

Vidya Pratishthan's Dr. Cyrus Poonawalla School (CBSE)

Annual Planning, 2022-23

Class - VII

Sub - Science

Sr.No	Month	Topic	No. of working days	Period	Learning Objectives	Learning outcomes	Teaching aids	Activity	21 st century skills
1.	April	Bridge course - Food components - Fibre to fabrics - Chemical and physical changes - Motion - Electric circuits	22	12	To enable students to understand <ul style="list-style-type: none"> • nutrients present in food • variety of fibres • difference between physical and chemical changes • types of motion • electric cell, circuit, conductors and insulators 	<ul style="list-style-type: none"> • classifies different nutrients and their importance • enlists different types of fibres • differentiates between physical and chemical changes • defines different types of motion • Describes electric cell, circuit, conductors and insulators 	ICR, videos	Worksheets	critical thinking
		Nutrition in Plants		08	<ul style="list-style-type: none"> • To enable students to know kinds of nutrition in plants. • To enable differentiate between autotrophic and heterotrophic nutrition • To establish the relationship between Rhizobium bacteria & leguminous plants 	<ul style="list-style-type: none"> • Define Nutrition & its importance to living organisms • Examine different methods of nutrition in order to differentiate between autotrophic and heterotrophic nutrition • Evaluate other plants in their surroundings & classify them as autotrophs, heterotrophs, saprotrophs, parasitic or symbiotic based on their nutritional requirements • Categorize features of insectivores, saprophytes and symbionts, based on their similarities. 	Iodine, leaves. Alcohol. Fungus on chapatti, Mushroom. Algae.	To observe growth of fungi. To observe food is prepared in leaves.	experimentation, critical thinking
		Nutrition in Animals		02	<ul style="list-style-type: none"> • To enable students to know ways of nutritious food in unicellular & multicellular animals. 	<ul style="list-style-type: none"> • Classifies different modes of nutrition in animals. • Can explain and draw the digestive system 	ICR, Model of Digestive system, Specimen-	To detect presence of starch in chewed food, Study digestive system (human)	experimentation, critical thinking

					<ul style="list-style-type: none"> To classify animals based on their modes of feeding. To illustrate human digestive system with the help of a well labelled diagram & elaborate the process & function of each part To enable to perform the starch test on raw and chewed food in order to infer the role of saliva. 	<ul style="list-style-type: none"> Explains the role of saliva. 	amoeba, Rice, Iodine		
2.	June								
		Fiber to Fabric	16	12	<ul style="list-style-type: none"> To enable students to know process of formation of silk & wool fibres from animals i.e., sheep & silkworm. 	<ul style="list-style-type: none"> Outlines the steps involved in processing of fibres into wool. Critiques the risk factors associated with wool industry & appreciate the efforts of people involved in it Explains the significance of silk in textile industry Describes and illustrate diagrammatically the life cycle of silk moth Outlines the steps involved in obtaining silk from cocoon Evaluates the contribution of silk in Indian Economy and appreciate our weavers for the intricate & dedicated efforts 	ICR, Chart life cycle of silkworm, woolen, silk, synthetic threads.	To detect difference in smell of diff. fibres by burning them.	experimentation, critical thinking
3.	July								

		Acids, Bases & Salts	26	08	<ul style="list-style-type: none"> To enable students to know properties of acids bases & salts. To enable them o know daily life importance of these. 	<ul style="list-style-type: none"> Examine the common substance used at home based on taste and touch and classify them as acidic or basic Summarizes observations with respect to behavior of indicators in acidic and basic solutions. Identify neutralization reactions and its characteristics Illustrates neutralization reactions seen in everyday life. Evaluate the effectiveness of certain neutralization reactions employed in everyday life, based on observed data. 	Indicator: Blue red Litmus, lemon juice curd, washing soda, baking soda, water, test tubes.	To identify diff. substances nature by performing Litmus Tests.	experimentati on, critical thinking
		Heat		09	<ul style="list-style-type: none"> To enable students to know devices to measure temperature of body. To know diff. kinds of heat transfer. Correlate the modes of transfer of heat to the usage of different clothes in different parts of the world 	<ul style="list-style-type: none"> Distinguish the Clinical thermometer from Laboratory thermometer (range, least count, units of measurement). Examine the need for Laboratory thermometer while doing experiments in the laboratories. List precautions while using a clinical and laboratory thermometer in order to identify the role of kink. Explain why a substance remains in the same temperature in a thermos flask or vacuum bottle 	Thermometers, Flask, Water burner.	To observe heat transfer in solid & liquids.	experimentati on, critical thinking
		Physical and Chemical Change		09	<ul style="list-style-type: none"> To enable students to know terms Physical & Chemical change & its examples. 	<ul style="list-style-type: none"> Identifies difference between physical and chemical change. Illustrates physical and chemical change with specific examples 	Rusted iron piece CUSO4. Mg Ribbon, Idli, Curd	Observation of diff. examples of changes in life.	experimentati on, critical thinking

