CHECHOITHRAM SCHOOL, MANIK BAGH, INDORE

ANNUAL CURRICULUM PLAN SESSION 2020-21

CLASS: X

SUBJECT: SCIENCE

CHEMISTRY

Month &	Theme/	Learnin	g Objectives	Activities	Expected Learning	Assessment
Working	Sub-theme	Subject Specific	Behavioural	&Resources	Outcomes	
Days		(Content Based)	(Application based)			
APRIL	Chemical	Students will be able to	Students will be able to	Students will perform	Students have learnt	Assignment
AND	reactions	• Know about the	• Observe the changes	a set of reaction	Characteristics of	Unit test
MAY	and	changes occur in	occur in our	including - burning of	physical and	
	equations	our surroundings	surroundings and in	magnesium wire,	chemical change	Activity - To
		• Understand the	terms of physical and	electrolysis of water,	Balancing of	study the
		characteristics of	chemical changes.	reaction of zinc and	chemical equations	characteristics of
		physical and	• Students will	sulphuric acid,	and need of	chemical reactions
		chemical changes.	appreciate the use of	reaction of barium	balancing.	and identify their
		 Differentiate 	photolytic	chloride and	To distinguish	type. Activity -
		between these	decomposition	magnesium sulphate	combination and	To collect the
		changes into	reaction in	solution, reaction of	decomposition	various samples of
		physical and	photography and	quick lime and water,	reaction,	food like
		chemical.	aluminium foil for	reaction of iron nail	displacement and	groundnut,
		• Learn the method	packing food items	and copper sulphate	double displacement	almond, chips,
		to balance a	• Students will	solution, heating of	reaction, exothermic	walnut, coconut,
		chemical equation	recognize respiration	lead nitrate and -	and endothermic	cashew nut,
		and need of	and combustion as an	identify their type and	reaction	chirongi and keep
		balancing it.	oxidation reaction.	characteristics of	• To identify the	them in an open
		• Understand	• Students will analyse	reactions accompanied	substance reduced,	bowl for 15 days
		various types of	the harmful effects	with chemical change.	oxidized, oxidizing	and observe the
		reactions and their	of corrosion of		agent and reducing	change in colour
		symbolic	metals and rancidity		agent in a redox	taste and smell
		representation.	on packaged food		reaction.	and perform
		• Understand	items.		• The effects of	chemical test to
		phenomenon of	• Students will be		oxidation of oils and	check rancidity.
		rancidity and	sensitized towards the		fats resulting in to	

		corrosion and its effects	 environmental impacts of combustion of fossil fuel and minimize their use. Students will apply the methods to prevent iron from rusting and food items to become rancid 		 bad smell and bad taste and methods to prevent rancidity. About corrosion of metals, rusting of iron, favourable conditions for corrosion and common methods to prevent rusting. 	
Tune _Tuly	ases and	ts will be able to:	ts will be able to	Reaction of NaCl and	Students have learnt	Action of
17+26	salts		Recognize acid and	H_2SO_4 to show the	About indicators and their	indicators like
		Know indicators	base on the basis of	release of HCl gas	types.	litmus, methyl
		and their types.	taste.	which is exposed to	To identify acids and bases	orange,
(12pd)		• Identify acids and	• Test acid and base	dry and moist blue	with the help of indicators.	phenolphthalein
		bases with the	with the help of	litmus paper).	Chemical properties of	etc on acids and
		Linderstand	Indicators	NoOH with	To compare contrast and	Dases.
		• Understand	• Use clilla lose, led	• Metal	classify properties of acids	of following
		properties of acids	bougainvillea beet	Metal oxide	and bases	chemicals on PH
		and bases.	root as natural	Metal	Chemical reactions of acids	Paper .
		Compare, contrast	indicator.	carbonate	with metal, metallic oxide	HCl, acetic acid
		and classify	Prepare olfactory		and bases.	,baking soda, citric
		properties of acids	indicators like onion		Chemical reaction of bases	acid, sodium
		and bases.	and clove oil.		with metal, non metallic	hydroxide and
		• Illustrate	• Appreciate and use		oxides and acids.	water
		chemical	lemon and tamarind to		The use of PH scale in	Activity 3.
		reactions of acids	clean corrosive layer		comparing the strength of	Determination of
		with metal,	on utensils like brass		acids and bases.	PH of different
		metallic oxide and	and copper.		The importance of PH in	samples used in
		bases.	• Handle and store acids		day to day life.	day to day life
		Express the abamical reportion	salely.		Students developed	indicator and
		of bases with	• I reat actuity in stomach and tooth		environmental sensitivity.	nulcator and predict their nature
		metal non	decay			and how will you
		metallic oxides	decay.			hring change in
		and acids.				pH and colour of
		and actus.				

		 Explain the use of PH scale in comparing the strength of acids and bases. Describe use of PH in day to day life. 				the solution.
August & September 20+24 (15pd)	Metals and Non metals	 Students will be able to Know physical properties of elements as metals and non-metals. Understand the chemical properties of metals. Learn the reactivity series of metals. Compare and contrast the properties of metals and non-metals on the basis of their physical and chemical properties. Understand ionic bond formation between atoms and properties of ionic compound. Define ore and mineral. Understand the differences between ores and minerals. Describe the different steps of metallurgy of 	 Students will be able to Avoid the storage of acidic food in metal containers. Prevent corrosion of iron articles at home by oiling/painting/greasin g. Encourage the use of solder as a fuse wire due to its low melting point and high resistance. Make use of sour substances like lemon or tamarind to regain the shine of copper vessels. To collaborate to yield better output or results like in alloying a better property is obtained by mixing two or more metal or non-metal. To discourage and stop practicing giving gold jewellery to goldsmith for polishing to restore 	 Reaction of metals with acids. Reaction of metals with salt solution in lab to compare the reactivity of metals Al, Zn, Fe and Cu 	 The students have learnt The physical and chemical properties of metals and nonmetals. and differences between them. The reactivity series of metals & its applications. The properties and formation of ionic compounds. The ores of several metals and the different steps of metallurgy The differences between roasting and calcinations. The methods to prevent corrosion of metals. The purpose of making alloys and their uses. To avoid the storage of acidic food like lemon pickle /curd in metal containers. To prevent 	Assignment Unit test Activity – Reactivity toward oxygen and nature of metal and non- metal oxide. The teacher will demonstrate the burning of magnesium ribbon and sulphur powder and show the nature of their oxides with the help of litmus paper. Reactivity series

		 metals. Differentiate between roasting and calcinations. Illustrate various methods to prevent corrosion of metals. Understand the purpose of making alloys and their uses. 	their glitter.		corrosion of iron articles at home by oiling /painting/greasing.	
October & November 22+20 (15-Pd)	Carbon and its compounds	Students will be able to Define combustion, oxidation, hydrogenation, addition and substitution reactions. Distinguish between combustion of saturated and unsaturated know about the terms covalent bond, tetravalency, catenation, homologous series and functional group. Learn electron dot structure and IUPAC nomenclature.	 Students will learn the use of alcohol as a fuel, as an antiseptic in hospitals, as a preservative for biological specimen. Students will be sensitized about the harmful effects of consumption of ethanol on human health and will be aware how consumption of alcohol leads to addiction and lack of control and coordination in the body which may result in accidents. Students will analyse ill effects of drinking alcohol on society. Students will be familiarized about denaturation of ethanol to make it unfit for drinking. Students will appreciate the use of soap for washing clothes in soft water and detergent in 	 Making Ball and stick model of saturated and unsaturated carbon compounds. Combustion of saturated and unsaturated compounds reaction of ethanol with sodium metal and observe the evolution of hydrogen gas. Test acidic nature of ethanoic acid by using litmus and methyl orange. Conduction of electricity by acidic and basic solution 	 Students have learnt About Versatile nature of carbon To distinguish between saturated and unsaturated hydrocarbon chemical properties of saturated and unsaturated hydrocarbon IUPAC nomenclature of compounds containing functional group Chemical properties of ethanol and ethanoic acid. Saponification reaction and method of preparation of soap. Mechanism of Cleansing action of soap 	Class test Written Assignment 1.Prepare soap from vegetable oil. 2.Identification of hard water and soft water by foaming capacity of soap. 3.To study different properties of ethanoic acid

		 Understand properties of covalent compound, Understand various properties of carbon compounds, cleaning action of soap, action of soap on hard and soft water. 	hard water.				
December (20) C (8 -pd)	Periodic elassification of elements	 Students will be able to - Understand the need of classifying elements. Know how the concept of grouping elements in accordance to their properties led to the development of Periodic Table. Compare the positive points and drawbacks of previous models of classification of elements e.g. laws of triads and octaves, Mendeleev's law Appreciate the utility of Mendeleev's periodic classification in designing of the modern periodic classification understand the Periodic Law; 	 Students will be able to Understand and appreciate the importance of classification and will learn how to proceed to study, analyze and solve a problem through a systematic and sequential approach. They will develop the skills of analysis, classification (sorting) and critical thinking. They will also develop analytical and critical thinking through thoughtful study of the pattern of the classification and the properties of elements followed by discussion on normal & exceptional trends in the properties. Through study and discussion on work done by the scientists, they will 	 To predict group and period of the elements having same valence electrons. To predict the formula oxide and hydride of the elements through periodic table chart. 	•	Students have developed an understanding about the need & importance of classification of elements and knowledge of historical back ground of the classification of elements. With the help of the above information and subsequent discussion held thereon they have developed an insight into significance of having skills of classifying & arranging things systematically so that further studies become easier and effective. They have developed the skills of analysis, sorting, arranging through the study of this	Unit test Written assignment Activity To find the position of elements through its electronic configuration. To name the elements having Z > 100

 understand the significance of atomic number and electronic configuration as the basis for periodic classificat recognize the periodic trends in physical and chemical properties of elements; compare the reactivity of elements 	be motivated to follow a path of optimum values and life skills so that they can get success in life.	 chapter and now critically think before explaining reasons about particular pattern of classification. Students can predict periodic position of elements and can predict probable trends in properties of the elements in terms of their metallic/ non- metallic nature 	
 reactivity of elements and correlate it with their occurrence in nature; explain the relationship between ionization enthalpy and metallic character; ion; properties of atoms e.g., atomic/ ionic radii, ionization enthalpy, electron gain enthalpy, 		 metallic nature, ionization enthalpy, size, electro affinity, electronegativity, nature of compounds etc. They can explain the periodic trends in the properties of the elements. 	
valence of elements			

SUBJECT: BIOLOGY

Month &	Theme/ Sub-	Learning Objectives		Activities & Resources	Expected	Assessment
Working	theme	Subject Specific	Behavioural		Learning	
Days		(Content Based)	(Application based)		Outcomes	

APRIL	Life Process	To make the	Students will be able to	To prove that	1. Students	• The video will be
AND		students learn and	-	chlorophyll,CO ₂ light is	understood	shown while
MAY		understand about	1. Identify that different	essential for photosynthesis.	different modes of	explanation and
		different modes of	food items consumed by	Students will observe the	nutrition involved	the same video
		nutrition and	them take different	activity carefully and note	in life process.	without the audio
		differentiate	duration of time	down all the components	2 Thousan abl-	will be shown and
		between autotropic	for digestion.	required for photosynthesis	2. They were able	the children will be
		and heterotropic	2. Analyze that heavy		to analyze that	asked to label the
		nutrition.	food items should be	Following activity will be	duration for	different organs
		2. To enhance the	consumed during	conducted in lab were	digestion of fats is	and specify its
		ability to	morning hours and	students will prepare	more than protein	function.
		understand that	lighter in evening.	temporary mount of a leaf	and carbonydrates.	Agianmont
		autotrophic	3. Interpret that problem	peel to show stomata. They	3. They were able	Assignment Unit tost
		nutrition involves	of acidity is due to the	will observe the slide and	to evaluate the	Unit test Dractical
		the intake of	presence Different	identify the stomata and	importance of	r racucai
		simple	gastric enzymes.	will draw a well labeled	enzymes and	
		inorganic materials		diagram as stomata helps in	gastric juices in the	
		from the		the exchange of gases.	process of	
		environment and by		A Self made video will be	digestion.	
		using an external		shown in the class on the	U	
		energy source like		process of human digestion	4. They were able	
		sun to		After observing this video	to recognize that	
		synthesize complex		they will draw the well	problem of acidity	
		high energy organic		labeled diagram of Human	or ulcer or any	
		material.		digestive system and also	other disorder is	
		3. To comprehend		locate the parts where	due to improper	
		that the		digestion of carbohydrate	function of	
		heterotrophic		protein and fats starts along	different organs of	
		nutrition involves		with the name of enzyme	digestive system.	
		the intake of		associated with it	<i>C</i> (T) 11	
		complex material		associated with it.	5. They were able	
		prepared by other			to synthesized the	
		organisms.			importance of	
		4. To understand			light, water and	
		and summarize the			co2 for the light	
		various steps of			and dark reaction	
		digestion in human			ot photosynthesis	
		beings in the			along with the role	
		alimentary			of stomata.	
					1	

