Chapter 1 : CHEMICAL REACTION AND EQUATION

<u>Total periods :</u>

Objectives : Students will be able to

1. Give examples of chemical change and physical change

3. Balance the Chemical equations

2. Represent chemical reaction in terms of chemical equation

4. List the Factors which make a chemical reaction more informative

5. Describe the type of chemical reaction with their equations and examples 6. Explain about the redox reaction with examples

8. Give examples of oxidation in daily life 7. List the methods of prevention of corrosion and Rancidity

SI	Learning competencies	Learning assisted activities	Learning aid	Evaluation	tools	Self
no				techniques		introspection
1.	Chemical equations Writing chemical equation Balancing chemical equation.	Perform activity 1.1,1.2,1.3 to learn about the basics of chemical reaction and write equations . Students discuss about the reactants products, and different changes occuring during a reaction by performing above activities.	Burner ,candle,magnesium ribbon tongs, Conocal flask,zinc granules,glass tube,tube tube,lead nitrate,potassium iodide,zinc granules,dil HCl,sulphuric acid.	Observation discussion	Observation schedule	
2.	Types of chemical reactions Combination reaction Decomposition reaction Displacement reacrtion double displacement reaction	Activity 1.4 Activity 1.5 Activity 1.6,1.7,1.8, Activity 1.9 Activity 1.10 Students are grouped and provided with necessary apparatus to perform the above activity .student perform activity ,discuss among group with the assistance of teacher and write inferences in the note book.	Calcium oxide,water,beaker,ferrous sulphate crystals,boiling tube ,spirit lamp, lead nitrate,tongs,burner,plastic mug,rubber stopper,graphite rod test tubes ,battery,water. Silver chloride,china dish. Iron nail test tubes stand,copper sulphate solution.sodium sulphate ,barium chloride solution.	Observation	Observation schedule	
3.	Oxidation and reduction	Student perform activity 1.11 ,discuss among group and give examples for various daily life	Copper powder.	Observation	Observation schedule	

Date from : _____ To : _____

Corrosion and rancidity	examples for oxidation reactions. Write equation to show the substance getting oxidized and reduced.		Observation	
	Watch video ,chart and discuss about various example and instances for corrosion and rancidity.	Charts,video ppt		
Evaluation	Unit test/quiz/oral test			

	Chapter-2: Acids, Bases	and Salts	
Total periods:	Date:	from	to
	Objectives:Students will	be able to	
1.classify different types of indicat	ors	2.identij	fy acids /bases using indicators
3.list out the properties of acids/bases		4.explain the	reaction of acids /base with metals
5.describe the reaction of metal	carbonates with acids	6.ex	plain neutralization reaction
7.Write experiment to show that acid solu	ition conducts electricity.	8.Identify stre	ngth of acids or base using pH paper .
9.list out the importance pHin everde	ny life.	10.explain	preparation of bleaching powder
	11. Explain preparation of p	plaster of paris	

SI	Learning competencies	Learning assisted activities	Learning aid	Evaluation	Tools	Self
no				Techniques		introspection
	Acids and bases	Activity 2.1,2.2,2.3,2.4	Acids .bases,			
	Reaction of acids and bases with	Students carry above activities	Indicators			
	metals	,discuss and draw inference.	Zinc granules			
			Sodium carbonate			
			Calcium hydroxide			
	Reaction of metal carbonates and	Activity 2.5	Test tube			
	hydrogen carbonates with acids.	Activity 2.6	Delivery tube			
	Reaction of acids and bases with	Activity 2.7	Thistle funnel			
	each other.	Students perform the above				
	Reaction of metallic oxides with	activities in group and discuss				
	acids	regarding the reactions.				
	Reaction of metallic oxide with					
	base.	Students carry experiments to learn				
		the conductivity nature of acid	Beaker,dil			
	Acid solution conducts electricity	solution.	HCl,rubber			
	Acid or a base in water solution		cork,circuit			
		Activity 2.8	PH paper indicator			
	Importance of pH in everday life	Activity 2.9	Universal indicator			
		Activity 2.10	soil testtube			
	More about salts					
	pHof salts	2.11				
	chemicals from common salts	2.12				

bleaching powder baking soda	2.13	Salt samples	
and washing soda uses	2.14	pH paper	
	2.15	copper sulphate	
		boiling tube	
		test tube tongs	
Evaluation:	Unit test/quiz/Oral test		

Principal sign:

Chapter -	-3:Metals	and N	Ionmetals
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Total periods:______ from ______to_____

Objectives:Students are able to

1.List the physical properties of metals.