						<ul style="list-style-type: none"> Explains why rusting of iron is a chemical change Illustrates the usage of crystallization in purification of various salts. 			
4.	August								
		Weather Changes & Adaptations to Climate.	22	10	<ul style="list-style-type: none"> To enable students to know adaptations occurred in living organism due to Climate & weather changes. 	<ul style="list-style-type: none"> Analyze internet data for temperature variations in a day in order to identify the time periods in which maximum and minimum temperatures occur during a day and explain the utility of maximum minimum thermometers. Explains the advantage of technology in weather prediction in order to explain how it reduces the damage caused by cyclones 	ICR	Paste pictures of animal in Notebook which get adapted to that region.	creativity, experimentation, critical thinking
		Winds, Storms & Cyclones		10	<ul style="list-style-type: none"> To enable students to know formation of storms cyclones. To know precautions taken by govt. & people. 	<ul style="list-style-type: none"> Recall the concept of land breeze and sea breeze in order to describe monsoon winds. Recall details about safety measure & precautions against Cyclones, Thunderstorms & Tornadoes Summarize the consequences of absence of precautionary measures against storms/ cyclones/tornados, etc. 	ICR, Water fruit tray (plastic thin)	Formation of tsunami with water in plastic tray.	creativity, experimentation, critical thinking
5.	September								
		Soil	25	10	<ul style="list-style-type: none"> To enable students to know different types of 	<ul style="list-style-type: none"> Classify soil into different categories based on its properties. 	ICR, Sandy, loamy, black clayey soil.	To find moisture content of soils.	creativity, experimentation

					<p>soil & their suitability to diff. crops.</p> <ul style="list-style-type: none"> To enables students to know properties and layers of soil. To know percolation rate of each soil type. 	<ul style="list-style-type: none"> Describe all the layers in the soil profile in order to classify them into A-, B-, C- horizon and bedrock. Compare different types of soils in connections with properties shared along with contrasting features. 			on, critical thinking
6.	October								
		Respiration in Organism		10	<ul style="list-style-type: none"> To enable students to know diff. in respiration & breathing. 	<ul style="list-style-type: none"> Define cellular respiration in order to differentiate between aerobic and anaerobic respiration. Describe the process of breathing in humans in order to explain the role of nostrils (hair and mucus), trachea, lungs, ribs and diaphragm. Describe the process of respiration in cockroach, earthworm, fish and plants in order to predict consequences of absence of respiratory organs/ features, in animals or plants. 	ICR, Charts, Model of respiratory system.	To count breathing rate of students & in adults.	creativity, experimentation, critical thinking
7.	November								
		Reproduction in plants	19	10	<ul style="list-style-type: none"> To enable students to know process of reproduction in plants. Ways of seeds dispersal 	<ul style="list-style-type: none"> Define reproduction in order to identify its need Distinguish between any two modes of asexual reproduction, in connection with parts involved, etc. Compare the outcomes of sexual reproduction in unisexual plants with those in bisexual plants. 	Hibiscus flowers, potato, (eyed) Rose stem, dicot seeds- (pea Rajma) dandelion, castor.	To study reproductive organs in flower (pistil & stamen)	creativity, experimentation, critical thinking

