make Real -World Applications. 	<ul style="list-style-type: none"> - Make a simple pendulum using metal piece/ stone and measure the time period. - Go to a playground and in team of 5 challenge a race among yourselves calculating the speed of each member by measuring the distance covered and the time taken. Also plot distance time graph to depict your findings. 	<p>Question -D (5) E (3,4)</p>
	<p><u>L-5: HEAT</u></p> <ul style="list-style-type: none"> ● Heat as energy ● Heat and temperature ● Mercury in glass thermometer ● Least count ● Measurement of heat. ● Modes of Transfer of heat ● Conduction 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Understand effects of heat-physical and chemical ● Demonstrate activity to show various methods of heat transfer. ● Record reading from a clinical thermometer ● Learn practical applications of 	<ul style="list-style-type: none"> - Demonstration of activity by the students in group to show any experiment or process on any one method of heat transfer. - Collect data for your infographic depicting the three different methods of heat transfer 	<p>Assignment 15 Page No. - 77 Question No.-D (4,1,3,5,6)</p> <p>Assignment 16 Page No. 78 Question -E 2 (b,c,d), 3,4</p>

August No. of Working Days-23	<ul style="list-style-type: none"> ● Convection ● Radiation 	conduction, convection, and radiation. <ul style="list-style-type: none"> ● Integrate critical thinking skills within and across all content areas. ● Develop digital fluency. 	with examples using pictures/ drawings.	
	<u>L-10: SOIL</u> <ul style="list-style-type: none"> ● Soil formation ● Soil profile ● Properties of soil ● Soil as resource ● Soil pollution ● Soil and crops ● Soil erosion 	Learners will be able to - <ul style="list-style-type: none"> ● Learn about how soil is formed. ● Draw diagram of soil profile. ● Discuss the causes of soil pollution ● Describe the ways to reduce soil pollution. ● Develop openness and courage to explore ● Establish love for nature to conserve and preserve, Arrive at experimental results, comparison, and research. 	<ul style="list-style-type: none"> - Design a 3D idol/object using soil and mention properties of soil. - Draw a well labelled colourful diagram of soil profile using sand, clay, pebbles, stone, Grass etc. - Demonstration of activity to compare, the Sandy clay and loamy soil based on properties like plasticity, density, infiltration and percolation. 	Assignment 17 Page No. -157 Question -D(2,3,5,6) Assignment 18 Page No.157 Question -E(1,2,3,4,5)

