

	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>
<b>Content</b>	*Nutrition in Plants *Nutrition in Animals	*Fiber to Fabric * Heat and Temperature *Soil	*Reproduction In Plants * Motion and Time *Weather, Climate and Adaptation	*Winds and Storms
<b>Learning Outcomes</b>	<b>Students will be able to</b> -Classify the modes of nutrition in plants. -demonstrate and generalize the process of photosynthesis. -Summarize the mineral replenishment in soil.  -Explain the process of digestion in human beings. -Compare the process of nutrition in various organisms like amoeba hydra and frog. -Describe the process of nutrition in ruminants.	<b>Students will be able to</b> -Explain the process of extraction of fiber into wool. -Describe the extraction of silk. -Interpret health hazards of people working in silk and wool industries.  -Relate the concept of heat and temperature. -Solve numerical problems based on temperature scales. -Analyze various modes of heat transfer. -Enlist the factors affecting formation of soil -Describe the properties of soil. -Identify and interpret the causes of soil pollution and soil erosion and ways of prevention.	<b>Students will be able to:</b> -Differentiate between different modes of reproduction in plants i.e. asexual and sexual. - Describe the process of pollination and fertilization in plants. -Identify and analyze the methods of seed dispersal.  -Discuss the measurement of time and Standard units. -analyze various kinds of motion. -Calculate speed and Plot the distance-Time graph.  -Enlist the various factors affecting weather and climate. -Differentiate the adaptive features of animals living in various environments.	<b>Students will be able to:</b> -Summarize the concept of wind, atmosphere and air pressure. - Differentiate between winds, storms and cyclones in relation to uneven heating of earth.
<b>Skills</b>	Knowledge/ Understanding/ Application/Analysis/ Evaluation/Create	Knowledge/ Understanding/ Application/Analysis/ Evaluation/Create	Knowledge/Understanding/ Application/Analysis/ Evaluation/ Create	Knowledge/ Understanding/ Application/ Analysis/ Evaluation/ Create
<b>Activities</b>	<b>Competency Skill based Activities/Experiential learning Activities:</b> <b>Lab activities:</b> *To show that leaves contain starch using alcohol, Iodine solution, test tube, and beaker. *To demonstrate that the Sunlight is necessary for photosynthesis using a destarched plant, iodine solution and paper strips. *To observe parts of the compound microscope and method to prepare a temporary slide to show stomata in leaves. <b>Search work:</b> Students will be asked to gather information on heterotrophic plants, they observe in their	<b>Competency Skill based Activities/Experiential learning Activities:</b> <b>Class-Activities:</b> *Students will be asked to bring varieties of cloth pieces and then they will sort them on the basis of type and nature of fiber. * Students will make flowchart to show steps involved in processing of silk and wool. <b>Project Work:</b> Students will make Powerpoint presentations on extraction of fiber into Fabric and They can choose any one fiber (Wool, Silk, Cotton and Jute) of their choice. *Students will be asked to read a clinical thermometer or laboratory thermometer during the class. * Students will solve numericals based on	<b>Competency Skill based Activities/Experiential learning Activities:</b> <b>Field trip:</b> Students will explore the technique of plant tissue culture in a nearby centre. <b>Class-Activities:</b> <b>Group Activity:</b> *Students will be asked to make a list of ten different fruits and try to write the different methods by which they are grown. Present the data in the form of a table. *Students will draw diagrams showing fertilization and pollination in flowering plants. <b>Project- Work:</b> Students will study vegetative propagation by growing a potato by using its piece with an eye or bud and Will write the procedure followed and their observations and comments in a notebook.	<b>Competency Skill based Activities/Experiential learning Activities:</b> <b>*Class-Activities:</b> *Teachers will demonstrate effect of wind speed on air pressure using bottles, Paper and balloons students will be asked to note down their observations and conclusions *Students will draw diagrams to show sea breeze, land breeze. <b>Search Activity:</b> Find out where cyclones have taken place recently and Tabulate data on following heads: Place, Speed and level. <b>(Integration with IT and Art)</b>