		canal and the mode of absorption in the small intestine.				
JUNE- JULY 17-26 Days (5 +8)	Respiration- Aerobic and Anaerobic Transportation- 1.blood, heart, arteries, vein capillaries, double circulation 2. Xylem and phloem and ascent of sap, transpiration. Excretion- kidney, nephron, dialysis	Students will be able to learn and understand the concept of respiration and can compare between aerobic and anaerobic respiration. * They will be able to comprehend and relate how in cellular respiration, complex organic compounds such as glucose are broken down to provide energy in the form of ATP which is used to provide energy for other reactions in the cell. *They will be able to infer the mechanism of circulatory system where materials such as oxygen, carbon-dioxide,	Students will be able to 1. Identify the process of fermentation is due to anaerobic respiration which is used in production of alcohol, vinegar and bakery industries as well as in making of dosa etc. and also heavy exercise leads to anaerobic respiration which is responsible for cramps in muscle in human 2. Apply their knowledge that improper functioning of these organs like lungs, heart and kidneys	Following activity will be conducted in the class were the process of inspiration and expiration with the help of a working model of lungs will be demonstrated. An activity will be conducted in a lab. were student will be given opportunity to do and observe themselves that CO ₂ is given out during the process of breathing. TRANSPORTATION- A video chart of human heart will be shown in the class were different parts will be explained. Students will be asked to draw the well labeled diagram of human heart and will locate the path of double circulation of blood. EXCRETION- A Self made video will be shown in the class on the process of human excretion. Students will be aware of different	 Students I. Students understood the importance of different life process and were able to understood mechanism of circulatory system where materials such as oxygen, carbon-dioxide, food and excretory products are transported They were able to analyze that cramps in muscle as well as bakery products, south Indian dishes and production of alcohol is due to anaerobic respiration. They were able to analyze the importance of valve in veins and heart and will also 	 The video will be shown while explanation and the same video without the audio will be shown and the children will be asked to label the different organs and specify its function. Assignment Unit test Practical
		food and excretory		parts of excretory system	able to evaluate the	

		products are transported. *They will explore their critical thinking by studying the importance of transport of water, minerals, food and other materials in highly differentiated plants * To enhance the ability to understand the mechanism of excretion in human beings in the form of soluble nitrogenous compounds. * To understand and summarize about different technologies and its implementation for survival like renal dialysis, pacemaker etc.		and will understand that process of removal of nitrogenous waste from the blood and importance of nephron. After observing this video they will draw the well labeled diagram of Human excretory system and nephron also locate the parts where ultra-filtration and selective re-absorption takes place.	reason behind cardiovascular diseases and BP. 4. They were able to analyze the importance of blood group and Rh factors play major role in blood transfusion and childbirth. 5. They were able to recognize that problem in improper functioning of kidney or nephron leads to accumulation of toxic substances in the blood which are fatal. 5. They were able to synthesize the importance of dialysis, heart surgery, pace- maker for vital function.	
August -20 & September- 24 (6+7)	CONTROL & COORDINATION	Students will be able to Describe the structure and types of neurons. Explain Reflex action, Involuntary and Voluntary	Students will be able to learn to appreciate the leadership quality of brain to control hunger, anxiety, anger ,memory ,thirst, riding, writing, balancing of the body, body postures etc are controlled by the Central	A self made video on Brain, highlighting the different parts of brain and its function. There after the teacher will cite different daily life examples to explain the various parts of brain that are responsible to carry various function.	Students have learnt to : Illustrate and describe the structure of brain Analysed the concept of reflex action, voluntary	• The students will be asked to make the diagram of brain and label its various parts & relate with different the physiological activity controlled

	actions.	Nervous System and it	Reflex action will be	and involuntary		by it.
		coordinates with	introduced by	actions and could	•	Assignments
	Describe the	different systems in the	demonstrating some	apply in real life		7 Issignments
	Central Nervous	body to maintain	activities in which the	situation	•	Unit test, Term end
	system- Structure of	oneness in running all	student responds to the	A		exam
	Brain and its	the physiological	stimuli without thinking.	Analyse and		
	runction	activities together.	The students will be asked	different hormones		•
	To understand the	Sensitize the body	to make the diagram of	and its secretion in		
	role of Plant	response during adverse	brain and label its various	the life span of the		
	hormones, plant	situation like touching	parts & relate with different	organism.		
	movement,	hot water or any	the physiological activity			
		utensils, when suddenly	controlled by it.	Interpret and		
	Understand the role	any foreign object		describe various		
	of Human	comes in contact with		plant movements		
	hormones and their	our eyes, etc through		with		
	secretions.	reflex action.		phytohormones.		
	Comprehend that	Infer the effect of				
	control and	hormones for the				
	coordination in	changes in human after				
	human beings is the	puberty.				
	sum of nervous					
	system and	Appreciate the role of				
	endocrine system	hormone to cope stress.				
		Realize the role of plant				
		hormones in regulating				
		the process of				
		phototropism,				
		geotropism,				
		hydrotropism,				
		chemotropism etc.				
		Illustrate examples from				
		daily life to relate the				
		effect of hormones on				
		living system.				

			Learn to imbibe positive qualities of others and ignore the negative ones.			
Oct- 22	Chapter:- How do	*Students will be	• To emphasized	*To study the binary fission	1) Learner learnt	*To study the different
Nov-20	organism	able to learn and	on development	and budding in Amoeba and	and understood	parts of dicot seeds.
(6+5)	reproduce?	understand the	ot skills like	yeast through permanent	about the concept	*Unit test *Class Test
		structure DNA Its	observational,	sinces. *To study the different	DNA its structure,	*Class 1 est *Assignment
		copying and its	inculcating	parts of dicot seeds	its importance	Assignment
		importance.	values like	dding and binary fission with	in portaneo.	
		*They would be	Awareness,	f slides.	2) Students were	
		able to analyze and	Responsibility,	e vegetative Propagation in	able to identify the	
		relate the concept	Accuracy,	, Bryophyllum leaf.	significance of	
		of DNA copying	 Students will be 		bright colour of	
		with variation.	able to identify		flower for	
		able to acquire	the significance		pomination.	
		knowledge about	of bright colour		3) Students were	
		different modes of	of flower for		able to share their	
		reproduction and	pollination.		opinion on DNA	
		apply the concept in	They will be able		copying with	
		different living	• I ney Will be able to interpret that		variation. 4) They were able	
		organisms.	night blooming		to evaluate	
		* They would be able to comprehend	flowers are white		different types of	
		the mechanism of	whereas the day		High- Yielding	
		sexual reproduction	blooming		varieties of wheat	
		in flowering plants	flowers are		and rice.	
		and human beings.	brightly		5) They were able	
		*They will be able	coloured.		to explore their	
		to analyze and think	• They will be able to evaluate that		studving the	
		critically about the	congenital		importance of	
		changes in the	congenitar		importance of	

human body at puberty. *They will explore their critical thinking by studying the importance of reproductive health their problems and strategies	 anomalies are due to genetic and environmental factors. The noticeable changes that occur during puberty such as- increase in height, body shape, change in voice of males, appearance of pimples Mental and emotional maturity bodily changes during adolescence Myths and taboos regarding bodily changes during adolescence To get aware regarding prevention of sexually transmitted disease To relate the importance of government raising awareness 	reproductive health their problems and strategies 6) They were able to apply their knowledge to relate congenital anomalies are due to genetic and environmental factors. 7) They were to analyzing importance and male and female sex ratio and sex determination of child is male heterogamy.

D 20			campaign regarding birth control measures.			
Jan 23	Heredity and	able to learn and	development of skills	students in class to study	and understood	for dihybrid cross.
6 +1days	Evolution	understand the	like observational,	the rule of inheritance.	about the concept	
·		concept DNA its	experimental,		DNA its structure,	To analyze their genetical
		structure, DNA	knowledge		DNA copying and	character through pedigree
		copying and its	, understanding, analysis,	10 make a punnet square	its importance in	analysis
		variation	inculcating values like	for unrybrid cross.	2) Students were	
		*They will be able	Awareness,	To flip the coin and to	able to identify the	
		to understand	Responsibility,	sketch a face with different	existence of	Assignment
		variations arising	responsibility,	traits using genetic trait	wisdom teeth,	issignment
		during the process	coordination and	chart.	auricular muscles	Unit Test
		of reproduction can	empathy Students will be able to		and excessive	
		*Students will	identify the existence of	To observe the specimens	hairs are vestigial	
		comprehend about	wisdom teeth, auricular	of evidence of evolution:.	organs in human	
		different Mendel	muscles and excessive	*Homologous and	population.	
		laws of inheritance.	growth of body hairs are	Analogous organ in plants	3) Students were	
		*They will able to	vestigial organs in	and animals, Vestigial	able to share their	
		understand about	human population.	charts.	opinion on sex	
		in human	interpret inheritance of		human	
		*They will able to	blood groups in human	To analyze their genetical	naman	
		differentiate	being.	character through pedigree	4) They were able	
		between inherited	They will be able to	analysis	to evaluate	
		and acquired traits	evaluate that increased		and acquired traits	
		and will able to	foeticide in northern		and will able to	
		evolutionarv	India and on basis of sex		understand to trace	
		relationships.	chromosome who is		evolutionary	
		-	1		1	

			responsible for sex determination of sex of baby. They will be able to interpret that illegal abortion of female foetus is a crime that affect sex ratio in future. They will be able to appreciate fossils help to unfold the mystery of evolution reflects phylogeny They will be able to evaluate the transmission of resemblances, with ancestors or parent is due to genes.		relationships. 5) They were able to explore their critical thinking that illegal abortion of female foetus is a crime that affects sex ratio in future. 6) They were able to apply their knowledge to relate congenital anomalies are due to genetic and environmental factors. 7) They were to analyzing importance of transmission of resemblances, with ancestors or parent is due to genes.		
-Jan-3	Chapter:- Our Environment	*To make the students learn and understandabout the various abiotic and biotic factorsthat interacts in the environment. *Students will learn about various food chain and web in ecosystems. *They will be able to analyze the impact of human in the deteriorating the environment.	*To emphasized on development of skills like observational, experimental, knowledge, understanding, analysis, interpretation and inculcating values like Awareness, Responsibility, responsibility, coordination and empathy towards environment. Students will be able to	The students will be asked to calculate the total amount of waste generated at home per day. They will be segregating into biodegradable and non biodegradable. Create an aquarium- Design an aquarium on a paper. What are the things we keep	 Learner learnt and understood about the various abiotic and biotic factorsthat interacted in the environment. Students were able to identify that tertiary consumers required more energy according to 10% law and therefore depends on multiple food options. 	Pannel discussion o Global Warming Assignment Unit Test	n

		*They will able to interpret the cause of global warming and depletion of ozone layer. *They will learn about how to use and manage biodegradable substances. *They will be able to analyzeThree concepts of 'R'. *The students would be familiarized with various methods to manage the garbage	identify that tertiary consumers required more energy according to 10% law and therefore depends on multiple food options. They will be able to interpret layer of atmosphere in which ozone is present (stratosphere) and its importance. They will be able to evaluate that increased increase in size of ozone hole is due to human activities. They will be able to interpret the importance of bacteria and decomposers and consequences if decomposers are removed from environment. They will be able to evaluate the hazards of burning plastic and biological magnification.	 in mind when we create?(O2 pump to provide oxygen, Aquatic plants and animals for self sustainingetc) What would happen if you do not take care while putting the aquatic animals which would eat others? 	 3) Students were able to share their opinion on cause of global warming and depletion of ozone layer. 4) They were able to evaluate that increased increase in size of ozone hole is due to human activities. 5) They were able to explore their critical thinking with various methods to manage the garbage 6) They were able to apply their knowledge to relate Three concepts of 'R'. 7) They were to analyzing importance of bacteria and decomposers and consequences if decomposers are removed from 	
					decomposers are removed from environment.	
Jan-2	Management of Natural Resources	*Students will able to understand about use of different natural resources. *They will be able to comprehend and	*To emphasized on development of skills like observational, experimental, knowledge, understanding, analysis,	*The students will be asked to find out about the international norms to regulate emission of carbon dioxide.	 Learner learnt and understood about the use of different natural resources. Students were 	Panel discussion on how we can contribute towards meeting the international norms to regulate emission of carbon dioxide.

infer their knowledge in deciding the ways by which these resources will be managed for sustainable development.	interpretation and inculcating values like Awareness, Responsibility, responsibility, coordination and empathy towards environment. Students will be able to identify that how we and our family member can play important role in regulation the daily use of some natural resources. They will be aware of importance of sustainable management. They will be able to interpret importance of making water potable and consequences of drinking unclean water. They will be able to evaluate that energy can be produce from waste. They will be able to interpret the use of new technology in India like WTE programme i.e. waste to energy project. They will be able to evaluate the hazards of burning fossil fuels.	*Panel discussion on how we can contribute towards meeting those norms.	able to identify that how we and our family member can play important role in regulation the daily use of some natural resources. 3) Students were able to share their opinion onin deciding the ways by which these resources will be managed for sustainable development. 4) They were able to evaluate that energy can be produce from waste. 5) They were able to explore their critical thinking with importance of making water potable and consequences of drinking unclean water. 6) They were able to apply their knowledge to interpret the use of new technology in India like WTE programme i.e. waste to energy project.	