3.Differentiate between metals and nonmetals

5.define reactivity series.

7.list the properties of ionic compounds

9. explain electrolytic refining of copper.

2.List the chemical properties of non metals
4.explain reaction of metal with water/steam
6.write electron dot structure.
8.describe the process of extraction of metals with low reactivity

SI	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspect	ion
NO	Physical properties Metals	Activity 3.1, to 3.6 Students perform the above activities and list the physical properties of metals.	Sample of metals.sand paper Pieces of metals.sharp knife Note book Hammer Clamp stand,pin,wax,spirit lamp,circuit.	Observation	Observation schedule		
	Nonmetals Chemical properties of metals Reaction of metals with air	Activity 3.7 to3.8 Students perform the above activities and discuss about the physical properties of nonmetals.	Carbon,graphite Magnesium ribbon Sulphur powder,litmus paper.	Peer group assessment	Assessment table		
	Reaction of metal with with water. Reaction of metals with acids Metals react with solution of other metal salts	Activity 3.9 to 3.12 Students are grouped and the above activities are performed where students	Tongs,metal ,spirit lamp. Sample metals .beaker	Observation	Observation schedule		

Date

	discuss about the various	Cold water,hot water			
The reactivity series	chemical properties and	Acids, thermometer.			
Reaction of metals and	write the concerned	Iron nail .copper wire			
nonmetals	chemical reactions.	iron, Copper sulphate	Observation	Observation schedule	
Electron dot structure		sulphate.			
Properties of ionic compounds					
Occurence of metals					
Extraction of metals	With the help of game	Chalk powder			
Enrichment of ore	students identify the	Students ,balls of			
Extracting metals low in activity	elements and arrange them	different size and	Peer assessment	Assessment table	
series	based on their reactivity	densities.			
Extracting metals in the middle	series.				
of activity series	Discuss regarding reaction	Sample of salt			
Extracting metals towards top of	of metals and nonmetals.	,kerosene oil beakers			
activity series	Students draw the dot	circuits.			
Refining of metals	structures and explain in	Video ppt			
Corrosion	groups.			Quiz mcq	
Prevention of corrosion			Self assessment		
	Activity 3.13				
	Students perform the above				
	activities and list out the				
	properties of ionic				
	compounds.				
	Students watch the video				
	on extraction and refining of				
	metals and attain the self				
	evaluation quiz.				
Evaluation:					

sign:_____

Principal

Chapter -4:Life processes

Total periods:	Date fromto
Objectives:Students are able to	
1.define life processes	2.define nutrition
3.describe autotrophic nutrition in plants	4.draw the schematic diagram of stomata
5.explain the mechanism of stomata	6.differentiate between autotrophic and heterotrophic nutrition
7.explain nutrition in amoeba	8.Draw the diagram of human alimentary canal
9.explain the functions of various glands in alimentary canal	10.explain the pathways for break down of glucose
11.describe respiration in human	11.identify the parts of human heart
12.relate the structure and funtion of human heart.	13.explain the process of exchange of gases/double circulation
14.explain transportation in plants.	15.define excretion
16.draw structure of nephron.	17.describe excretion in human
18.list the excretory substances in plants.	

SI No	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	ΤοοΙ	Self introspectio
	Life processes	Students observe the various images showing characteristics of living organisms and list it out.	Charts/ school garden visit	Observation	Observation schedule	
	Nutrition Autotrophic nutrition and heterotrophic nutrition	Students watch the video on photosynthesis and differentiate between autotrophic and	Video, ppt	Observation	Observation schedule	
		heterotrophic nutrition.	Video on			
		<i>Perform activity 6.1,6.2</i> <i>/observe the video and</i> <i>interpret the inferences with</i> <i>group discussion.</i>	activity/variegated leaves,alcohol,water bath,iodine solution,bunsen	Hands on activity Observation	Observation schedule	
			burner			
	Nutrition in amoeba	Students discuss in group	Water ,table			