	<p>Tabulate data showing name, type and characteristics of plants.</p> <p><b>Lab activity:</b> * To investigate the effect of saliva on the food using boiled rice or potato, iodine solution.</p> <p><b>Class-Activities:</b> *Students will draw diagrams of the human digestive system. *Students will give diagrammatic representations of the process of nutrition in hydra and amoeba. *<b>Search work:</b> Students will be asked to collect information (from the dentist or magazine) about the dental diseases, their causes and prevention. Then they will make a report on it.</p> <p><b>(Integrated with Art, IT and Geography, English)</b></p>	<p><b>Lab-Activities:</b> *To observe convection in liquids using water and potassium permanganate. *To observe heat transfer in solids using nails and metal rod.</p> <p><b>Class-Activities:</b> *Students will be asked to get some soil in glass and then pour water in it, leave it for some time .Then they will observe horizons of soil during the class. * Students will measure the percolation rate of various types of soil using beakers soil sample and water. Make an observation table. *Students will draw diagrams of stages of soil development and Soil profile. <b>(Integration with Art, Mathematics and English)</b></p>	<p>*Students will measure and compare the length of desk and green board, oven etc .Using hand span and meter scale. *Students will be shown videos of objects having uniform and non uniform motion in the class and then they will try to show them on a graph. *Students will solve numericals based on topic speed.</p> <p><b>Lab-Activity:</b> To measure the time-period of a simple pendulum using metal Bob and thread and calculate time period.</p> <p><b>Write-up:</b> Students will be asked to collect information about time measuring devices used in ancient and modern times and prepare a brief write up.</p> <p><b>Project-Activity:</b> Students will play Athletics games during the physical education period and then record distance and time covered by them in a group of five during the activity. They will draw distance -time graphs.</p> <p><b>Search -Work:</b> Students will be asked to read magazines and books and collect information about various climatic conditions and animals living there. They will make a table in a notebook.</p> <p>*Students will be asked to collect the weather reports of seven days from the newspaper and prepare a table for the details.</p> <p><b>Research-Activity:</b> Students will be asked to talk to their friend or cousin living in a different state or country and gather information regarding average weather conditions and type of vegetation, animals there. Then they will compare it with their own place. They will represent data in the form of a table.</p> <p><b>(Integration with Art, English, History and Geography)</b></p>	
Assessments	Pen – Paper test, Observations, Diagrams, Tabular information, Report, Concept map, HOTs, Quiz, Reasoning questions, Value based questions, Search work, C.W. and H.W.			
	<p><b>Main Book: Cambridge Science Voyage</b> <b>Publisher: Cambridge University Press</b></p>			

	<b>August/September</b>	<b>October</b>	<b>November</b>	<b>December</b>
<b>Content</b>	* Physical and Chemical Changes *Acids, Bases and Salts *Forests: Our Lifeline	*Transportation in Plants and Animals *Respiration	*Water and Waste Management *Electric Current and its Effect	*Light
<b>Learning Outcomes</b>	<b>Students will be able to:</b> -Identify and enlist the types of changes in their surroundings. -Explain characteristics of physical and chemical changes. -Compare the types of chemical reactions. -Compare the properties of acids, bases and salts. -Analyze the use of Indicators to determine acidity and basicity of different substances. -Explain the importance of Neutralization reactions in daily life. -Enlist the importance of forest in our daily lives. -Explain the interdependence of plants and animals in the forest. -Recognize and explore the measures of forest conservation.	<b>Students will be able to</b> -Describe Human Circulatory system and Excretory System along with functions. -Differentiate between Arteries, Veins and capillaries. -Analyze Importance of xylem and phloem in transportation of substances in plants. -Discuss the Mechanism of breathing in human beings. - Differentiate between aerobic and anaerobic respiration. -Identify and compare the respiratory organs of various animals and plants.	<b>*Students will be able to:</b> -Enlist the sources of water and analyze the causes and effects of water scarcity. -Differentiate the various kinds of sewage and explain the process of wastewater treatment. - Discuss the methods of conservation of water, sanitation practices and its benefits. -Identify the electrical components and draw their symbols. -Describe the heating effect of current. -Discuss about electromagnets and their use in different devices.	<b>Students will be able to:</b> - interpret the phenomenon of rectilinear propagation and reflection of light. - compare the images formed by different types of mirror and lenses. -comprehend dispersion of light and its application