SUBJECT: PHYSICS

APRIL	LIGHT-	SPECIFIC LEARNING	BEHAVIOURAL	Students can be asked to draw	Students learnt to-	Unit test and
	Reflection and	OBJECTTIVES:	LEARNING OBJECTIVES:	image formation, predict the result	Define reflection	numerical
AND	Refraction	Students will be able to-	Students will be able	by using laws and then check the	State laws of	problems
MAY		Define	to –	same in lab.	reflection	previous year
		reflection		Students can also be asked to keep	 Differentiate 	board questions.
		• State laws of	 Understand the 	the screen at the estimated	between types	-
		reflection	difference	positions in order to verify the	of reflection	
		• Differentiate	between	image formation of mirror.	 Prove laws of 	
		between types	reflection and	Activity- Various spherical mirrors	reflection of	
		of reflection	refraction.	will be will be shown and how they	light	
		 Differentiate 	 Apply the 	aredifferent than plane mirrors will	• Understand the	
		between real	concept of	be discussed.	application of	
		and virtual	reflection and	t of image formation will be	spherical	
		image.	refraction in	introduced.	mirrors and	
		• Define terms	daily		state its uses.	
		related to	Observation,	Lab Activity- refraction through	• Can make use	
		spherical	• Understand	glass slab will be performed by	of mirror	
		mirror.	une application of	students and they will also be	formula	
		• Define	application of	taught relation between emergent	• Apply sign	
		refraction	splicitical mirrors and	rav incident rav.	conventions	
		• State laws of	state its uses	-,,	Correctly	
		refraction	• Can make use	Calculate the rough focal length	• Apply the	
		• State causes for	• Can make use	of the convex lens and concave	concept of	
		refraction	formula	mirror.	dev today life	
		• Define and	Annly sign		for a g	
		calculate	conventions		twinkling of	
		refractive index	correctly		stars apparent	
		• State factors	Apply the		bending of	
		affection	concept of		straw/ spoon	
		refractive index	refraction to		when kent in	
		• Explain	day today life		olass filled with	
		retraction	for e.g.		water etc	
		tnrougn	twinkling of		• To apply that	
		spherical lenses	stars, apparent		annarent denth	
		Draw image former time for	bending of		is less than real	
		tormation for			is less than leal	

JUNE-JULY Human Eye and Colourful World (12 day)	 I - <u>Specific Objectives</u> Students will be able to- State cause and correction of defects of vision like myopia, hypermetropia, presbyopia etc. Define phenomenon of dispersion and state its cause. Explain Rayleigh Scattering. Explain the working of human eye. 	 II - Behavioral Objectives Students will be able to - Apply concepts to daily life- Explain apparent position of stars. Justify advanced and delayed sunrise and sun set. Explain about 	Practical application of refraction will be introduced with the help of video. Twinkling of stars, delayed sunrise and sunset and many other applications will be discussed. Rayleigh experiment will be explained to the students and practical applications will be discussed in the class. Recapitulation of all the concepts will be done along with the exercises. Lab Activity- refraction through glass Prism will be performed by students and they will also be taught relation between emergent ray incident ray.	 Students learnt to- Explain the working of human eye. State causes and correction of defects of vision like myopia, hypermetropia, presbyopia etc. Draw the diagrams of defected eye and corrected eye. Draw path of light through a glass prism. Define 	Class Test and FAQ for the some topics
	 Draw the diagrams of defected eye and corrected eye. Draw path of light through a glass prism. 	 Explain about the blue colour of clear sky. Justify white colour of clouds etc. 		 Define phenomenon of dispersion and state its cause. Explain Rayleigh scattering. Apply concepts to daily life- Explain apparent position of stars Justify advanced and delayed sunrise and sun set. Explain the reason for blue colour of clear sky. Explain the reason for white 	

AUGUST	SOURCES OF	STUDENTS WILL BE	STUDENTS WILL	Class Activity-	STUDENTS WILL BE	
20 DAYS	ENERGY	ABLE TO –	BE ABLE TO-		ABLE TO –	
20 DAYS (6 days)	ENERGY	 ABLE TO – Define Solar, Wind, Hydro And Ocean Energy Explain The Working Of Solar Devices Along With Their Advantages Explain Working Of Hydro Power Plant, Wind Mills Understand How Geothermal And Ocean Energy Is Harnessed State advantages and 	 BE ABLE TO- Appreciate various types of resources. Make judicious use of these resources. Will start using renewable resources in all the possible manners. Spread awareness about conservation of resources. 	 Videos of working of – power plants mills ssing of geothermal and ocean energy. ts will be asked to find the locations of above plants and the energy harnessed by them. Students will be asked to prepare ppt on various types of resources, their harnessing, advantages and disadvantages. 	 ABLE TO – Define Solar, Wind, Hydro And Ocean Energy Explain The Working Of Solar Devices Along With Their Advantages Advantages Explain Working Of Hydro Power Plant, Wind Mills Understand How Geothermal And Ocean Energy Is Harnessed State advantages and 	
		limitations of			limitations of	
		various			various	
		resources			resources	
Month &	Theme/ Sub-	Learning (Objectives	Activities & Resources	Expected Learning	Assessment
Working Days	theme	Subject Specific	Behavioural	1	Outcomes	
5.		(Content Based)	(Application based)			
SEPTEMBER	ELECTRICIT	Students will be able	Students will be able	Activity- Various devices which	Students learnt to-	
- OCTOBER	Y	to-	to –	provide potential difference will	State properties	• To
24-22 Days		State properties	• Understand	be discussed and will be shown.	of charges	verify
(15 days)		of charges	potential		• State	Ohm's
		• State	difference is	Class Activity- Teacher will	coulomb's law	law.

	 Define and calculate current Define and calculate potential difference, Define and calculate resistance and resistivity. Arrange various resistances in combinations to get desired result. Explain factors affecting resistance and resistivity Elaborate how electric appliance are rated Understand uses of specific materials Draw various circuit diagrams 	 ite flow of current. Identify sources of current Relate transfer of charges in day today life. Relate resistance of various objects in daily life. Analyse the rating of various electric appliances. Start using particular material on the basis of its property. Understand the rating of various types of fuse and their functions. Calculate and verify electricity bills. Can assemble various electrical appliances correctly in 	 Infortuce various components of electric circuit in the lab/ classroom by elaborating how to connect it and its use. Lab Activity- Ohm's law will be verified by the students in the lab. They will note down observations and will calculate the result. Class Activity- Students will be explained about various combinations of resistors and will be asked to identify series and parallel combinations. Lab Activity- Students will be taken to lab and will be asked to calculate net resistance of the given resistors in series and parallel combinations. Class Activity- Students will be taken to lab and will be asked to calculate net resistance of the given resistors in series and parallel combinations. Class Activity- Students will be given various combinations and can be asked to calculate the result theoretically and then verify with the help of apparatus. 	 Define and calculate current Define and calculate potential difference, Define and calculate resistance and resistivity. Arrange various resistances in combinations to get desired result. Explain factors affecting resistance and resistivity Elaborate how electric appliance are rated Understand uses of specific materials Draw various circuit diagrams Potential difference is required for the flow of current. To Identify sources of current To explain 	 calculate net resultant resistanc e in series combina tion. To calculate net resultant resistanc e in parallel combina tion.
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	electric	transfer of	
	circuits.	charges	
		between two	
		objects in day	
		today life.	
		The application	
		of Resistance	
		of various	
		objects	
		To analyze the	
		• To analyse the	
		rating of	
		various electric	
		appliances.	
		• To use	
		particular	
		material on the	
		basis of its	
		electrical	
		property.	
		• To rate of	
		various types of	
		fuse and their	
		functions.	
		To Calculate	
		and verify	
		electricity bills.	
		• To assemble	
		various	
		electrical	
		appliances	
		correctly in	
		electric circuits.	

November	MAGNETIC	Students will be able	BEHAVIOURAL	1. Class Activity-Concept of	Students learnt to-	Lab Activity
December	EFFECT OF	to-	LEARNING	the magnetic field is	• Draw and State	Ask them to
20-20 days	ELECTRIC	• Draw and State	OBJECTIVES:	introduced with the help	properties of	draw magnetic
(13 days)	CURRENT	properties of	Students will be able	of following activity.	magnetic field	lines of forces
		magnetic field	to –		lines.	
		lines.	Appreciate the		• Explain and	
		 Explain and 	use of science		perform	
		perform	in various		Orested	
		Orested	applications		experiment.	
		experiment.	like electric		• Draw and	
		• Draw and	bell etc.		explain	
		explain	• Apply 🖌	VILL AND	properties of	
		properties of	Fleming's left		magnetic field	
		magnetic field	hand rule to		lines due to	
		lines due to	understand		current	
		current	working of		carrying	
		carrying	Dynamo.		circular coil.	
		circular coil.	• Apply		• State Right	
		• State and apply	Fleming's		hand thumb	
		Right hand	right hand rule		rule	
		thumb rule.	to Generator.		• Draw and	
		• Draw and	• Can prepare		explain	
		explain	electromagnet		properties of	
		properties of	s and make		magnetic field	
		lines due to	use of them.		innes due to	
		nines due to			current	
		current			carrying	
		straight			conductor	
		conductor			• State and apply	
		• State and apply			• State and apply Clock rule	
		Clock rule			• Draw and	
		• Draw and			• Draw and explain	
		explain			properties of	
		properties of			magnetic field	
		magnetic field			lines due to	
		lines due to			current	
		current			carrying	
		carrying			solenoid.	

 solenoid. Differentiate between electromagnet and permanent magnet. Explain Kicking wire experiment. State and apply Fleming's left hand rule. Explain and apply electromagnetic induction. State and apply Fleming's right hand rule. 	 Differentiate between electromagnet and permanent magnet. Explain Kicking wire experiment. State and apply Fleming's left hand rule to the working of Dynamo. Deduce properties of magnetic field lines. Draw and explain properties of magnetic field lines due to current carrying circular coil. Apply Right hand thumb rule. Deduce properties of magnetic field lines due to current carrying straight conductor. 	
	 current carrying straight conductor. Find out the direction of magnetic field 	

Image:				
			 lines due to current carrying solenoid. Differentiate between electromagnet and permanent magnet. Explain electromagnetic induction. State and apply Fleming's right hand rule to generator. To appreciate the use of science in various applications like electric bell etc. Can prepare electromagnets and make use of them. 	

CHOITHRAM SCHOOL, MANIK BAGH, INDORE

ANNUAL CURRICULUM PLAN SESSION 2020-21

CLASS: X

SUBJECT: SCIENCE

CHEMISTRY

Month &	Theme/	Learning Objectives	Activities	Expected Learning	Assessment

Working	Sub-theme	Subject Specific	Behavioural	&Resources	Outcomes	
Days		(Content Based)	(Application based)			
April-	Chemical	Students will be able to	Students will be able to	Students will perform	Students have learnt	Assignment
21	reactions	• Know about the	• Observe the changes	a set of reaction	Characteristics of	Unit test
	and	changes occur in	occur in our	including - burning of	physical and	
	equations	our surroundings	surroundings and in	magnesium wire,	chemical change	Activity - To
(3 pd)		• Understand the	terms of physical and	electrolysis of water,	Balancing of	study the
		characteristics of	chemical changes.	reaction of zinc and	chemical equations	characteristics of
		physical and	• Students will	sulphuric acid,	and need of	chemical reactions
		chemical changes.	appreciate the use of	reaction of barium	balancing.	and identify their
		• Differentiate	photolytic	chloride and	To distinguish	type. Activity -
		between these	decomposition	magnesium sulphate	combination and	To collect the
		changes into	reaction in	solution, reaction of	decomposition	various samples of
		physical and	photography and	quick lime and water,	reaction,	food like
		chemical.	aluminium foil for	reaction of iron nail	displacement and	groundnut,
		• Learn the method	packing food items	and copper sulphate	double displacement	almond, chips,
		to balance a	• Students will	solution, heating of	reaction, exothermic	walnut, coconut,
		chemical equation	recognize respiration	lead nitrate and -	and endothermic	cashew nut,
		and need of	and combustion as an	identify their type and	reaction To identify the	chirongi and keep
		Dalancing II.	Oxidation reaction.	characteristics of	• To identify the	them in an open
		• Understand	• Students will analyse the hermful offects	with chamical change	substance reduced,	observe the
		reactions and their	of corresion of	with chemical change.	agent and reducing	change in colour
		symbolic	metals and rancidity		agent in a redox	taste and smell
		representation	on packaged food		reaction	and perform
		Understand	items		• The effects of	chemical test to
		phenomenon of	Students will be		oxidation of oils and	check rancidity
		rancidity and	sensitized towards the		fats resulting in to	encer function y.
		corrosion and its	environmental impacts		bad smell and bad	
		effects	of combustion of		taste and methods to	
			fossil fuel and		prevent rancidity.	
			minimize their use.		About corrosion of	
			• Students will apply		metals, rusting of	
			the methods to prevent		iron, favourable	
			iron from rusting and		conditions for	
			food items to become		corrosion and	
			rancid		common methods to	
					prevent rusting.	