	and give example for	Video on unicellular	Observation	Observation schedule
	unicellular organisms	organisms		
	Watch video showing			
	nutrition in amoeba and	Chart on nutrition in		
	write the explanatory notes	amoeba		
	on the same and read it in		Discussion	Observation schedule
	the class.			
Nutrition in human beings	Students perform activity	Test tube ,starch,test		
	6.3 in groups and discuss the	tube, iodine solution.	Hands on activity	
	action of saliva on starch		Discussion	
	Also observe the video on	Video on digestive		
	digestive system and	system	Observation	Observation schedule
	explain its importance and fuction.	Torso,models		
Respiration	Students perform activity	Test tube ,lime water		
	6.4 and interpret that	straw pichkari.	Hands on activity	Check list
	carbon di oxide is released		Discussion	
	during respiration.			
	Students carry fermentation	Yeast , sugar solution,		
	activity and discuss about	Test tube,cork,bent		
	an aerobic respiration	glass tube.lime		
	With the help of pathway	water.		
	chart discuss about the			
	various pathways involved			
	during breakdown of	Chart showing		
	glucose	pathways of		
		breakdown of	Observation	
	Watch video on activity 6.6	glucose		Observation schedule
	and discuss	Video		
	Make chart showing	Respiratory system		
	respiratory system	chart		
Transportation in human beings	Watch video on	Video		
	haemoglobin content in			
	human being m/f and also			
	in animals and discuss on it.			
	With the help of model list		Observation	

	the various parts of human	Human heart model		Observation schedule	
	heart and study about its				
	functions using video and				
	discussion.		Discussion		
	Observe the chart showing			Check list	
	blood and lymph and	Chart			
	differentiate between it.				
Transportation in plants	Observe the video based on				
	content and discuss on the				
	same	Video			
				Observation schedule	
			Observation		
Excretion	Observe the model and list				
	the various parts .				
	Explain the structure and				
	function of nephron with the	Excretion model			
	help of chart /video				
	Watch video on excretion on				
	plants and discuss .	Video			
Evaluation:					

sign:_____

Principal

Chapter -5:Control and Co ordination

Total periods:	Date fromto
Objectives:Students are able to	
1.define irritability	2. Describe the structure of neuron
3.explain reflex action	4.identify the various parts of human brain
5.explain structure of human brain	6.give illustrations for coordination in plants
7.list the hormones in animals.	8.state the functions of various hormones in human body

SI	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspect	tion
No							
	Animals –Nervous system	Students discuss on various instances on irritability Give examples for irritability that they have experienced in past. Watch the video on unit of nervous system, discuss on	Video	Observation	Observation schedule		
		the structure and function of neuron. Perform activity 7.1 and discuss on the criteria behind it.	Sugar,				
	Reflex action	Students watch video on reflex action and discuss about various nerves	Video	Observation	Observation schedule		
		involved and list in the note	Notebook				
		book.	Pen,pencil				
		Draw diagram to show					
	Human brain	rejiex arc.					
		model and identify the	Brain model				

	various parts of brain.				
	Observe the video and				
	discuss about the function of	Video	Observation	Observation schedule	
	each part.				
Protection of tissues	Students observe the chart				
	and discuss and appreciate	Chart	Observation	Observation schedule	
	the natural protection of				
	brain tissues.				
Action of nervous tissue	Watch video on movement	Video	Observation	Observation schedule	
	of muscles and appreciate				
	the functions of proteins in				
	muscles that helps in				
	contraction/shortening the				
	length and expanding the				
	length of muscles .				
Co-ordination in plants	Students on field visit				
	observe the touch me not	Field visit			
	plant and discuss about the	Garden	Observation	Observation schedule	
	movement of leaves on				
	touch.				
	Relate the similar kind of				
	movements in plants with				
	response to light,water,etc				
Hormones in animals	Students watch the video on				
	location of different alands	Video	Observation	Observation schedule	
	and its secretion in human	VIACO	Obscivation	observation seneaule	
	body				
	Draw digaram and locate				
	the different alands present	Note book			
	in human hody	Pencil			
	Discuss about the hormones				
	secreted and annreciate its				
	importance in carrying				
	various physiological				
Evaluation:	functions normally				
	junctions normany.	1	1		

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Chapter -6:Electricity		
Total periods:toto		
Objectives:Students are able to		
1.define electric current	2.define electric circuits	
3.construct electric circuits	4. identify the symbols of components of electric circuits	
5.calculate the electric charge that flows through circuit	6.differentiate between electric potential and potential difference	
7.state Ohm's law	8.derive ohm's law	
9.list the factors affecting resistance	10.differentiate between series and parallel resistors	
11.calculate the resistance in a circuit	12.apply apt formula on observing circuit diagram	
13.define heating effect of electric current	14.State Joule's law of heating	

SI No	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspect	ion
	Electric current and circuit	Students are provided with necessary materials and asked to construct a circuit . Students observe video and	Cell ,wire,bulb,switch, Rubberband.	Hands on activity	Check list or		
		discuss on the flow of electrons and current direction in circuit. Students draw the diagram	Video	Observation	Work sheet		
		of electric circuit and list the components present .	Notebook				
	Electric potential and potential difference	Students Observe the video and discuss about the potential difference ,and write formula for the same.					
	Components of circuit	Students sit in group and prepare a chart showing symbols of various components .					

