CHOITHRAM SCHOOL, MANIK BAGH, INDORE
ANNUAL CURRICULUM PLAN SESSION 2020 – 2021

CLASS: VIII
SUBJECT: SCIENCE

Subject- Physics

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioural (Application based)			
June- 17 days **July- 26 days** June - July 4 periods + 4 periods	Chapter - Force and Pressure	Students will be able to 1. Understand the effect of force. 2. Comprehend about the different types of forces. 3. Explain the factors affecting different types of forces. 4. Measure the weight of the object using spring balance and understand the difference between mass	Students will be able to 1. Apply necessary force to create a change in a fruitful way. 2. Analyze the effects of different types of forces for example no change is possible when the applied force is equivalent to the opposing force. 3. Different ways of reducing pressure of their school bags on	1. Activity: Observing the effects of force and Identification of contact and non- contact forces through the images shown on power point. 2. Activity- Measurement of weight by using spring balance 3. Activity in the playground: Game of Tug of War 5. Activity: Properties of fluid pressure. 6.**A video showing the daily life applications of fluid pressure will be shown and students will share their observations.https://youtu.be/02fqJOJFpEY https://youtu.be/VxLTDtaRCZk** 7. Activity: To calculate the pressure exerted on shoulders by school bags. 8. **Activity to study the effect of area on**	1. Students will be aware about the different types of forces and their effects. 2. Students will know the difference between mass and weight. 4. They will be aware about the factors affecting pressure. 5. Students can use the equipments based on fluid pressure like syringe, piston etc. 6. They know about the working of vacuum cleaner. 7. Students can take necessary measure to reduce pressure of their	1. A worksheet will be given in which students will be asked to identify the type of force and the effect of force. Parametres 1. Identification 2. Concept 2. Demonstration of factors affecting fluid pressure Parameters: a) Presentation b) Concept c) Innovation

		and weight. 5. Become aware of the condition of weightlessness. 6. Understand the factors affecting fluid pressure. 7. Understand the various ways of coping up with varying pressure conditions. 8. Explain the working of a rubber sucker, syringe and many other devices using the fluid pressure	their shoulders and the harmful effects of pressure.	**pressure**: https://youtu.be/uRMPT5oQa_4 (Amrita Virtual Lab)	school bags on their shoulders. 8. They will be able to select the suitable equipments for their work for example they will use sharp knife for cutting fruits and vegetables to increase pressure whereas bags with broader belts for reducing pressure.	
August 20 July - August 2 periods +3 periods	Friction	Students will be able to understand- 1. Terms related to friction 2. Factors affecting friction 3. Types of friction 4. How to measure friction 5. Advantages and disadvantages of	Students will be able to – 1. Compare the different types of friction. 2. Use necessary techniques for increasing or reducing friction. 3. Appreciate the imporatnce of Energy Conservation for future needs and	1. Study of different types of surfaces on the basis of roughness or smoothness. **Video https://youtu.be/1srdDxmWe34(Amrita Virtual Lab)** 2. Measurement of friction with the help of spring balance. 3. Comparing the amount of friction on different surfaces on the basis of distance travelled on different surfaces. 4. Discussion about various advantages and disadvantages of friction 5. Activity to show the effect of medium on fluid friction.	1. Students will be acquainted with the different types of friction. 2. They will realize that friction cannot be zero. 3. They will be aware about the various techniques of increasing and reducing friction. 4. They will take proper care of their belongings by using necessary steps like oiling and greasing, proper air pressure etc.	Classroom activity- Effect of surface on friction Parametres 1. Accuracy 2. Handling of apparatus Visual and performing art activity: 1.To prepare a model of ball bearing. Parametres Visual Appearance