June –July 17+26 (12pd)	pases and salts	 Its will be able to: Know indicators and their types. Identify acids and bases with the help of indicators. Understand chemical properties of acids and bases. Compare, contrast and classify properties of acids and bases. Illustrate chemical reactions of acids with metal, metallic oxide and bases. Express the chemical reaction of bases with metal, non metallic oxides and acids. Explain the use of PH scale in comparing the strength of acids and bases. Describe use of PH in day to day 	 Its will be able to Recognize acid and base on the basis of taste. Test acid and base with the help of indicators Use china rose, red cabbage, turmeric, bougainvillea, beet root as natural indicator. Prepare olfactory indicators like onion and clove oil. Appreciate and use lemon and tamarind to clean corrosive layer on utensils like brass and copper. Handle and store acids safely. Treat acidity in stomach and tooth decay. 	Reaction of NaCl and H ₂ SO ₄ to show the release of HCl gas which is exposed to dry and moist blue litmus paper). reaction of HCl & NaOH with • Metal • Metal carbonate	Students have learnt About indicators and their types. To identify acids and bases with the help of indicators. Chemical properties of acids and bases. To compare, contrast and classify properties of acids and bases. Chemical reactions of acids with metal, metallic oxide and bases. Chemical reaction of bases with metal, non metallic oxides and acids. The use of PH scale in comparing the strength of acids and bases. The importance of PH in day to day life. Students developed environmental sensitivity .	Action of indicators like litmus, methyl orange, phenolphthalein etc on acids and bases. Activity 2. Action of following chemicals on PH Paper . HCl, acetic acid ,baking soda, citric acid, sodium hydroxide and water Activity 3. Determination of PH of different samples used in day to day life he help of universal indicator and predict their nature and how will you bring change in pH and colour of the solution.
August &	Metals and	Students will be able to	Students will be able to	Reaction of	The students have learnt	Assignment

September 20+24 (15pd)	Non metals	 Know physical properties of elements as metals and non-metals. Understand the chemical properties of metals. Learn the reactivity series of metals. Compare and contrast the properties of metals and non-metals on the basis of their physical and chemical properties. Understand ionic bond formation between atoms and properties of ionic compound. Define ore and mineral. Understand the differences between ores and minerals. Describe the different steps of metals. Differentiate between roasting and calcinations. Illustrate various methods to prevent corrosion of metals. Understand the 	 Avoid the storage of acidic food in metal containers. Prevent corrosion of iron articles at home by oiling/painting/greasin g. Encourage the use of solder as a fuse wire due to its low melting point and high resistance. Make use of sour substances like lemon or tamarind to regain the shine of copper vessels. To collaborate to yield better output or results like in alloying a better property is obtained by mixing two or more metal or non-metal. To discourage and stop practicing giving gold jewellery to goldsmith for polishing to restore their glitter. 	 Reaction of metals with salt solution in lab to compare the reactivity of metals Al, Zn, Fe and Cu 	 The physical and chemical properties of metals and nonmetals.and differences between them. The reactivity series of metals & its applications. The properties and formation of ionic compounds. The ores of several metals and the different steps of metallurgy The differences between roasting and calcinations. The methods to prevent corrosion of metals. The purpose of making alloys and their uses. To avoid the storage of acidic food like lemon pickle /curd in metal containers. To prevent corrosion of iron articles at home by oiling /painting/greasing. 	Activity – Reactivity toward oxygen and nature of metal and non- metal oxide. The teacher will demonstrate the burning of magnesium ribbon and sulphur powder and show the nature of their oxides with the help of litmus paper. Reactivity series
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		purpose of making alloys and their uses.				
October & November 22+20 (15-Pd)	Carbon and its compounds	Students will be able to Define combustion, oxidation, hydrogenation, addition and substitution reactions. Distinguish between combustion of saturated and unsaturated know about the terms covalent bond, tetravalency, catenation, homologous series and functional group. Learn electron dot structure and IUPAC nomenclature. Understand properties of covalent compound, 	 Students will learn the use of alcohol as a fuel, as an antiseptic in hospitals, as a preservative for biological specimen. Students will be sensitized about the harmful effects of consumption of ethanol on human health and will be aware how consumption of alcohol leads to addiction and lack of control and coordination in the body which may result in accidents. Students will analyse ill effects of drinking alcohol on society. Students will be familiarized about denaturation of ethanol to make it unfit for drinking. Students will appreciate the use of soap for washing clothes in soft water and detergent in hard water. 	 Making Ball and stick model of saturated and unsaturated carbon compounds. Combustion of saturated and unsaturated compounds reaction of ethanol with sodium metal and observe the evolution of hydrogen gas. Test acidic nature of ethanoic acid by using litmus and methyl orange. Conduction of electricity by acidic and basic solution 	 Students have learnt About Versatile nature of carbon To distinguish between saturated and unsaturated hydrocarbon chemical properties of saturated and unsaturated hydrocarbon IUPAC nomenclature of compounds containing functional group Chemical properties of ethanol and ethanoic acid. Saponification reaction and method of preparation of soap. Mechanism of Cleansing action of soap 	Class test Written Assignment 1.Prepare soap from vegetable oil. 2.Identification of hard water and soft water by foaming capacity of soap. 3.To study different properties of ethanoic acid

		cleaning action of soap, action of soap on hard and soft water.					
December (20) (8 -pd)	Periodic classification of elements	 Students will be able to - Understand the need of classifying elements. Know how the concept of grouping elements in accordance to their properties led to the development of Periodic Table. Compare the positive points and drawbacks of previous models of classification of elements e.g. laws of triads and octaves, Mendeleev's law Appreciate the utility of Mendeleev's periodic classification in designing of the modern periodic classification understand the Periodic Law; understand the significance of atomic number and electronic configuration as the basis for periodic 	 Students will be able to Understand and appreciate the importance of classification and will learn how to proceed to study, analyze and solve a problem through a systematic and sequential approach. They will develop the skills of analysis, classification (sorting) and critical thinking. They will also develop analytical and critical thinking through thoughtful study of the pattern of the classification and the properties of elements followed by discussion on normal & exceptional trends in the properties. Through study and discussion on work done by the scientists, they will be motivated to follow a path of optimum values and life skills so that they can get success in life. 	•To predict group and period of the elements having same valence electrons. •To predict the formula oxide and hydride of the elements through periodic table chart.	•	Students have developed an understanding about the need & importance of classification of elements and knowledge of historical back ground of the classification of elements. With the help of the above information and subsequent discussion held thereon they have developed an insight into significance of having skills of classifying & arranging things systematically so that further studies become easier and effective. They have developed the skills of analysis, sorting, arranging through the study of this chapter and now critically think before explaining reasons about particular pattern of classification. Students can predict	Unit test Written assignment Activity To find the position of elements through its electronic configuration. To name the elements having Z > 100
		classificat recognize the periodic trends in physical and chemical				periodic position of elements and can predict probable trends	

	 properties of elements; compare the reactivity of elements and correlate it with their occurrence in nature; explain the relationship between ionization enthalpy and metallic character; ion; properties of atoms e.g., atomic/ ionic radii, ionization enthalpy, electron gain enthalpy, electronegativity, valence of elements 	in properties of the elements in terms of their metallic/ non- metallic nature, ionization enthalpy, size, electro affinity, electronegativity, nature of compounds etc. • They can explain the periodic trends in the properties of the elements.	
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SUBJECT: BIOLOGY

Month &	Theme/ Sub-	Learnin	ng Objectives	Activities & Resources	Expected	Assessment
Working	theme	Subject Specific	Behavioural		Learning	
Days		(Content Based)	(Application based)		Outcomes	
APRIL	Life Process	To make the	Students will be able to	To prove that	1. Students	• The video will be
		students learn and	-	chlorophyll,CO ₂ , light is	understood	shown while
21 Days		understand about	1. Identify that different	essential for photosynthesis.	different modes of	explanation and
		different modes of	food items consumed by	Students will observe the	nutrition involved	the same video
(3 day)		nutrition and	them take different	activity carefully and note	in life process.	without the audio
		differentiate	duration of time	down all the components		will be shown and
		between autotropic	for digestion.	required for photosynthesis	2. They were able	the children will be
		and heterotropic	2. Analyze that heavy		to analyze that	asked to label the
		nutrition.	food items should be	Following activity will be	duration for	different organs
		2. To enhance the	consumed during	conducted in lab were	digestion of fats is	and specify its
		ability to	morning hours and	students will prepare	more than protein	

understand that autotrophic nutrition involves the intake of simple inorganic materials from the environment and by using an external energy source like sun to synthesize complex high energy organic material. 3. To comprehend that the heterotrophic nutrition involves the intake of complex material prepared by other organisms. 4. To understand and summarize the various steps of digestion in human beings in the alimentary canal and the mode of absorption in the small intestine.	lighter in evening. 3. Interpret that problem of acidity is due to the presence Different gastric enzymes.	temporary mount of a leaf peel to show stomata. They will observe the slide and identify the stomata and will draw a well labeled diagram as stomata helps in the exchange of gases. A Self made video will be shown in the class on the process of human digestion. After observing this video they will draw the well labeled diagram of Human digestive system and also locate the parts where digestion of carbohydrate, protein and fats starts along with the name of enzyme associated with it.	 and carbohydrates. 3. They were able to evaluate the importance of enzymes and gastric juices in the process of digestion. 4. They were able to recognize that problem of acidity or ulcer or any other disorder is due to improper function of different organs of digestive system. 5. They were able to synthesized the importance of light, water and co2 for the light and dark reaction of photosynthesis along with the role of stomata. 	function. Assignment Unit test Practical

JUNE-	Respiration-	Students will be	Students will be able to	Following activity will be	1. Students	• The video will be
JULY	Aerobic and	able to learn and	_	conducted in the class were	understood the	shown while
	Anaerobic	understand the	1. Identify the process of	the process of inspiration	importance of	explanation and
17-26	Transportation-	concept of	fermentation is due to	and expiration with the help	different life	the same video
Days	1.blood, heart,	respiration and can	anaerobic respiration	of a working model of lungs	process and were	without the audio
-	arteries, vein	compare between	which is used in	will be demonstrated.	able to understood	will be shown and
(5+8)	arteries, vein capillaries, double circulation 2. Xylem and phloem and ascent of sap, transpiration. Excretion- kidney, nephron, dialysis	compare between aerobic and anaerobic respiration. * They will be able to comprehend and relate how in cellular respiration, complex organic compounds such as glucose are broken down to provide energy in the form of ATP which is used to provide energy for other reactions in the cell. *They will be able to infer the mechanism of circulatory system where materials such as oxygen, carbon-dioxide, food and excretory products are transported. *They will explore their critical thinking by studying the importance of transport of water, minerals_food and	which is used in production of alcohol, vinegar and bakery industries as well as in making of dosa etc. and also heavy exercise leads to anaerobic respiration which is responsible for cramps in muscle in human 2. Apply their knowledge that improper functioning of these organs like lungs, heart and kidneys	 will be demonstrated. An activity will be conducted in a lab. were student will be given opportunity to do and observe themselves that CO₂ is given out during the process of breathing. TRANSPORTATION- A video chart of human heart will be shown in the class were different parts will be explained. Students will be asked to draw the well labeled diagram of human heart and will locate the path of double circulation of blood. EXCRETION- A Self made video will be shown in the class on the process of human excretion. Students will be aware of different parts of excretory system and will understand that process of removal of nitrogenous waste from the blood and importance of nephron. After observing this video they will draw the well labeled diagram of Human excretory system and nephron also locate the 	able to understood mechanism of circulatory system where materials such as oxygen, carbon-dioxide, food and excretory products are transported 2. They were able to analyze that cramps in muscle as well as bakery products, south Indian dishes and production of alcohol is due to anaerobic respiration. 3. They were able to analyze the importance of valve in veins and heart and will also able to evaluate the reason behind cardiovascular diseases and BP. 4. They were able to analyze the importance of blood group and Rh factors play major role in blood	 will be shown and the children will be asked to label the different organs and specify its function. Assignment Unit test Practical
		down to provide energy in the form of ATP which is used to provide energy for other reactions in the cell. *They will be able to infer the mechanism of circulatory system where materials such as oxygen, carbon-dioxide, food and excretory products are transported. *They will explore their critical thinking by studying the importance of transport of water, minerals, food and	2. Apply their knowledge that improper functioning of these organs like lungs, heart and kidneys	will be shown in the class were different parts will be explained. Students will be asked to draw the well labeled diagram of human heart and will locate the path of double circulation of blood. EXCRETION- A Self made video will be shown in the class on the process of human excretion. Students will be aware of different parts of excretory system and will understand that process of removal of nitrogenous waste from the blood and importance of nephron. After observing this video they will draw the well labeled diagram of Human excretory system and nephron also locate the	cramps in muscle as well as bakery products, south Indian dishes and production of alcohol is due to anaerobic respiration. 3. They were able to analyze the importance of valve in veins and heart and will also able to evaluate the reason behind cardiovascular diseases and BP. 4. They were able to analyze the importance of blood group and Rh factors play major role in blood	

		other materials in		parts where ultra-filtration	transfusion and	
		highly		and selective re-absorption	childbirth.	
		differentiated plants		takes place.	5. They were able	
		* To enhance the			to recognize that	
		ability to			problem in	
		understand the			improper	
		mechanism of			functioning of	
		excretion in human			kidney or nephron	
		beings in the form			leads to	
		of soluble			accumulation of	
		nitrogenous			toxic substances in	
		compounds.			the blood which	
		* To understand			are fatal.	
		and summarize			5. They were able	
		about different			to synthesize the	
		technologies and its			importance of	
		implementation for			dialysis, heart	
		survival like renal			surgery, pace-	
		dialysis, pacemaker			maker for vital	
		etc.			function.	
August -20	CONTROL &	Students will be	Students will be able to	A self made video on Brain,	Students have	• The students will
&	COORDINATION	able to		highlighting the different	learnt to :	be asked to make
September-		Describe the	learn to appreciate the	parts of brain and its		the diagram of
24		structure and types	leadership quality of	function. There after the	Illustrate and	brain and label its
(6+7)		of neurons.	brain to control hunger,	teacher will cite different	describe the	various parts &
			anxiety, anger ,memory	daily life examples to	structure of brain	relate with
		Explain Reflex	,thirst, riding, writing,	explain the various parts of		different the
		action, Involuntary	balancing of the body,	brain that are responsible to	Analysed the	physiological
		and Voluntary	body postures etc are	carry various function.	concept of reflex	activity controlled
		actions.	controlled by the Central	Reflex action will be	action, voluntary	by it.
			Nervous System and it	introduced by	and involuntary	
		Describe the	coordinates with	demonstrating some	actions and could	 Assignments
		Central Nervous	different systems in the	activities in which the	apply in real life	. Unit test Term and
		system- Structure of	body to maintain	student responds to the	situation	• Unit test, Term end
		Brain and its	oneness in running all	stimuli without thinking.		exam
		function	the physiological		Analyse and	
			activities together.	The students will be asked	interpret the role of	-
		To understand the		to make the diagram of	different hormones	
			Sensitize the body	brain and label its various	and its secretion in	