<b>Activities</b>	<b>Competency Skill based Activities/Experiential learning Activities:</b> <b>Class-Activities:</b> *Students will be asked to keep various things like rough paper, clay, candle and matchstick, plastic water bottles etc. They will perform activities with these materials such as crushing bottles, tearing paper into small pieces, melting candle wax and They will discuss the type of changes observed above Activities. *Students will be asked to mix vinegar and baking soda. Teacher will burn paper and will show rusted iron piece. Students will observe the activities and write their observations. <b>Lab-Activities:</b> *To demonstrate precipitation reaction with lead nitrate and potassium iodide solution. *To show that burning of magnesium produces magnesium oxide. *To demonstrate displacement	<b>Competency Skill based Activities/Experiential learning Activities:</b> <b>Class-Activities:</b> *Students will observe the process of osmosis in plants using potato, water and sugar solutions *Students will draw the diagrams of the human heart and kidney. <b>*Report Writing:</b> i) Students will be asked to consult a doctor (if possible) or search about ECG. and make a brief report on it. ii) Students will be asked to explore lifestyle and its relation to heart problems faced by people in India and try to find out difference in cases (earlier times and recent years) <b>Class-Activities:</b> *Students will make a model of lungs using a bottle, balloons and	<b>.Competency Skill based Activities/ Experiential learning Activities:</b> <b>Class-Activities:</b> *Students will discuss causes, effects of scarcity of water in peer groups. *Students will observe the video showing wastewater water treatment. *Students will discuss various sanitation practices and ways to conserve water in a peer group. <b>Field Trip:-</b> <b>Visit to Waste Management Plant (Manali)</b> <b>Search Work:</b> Students will be asked to collect information on any NGO in their state or district which works towards the availability of clean drinking water or waste management in their town or villages and then	<b>Competency Skill based Activities/Experiential learning Activities:</b> <b>Class-Activities:</b> *Students will perform an activity to show rectilinear propagation of light during the class and will write their observations. *Teachers will demonstrate image formation by various types of mirrors. *Students will be asked to get steel spoon .They will bring outer and inner side of spoon one by one near their face and look in to it and will compare the images formed by concave and convex mirror with plane mirror. *Students will be shown a video for images formed by lenses during the class and will try to

	<p>iron.</p> <p><b>Class-Activities:</b> * The teacher will demonstrate how to make natural indicators with turmeric powder and then students will make indicators along with the teacher during the class and check acidity and basicity of common daily use items.</p> <p><b>Lab-Activity:</b> *To observe the acidic or basic nature of baking soda, Sodium hydroxide, Water and lemon by using pH paper strips and Standard pH chart. *To observe the change in colour of synthetic Indicators with various acidic and basic solutions. *To observe the reaction between an acid and base.</p> <p><b>Search Work:</b> Students will be asked to collect information about the medicines to treat acidity and make a report showing their chemical composition, working as well as effect.</p> <p><b>Class-Activities:</b> *Students will find out about "Van Mahotsava" and write in their notebook. Suggest the ways to make it more meaningful and popular. *<b>Declamation:</b> Students will prepare a speech on topics i) Conservation of Forests. ii) Importance of Forest. <b>(Integration with English)</b></p>	<p>demonstrate the movement of diaphragm during breathing. *Students will observe the video of respiratory organs of animals like fish, frogs and insects then compare them with the help of diagrams. *Students will discuss the process of respiration in plants.</p> <p><b>Lab -Activity:</b> *To demonstrate that the air we breathe out contain carbon dioxide</p> <p><b>Search-Work:</b> *Students will be asked to explore diseases of the respiratory system and write a report on it.</p> <p><b>(Integration with Art and IT)</b></p>	<p>Students will discuss their information collected during the class. Students will find information about Rajendra Singh (Water man) and make a report on his contribution towards conservation of water.</p> <p><b>Class-Activities:</b> *Students will draw open and closed circuits. *Students will show the heating effect of the current with the help of an electric circuit made by them. *Students will be asked to make two electromagnets using Iron nails, wires and cells, and paper clips under the guidance of the teacher. And will compare their strength.</p> <p><b>Search Work:</b> Trace the path of the invention of the bulb and its development. Write the information collected in a notebook. <b>(Integration with IT and History)</b></p>	<p>draw ray diagrams. <b>Lab-Activity:</b> *Teacher will demonstrate the phenomenon of dispersion with the help of a prism.</p> <p><b>(Integration with Art)</b></p>
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