<p style="text-align: center;">October</p> <p style="text-align: center;">No. of Working Days-20</p>	<p><u>L-13: WEATHER, CLIMATE AND ADAPTATION OF ANIMALS</u></p> <ul style="list-style-type: none"> ● Weather ● Climate ● Climate and adaptation. ● Climatic zones of India ● The polar regions ● The tropical rain forests. 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Differentiate between weather and climate. ● To study the climatic zones of India. ● Learn about the climate of –Polar Regions & tropical rainforest. ● Know about the adaptation of living animals in different regions. ● Evolve into environmental concerns, research, read critically, explore. 	<ul style="list-style-type: none"> - You must have heard and read about weather related stories in newspaper etc about natural disasters like storms, cyclones, landslides etc. Write about the prevalent natural disasters our country is facing with its causes and effects. Also, what can be done to reduce their occurrence. - Group Presentation on any topic given with learning aids. - Make a scrapbook/ flip book on adaptation by animals found in the polar region and in tropical rainforest. 	<p>Assignment 19 Page No.-210 Question -D(1,4,5,6)</p> <p>Assignment 20 Page No. 210,211 Question -E(1,3,4,6)</p>
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October	<p><u>L-14: FABRIC FROM FIBRE</u></p> <ul style="list-style-type: none"> ● Animal fibres ● Fleece and animals from which we get fleece ● Process of obtaining wool from fleece ● Process of obtaining Silk from silk worm 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● List sources of wool and Silk. ● Construct a flowchart of making wool from fleece. ● Explain the process of sericulture. ● Draw a life cycle of silk moth. ● Promote psychomotor, imaginative ,creative artistic and curiosity skills. 	<ul style="list-style-type: none"> - Using craft pictures/ drawings illustrate the various steps of making wool from fleece. - Make a 3-D model to display the life cycle of silk moth using any interesting materials that you can find. 	<p>Assignment 21 Page No.- 200 Question -A (all parts)</p> <p>Assignment 22 Page No. 200,201 Question -E(1,2,3,5)</p>
	<p><u>L-9: REPRODUCTION IN PLANTS</u></p> <ul style="list-style-type: none"> ● Reproduction ● Types of reproduction in plants. ● Asexual reproduction and its types ● Advantages and disadvantages of asexual reproduction over sexual reproduction ● Sexual reproduction. ● Structure of flower ● Pollination and its types ● Fertilization 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Differentiate between sexual and asexual reproduction. ● Draw diagram of bisexual flower. ● Identify the modes of reproduction in various organisms. ● Explain process of fertilization in flowers (Plant). ● Discuss the importance of seed dispersal. ● Learn leadership, flexibility, creativity, 	<ul style="list-style-type: none"> - Dissect any bisexual flower, paste its various parts along with their descriptions and drawings. - To better understand the vegetative propagation through roots, stem and leaf. Grow a plant vegetatively and document its features, observations and 	<p>Assignment 23 Page no.- 143 Question -D (3,4,5)</p> <p>Assignment 25 Page No. - 143 Question -E(1,4,5)</p>

	<ul style="list-style-type: none"> ● Fate of flower ● Seed dispersal 	<p>experimental, analyzing, and synthesizing skills.</p>	<p>findings. Also paste pictures.</p> <ul style="list-style-type: none"> - To make a picture gallery to show sexual reproduction in flowering plants involving the process of pollination, fertilization, seed formation and development of the fruit. 	
<p>November</p> <p>No. of Working Days-22</p>	<p><u>L-12: LIGHT</u></p> <ul style="list-style-type: none"> ● Reflection of Light ● Diffused and regular reflection ● Properties of images formed by plane mirror ● Laws of reflection of light ● Image formed by plane mirror- ray diagram ● Real and virtual image ● Multiple image formation and its application ● Spherical mirrors ● Terms associated with spherical mirrors 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Define reflection in plane mirror. ● Understand laws of reflection. ● Identify the multiple image formation. ● Construction of kaleidoscope. ● Draw images formed by spherical mirrors. ● Collaborate, self-inquiry, concept mapping. ● Arrive at Real life task-based learning, evolve 	<ul style="list-style-type: none"> - Activity demonstration by using toothpicks/ matchsticks try to show the phenomenon of lateral inversion of any five letters of the alphabets. - Making of any one toy / game using mirrors like Kaleidoscope/Magic Mirror/Infinite well . - Activity demonstration using broomstick, thread and sheets 	<p>Assignment 25 Page No.- 195 Question -D (3,4,6,7)</p> <p>Assignment 26 Page no.-196,196 Question -E (1,2,5)</p>