normones, plantsituation like touchingmovement,hot water or any utensils, when suddeUnderstand the role of Humanany foreign object comes in contact with our eyes, etc through reflex action.Comprehend that control and human beings is the sum of nervousInfer the effect of hormones in human af puberty .	f the physiological activity organism. organism. Interpret and describe various plant movements with phytohormones.
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Oct- 22	Chapter:- How do	*Students will be	•	To emphasized	*To study the binary fission	1) Learner learnt	*To study the different
Nov-20	organism	able to learn and		on development	and budding in Amoeba and	and understood	parts of dicot seeds.
(6+5)	reproduce?	understand the		of skills like	yeast through permanent	about the concept	*Unit test
		concept DNA its		observational,	slides.	DNA its structure,	*Class Test
		structure, DNA		experimental and	*To study the different	DNA copying and	*Assignment
		copying and its		inculcating	parts of dicot seeds.	its importance.	
		importance.		values like	dding and binary fission with		
		*They would be		Awareness,	f slides.	2) Students were	
		able to analyze and		Responsibility,	e vegetative Propagation in	able to identify the	
		relate the concept		Accuracy,	, Bryophyllum leaf.	significance of	
		of DNA copying		0.1		bright colour of	
		with variation.	•	Students will be		flower for	
		*They would be		able to identify		pollination.	
		able to acquire		the significance			
		knowledge about		of bright colour		3) Students were	
		different modes of		of flower for		able to share their	
		reproduction and		pollination.		opinion on DNA	
		apply the concept in		751 111 11		copying with	
		different living	•	They will be able		variation.	
		organisms.		to interpret that		4) They were able	
		*They would be		night blooming		to evaluate	
		able to comprehend		nowers are white		Ulich Vielding	
		the mechanism of		whereas the day		High- rielding	
		sexual reproduction		blooming flamara are		varieties of wheat	
		in flowering plants		howers are		and rice.	
		and human beings.		originity		5) They were able	
		*They will be able	_	They will be able		oritical thinking by	
		to analyze and think	•	to avaluate that		studying the	
		critically about the				importance of	
		changes in the		congenitar enomalias ara		reproductive health	
		human body at		due to genetic		their problems and	
		puberty.		and		strategies	
		*They will explore		anu		strategies	
		their critical		factors		6) They were able	
		thinking by		1401015.		to apply their	
		studying the	•	The noticeable		knowledge to	
		importance of		changes that		relate congenital	
		reproductive health		occur during		anomalies are due	
		their problems and		puberty such as-		to genetic and	
Dec-20-	Chapter:-	*Students will be	regarding birth control measures. *To emphasized on	To observe the ears of all	1) Learner learnt	To make a puneet square	
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			 regarding prevention of sexually transmitted disease To relate the importance of government raising awareness 				
			 Myths and taboos regarding bodily changes during adolescence To get aware 				
		strategies	 increase in height, body shape, change in voice of males, appearance of pimples Mental and emotional maturity bodily changes during adolescence 		 environmental factors. 7) They were to analyzing importance and male and female sex ratio and sex determination of child is male heterogamy. 		
		strategies	increase in height, body shape change in		factors.		

Jan 23	Heredity and	able to learn and	development of skills	students in class to study	and understood	for dihybrid cross.
6 + 1 days	Evolution	understand the	like observational.	the rule of inheritance.	about the concept	
		concept DNA its	experimental.		DNA its structure.	To analyze their genetical
		structure, DNA	knowledge		DNA copying and	character through pedigree
		copying and its	,understanding, analysis,	To make a punnet square	its importance in	analysis
		importance in	interpretation and	for dihybrid cross.	variation.	5
		variation.	inculcating values like		2) Students were	
		*They will be able	Awareness,	To flip the coin and to	able to identify the	
		to understand	Responsibility,	sketch a face with different	existence of	Assignment
		variations arising	responsibility,	traits using genetic trait	wisdom teeth,	Assignment
		during the process	coordination and	chart.	auricular muscles	Unit Test
		of reproduction can	empathy		and excessive	omt rest
		be inherited.	Students will be able to		growth of body	
		*Students will	identify the existence of	To observe the specimens	hairs are vestigial	
		comprehend about	wisdom teeth, auricular	of evidence of evolution:.	organs in human	
		different Mendel	muscles and excessive	*Homologous and	population.	
		laws of inheritance.	growth of body hairs are	Analogous organ in plants	3) Students were	
		*They will able to	vestigial organs in	and animals, Vestigial	able to share their	
		understand about	human population.	organs by specimens and	opinion on sex	
		sex determination	They will be able to	charts.	determination in	
		in human	interpret inheritance of		human	
		*They will able to	blood groups in human	To analyze their genetical	1) They were able	
		differentiate	being.	character through pedigree	4) They were able	
		between inherited	They will be able to	analysis	between inherited	
		and acquired traits	evaluate that increased		and acquired traits	
		and will able to	incidence of female		and will able to	
		understand to trace	foeticide in northern		understand to trace	
		evolutionary	India and on basis of sex		evolutionary	
		relationships.	chromosome who is		relationships.	
			determination of say of		5) They were able	
			baby		to explore their	
			They will be able to		critical thinking	
			interpret that illegal		that illegal abortion	
			abortion of female		of female foetus is	
			fortus is a crime that		a crime that affects	
			affect sex ratio in future		sex ratio in future.	
			They will be able to		6) They were able	
			appreciate fossils help to		to apply their	
					knowledge to	

			unfold the mystery of evolution reflects phylogeny They will be able to evaluate the transmission of resemblances, with ancestors or parent is due to genes.		relate congenital anomalies are due to genetic and environmental factors. 7) They were to analyzing importance of transmission of resemblances, with ancestors or parent is due to genes.		
-Jan-3	Chapter:-	*To make the	*To emphasized on	The students will be asked	1) Learner learnt	Pannel discussion	on
	Our Environment	understandabout the	like observational	of waste generated at home	and understood about the various	Global Warming	
		various abiotic and	experimental,	per day. They will be	abiotic and biotic	Assignment	
		biotic factorsthat	knowledge,	segregating into	factorsthat		
		interacts in the	understanding, analysis,	biodegradable and non	interacted in the	Unit Test	
		environment.	interpretation and	biodegradable.	environment.		
		*Students will learn	inculcating values like		2) Students were		
		about various food	Awareness,		able to identify that		
		chain and web in	Responsibility,		tertiary consumers		
		ecosystems.	responsibility,		required more		
		*They will be able	coordination and		energy according		
		to analyze the	empathy towards		to 10% law and		
		impact of human in	environment.	Create an aquarium- Design	therefore depends		
		the deteriorating the		an aquarium on a paper.	on multiple food		
		environment.	Students will be able to	What are the things we keep	options.		
		*They will able to	identify that tertiary	in mind when we	3) Students were		
		interpret the cause	consumers required	create?(O2 pump to	able to share their		
		of global warming	more energy according	provide oxygen, Aqualic	opinion on cause of		
		and depletion of	to 10% law and	sustaining ata)	global warming		
		ozone layer.	unerefore depends on multiple food actions	sustainingtic)	and depietion of		
		about how to use	They will be able to		(1) They were oble		
		about now to use	interpret layer of	What would happen if you	4) They were able		
		biodegradable	atmosphere in which	do not take care while	increased increase		
		substances	aunosphere in which	putting the aquatic animals	in size of ozone		
		*They will be able	(stratosphere) and its		hole is due to		
		They will be able	(sualosphere) and its	1		1	

		to analyzeThree concepts of 'R'. *The students would be familiarized with various methods to manage the garbage	importance. They will be able to evaluate that increased increase in size of ozone hole is due to human activities. They will be able to interpret the importance of bacteria and decomposers and consequences if decomposers are removed from environment. They will be able to evaluate the hazards of burning plastic and biological magnification.	which would eat others?	human activities. 5) They were able to explore their critical thinking with various methods to manage the garbage 6) They were able to apply their knowledge to relate Three concepts of 'R'. 7) They were to analyzing importance of bacteria and decomposers and consequences if decomposers are removed from environment.	
Jan-2	Management of Natural Resources	*Students will able to understand about use of different natural resources. *They will be able to comprehend and infer their knowledge in deciding the ways by which these resources will be managed for sustainable development.	*To emphasized on development of skills like observational, experimental, knowledge, understanding, analysis, interpretation and inculcating values like Awareness, Responsibility, responsibility, coordination and empathy towards environment. Students will be able to identify that how we and our family member can	*The students will be asked to find out about the international norms to regulate emission of carbon dioxide. *Panel discussion on how we can contribute towards meeting those norms.	 Learner learnt and understood about the use of different natural resources. Students were able to identify that how we and our family member can play important role in regulation the daily use of some natural resources. Students were able to share their opinion onin deciding the ways 	Panel discussion on how we can contribute towards meeting the international norms to regulate emission of carbon dioxide.

	play important role in	by which these	
	regulation the daily use	resources will be	
	of some natural	managed for	
	resources.	sustainable	
	They will be aware of	development.	
	importance of	4) They were able	
	sustainable management.	to evaluate that	
	They will be able to	energy can be	
	interpret importance of	produce from	
	making water potable	waste.	
	and consequences of	5) They were able	
	drinking unclean water.	to explore their	
	They will be able to	critical thinking	
	evaluate that energy can	with importance of	
	be produce from waste.	making water	
	They will be able to	potable and	
	interpret the use of new	consequences of	
	technology in India like	drinking unclean	
	WTE programme i.e.	water.	
	waste to energy project.	6) They were able	
	They will be able to	to apply their	
	evaluate the hazards of	knowledge to	
	burning fossil fuels.	interpret the use of	
		new technology in	
		India like WTE	
		programme i.e.	
		waste to energy	
		project.	

SUBJECT: PHYSICS

APRIL	LIGHT-	SPECIFIC LEARNING	BEHAVIOURAL	Students can be asked to draw	Students learnt to-	Unit test and
	Reflection and	OBJECTTIVES:	LEARNING OBJECTIVES:	image formation, predict the result	 Define reflection 	numerical
21 Days	Refraction	Students will be able to-	Students will be able	by using laws and then check the	 State laws of 	problems
-		• Define	to –	same in lab.	reflection	previous year
(7 day)		reflection		Students can also be asked to keep	 Differentiate 	board questions.
•		• State laws of	 Understand the 	the screen at the estimated	between types	-
		reflection	difference	positions in order to verify the	of reflection	
		• Differentiate	between	image formation of mirror.	 Prove laws of 	

 between types of reflection Differentiate between real and virtual image. Define terms related to spherical mirror. Define refraction State laws of refraction State causes for refraction Define and calculate refractive index State factors affection refractive index Explain refractive index Explain refraction through spherical lenses Draw image formation for spherical mirrors and state the nature and position of image. Make use of mirror formula Draw image formation by spherical lenses. 	 reflection and refraction. Apply the concept of reflection and refraction in daily observation, Understand the application of spherical mirrors and state its uses. Can make use of mirror formula Apply sign conventions correctly Apply the concept of refraction to day today life for e.g. twinkling of stars, apparent bending of straw/ spoon when kept in glass filled with water etc. To apply that apparent depth is less than real depth. Use various 	Activity- Various spherical mirrors will be will be shown and how they aredifferent than plane mirrors will be discussed. It of image formation will be introduced. Lab Activity- refraction through glass slab will be performed by students and they will also be taught relation between emergent ray incident ray. Calculate the rough focal length of the convex lens and concave mirror.	 reflection of light Understand the application of spherical mirrors and state its uses. Can make use of mirror formula Apply sign conventions correctly Apply the concept of refraction to day today life for e.g. twinkling of stars, apparent bending of straw/ spoon when kept in glass filled with water etc. To apply that apparent depth is less than real depth. Use various lenses. Calculate focal length and power of lens. 	

		 Apply sign conventions correctly Calculate power of lens. Calculate focal length of combinations Draw the image formation through glass slab and able to calculate the refractive index Draw the tracing of light through glass prism and able to understand the relation between emergent and incident ray. 	 Calculate focal length and power of lens. 			
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JUNE-JULY Human Eye and Colourful World (12 day)	 I - <u>Specific Objectives</u> Students will be able to- State cause and correction of defects of vision like myopia, hypermetropia, presbyopia etc. Define phenomenon of dispersion and state its cause. Explain Rayleigh 	 II - <u>Behavioral</u> <u>Objectives</u> Students will be able to – Apply concepts to daily life- Explain apparent position of stars. 	Practical application of refraction will be introduced with the help of video. Twinkling of stars, delayed sunrise and sunset and many other applications will be discussed. Rayleigh experiment will be explained to the students and practical applications will be discussed in the class. Recapitulation of all the concepts will be done along with the exercises. Lab Activity- refraction through	 Students learnt to- Explain the working of human eye. State causes and correction of defects of vision like myopia, hypermetropia, presbyopia etc. Draw the diagrams of defected eye and corrected 	Class Test and FAQ for the some topics
	 Draw the diagrams of defected eye and corrected eye. Draw path of light through a glass prism. 	 Explain about the blue colour of clear sky. Justify white colour of clouds etc. 		 Define phenomenon of dispersion and state its cause. Explain Rayleigh scattering. Apply concepts to daily life- Explain apparent position of stars Justify advanced and delayed sunrise and sun set. Explain the reason for blue colour of clear sky. Explain the reason for white colour of clouds. 	