	Students perform activity				
	12.1 and discuss about the	Video	Observation	Worksheet	
	relation ship of V and I in	Multimeter			
	circuit on increasing V.	Battery			
<mark>Ohm's Law</mark>	Write their interpretation	Wire ,notebook			
	and state Ohm's law.				
	With the help of video	Video	Observation	Observation schedule	
	discuss on various factors				
	affecting resistance and list				
	the factors and also write				
Factors on which the resistance	the formula for resistance				
of a conductor depends					
	Students observe the chart				
	of series and parallel				
	resistor and discuss on the				
Resistance of a system of	connection of resistors in	Chart			
resistors	the give circuits.				
	Perform experiment and				
	differentiate the two types				
	of resistors based on v and I				
Heating effect of electric current	Students discuss and give				
	examples of devices that				
	work on heating effect of				
	electric current.	Chart			
	Derive the formula by				
	working along on black				
	board.				
	Observe the electric meter				
	and discuss on the method				
	of calculatina the electric				
	bill.				
		Black board			
Electric power					

Evaluation:	Discuss on various appliances and power in watt mentioned and derive formula by working on black board.			
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Principal sign:_____

Chapter 7:Magnetic effect of electric current

Total periods:_____ Objectives:Students are able to 1.define magnetic field lines 3.explain magnetic field due to current through straight conductor 5.explain magnetic field due to current through circular loop. 7.state Flemings left hand rule. 9.define electromagnetic induction

11.Explain working of electric generator

2. List the properties of magnetic field lines
4.State right hand thumb rule
6.define solenoid
8.explain the working of electric motor.
10.State Fleming's right hand rule
12.describe domestic electric circuits

SI No	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspec tion
	Magnetic field in a current carrying conductor	Students perform activity 13.1 and write their observation in notebooks and discuss on the property of current	Copper wire, paper, Compass needle.resistor ammeter	Hands on activity	Check list	
	Magnetic field and field lines	observed in activity. Students perform activity 13.2 ,13.3 and observe the magnetic field lines around a bar magnet and write the properties observed in	bar magnet,iron filings,paper compass,adhesive material.	Hands on activity		
	Magnetic field due current carrying conductor.	notebook. Students observe the video of circuit showing magnetic effect of electric	Video	Observation	Observation schedule	
		current and discuss in groups. Perform activity 13.4 and	Copper wire,cells,plug key,compass needle, Battery,rheostat,			

Date from_____to_____

	discuss the interpretations	Ammeter,cardboard,			
	in groups.	Iron filings,plug key,			
Magnetic field due to current					
through a straight conductor	Students carry activity 13.5				
	and observe the pattern of				
	concentric circles				
	indicating the field lines		Hands on activity		
	and discuss on the same				
	Based on the observation				
	state right hand thumb	Cardboard,circular			
Magnetic field due to current	rule.	coil,battery ,key,rheostat,			
<mark>through a circular loop.</mark>					
Manetic field due to current in	Students observe video				
<mark>a solenoid.</mark>	and carry activity 13.6 in				
	group .with inductive				
	deductive method list the	Video	Observation	Observation	
Force on a current carrying	characteristics of solenoid.			schedule	
<mark>conductor in a magnetic field.</mark>					
	Students observe video on				
	activity 13.7 discuss and		Observation	Observation	
	state Fleming's left hand	Chart,video		schedule	
Electric motor	rule				
	Observe the chart/video				
	on the working of electric	Magnet,galvanometer,			
Electromagnetic induction	motor and write the	Wire,key,battery,cardboard			
	explanation with		Hands on activity		
	discussion.				
	Students perform activity				
	13.8,13.9 and write the				
Fleming's right hand rule	experiment and inference				
	based on observation				
	Students use model in				
	groups and observe the				
	relationship of magnetic				
Flashia non such a	Jiela ana motion of				
Electric generator	conductor with reference				
	to current and write their				

	interpretations.	Electric generator			
	Students observe chart and	model/chart			
Domestic electric circuits	video of electric generator				
	and explain its working in				
	groups.				
	Students observe video on		Observation	Observation	
	domestic electric circuits	Chart/video		schedule	
	and discuss.				
Evaluation:					

sign:_____

Principal

Chapter -8:Our Environment Total periods:from to	Date
Objectives:Students are able to	
1.define ecosystem	2.list the components of ecosystem
3.differentiate food chain and food web	4.explain depletion of ozonelayer
5.list out the steps to manage garbage.	