		friction 6. Methods of increasing and reducing friction	take necessary steps. 4. Take proper care of the equipments or machines provided to him in order to increase their durability like oiling the hinges of doors and bicycles, proper air pressure in the tyres in order to reduce friction.	**Activity to demonstrate the Factors affecting Fluid Friction** 6. Model making of ball bearing		Construction Scientific Understanding
September-24 August + September 2 periods +4 periods	Sound	Students will be able to 1. Explain propagation of sound in the medium. 2. Understand about the characteristics of sound- pitch, loudness and intensity. 3. Know the unit of frequency, wavelength, velocity and loudness of	1. Students will be able to analyze different types of sound on the basis of their characteristics. 2. They will use proper units while describing the sound and its characteristics. 3. They can reason out why we are not able to listen some sounds though they are created by sources	Activity 1: Teacher will strike the tuning fork on rubber against any surface and place it near the ears of students. Activity 2: Making of simple musical instruments like Jal Tarang, Ek Tara, flute etc. with the help of waste materials. Activity 3: To show how sound is produced. https://youtu.be/JStvGlpucVs Amrita Virtual lab Activity 4: To show that sound travels through solid, liquid and gas but not through vacuum. **Bell Jar Experiment - MeitY OLabs** .https://youtu.be/_OQtRIHN37Y Activity 5: To show the factors affecting loudness and pitch of sound depends on frequency Activity 6: Video showing structure and	1. Students know how sound propogated in the medium and reaches to us . 2. They can make their own musical instruments and study the different sounds produced by them. 3. They are aware about the differences of sound and reason for it. 4. They know how ear enables us to listen sound. 5. They are aware about the short term and the long term harmful effects of noise pollution.	Case Study on causes and prevention of hearing loss Parametres 1. Identification of the problem 2. Relevance 3. Analysis Scientoon on Noise Pollution (Visual and Performing arts) **Parameter** **Scientific temperament** **Creativity**

		sound. 4. Study the mechanism of various musical instruments. 5. Comprehend audible and inaudible sound 6. Explain the structure and working of human ear 7. Acquaint themselves with the various causes of noise pollution and its prevention 8. Understand the impact of sound vibrations on nature .	like supersonics, certain animals etc. 4. Create their own musical instruments and enjoy music through them. 5. Sensitize themselves and their fellow beings towards nature by taking suitable measures for reducing noise pollution.	working of human ear https://youtu.be/0jyxhozq89g Activity 7: Students will undertake a survey to ascertain the awareness levels about the noise pollution. Activity 8. Video showing the impact of sound on nature Activity: Case study on causes and prevention of hearing loss.	6. They will take necessary measures for reducing noise pollution.	
IInd Term						
November – 20 December-20 November+ December 5periods +5periods	Chemical effects of electric current	Students will be able- 1. Explain the structure of atom. 2. Recapitulate the previous knowledge of electric current and its effects. They will be able to add up that	Students will be able to- 1. Verify the fact that atom is not the smallest indivisible particle. 2. Identify the given solution as strong or weak electrolyte and	1) Video showing the structure of atom https://youtu.be/lP57gEWcisY . 2) Video showing the movement of electrons producing electric current https://youtu.be/-Rb9guSEeVE 3)Test the conductivity of different solutions along with fruits and vegetables with the help of a tester circuit 4) Activity to demonstrate the process of electrolysis of water.	1. Students will be aware about the condition of formation of ions. 2. They will identify conducting and non conducting liquids. 3. They will be aware about the uses of electroplating and arrange the set up for the process. 4. They will verify that	Making a tester circuit and testing the conductivity of different solutions by a tester circuit. Parameters: 1) Assembling of materials 2) Handling of materials

		besides heating effect and magnetic effect, electric current can also produce chemical changes. 3. Understand the condition required for formation of ions. 4. Understand the process of electrolysis of water. 5. Explain electrolytes and non-electrolytes. 6. Understand the process of electroplating and electrorefining. 7. Know about the practical applications of electroplating and the hazardous effects on nature. 8. Know the working of an electric pen.	non- electrolyte. They will be able to apply the concept in daily life and test the conductivity of daily life solutions like distilled water, lemon juice, tap water, sugar solution etc. 3. Test for the gases produced by a burning splinter. 4. Identify the various objects that are electroplated for various purposes. 5. Feel the importance of purity and know the method of purification. 6. Compare the advantages and disadvantages of electroplating.	5) Activity to demonstrate electroplating. 6) Video showing the process of electrorefining https://youtu.be/wwN8lwpQVLk 7) Discussion about the daily life applications of electroplating and electrorefining. 8) Research work on the electroplating units in the city and the health hazards related to electroplating. 9) Making of electric pen	water is made up of hydrogen and oxygen by testing of gases. 5. They will know how metal can be purified. 6. They will make an electric pen and explain its working. 7. Through research work they will be able to know and understand the health hazards associated with electroplating and the preventive methods.	
January – 23 **February -23** January +	Light	Students will be able to understand-	Students will be able to- 1. Obtain multiple	1. Obtaining multiple images by multiple reflection 2. Verification of laws of reflection	1. Students will apply the phenomenon of multiple reflection in daily life.	1.Classroom activity- Calculation of number of images at different