AUGUST	SOURCES OF	STUDENTS WILL BE	STUDENTS WILL	Class Activity-	STUDENTS WILL BE	
20 DAYS	ENERGY	ABLE TO –	BE ABLE TO-		ABLE TO –	
(6 days)		 ABLE TO - Define Solar, Wind, Hydro And Ocean Energy Explain The Working Of Solar Devices Along With Their Advantages Explain Working Of Hydro Power Plant, Wind Mills Understand How Geothermal And Ocean Energy Is Harnessed State advantages and limitations of various resources 	 Appreciate various types of resources. Make judicious use of these resources. Will start using renewable resources in all the possible manners. Spread awareness about conservation of resources. 	 Videos of working of – power plants mills sing of geothermal and ocean energy. ts will be asked to find the locations of above plants and the energy harnessed by them. Students will be asked to prepare ppt on various types of resources, their harnessing, advantages and disadvantages. 	 ABLE TO - Define Solar, Wind, Hydro And Ocean Energy Explain The Working Of Solar Devices Along With Their Advantages Explain Working Of Hydro Power Plant, Wind Mills Understand How Geothermal And Ocean Energy Is Harnessed State advantages and limitations of various resources 	
Month &	Theme/ Sub-	Learning (Objectives	Activities & Resources	Expected Learning	Assessment
Working Days	theme	Subject Specific	Behavioural		Outcomes	
		(Content Based)	(Application based)			
SEPTEMBER	ELECTRICIT	Students will be able	Students will be able	Activity- Various devices which	Students learnt to-	
- OCTOBER	Y	to-	to –	provide potential difference will	• State properties	• To
24-22 Davs		• State properties	• Understand	be discussed and will be shown.	of charges	verify
(15 davs)		of charges	potential		• State	Ohm's
× • • /		• State	difference is	Class Activity- Teacher will	coulomb's law	law.

Define and the flow of electric circuit in the lab/ calculate calculate current. Lagrand the flow of electric circuit in the lab/ calculate calculate current elevent it and its area.
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	electric	transfer of	
	circuits.	charges	
		between two	
		objects in day	
		today life.	
		• The application	
		of Resistance	
		of various	
		objects	
		To analyze the	
		• To allaryse the	
		rating of	
		various electric	
		appliances.	
		• To use	
		particular	
		material on the	
		basis of its	
		electrical	
		property.	
		• To rate of	
		various types of	
		fuse and their	
		functions.	
		To Calculate	
		and verify	
		electricity bills.	
		• To assemble	
		various	
		electrical	
		appliances	
		correctly in	
		electric circuits.	

November	MAGNETIC	Students will be able	BEHAVIOURAL	1. Class Activity-Concept of	Students learnt to-	Lab Activity
December	EFFECT OF	to-	LEARNING	the magnetic field is	• Draw and State	Ask them to
20-20 days	ELECTRIC	• Draw and State	OBJECTIVES:	introduced with the help	properties of	draw magnetic
(13 days)	CURRENT	properties of	Students will be able	of following activity.	magnetic field	lines of forces
		magnetic field	to –		lines.	
		lines.	Appreciate the		• Explain and	
		 Explain and 	use of science		perform	
		perform	in various		Orested	
		Orested	applications		experiment.	
		experiment.	like electric		• Draw and	
		• Draw and	bell etc.		explain	
		explain	• Apply 🖌	VILA VILA	properties of	
		properties of	Fleming's left		magnetic field	
		magnetic field	hand rule to		lines due to	
		lines due to	understand		current	
		current	working of		carrying	
		carrying	Dynamo.		circular coil.	
		circular coil.	Apply		• State Right	
		• State and apply	Fleming's		hand thumb	
		Right hand	right hand rule		rule	
		thumb rule.	to Generator.		• Draw and	
		• Draw and	Can prepare		explain	
		explain	electromagnet		properties of	
		properties of	s and make		magnetic field	
		lines due to	use of them.		innes due to	
		nines due to			current	
		current			carrying	
		straight			conductor	
		conductor			• State and apply	
		• State and apply			• State and apply Clock rule	
		Clock rule			• Draw and	
		• Draw and			explain	
		explain			properties of	
		properties of			magnetic field	
		magnetic field			lines due to	
		lines due to			current	
		current			carrying	
		carrying			solenoid.	

 solenoid. Differentiate between electromagnet and permanent magnet. Explain Kicking wire experiment. State and apply Fleming's left hand rule. Explain and apply electromagnetic induction. State and apply Fleming's right hand rule. 	 Differentiate between electromagnet and permanent magnet. Explain Kicking wire experiment. State and apply Fleming's left hand rule to the working of Dynamo. Deduce properties of magnetic field lines. Draw and explain properties of magnetic field lines due to current carrying circular coil. Apply Right hand thumb rule. Deduce properties of magnetic field lines due to current carrying circular coil. Apply Right hand thumb rule. Deduce properties of magnetic field lines due to current carrying straight
	 Ines due to current carrying straight conductor. Find out the direction of magnetic field

		•	lines due to current carrying solenoid. Differentiate between electromagnet and permanent magnet. Explain electromagnetic induction. State and apply Fleming's right hand rule to generator. To appreciate the use of science in various applications like electric bell etc. Can prepare electromagnets and make use of them.	

MISTRY

Month &	Theme/	Learnin	g Objectives	Activities	Expected Learning	Assessment
Working	Sub-theme	Subject Specific	Behavioural	&Resources	Outcomes	
Days		(Content Based)	(Application based)			
April-	Chemical	Students will be able to	Students will be able to	Students will perform	Students have learnt	Assignment
21	reactions	• Know about the	• Observe the changes	a set of reaction	Characteristics of	Unit test
	and	changes occur in	occur in our	including - burning of	physical and	
	equations	our surroundings	surroundings and in	magnesium wire,	chemical change	Activity - To
(3 pd)		• Understand the	terms of physical and	electrolysis of water,	• Balancing of	study the
		characteristics of	chemical changes.	reaction of zinc and	chemical equations	characteristics of

		 physical and chemical changes. Differentiate between these changes into physical and chemical. Learn the method to balance a chemical equation and need of balancing it. Understand various types of reactions and their symbolic representation. Understand phenomenon of rancidity and corrosion and its effects 	 Students will appreciate the use of photolytic decomposition reaction in photography and aluminium foil for packing food items Students will recognize respiration and combustion as an oxidation reaction. Students will analyse the harmful effects of corrosion of metals and rancidity on packaged food items. Students will be sensitized towards the environmental impacts of combustion of fossil fuel and minimize their use. Students will apply the methods to prevent iron from rusting and food items to become rancid 	sulphuric acid, reaction of barium chloride and magnesium sulphate solution, reaction of quick lime and water, reaction of iron nail and copper sulphate solution, heating of lead nitrate and - identify their type and characteristics of reactions accompanied with chemical change.	 and need of balancing. To distinguish combination and decomposition reaction, displacement and double displacement reaction, exothermic and endothermic reaction To identify the substance reduced, oxidized, oxidizing agent and reducing agent in a redox reaction. The effects of oxidation of oils and fats resulting in to bad smell and bad taste and methods to prevent rancidity. About corrosion of metals, rusting of iron, favourable conditions for corrosion and common methods to prevent rusting. 	chemical reactions and identify their type. Activity - To collect the various samples of food like groundnut, almond, chips, walnut, coconut, cashew nut, chirongi and keep them in an open bowl for 15 days and observe the change in colour taste and smell and perform chemical test to check rancidity.
June – July	ases and	its will be able to:	its will be able to	Keaction of NaCl and	A hand in dia st	Action of
17+26	salts		Recognize acid and	H_2SO_4 to show the	About indicators and their	indicators like
		Know indicators	base on the basis of	release of HCl gas	types.	litmus, methyl
		and their types.	taste.	which is exposed to	To identify acids and bases	orange,
(12pd)		• Identify acids and	• Test acid and base	dry and moist blue	with the help of indicators.	phenolphthalein
		bases with the	with the help of	litmus paper).	Chemical properties of	etc on acids and
		help of indicators.	indicators	reaction of HCl &	acids and bases.	bases.

		 Understand chemical properties of acids and bases. Compare, contrast and classify properties of acids and bases. Illustrate chemical reactions of acids with metal, metallic oxide and bases. Express the chemical reaction of bases with metal, non metallic oxides and acids. Explain the use of PH scale in comparing the strength of acids and bases. Describe use of PH in day to day life. 	 Use china rose, red cabbage, turmeric, bougainvillea, beet root as natural indicator. Prepare olfactory indicators like onion and clove oil. Appreciate and use lemon and tamarind to clean corrosive layer on utensils like brass and copper. Handle and store acids safely. Treat acidity in stomach and tooth decay. 	NaOH with Metal Metal loxide Metal carbonate 	To compare, contrast and classify properties of acids and bases. Chemical reactions of acids with metal, metallic oxide and bases. Chemical reaction of bases with metal, non metallic oxides and acids. The use of PH scale in comparing the strength of acids and bases. The importance of PH in day to day life. Students developed environmental sensitivity .	Activity 2. Action of following chemicals on PH Paper . HCl, acetic acid ,baking soda, citric acid, sodium hydroxide and water Activity 3. Determination of PH of different samples used in day to day life he help of universal indicator and predict their nature and how will you bring change in pH and colour of the solution.
August & September 20+24 (15pd)	Metals and Non metals	 Students will be able to Know physical properties of elements as metals and non-metals. Understand the chemical properties of metals. Learn the reactivity series of metals. Compare and 	 Students will be able to Avoid the storage of acidic food in metal containers. Prevent corrosion of iron articles at home by oiling/painting/greasin g. Encourage the use of solder as a fuse wire 	 Reaction of metals with acids. Reaction of metals with salt solution in lab to compare the reactivity of metals Al, Zn, Fe and Cu 	 The students have learnt The physical and chemical properties of metals and non-metals.and differences between them. The reactivity series of metals & its applications. The properties and 	Assignment Unit test Activity – Reactivity toward oxygen and nature of metal and non- metal oxide. The teacher will demonstrate the burning of magnesium ribbon

		 contrast the properties of metals and non-metals on the basis of their physical and chemical properties. Understand ionic bond formation between atoms and properties of ionic compound. Define ore and mineral. Understand the differences between ores and minerals. Describe the different steps of metallurgy of metals. Differentiate between roasting and calcinations. Illustrate various methods to prevent corrosion of metals. Understand the purpose of making alloys and their uses. 	 due to its low melting point and high resistance. Make use of sour substances like lemon or tamarind to regain the shine of copper vessels. To collaborate to yield better output or results like in alloying a better property is obtained by mixing two or more metal or non-metal. To discourage and stop practicing giving gold jewellery to goldsmith for polishing to restore their glitter. 	 formation of ionic compounds. The ores of several metals and the different steps of metallurgy The differences between roasting and calcinations. The methods to prevent corrosion of metals. The purpose of making alloys and their uses. To avoid the storage of acidic food like lemon pickle /curd in metal containers. To prevent corrosion of iron articles at home by oiling /painting/greasing.
November 22+20	its compounds	• Define combustion, oxidation,	• Students will learn the use of alcohol as a fuel, as an antiseptic in hospitals, as a preservative for biological of unsaturated carbon	 About Versatile nature of carbon To distinguish Class test Written Assignment 1.Prepare soap
(15-Pd)		hydrogenation, addition and	 specimen. Students will be sensitized about the harmful effects of compounds. Combustion of 	between saturated from vegetable oil. and unsaturated 2.Identification of hydrocarbon hard water and

December	Periodic	 substitution reactions. Distinguish between combustion of saturated and unsaturated know about the terms covalent bond, tetravalency, catenation, homologous series and functional group. Learn electron dot structure and IUPAC nomenclature. Understand properties of covalent compound, Understand various properties of carbon compounds, cleaning action of soap, action of soap on hard and soft water. 	 consumption of ethanol on human health and will be aware how consumption of alcohol leads to addiction and lack of control and coordination in the body which may result in accidents. Students will analyse ill effects of drinking alcohol on society. Students will be familiarized about denaturation of ethanol to make it unfit for drinking. Students will appreciate the use of soap for washing clothes in soft water and detergent in hard water. 	 saturated and unsaturated compounds reaction of ethanol with sodium metal and observe the evolution of hydrogen gas. Test acidic nature of ethanoic acid by using litmus and methyl orange. Conduction of electricity by acidic and basic solution 	 chemical properties of saturated and unsaturated hydrocarbon IUPAC nomenclature of compounds containing functional group Chemical properties of ethanol and ethanoic acid. Saponification reaction and method of preparation of soap. Mechanism of Cleansing action of soap 	soft water by foaming capacity of soap. 3.To study different properties of ethanoic acid
(20) (8 -pd)	classification of elements	 Understand the need of classifying elements. Know how the 	 Understand and appreciate the importance of classification and will learn how to proceed to 	 and period of the elements having same valence electrons. To predict the 	developed an understanding about the need & importance of classification of	Written assignment Activity