SI	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspect	ion
No							
	Ecosystem and its components	Students visit schoolgarden	Video	Observation			
		With the intention to					
		observe and make a note of					
		ecosystem as a first hand					
		experience and discuss their					
		observation in class.					
		Watch more videos of					
		ecosystem and identify the	Video	Observation			
		components by discussing in					
		groups.					
	Food chain and food web	Students observe the video					
		of food chain and list out					
		the different types of food					
		chain based on the habitat					
		Observe chart and identify	Chart/video	Observation			
		the different trophic levels					
		in the food chain with the					
		help of inductive deductive					
		method state the 10%law					
		Observe the wide a read					
		Observe the video and	Video	Observation			
		connection of many food	VIGEO	Observation			
		connection of many jood					
		illustrations					
	Activities that affect	Students take up the					
	environment	seminar in arouns on each					
	environment	seminar in groups on each	I	1	I		

Ozonelayer depletion Management of garbage	of these topics and discuss with the help of questioning at the end of seminar. Include videos based on textual activities	Videos /ppt	Observation		
	15.5,15.7and 15.8				
Evaluation:					

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Chapter -9:Carbon and its compounds		
Total periods:		Date
fromto		
Objectives:Students are able to		
1.classify things as metals and non metals	2.define covalent bond 3.writ	e electron dot structure
4.explain versatile nature of carbon	5. differentiate between saturated and unsaturated carbon compound	s 6.define functional groups
7.Define homologous series	8.list out the steps involved in naming carb	on compounds
9.define combustion	10.define oxidation	11.differentiate
between addition reaction and substitution reac	tion 12. List properties of ethanol	
13.list properties of ethanoic acid	14.differentiate between soaps and deterg	ents

Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self
					introspection
Introduction	Students perform activity	metallic	Observation		
	4.1 and classify the given	materials,non		Observation schedule	
	things.	metallic materials,etc			
Bonding in carbon-The covalent	Observe video on covalent				
bond	bonding and discuss in the	video	Observation	Observation schedule	
	class regarding it.students				
	draw electron dot				
	structures.				
Versatile nature of carbon	Watch video and appreciate	video	Observation	Observation schedule	
	about the importance of				
	versatile nature of carbon				
Saturated and unsaturated	Students observe the chart				
carbon compounds	and list out the difference	chart		Observation schedule	
	between		Observation		
Functional					
Groups	Practice writing the				
	equation /formula				
Homologous series	Students discuss and write	notebook			
	the homologous series.	pen			
		blackboard			

	Nomenclature of carbon	Students discuss and write				
	compounds	the names of different				
		carbon compounds.				
	Chemical properties of carbon	Students watch video on				
	compounds	combustion,addition				
		reaction, substitution	Video	Observation	Observation schedule	
		reaction and discuss on the				
		same.carry activity 4.4,4.5				
		and discuss in group				
	Properties of ethanol and	Students watch the	Video	Observation	Observation schedule	
	ethanoic acid	video,discuss and list the				
		properties.				
	Soaps and detergents	Students perform activity	Water,			
		4.10 ,4.11,4.12 in groups	beaker,cooking oil			
		and interpret the	soap,test tubes	Hands on activity	Observation schedule	
		characteristics and	Chart			
		differences between soap	Distilled water,rain			
		and detergents.	water,/other source			
			soap solution,			
	Evaluation:					
Теас	cher sign:					

Cha	oter -10:Periodic Classification of e	lements				
Tota	l periods:				Date	
from	to					
Obie	ectives:Students are able to					
1.clo	ssify materials into metals and no	nmetals	2.state Doberei	ner's law of triads	3.State newl	and's law of
octa		4 Define mendeleev	's neriodic law	List the drawbacks of M	endeleev neriodic table	6 Explain
mod	ern neriodic table 7 Describe 1	the various trends in modern ne	priodic table			0.LApiani
ci ci			Logrning gid	Evaluation	tool	Solf introcraction
No	Learning competencies	Learning assisted activities	Learning and	technique	1001	Self Inclospection
110	Makina order out of the chaos-	Students discuss about the	Charts	leeningue		
	early attempts at the	arrangements of materials	Circles	Observation	Observation	
	classification of elements.	in shopping malls, medicals			schedule	
		,cloth shops,provision				
		stores etc and discuss				
		about the importance of				
		arrangement in finding the				
		required materials easily.				
	Dobereiner's triads	Students observe the chart				
		and discuss about the	Charts	Observation		
		basis,advantages and			Observation	
		importance of			schedule	
		classification of elements				
		by Dobereiner.				
	Newlands'Law of Octaves					
		Students observe the chart				
		and discuss on the	Charts	Observation		
		classification				
		,basis,importance			Observation	
		advantages and drawbacks			schedule	
	Mendeleev's law	of law of octaves.				
		Students observe	0			
		mendeleev's periodic table	Charts	Observation		
		, compare the previous				
		list the importance			Observation	
		limitation of mondology			cchadula	
	Modern periodic table	ninitation of mendeleev	Charts	Observation	scheuule	
	would be to be		Ciruits	Observation		