February 8 periods + 2 periods		1. Formation of image by plane mirror and its characteristics 2. Multiple reflection 3. Structure of human eye and its working 4. Defects of eye and other eye disorders.	images by two inclined mirrors. 2. Know how we are able to see the hair cut from back by multiple reflections. 3. Know the causes of various eye disorders and their remedies.	Video https://youtu.be/vt-SG7Pn8UU 3. Video showing the structure and working of human eye. 4. Activity to demonstrate the property of persistence of vision of human eye. 5. Activity to show the presence of blind spot in our eyes. 6. Video showing the defects of vision and their correction. 7. Research work on various eye disorders faced by children and their causes and prevention Resources- Model of human eye, Plane mirrors, daily life experiences.	2. They will verify the laws of reflection of light. 3. They will know the structure of human eye and functions performed by its different parts. 4. They will be aware of the causes of various eye disorders and their correction.	angles. 2, To draw a neat and labelled diagram showing structure of human eye Visual Art Activity Parametres 1. Clarity 2. Labelling 3. Accuracy
March-24 February- March 6 periods+ 3 periods	Some natural phenomenon	Students will be able to- 1. Understand static electricity and its effect, electric discharge, formation of lightning and thunderstorm, 2. Understand cause of earthquake. 3. Know what to do during thunderstorm, lightning and earthquake.	Students will be able to- 1. Predict the type of electrostatic force between two charged bodies and charge by using electroscope. 2. Analyze the various factors causing thunderstorm and lightening. 3. Take necessary steps for mitigation in case of any natural disaster.	Experiment with comb and paper to show positive and negative charges Force of attraction and repulsion between the charged bodies. Resources- Chalk duster, audio-visual aids	1. Students know that static charge can be established by rubbing two different objects. 2. They know the charge can be detected by using electroscope. 3. They are aware about the causes of earthquake and lightening. 4. They are aware about the safety measures that can be taken in case of natural disaster.	Model making of electroscope- Visual and Performing art Parametres Visual Appearance Construction Scientific Understanding 2. Case study of any one natural disaster Parametres 1.Identification of the problem 2. Relevance 3. Analysis

SUBJECT: Biology

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioural (Application based)			
June 17 Days 4 Periods	Conservation of plants and animals	Specific Objectives To enable the students to 1. Know about deforestation, its causes and consequences. 2. Define and differentiate between different protected areas. 3. List out the flora and fauna of their areas. 4. Write the endemic species of a particular biosphere reserve. 5. Make aware about	Behavioral objectives 1. Be sensitized towards nature against deforestation 2. Appreciate the use of recycled paper. 3. Be able recognize some of the endemic species of his area/region. 4. Realize the importance of flora and fauna in the ecosystem and also learn the	1. Introduction of topic after discussion with students on the basis of experiences shared by students regarding their visit to any national park or wildlife sanctuary. 2. **Students will prepare paper bags from the used and loose papers and would be encouraged to use them. (visual art)** 3. Identify flora and fauna of your area and list them.	The students learnt: 1.About deforestation, its brief report in the notebook regarding various factors disturbing the biodiversity of their area. causes and consequences. 2. To appreciate the use of recycled paper. 3. To define and differentiate between different protected areas. 4. Importance of flora and fauna in the ecosystem and also learn the value of conservation of wildlife.	• **Personification(PA)** of any one extinct or endangered species (English speaking Skills) Rubrics **Presentation of character, Accuracy and Language** • **Poster Designing(VA)** along with Slogan to save any endangered species(Visual Arts and Hindi) **rubrics** **Required Elements,**