					-			
		concept of grouping		study, analyze and solve a	formula oxide and		elements and	To find the
		elements in		problem through a	hydride of the		knowledge of historical	position of
		accordance to their		systematic and sequential	elements through		back ground of the	elements through
		properties led to the		approach.	periodic table chart.		classification of	its electronic
		development of	•	They will develop the			elements.	configuration.
		Periodic Table.		skills of analysis,		•	With the help of the	To name the
	•	Compare the positive		classification (sorting) and			above information and	elements having Z
		points and drawbacks		critical thinking.			subsequent discussion	> 100
		of previous models of	•	They will also develop			held thereon they have	
		classification of		analytical and critical			developed an insight	
		elements e.g. laws of		thinking through			into significance of	
		triads and octaves,		thoughtful study of the			having skills of	
		Mendeleev's law		pattern of the			classifying & arranging	
	•	Appreciate the utility		classification and the			things systematically so	
		of Mendeleev's		properties of elements			that further studies	
		periodic classification		followed by discussion on			become easier and	
		in designing of the		normal & exceptional			effective.	
		modern periodic		trends in the properties.		•	They have developed	
		classification	•	Through study and			the skills of analysis,	
	•	understand the		discussion on work done			sorting, arranging	
		Periodic Law;		by the scientists, they will			through the study of this	
		understand the		be motivated to follow a			chapter and now	
		significance of atomic		path of optimum values			critically think before	
		number and		and life skills so that they			explaining reasons	
		electronic		can get success in life.			about particular pattern	
		configuration as the		C			of classification.	
		basis for periodic				•	Students can predict	
		classificat recognize					periodic position of	
		the periodic trends in					elements and can	
		physical and chemical					predict probable trends	
		properties of					in properties of the	
		elements;					elements in terms of	
	•	compare the					their metallic/ non-	
		reactivity of elements					metallic nature,	
		and correlate it with					ionization enthalpy,	
		their occurrence in					size, electro affinity.	
		nature;					electronegativity, nature	
	•	explain the					of compounds etc.	
		relationship between					• They can explain	
		<u> </u>	·				× <u>1</u>	

	ionization enthalpy		the periodic trends	
	and metallic		in the properties of	
	character;		the elements.	
	• ion;			
	 properties of atoms 			
	e.g., atomic/ ionic			
	radii, ionization			
	enthalpy, electron			
	gain enthalpy,			
	electronegativity,			
	valence of elements			

SUBJECT: BIOLOGY

Month &	Theme/ Sub-	Learnin	ng Objectives	Activities & Resources	Expected	Assessment
Working	theme	Subject Specific	Behavioural		Learning	
Days		(Content Based)	(Application based)		Outcomes	
APRIL 21 Days (3 day)	Life Process	To make the students learn and understand about different modes of nutrition and differentiate between autotropic and heterotropic nutrition. 2. To enhance the ability to understand that autotrophic nutrition involves the intake of simple inorganic materials from the environment and by using an external	Students will be able to - 1. Identify that different food items consumed by them take different duration of time for digestion. 2. Analyze that heavy food items should be consumed during morning hours and lighter in evening. 3. Interpret that problem of acidity is due to the presence Different gastric enzymes.	To prove that chlorophyll,CO ₂ light is essential for photosynthesis. Students will observe the activity carefully and note down all the components required for photosynthesis Following activity will be conducted in lab were students will prepare temporary mount of a leaf peel to show stomata. They will observe the slide and identify the stomata and will draw a well labeled diagram as stomata helps in the exchange of gases. A Self made video will be	 Students understood different modes of nutrition involved in life process. They were able to analyze that duration for digestion of fats is more than protein and carbohydrates. They were able to evaluate the importance of enzymes and gastric juices in the process of 	 The video will be shown while explanation and the same video without the audio will be shown and the children will be asked to label the different organs and specify its function. Assignment Unit test Practical

		 energy source like sun to synthesize complex high energy organic material. 3. To comprehend that the heterotrophic nutrition involves the intake of complex material prepared by other organisms. 4. To understand and summarize the various steps of digestion in human beings in the alimentary canal and the mode of absorption in the small intestine. 		shown in the class on the process of human digestion. After observing this video they will draw the well labeled diagram of Human digestive system and also locate the parts where digestion of carbohydrate, protein and fats starts along with the name of enzyme associated with it.	 digestion. 4. They were able to recognize that problem of acidity or ulcer or any other disorder is due to improper function of different organs of digestive system. 5. They were able to synthesized the importance of light, water and co2 for the light and dark reaction of photosynthesis along with the role of stomata. 	
JUNE-	Respiration-	Students will be	Students will be able to	Following activity will be	1. Students	• The video will be
JULY	Aerobic and	able to learn and	- 1 Identify the process of	conducted in the class were the process of inspiration	understood the	shown while
17-26	Transportation-	concept of	fermentation is due to	and expiration with the help	different life	the same video
Days	1.blood, heart,	respiration and can	anaerobic respiration	of a working model of lungs	process and were	without the audio
	arteries, vein	compare between	which is used in	will be demonstrated.	able to understood	will be shown and
(5 +8)	capillaries, double	aerobic and anaerobic	production of alcohol, vinegar and	An activity will be	mechanism of circulatory system	the children will be asked to label the
	2. Xylem and	respiration.	bakery industries as well	conducted in a lab. were	where materials	different organs
	phloem and ascent	* They will be able	as in making of dosa etc.	opportunity to do and	such as oxygen,	and specify its
	of sap, transpiration	to comprehend and	and also heavy	observe themselves that CO ₂	carbon-dioxide,	function.
	Excretion- kidney.	cellular respiration.	anaerobic respiration	is given out during the	products are	Assignment
	nephron, dialysis	complex organic	which is responsible for	process of breathing.	transported	Unit test
		compounds such as	cramps in muscle in	TRANSPORTATION- A	2. They were able	Practical
		glucose are broken	human	video chart of human heart	to analyze that	
		down to provide	2. Apply their	will be shown in the class	cramps in muscle	

	energy in the form	knowledge that improper	were different parts will be	as well as bakery	
	of ATP which is	functioning of these	explained. Students will be	products, south	
	used to provide	organs like lungs, heart	asked to draw the well	Indian dishes and	
	energy for other	and kidneys	labeled diagram of human	production of	
	reactions in the cell.		heart and will locate the	alcohol is due to	
	*They will be able		path of double circulation	anaerobic	
	to infer the		of blood.	respiration.	
	mechanism of		EXCRETION- A Self made	3. They were able	
	circulatory system		video will be shown in the	to analyze the	
	where materials		class on the process of	importance of	
	such as oxygen,		human excretion. Students	valve in veins and	
	carbon-dioxide,		will be aware of different	heart and will also	
	food and excretory		parts of excretory system	able to evaluate the	
	products are		and will understand that	reason behind	
	transported.		process of removal of	cardiovascular	
	*They will explore		nitrogenous waste from the	diseases and BP.	
	their critical		blood and importance of	4. They were able	
	thinking by		nephron. After observing	to analyze the	
	studying the		this video they will draw	importance of	
	importance of		the well labeled diagram of	blood group and	
	transport of water,		Human excretory system	Rh factors play	
	minerals, food and		and nephron also locate the	major role in blood	
	other materials in		parts where ultra-filtration	transfusion and	
	highly		and selective re-absorption	childbirth.	
	differentiated plants		takes place.	5. They were able	
	* To enhance the			to recognize that	
	ability to			problem in	
	understand the			improper	
	mechanism of			functioning of	
	excretion in human			kidney or nephron	
	beings in the form			leads to	
	of soluble			accumulation of	
	nitrogenous			toxic substances in	
	compounds.			the blood which	
	* To understand			are fatal.	
	and summarize			5. They were able	
	about different			to synthesize the	
	technologies and its			importance of	
	implementation for			dialysis, heart	

		survival like renal dialysis, pacemaker etc.			surgery, pace- maker for vital function.	
August -20 & September- 24 (6+7)	CONTROL & COORDINATION	Students will be able to Describe the structure and types of neurons. Explain Reflex action, Involuntary and Voluntary actions. Describe the Central Nervous system- Structure of Brain and its function To understand the role of Plant hormones, plant movement, Understand the role of Human hormones and their secretions. Comprehend that control and coordination in	Students will be able to learn to appreciate the leadership quality of brain to control hunger, anxiety, anger ,memory ,thirst, riding, writing, balancing of the body, body postures etc are controlled by the Central Nervous System and it coordinates with different systems in the body to maintain oneness in running all the physiological activities together. Sensitize the body response during adverse situation like touching hot water or any utensils, when suddenly any foreign object comes in contact with our eyes, etc through reflex action. Infer the effect of hormones for the	A self made video on Brain, highlighting the different parts of brain and its function. There after the teacher will cite different daily life examples to explain the various parts of brain that are responsible to carry various function. Reflex action will be introduced by demonstrating some activities in which the student responds to the stimuli without thinking. The students will be asked to make the diagram of brain and label its various parts & relate with different the physiological activity controlled by it.	Students have learnt to : Illustrate and describe the structure of brain Analysed the concept of reflex action, voluntary and involuntary actions and could apply in real life situation Analyse and interpret the role of different hormones and its secretion in the life span of the organism. Interpret and describe various plant movements with phytohormones.	 The students will be asked to make the diagram of brain and label its various parts & relate with different the physiological activity controlled by it. Assignments Unit test, Term end exam

		human beings is the sum of nervous system and endocrine system	 changes in human after puberty . Appreciate the role of hormone to cope stress. Realize the role of plant hormones in regulating the process of phototropism, geotropism, hydrotropism, etc. Illustrate examples from daily life to relate the effect of hormones on living system. Learn to imbibe positive qualities of others and ignore the negative ones. 			
Oct- 22 Nov-20 (6+5)	Chapter:- How do organism reproduce?	*Students will be able to learn and understand the concept DNA its structure, DNA copying and its importance. *They would be able to analyze and relate the concept of DNA copying with variation. *They would be able to acquire knowledge about	 To emphasized on development of skills like observational, experimental and inculcating values like Awareness, Responsibility, Accuracy, Students will be able to identify the significance of bright colour 	*To study the binary fission and budding in Amoeba and yeast through permanent slides. *To study the different parts of dicot seeds. dding and binary fission with f slides. • vegetative Propagation in , Bryophyllum leaf.	 Learner learnt and understood about the concept DNA its structure, DNA copying and its importance. Students were able to identify the significance of bright colour of flower for pollination. Students were 	*To study the different parts of dicot seeds. *Unit test *Class Test *Assignment

different modes o reproduction and	of flower for pollination.	able to share their opinion on DNA	
apply the concept	in	conving with	
different living	• They will be able	variation.	
organisms.	to interpret that	4) They were able	
*They would be	night blooming	to evaluate	
able to comprehe	d flowers are white	different types of	
the mechanism of	whereas the day	High- Yielding	
sexual reproduction	blooming	varieties of wheat	
in flowering plant	s flowers are	and rice	
and human beings	brightly	5) They were able	
*They will be able	coloured	to explore their	
to analyze and thi	• They will be able	critical thinking by	
critically about th	e to evaluate that	studying the	
changes in the	congenital	importance of	
human body at	anomalies are	reproductive health	
puberty	due to genetic	their problems and	
*They will explor	e and	strategies	
their critical	environmental	bit we gives	
thinking by	factors.	6) They were able	
studying the		to apply their	
importance of	• The noticeable	knowledge to	
reproductive healt	h changes that	relate congenital	
their problems and	occur during	anomalies are due	
strategies	puberty such as-	to genetic and	
	increase in	environmental	
	height, body	factors.	
	shape, change in		
	voice of males,		
	appearance of	7) They were to	
	pimples	analyzing	
		importance and	
	Mental and	male and female	
	emotional	sex ratio and sex	
	maturity bodily	determination of	
	changes during	child is male	
	adolescence	heterogamy.	
	• Myths and		
	taboos regarding		

				-		
			 bodily changes during adolescence To get aware regarding prevention of sexually transmitted disease To relate the importance of government raising awareness campaign regarding birth control measures. 			
Dec-20-	Chapter:-	*Students will be	*To emphasized on	To observe the ears of all	1) Learner learnt	To make a puneet square
Jan 25 6 +1days	Evolution	understand the	like observational,	the rule of inheritance.	about the concept	for any original cross.
· ·		concept DNA its	experimental,		DNA its structure,	To analyze their genetical
		structure, DNA	knowledge	To make a punnet square	DNA copying and	character through pedigree
		importance in	interpretation and	for dihybrid cross.	variation.	anarysis
		variation.	inculcating values like	To flip the poin and to	2) Students were	
		* They will be able to understand	Awareness, Responsibility	sketch a face with different	able to identify the	
		variations arising	responsibility,	traits using genetic trait	wisdom teeth,	Assignment
		during the process	coordination and	chart.	auricular muscles	Unit Test
		be inherited.	Students will be able to		growth of body	
		*Students will	identify the existence of	To observe the specimens of evidence of evolution:.	hairs are vestigial	

	comprehend about different Mendel	wisdom teeth, auricular muscles and excessive	*Homologous and Analogous organ in plants	organs in human population.	
	laws of inheritance.	growth of body hairs are	and animals, Vestigial	3) Students were	
	*They will able to	vestigial organs in	organs by specimens and	able to share their	
	understand about	human population.	charts.	opinion on sex	
	sex determination	They will be able to		determination in	
	in human	interpret inheritance of	To analyze their genetical	human	
	*They will able to	blood groups in human	character through pedigree		
	differentiate	being.	analysis	4) They were able	
	between inherited	They will be able to	unurysis	to evaluate	
	and acquired traits	evaluate that increased		between inherited	
	and will able to	incidence of female		and acquired traits	
	understand to trace	foeticide in northern		and will able to	
	evolutionary	India and on basis of sex		understand to trace	
	relationships.	chromosome who is		evolutionary	
		responsible for sex		relationships.	
		determination of sex of		5) They were able	
		baby.		to explore their	
		They will be able to		critical thinking	
		interpret that illegal		that illegal abortion	
		abortion of female		of female foetus is	
		foetus is a crime that		a crime that affects	
		affect sex ratio in future.		sex ratio in future.	
		They will be able to		6) They were able	
		appreciate fossils help to		to apply their	
		unfold the mystery of		knowledge to	
		evolution reflects		relate congenital	
		phylogeny		anomalies are due	
		They will be able to		to genetic and	
		evaluate the		environmental	
		transmission of		factors.	
		resemblances, with		7) They were to	
		ancestors or parent is		analyzing	
		due to genes.		importance of	
				transmission of	
				resemblances, with	
				ancestors or parent	
				is due to genes.	