	Trends in modern periodic table.	Students observe the modern periodic table ,identify periods,groups and discuss on the main criteria behind tha arrangement of elements in modern periodic table . Observe the video on trends in periodic table	Video	Observation	Observation schedule	
	Evaluation:	and discuss on the same.			Observation schedule	

Char Tota	oter -11:How do organisms reprod I periods:	uce?			Date	
from	to					
- Obje	ectives:Students are able to					
1.De	fine Variation .		2.List out the mode	s of reproduction used by	single organisms	
3.Ex	plain fission in amoeba		4.Explain fragmente	ation. 5.G	ive examples for organi	sms that
shov	v regeneration . 6	5.Draw diagram to show budding	in hydra.			
7.De	scribe vegetative propagation .		8.Explain spore form	nation in Rhizopus.	9.Explain sexual	
repr	oduction in plants	10.differentiat	e between sexual and	asexual reproduction.	11.reasor	n out the
impo	ortance of reproductive health.					
SI No	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspection
	<i>Do organisms create exact copies of themselves?</i>	Student look at the chart and discuss about the similarities and differences they observe oin the resemblance of family members.	Chart	Observation		
	Importance of variation	Observe the video on variation and discuss in group	Video	Observation		
	Modes of reproduction used by single organisms	Students carry activity 8.1 and 8.2 in group. Watch video explanation on different modes of reproduction , discuss and also observe the slides using microscope. Students prepare a chart showing modes of asexual reproduction	Slides Microscope Notebook pencil, Chart	Observation Observation		
	Sexual reproduction	Observe the chart and				

Sexual reproduction in flowering	discuss about the parts of	Chart	Observation	
plants	flower and its function.			
Reproduction in human being	Students watch video on sexual reproduction in human beings and prepare notes on the same	Video	Observation	
Reproductive health	Watch video on reproductive health and discuss on its importance.	Video	Observation	
Evaluation:				

Chapter -12:Heredity and Evolution					
Total periods:				Date	
fromto					
Objectives:Students are able to					
1.Define heredity.	2.explain accumulation of v	ariation during reproa	luction.	3.Differentiate betwe	en
inherited traits and acquired traits.	4.Explain independent inhe	eritance . 5.Describ	e sex determination in hun	nan.	
6.define evolution 7.Giv	e illustration for variations in p	opulation	8.explain	speciation 9.define for	ossils
10.explain evolution by stages 11.Differ	rentiate between homologous d	and analogous organs	12.explain human e	volution	
SI Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspection
Accumulation of variation during					
reproduction.	Students watch video on				
	accumulation of variation	Video	Observation	Observation schedule	
	during reproduction and				
Heredity	discuss in group.				
Inherited traits					
raits-mendel's contribution	Students perform activity				
	9.1 ans discuss about	Activity	Observation	Observation schedule	
How do these traits aet	heredity and its relation to	Notebook pen	Observation	observation seneaule	
expressed?	the characteristics.	,, p			
	Observe the video on mono	Video			
	hybrid cross and dihybrid		Observation	Observation schedule	
	cross on pea plants and				
Sex determination	discuss about the expressed				
	characteristics based on F1				
	and F2 generations				
Fvolution	Students observe the chart				
Acquired and inherited traits	on sex determination in	Chart	Observation	Observation schedule	
Speciation	human and discuss.				
	Students watch video on	Video			
	evolution and discuss				
	Students sit in group and				

	prepare a chart /showing	Chart	Observation	Observation schedule	
	speciation ,watch video and	Video			
Evolution and classification	list the examples observed.				
Tracing evolutionary relationship					
	Watch video and discuss .	Video,Chart			
Fossils		Мар	Observation	Observation schedule	
	Students shows showt and				
	Students observe chart and				
	give examples for				
Evolution with stages.	fossil.watch video on		Observation	Observation schedule	
	fossilization and discuss.	Video	Observation	Observation schedule	
			Observation	Observation schedule	
Human evolution	Students draw and observe				
	the concept map and write				
	note on evolution with				
	stages.				
	_				
	Watch video showing				
	human evolution and				
Evaluation:	discuss.				