	<ul style="list-style-type: none"> ● Images formed by concave mirror ● Images formed by convex mirror ● Applications of mirror 	<p>psychomotor skills and problem solving.</p>	<p>depict the various cases of image formation for concave mirror.</p> <ul style="list-style-type: none"> - To show rules of reflection and image formation by using spherical mirror / Optical Kit in class. 	
<p>December</p> <p>No. of Working Days-22</p>	<p><u>L-17: ELECTRIC CURRENT AND ITS EFFECT</u></p> <ul style="list-style-type: none"> ● Electric current and circuits ● Electric Symbols ● Heating Effect of Electric Current ● Advantages and disadvantages of heating Effect of Electric Current ● Short circuit, Overloading and insulation breakdown ● Electric Fuse ● MCBs ● Magnetic effect of current ● Electromagnets- function and applications ● Electric Bell 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Identify symbols of some electric circuit components. ● Explain the heating effect of electric current. ● Discuss the importance of electric fuse in an electric circuit theory. ● Understand magnetic effect of electric current. ● Differentiate the practical uses of electromagnet. ● Understand the working of an electric bell. ● Investigate and develop research skills and be a resourceful learner. ● Versatile individuals who approach problems in creative ways. 	<ul style="list-style-type: none"> - To make an Electromagnet and to study the factors on which its strength depends. - Simple activity to show current carrying wire can act like a magnet. - Take out the parts of old and out of use toys bells telephones etc to find presence of an electromagnet used in them. 	<p>Assignment 27 Page No.- 261 Question - D(2,3,4,6)</p> <p>Assignment 28 Page No. -261 Question -E (1,4,5)</p>

<p>December</p>	<p><u>L-15: FORESTS</u></p> <ul style="list-style-type: none"> ● Components of forest. ● Life in forest. ● Food chain and Food Web ● The layers of the forest ● Importance of forests ● Deforestation and other problems related to forests. ● Some common trees in India 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Appreciate the importance of forest in daily life. ● Compare biotic and abiotic components of forest. ● Discover various Food Chain and Food Web in a forest. ● Organize different layers in forest. ● Show and tell some common trees found in India and their importance. ● Flourish their creative skills, critical thinking, caring and contributing citizens towards environment. 	<ul style="list-style-type: none"> - Draw/ or paste pictures of any common tree in India and write their scientific names and their usefulness for the community. - Make a poster with a quote on importance of forest. - Display any five food chains using paper cutting and folding. 	<p>Assignment 29 Page No.-235 Question -D(1,2,3,4,5)</p> <p>Assignment 30 Page No.-235 Question -E (2,3,4,5)</p>
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<p>December</p>	<p><u>L-16: WATER</u></p> <ul style="list-style-type: none"> ● Water on earth ● Ground water and water table. ● Scarcity of water ● Water management ● Waste water management. ● Methods to conserve water 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Understand the importance and uses of water. ● Know about the different sources of water. ● Discuss the consequences of water scarcity. ● Appreciate the wastewater management. ● Learn about our role in wastewater management. ● Speak clearly, debate, research, investigate, collaborate, and synthesize. 	<ul style="list-style-type: none"> - Tell a story related to water shortage and water conservation pertaining to various geographical regions of India. - With the help of newspaper cuttings, encyclopaedia or internet find out ‘water related problems’ faced by people living in different regions for a group discussion in class. - Discussion on water conservation/Rain water harvesting practice at home. - Make a Poster /Slogan using Fabric Paints on a Cloth Bag. 	<p>Assignment 31 Page No.- 244 Question - D (all parts)</p> <p>Assignment 32 Page No.- 244 Question - E (all parts)</p>
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<p>January</p> <p>No. of Working Days-19</p>	<p><u>L8: TRANSPORTATION IN PLANTS AND ANIMALS</u></p> <ul style="list-style-type: none"> ● Transpiration in plants. ● Transpiration- A necessary evil ● Transportation in animals. ● Transportation in Human ● Heart- structure and Function ● Types of Blood Vessels ● Blood and its Function ● Excretion in animals. 	<p>Learners will be able to -</p> <ul style="list-style-type: none"> ● Define the term transportation. ● Recall the kinds of transportation in plants. ● Calculate pulse rate. ● Draw diagram of excretory system. ● Develop psychomotor skills, communication, collaborate, investigate and social skills. 	<ul style="list-style-type: none"> - Make a board game containing 10 cards based on a circulatory and excretory system. - Make your own pulse meter and measure the pulse of your family members. - Make Graphic Organizers depicting the functioning of heart (CR/AI). 	<p>Assignment 33 Page No.- 127 Question - D (2,3,4,5)</p> <p>Assignment 34 Page No.- 127 Question -E(2,3,4,5)</p>
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