-Jan-3	Chapter:-	*To make the	*To emphasized on	The students will be asked	1) Learner learnt	Pannel discussion	on
	Our Environment	students learn and	development of skills	to calculate the total amount	and understood	Global Warming	
		understandabout the	like observational,	of waste generated at home	about the various	Ŭ	
		various abiotic and	experimental,	per day. They will be	abiotic and biotic	Assignment	
		biotic factorsthat	knowledge,	segregating into	factorsthat		
		interacts in the	understanding, analysis,	biodegradable and non	interacted in the	Unit Test	
		environment.	interpretation and	biodegradable.	environment.		
		*Students will learn	inculcating values like		2) Students were		
		about various food	Awareness,		able to identify that		
		chain and web in	Responsibility,		tertiary consumers		
		ecosystems.	responsibility,		required more		
		*They will be able	coordination and		energy according		
		to analyze the	empathy towards		to 10% law and		
		impact of human in	environment.	Create an aquarium- Design	therefore depends		
		the deteriorating the		an aquarium on a paper.	on multiple food		
		environment.	Students will be able to	What are the things we keep	options.		
		*They will able to	identify that tertiary	in mind when we	3) Students were		
		interpret the cause	consumers required	create?(O2 pump to	able to share their		
		of global warming	more energy according	provide oxygen, Aquatic	opinion on cause of		
		and depletion of	to 10% law and	plants and animals for self	global warming		
		ozone layer.	therefore depends on	sustainingetc)	and depletion of		
		*They will learn	multiple food options.		ozone layer.		
		about how to use	They will be able to		4) They were able		
		and manage	interpret layer of	What would happen if you	to evaluate that		
		biodegradable	atmosphere in which	do not take care while	increased increase		
		substances.	ozone is present	putting the aquatic animals	in size of ozone		
		*They will be able	(stratosphere) and its	which would eat others?	hole is due to		
		to analyzeThree	importance.		human activities.		
		concepts of 'R'.	They will be able to		5) They were able		
		*The students	evaluate that increased		to explore their		
		would be	increase in size of ozone		critical thinking		
		familiarized with	hole is due to human		with various		
		various methods to	activities.		methods to manage		
		manage the garbage	They will be able to		the garbage		
			interpret the importance		6) They were able		
			of bacteria and		to apply their		
			decomposers and		knowledge to		
			consequences if		relate Three		
			decomposers are		concepts of 'R'.		

			removed from environment. They will be able to evaluate the hazards of burning plastic and biological magnification.		7) They were to analyzing importance of bacteria and decomposers and consequences if decomposers are removed from environment.	
Jan-2	Management of Natural Resources	*Students will able to understand about use of different natural resources. *They will be able to comprehend and infer their knowledge in deciding the ways by which these resources will be managed for sustainable development.	*To emphasized on development of skills like observational, experimental, knowledge, understanding, analysis, interpretation and inculcating values like Awareness, Responsibility, responsibility, coordination and empathy towards environment. Students will be able to identify that how we and our family member can play important role in regulation the daily use of some natural resources. They will be aware of importance of sustainable management.	*The students will be asked to find out about the international norms to regulate emission of carbon dioxide. *Panel discussion on how we can contribute towards meeting those norms.	 Learner learnt and understood about the use of different natural resources. Students were able to identify that how we and our family member can play important role in regulation the daily use of some natural resources. Students were able to share their opinion onin deciding the ways by which these resources will be managed for sustainable development. They were able to evaluate that 	Panel discussion on how we can contribute towards meeting the international norms to regulate emission of carbon dioxide.

	They will be able to interpret importance of making water potable and consequences of drinking unclean water. They will be able to evaluate that energy can be produce from waste. They will be able to interpret the use of new technology in India like WTE programme i.e. waste to energy project. They will be able to evaluate the hazards of burning fossil fuels.	 energy can be produce from waste. 5) They were able to explore their critical thinking with importance of making water potable and consequences of drinking unclean water. 6) They were able to apply their knowledge to interpret the use of new technology in India like WTE programme i.e. waste to energy project. 	
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SUBJECT: PHYSICS

APRIL	LIGHT-	SPECIFIC LEARNING	BEHAVIOURAL	Students can be asked to draw	Students learnt to-	Unit test and
	Reflection and	OBJECTTIVES:	LEARNING OBJECTIVES:	image formation, predict the result	 Define reflection 	numerical
21 Days	Refraction	Students will be able to-	Students will be able	by using laws and then check the	 State laws of 	problems
		Define	to –	same in lab.	reflection	previous year
(7 day)		reflection		Students can also be asked to keep	 Differentiate 	board questions.
		• State laws of	Understand the	the screen at the estimated	between types	-
		reflection	difference	positions in order to verify the	of reflection	
		• Differentiate	between	image formation of mirror.	 Prove laws of 	
		between types	reflection and	Activity- Various spherical mirrors	reflection of	
		of reflection	refraction.	will be will be shown and how they	light	
		Differentiate	 Apply the 	aredifferent than plane mirrors will	• Understand the	
		between real	concept of	be discussed.	application of	
		and virtual	reflection and	t of image formation will be	spherical	
		image.	refraction in	introduced.	mirrors and	
		• Define terms	daily		state its uses.	

		 combinations Draw the image formation through glass slab and able to calculate the refractive index Draw the tracing of light through glass prism and able to understand the relation between emergent and incident ray. 				
JUNE-JULY	Human Eye and	I - Specific Objectives		Practical application of refraction	Students learnt to-	Class
16-26 Days (12 day)	Colourful World	 Students will be able to- State cause and correction of defects of vision like myopia, hypermetropia, presbyopia etc. Define phenomenon of dispersion and state its cause. Explain Rayleigh Scattering. Explain the working of human eye. Draw the diagrams of defected eye 	II - Behavioral ObjectivesStudents will be able to -• Apply concepts to daily life-• Explain 	 will be introduced with the help of video. Twinkling of stars, delayed sunrise and sunset and many other applications will be discussed. Rayleigh experiment will be explained to the students and practical applications will be discussed in the class. Recapitulation of all the concepts will be done along with the exercises. Lab Activity- refraction through glass Prism will be performed by students and they will also be taught relation between emergent ray incident ray. 	 Explain the working of human eye. State causes and correction of defects of vision like myopia, hypermetropia, presbyopia etc. Draw the diagrams of defected eye and corrected eye. Draw path of light through a glass prism. Define phenomenon of dispersion and state its cause. 	Test and FAQ for the some topics

		and corrected eye. • Draw path of light through a glass prism.	 Justify white colour of clouds etc. 		 Explain Rayleigh scattering. Apply concepts to daily life- Explain apparent position of stars Justify advanced and delayed sunrise and sun set. Explain the reason for blue colour of clear sky. Explain the reason for white colour of clouds.
AUGUST	SOURCES OF	STUDENTS WILL BE	STUDENTS WILL	Class Activity-	STUDENTS WILL BE
20 DAYS (6 days)	ENERGY	ABLE TO – • Define Solar, Wind, Hydro And Ocean Energy • Explain The Working Of Solar Devices Along With Their Advantages And Disadvantages • Explain Working Of Hydro Power Plant, Wind Mills • Understand How Geothermal	 BE ABLE TO- Appreciate various types of resources. Make judicious use of these resources. Will start using renewable resources in all the possible manners. Spread awareness about conservation of resources. 	 Videos of working of – power plants mills ssing of geothermal and ocean energy. ts will be asked to find the locations of above plants and the energy harnessed by them. Students will be asked to prepare ppt on various types of resources, their harnessing, advantages and disadvantages. 	ABLE TO – • Define Solar, Wind, Hydro And Ocean Energy • Explain The Working Of Solar Devices Along With Their Advantages And Disadvantages • Explain Working Of Hydro Power Plant, Wind Mills • Understand How Geothermal

		And Ocean Energy Is Harnessed • State advantages and limitations of various resources	•		And Ocean Energy Is Harnessed • State advantages and limitations of various resources	
Month &	Theme/ Sub-	Learning (Objectives	Activities & Resources	Expected Learning	Assessment
Working Days	theme	Subject Specific	Behavioural		Outcomes	
		(Content Based)	(Application based)			
SEPTEMBER	ELECTRICIT	Students will be able	Students will be able	Activity- Various devices which	Students learnt to-	
- OCTOBER	Y	to-	to –	provide potential difference will	 State properties 	• To
24-22 Days		State properties	 Understand 	be discussed and will be shown.	of charges	verify
(15 days)		of charges	potential		• State	Ohm's
		• State	difference is	Class Activity- Teacher will	coulomb's law	law.
		coulomb's law	required for	introduce various components of	• Define and	• To
		• Define and	the flow of	electric circuit in the lab/	calculate	calculate
		calculate	current.	classroom by elaborating how to	current	net
		current	• Identify	connect it and its use.	• Define and	resultant
		• Define and	sources of		calculate	resistanc
		calculate	current		potential	e in
		potential	• Relate transfer	Lab Activity- Onm's law will be	difference,	series
		difference,	of charges in	lob They will note down	• Define and	combina
		Define and	day today life.	abcompations and will colorists	calculate	tion.
		calculate	• Relate	the result	resistance and	• 10
		resistance and	resistance of		resistivity.	calculate
		resistivity.	various	Class Activity- Students will be	• Arrange	net
		Arrange	objects in	explained about various	various	resultant
		various	daily life.	explained about various	resistances in	resistanc

resistances combinatio to get desin result.	n • Analyse the rating of d various electric	combinations of resistors and will be asked to identify series and parallel combinations.	combinations to get desired result.Explain factors	e in parallel combina tion.
 affecting resistance resistivity Elaborate l electric appliance a rated Understand uses of spe materials Draw vario circuit diagrams 	 Start using particular material on the basis of its property. Understand the rating of various types of fuse and their functions. Calculate and verify electricity bills. Can assemble various electrical appliances correctly in electric circuits. 	taken to lab and will be asked to calculate net resistance of the given resistors in series and parallel combinations. Class Activity- Students will be given various combinations and can be asked to calculate the result theoretically and then verify with the help of apparatus.	 resistance and resistivity Elaborate how electric appliance are rated Understand uses of specific materials Draw various circuit diagrams Potential difference is required for the flow of current. To Identify sources of current To explain transfer of charges between two objects in day today life. The application of Resistance of various objects. To analyse the rating of various electric appliances. 	
			• To use	

					 particular material on the basis of its electrical property. To rate of various types of fuse and their functions. To Calculate and verify electricity bills. To assemble various electrical appliances correctly in electric circuits. 	
November December 20-20 days (13 days)	MAGNETIC EFFECT OF ELECTRIC CURRENT	 Students will be able to- Draw and State properties of magnetic field 	BEHAVIOURAL LEARNING OBJECTIVES: Students will be able	1. Class Activity-Concept of the magnetic field is introduced with the help of following activity.	 Students learnt to- Draw and State properties of magnetic field lines 	Lab Activity Ask them to draw magnetic lines of forces
		 Explain and perform Orested experiment. Draw and explain properties of magnetic field lines due to current carrying circular coil. State and apply Right hand 	 Appreciate the use of science in various applications like electric bell etc. Apply Fleming's left hand rule to understand working of Dynamo. Apply Fleming's right hand rule 		 Explain and perform Orested experiment. Draw and explain properties of magnetic field lines due to current carrying circular coil. State Right hand thumb rule 	
 thumb rule. Draw and explain properties of magnetic field lines due to current carrying straight conductor. State and apply Clock rule. Draw and explain properties of magnetic field lines due to current carrying solenoid. Differentiate between electromagnet and permanent magnet. Explain 	to Generator. • Can prepare electromagnet s and make use of them.	 Draw and explain properties of magnetic field lines due to current carrying straight conductor. State and apply Clock rule. Draw and explain properties of magnetic field lines due to current carrying solenoid. Differentiate between electromagnet and permanent magnet. Explain Kicking wire 				
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Clock rule.Draw and		Draw and explain				
explain properties of magnetic field		properties of magnetic field lines due to				
lines due to current carrying		current carrying solenoid.				
solenoid.Differentiate		Differentiate between				
between electromagnet and permanent		electromagnet and permanent magnet.				
Explain Kicking wire experiment.		Explain Kicking wire experiment. State and apply				
• State and apply Fleming's left hand rule.		Fleming's left hand rule to the working of				
• Explain and apply electromagnetic induction		 Dynamo. Deduce properties of magnetic field 				
• State and apply Fleming's right hand rule.		 Integrette field lines. Draw and explain 				
		properties of				

		magnetic field
		lines due to
		current
		corrying
		circular coll.
		Apply Right
		hand thumb
		rule.
		• Deduce
		properties of
		magnetic field
		lines due to
		current
		corrying
		carrying
		straight
		conductor.
		• Find out the
		direction of
		magnetic field
		lines due to
		current
		carrying
		solenoid
		- Differentiate
		Differentiate
		between
		electromagnet
		and permanent
		magnet.
		• Explain
		electromagnetic
		induction.
		• State and apply
		Fleming's right
		hand rule to
		apportor
		generation.
		• 10 appreciate
		the use of
		science in
		various

		applications like electric bell etc. • Can prepare electromagnets and make use of them.	