Principal

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Chapter -13.1	light					
Total periods	:		Datefrom	to		
Objectives:St	udents are able to					
1.define refle	ection of light.		2.list the types of spherical mi	irrors.	3.explain image formation by	
spherical mir	rors.	4.relate the image formation	with position of object.	5.represent	image formation using ray diagrams	;
6.list the uses	s of spherical mirrors.					
7.Apply mirro	or formula to find the inform	ation about image and object	8.state the laws of refraction.	9.	explain refraction through.	
rectangular g	glass slab.	10.explain refraction throug	h lenses. 11.apply le	ens formula to	get the information on image and	
object.	12.define power of lens.					

SI	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspect	ion
NO	Deflection of light	Students norform activity					
	Rejlection of light	10.1 and discuss.	Mirrors, spoon	Observation	Observation schedule		
	Spherical mirrors	Students identify the spherical mirrors,perform activity 10.2 and write the characteristics of spherical mirrors based on observation.	Spherical mirrors	Observation			
	Image formation by spherical mirrors	Students perform activity 10.3, 10.5, and 10.6 in groups and draw ray diagrams based on their observations.	Spherical mirrors,notebook,mirror stand,table chalk,candle,white screen, object for observation.	Observation	Observation schedule		
	Uses of spherical mirrors	Students observe the chart showing uses of spherical mirrors and discuss.	Chart	Observation	Observation schedule		
	Wirror formula and	Students find the object and	Board chalk notabook				
		height of image by applying	Pencil, scale etc	Observation	Observation		

Refraction of lightStudents perform activity 10.7 to 10.9 and discuss among group.Beaker , coin, water Bowl Glass slab, paper.ObservationObservationRefraction through rectangular glass slab.Students perform experiment to show refraction in glass slab and discuss.Glass slab, loser light, paper. pinsObservationObservationRefractive indexStudents watch video on refractive index and discuss.VideoObservationObservation scheduleRefraction by spherical lensesStudents watch video on refractive index and discuss.VideoObservationObservation scheduleRefraction by spherical lensesStudents orry experiment to learn anout refraction in lenses and draw ray diagrams. Perform activity 10.11,10.12 and 10.13 make observation and discuss based on the same.Black board, chalk stationaries.ObservationLens formula and magnification and object .Based on the experimental observation and discuss on its apply formula and verify the and object .Slace on the scheduleObservation schedulePower of lensWatch video on power of lens and discuss on its apply forming and object .VideoObservation scheduleObservation schedule			formula.			schedule	
10.7 to 10.9 and discuss among group. Bowl Glass slab,pen,paper. Observation Observation Refraction through rectangular glass slab. Students perform experiment to show refraction in glass slab and discuss. Glass slab,pen,paper. Observation Observation Refractive index Students watch video on refractive index and discuss. Students watch video on refractive index and discuss. Video Observation Observation Refraction by spherical lenses Students carry experiment to learn anout refraction in lenses and draw ray diagrams. Perform activity 10.11,10.12 and 10.13 make observation and discuss based on the same. Video Observation Observation Lens formula and magnification Based on the experiment observation, students apply formula and verify the distance,height of image and object . Black board Observation Observation schedule Power of lens Watch video on power of lens and discuss on its application in the Video Observation Observation	Refraction of	light	Students perform activity	Beaker ,coin,water			
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distance, height of image and object . distance, height			formula and verify the				
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lens and discuss on its application in the			Watch video on power of	Video	Observation	Observation	
application in the			lens and discuss on its			schedule	
			application in the				
spectacles used .			spectacles used .				

Principal

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Chapter -14.The Human eye and the colourful world

Total periods:	Date fromtoto	
Objectives:Students are able to		
1.Identify the different parts of the eye.	2.explain the function of parts of eye 3.describe power of accomodation	
4.explain defects of vision .		
5.describe refraction of light through a prism	6.explain dispersion of white light by a glass prism. 7.define atmospheric refraction	
8.Explain scattering of light.		

SI	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspection	on
No							
	The human eye	Student observe the chart					
		draw and identify the parts	Chart	Observation	Observation schedule		
		of human eye.					
		Students observe the video					
		and discuss on the	Video	Observation	Observation schedule		
		important function of each					
		part of numan eye.					
	Power of accomodation	Students watch the 2D					
		animation video on	Video	Observation	Observation schedule		
		accondation of human eve	Video	Observation	observation seneaule		
		and discuss on the same.					
		Students draw the ray					
		diagram by observing the					
	Defects of vision and their	video and explain on the	Video	Observation	Observation schedule		
	correction.	image formation by					
		discussing in groups.					
		Students perform activity					
		11.1,11.2 in group and make					
	Refraction of light through a	observation on the	Prism note				
	prism	refraction through prism.	book,pencil torch				
	Dispersion of white light by a		Light source, screen				
	glass prism.	Students watch the video					
		and make observation	Video	Observation	Observation schedule		
	Atmospheric refraction	record.					