						<ul style="list-style-type: none"> • Critique the idea that any one of the categories of seeds might disperse better than another category, in connection with reference to their features. 			
		Transportation in Animals & Plants		09	<ul style="list-style-type: none"> • To enable students to know circulatory system in plants & animals. • To enable students to know about need of transportation. • Excretory system in animals and plants. 	<ul style="list-style-type: none"> • Outline functions carried out by parts of the human circulatory system in order to examine the importance of circulation of oxygen • Describe the function of blood and its constituents. • Describe the location and function of the heart. • Explains the function of parts of the excretory system. • Explain the process of transport of water, minerals and food in plants in order to differentiate between xylem and phloem. 	Specimen heart stem of plants beaker coloured, water, ICR	Writing donor & recipient groups of each blood group. To observe transpiration in plants.	creativity, experimentation, critical thinking
8.	December								
		Motion and Time	21	12	<ul style="list-style-type: none"> • To enable students to calculate, compare speed of vehicle or any objects. 	<ul style="list-style-type: none"> • Recall the instrument used to measure speed. • Recall change in position of the body with respect to surroundings as motion. • Calculate speed or distance or time taken if any two of these three are quantities are provided • Infer from the given data that time taken to complete one oscillation as time period of simple pendulum. 	Simple pendulum clock, sand clock, ICR	To calculate time of oscillation of simple pendulum.	creativity, experimentation, critical thinking

9.	January								
		Electric current and its effect	24	10	<ul style="list-style-type: none"> To enable students to know component, symbols of electric circuit & its uses in daily life. 	<ul style="list-style-type: none"> Translate a circuit with actual components into a circuit diagram. Summarize the benefits of using CFLs over ordinary electric bulbs. Evaluate the role of a fuse wire and MCBs provide for electrical safety in a circuit. Perform a simple activity to demonstrate the magnetic effect of an electric current. Outline the construction and uses of electromagnets and electric bell. 	Electric circuit, Electric Bell ICR	Working model of electric bell.	creativity, experimentation, critical thinking
		Light		07	<ul style="list-style-type: none"> To enable students to know mirror, lenses their images, types of images formed. To know uses of lenses, mirror in routine life. To know light spectrum. 	<ul style="list-style-type: none"> Observe and describe image formed by a plane mirror in order to enlist its uses. Analyze why virtual image cannot be obtained on the screen but still can be photographed. Attribute to the type of image formed by convex mirror for its utility as rear view mirror in the vehicles Differentiate between convex and concave lenses based on the image formed when object is placed at different positions. Explain the formation of a rainbow. 	Lenses, mirrors (Convex, Concave) Plane mirror, Chess board, Magnifying lens, Paper, candle, ICR.	To measure dist. Of object & image of plane mirror. Newton's disc. Images formed by convex Concave mirror. To create fire with convex lens.	creativity, experimentation, critical thinking
		Water: A Precious Resource.		07	<ul style="list-style-type: none"> To enable students to know importance of water. 	<ul style="list-style-type: none"> Recall the water cycle in order to describe the processes encompassed by it. 	ICR	Discussion Method	creativity, experimentation, critical

					<ul style="list-style-type: none"> • Ways of water recharging. • Ways to reduce wastages of water 	<ul style="list-style-type: none"> • Describe infiltration i.e. seepage of water into the ground in order to define the water table and aquifer • Construct a cause & effect model of depletion of ground water table • Analyze the rainfall map of India in order to attribute reasons and factors leading to shortage and excess of water in major areas. • Suggest some (of his/her own) methods for recharging ground water table. • Suggest the steps for efficient water management at individual/ community level. 			thinking, collaboration
10.	February	Forests: Our Lifeline.	23	10	<ul style="list-style-type: none"> • To enable students to know about importance of saving forests. • Different layers shelters of diff. animals 	<ul style="list-style-type: none"> • Infer reasons for the aerial appearance of forests (as shown in the chapter), in connection with types of trees/shapes of trees • Outline features of forests that are responsible for sustenance of life • Create a flowchart of the food web, taking into consideration some examples of living beings, used in the chapter. 	ICR	Discussion Method	creativity, experimentation, critical thinking, collab
		Waste water story		10	<ul style="list-style-type: none"> • To enable students to know waste water • Ways to disinfect waste water • Reuse of waste water • Importance to disinfect waste from industrial & society. 	<ul style="list-style-type: none"> • List the uses of water in everyday life in order to identify various source of contamination. • Define sewage and list its components in order to identify their points of origin. • List various processes related to treatment of wastewater in order 	ICR	Visit to waste water plant (MIDC)	

						to describe processes inside a Wastewater Treatment Plant			
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