Twinkling of stars Advanced sunrise and delayed sunset Scattering of light	Students discuss among group and give illustrations from daily life observations.		Observation	Observation schedule	
Tyndall effect Why is the colour of the clear sky blue? Colour of the sun at sunrise and sunset.	Watch video and discuss among group. Students watch video on activity 11.3 and make observation record.	Video	Observation	Observation schedule	

Chapter -15:Sources of energy

Total periods:Date fromtoObjectives:Students are able toDate fromto1.list the sources of energy2.differentiate between conventional and non conventional sources of energy3.describe the conventional sources of energy.4. Explain improvements in the technology for using conventional sources of energy.5.explain the importance of alternative sources of energy.6.describe the various environmental consequences .

SI	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspect	tion
No							
	What is a good source of energy	Students perform activity					
		14.1 ,14.2 and discuss.	Note book,pen				
	Conventional sources of energy	Students watch video on					
		conventional sources of	Video				
		energy and prepare chart	Chart				
		indicating it.					
		use the model and explain					
		its working .	Model				
		students sit in success and					
	improvement in technology for	students sit in group and					
		improved technology that	Video				
	energy.	they have been informed	VIGEO				
		through media and their					
		observation in their					
		surrounding villages and					
		discuss.					
	Non conventional sources of	Students carry activities					
	energy	14.4,14.5,14.6,14.714.8,14.9.	Notebook ,pen				
		Also watch video on the	Model				
		same concept	Solar waterheater				
		Students in group take up	available in school				
		seminar programme	Questionpaper				
		And debate programme on	Video				

		the same topic.			
Teacl	her sign:				
	-				
				Principal	
sian:					
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# Chapter -16:Sustainable management of natural resources

Tota	Il periods:				Date		
from	n to				2010		
Ohie	ctives.Students are able to						
1.1:0	the FD's that need to be followed	in daily life 2 synla	in ED's 2 reason out th	a nod to manage recour			
1.LIS	t the SR's that need to be followed	in dally life 2.expla	IN 5K S 3.reason out th	e nea to manage resour	ces.		
4.giv	e examples for stake holders.						
5.Lis	t out the measures for managemen	nt of forest 6.list th	e advantages of dam co	onstruction 7	list the disadvantages o	of dam	
cons	struction	8.reason out the need and im	portance of water harve	esting 9.Explain the	importance of coal and		
petr	oleum. 10. Describe the imp	portance of management of nati	ural resources.				
SI No	Learning competencies	Learning assisted activities	Learning aid	Evaluation technique	tool	Self introspecti	on
	5 R's Why do we need to manage our resources?	Students discuss on activities 16.1,16.2,16.3 and discuss about the importance of 5R's and its need. Give example for each (R)and discuss. Students discuss on activity 16.4, 16.5, and write the points.	Information collected and pasted on chart. Information about organization/video Litmus paper ,indicator Notebook ,pen	Observation	Observation schedule		
	Forest and wildlife Stakeholders	Students watch video ,ppt on biodiversity hot spots and its importance and discuss.discuss on activity 16.6,16.7.	Video	Observation	Observation schedule		
	Management of forest Water for all	Give example for stake holders and also discuss about the role played by each of them. Students watch video related to activity	Video	Observation	Observation schedule		
		16.9,16.10 Students watch ppt and	VIGEO	Observation	observation schedule		

	Dams Water harvesting Coal and petroleum An overview of natural resource management.	video on advantages and disadvantages of dam Students make model and explain it in group. Students watch video on 16.11,16.12 and discuss about it.	Ppt Video Model	Observation	Observation schedule		
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Principal

sign:_____

Reshma Banu ,General Science teacher,MMDRS Peresandra,Chikkaballapura

# MINORITIES MORARJI DESAI RESIDENTIAL SCHOOL ,PERESANDRA ACTION PLAN ,YEAR PLAN AND LESSON FOR FOR THE YEAR 2023-24 CLASS:X

# **SUBJECT: SCIENCE**

RESHMA BANU GENERAL SCIENCE TEACHER MMDRS PERESANDRA PRINCIPAL SIGNATURE