		endangered species, project tiger and the red data book. 6. Understand the need of migration among animals. 7. Comprehend the importance of trees and reforestation.	value of conservation of wildlife. 5. Learn the key concept that life is possible through the interdependence of plants, animals and humans. 6. Appreciate the importance of migration for flexibility.		5. About endangered species, project tiger and the red data book. 6. The need of migration among animals. 7. The importance of trees and reforestation. 8. The key concept that life is possible through the interdependence of plants, animals and humans.	**Graphical Relevance**
July 26 Days 7 periods	crop production	Specific Objectives:- To enable the students to 1. Know what is crop and understand the climatic conditions of kharif and rabi crop. 2. Know the method of preparation of field soil. 3. Understand tilling and ploughing practices. 4. Compare	Behavioral objectives The learners will: 1. Inculcate the hard work to produce the desired results 2. Appreciate the systematic approach to get the desired results. 3. Realize the fact that in order to sustain a thing its nourishment is must. 4. Learn to	1. Seed selection through soaking of seeds. 2. Study of action of manures and fertilizers on potted plants.	The students learnt: 1. What is crop and understand the climatic conditions of kharif and rabi crop. 2. Compare traditional tools with modern agricultural implements. 3. The importance of adding manures and fertilizers to the crop. 4. The value of hard work to	identifying pictures of any five agricultural tools and viva based on it rubrics: 1 identification 2 knowledge Worksheet solving based on different skills

		traditional tools with modern agricultural implements. 5. Analyse the importance of adding manures and fertilizers to the crop. 6. Explain the importance of supply of water to crops at different time intervals. 7. Analyze the impact of weedicides over weeds. 8. Describe the importance of silos and granaries for food storage.	eradicate unwanted things from life that may hinder their progress. 5. Developed the skill of analysis through the activity of seed germination.		produce the desired results 5. The systematic approach to get the desired results. 6. To eradicate unwanted things from life that may hinder their progress. 7. The skill of analysis through the activity of seed germination.	
August September 20 + 24 days (6 +4 periods)	Cell-Structure and Function	Specific Objectives 1) To make them learned and understand about cell and structural organization of cell. 2) To enhance the ability to comprehend the role and importance	Behavioural Objectives To emphasized on development of skills like observational and experimental and inculcating values like division of labor	1.To study and observe the diverse type of cell and organelles of plants and animals through permanent slides. 2.Showing slides of paramecium 3.Making an onion peel slide and observing under microscope	Learner learnt and understood about cell and structural organization of cell. 2. Skills like observational and experimental were developed in the	Observe the given slide and identify , write comments and draw a well labeled diagram Rubrics: Identification Comments (description)

		of different organelles present in the cell. 3) To make them share their opinion on evolution of self autonomous organelles like- Mitochondria and plasmid 4) To enhance the ability to understand the mechanism of different organelles with reference to	and team work (as all the organelles divide the work among themselves), leadership(as nucleus work as controlling unit), obedience (as all organelles obey the command of controlling unit) Students will be able to identify that cuts and wound heals due to the process of cell division They will be sensitized and will be able to apply their knowledge that genetic disorder cannot be cured.		students and values like division of labor and team work (as all the organelles divide the work among themselves), leadership (as nucleus work as controlling unit), obedience (as all organelles obey the command of controlling unit) were inculcated among the students. 3. Students were able to identified that cuts and wound heals due to the process of cell division 4. They were sensitized that genetic disorder cannot be cured. 5. They were able to analyze that formation of one organelle lead the formation of other organelle which inculcated the value of coordination, obedience etc. 6. Students ability were enhanced to understand the mechanism of different	**Students in groups will prepare power point presentation / model – Cell Structure and Function(VA)** OR Students will have to prepare a brochure describing the cell as amusement park. Five attractions (organelles) should be described. **Rubrics** **Organisation and clarity of concept, contribution**

					organelles with reference to their importance in vital role	
November 20 Days 4 periods	Microorganisms: friend and foe	Specific Objectives: 1. Students are able to identify the various microorganisms and their structure. 2. They would be aware about the harms and benefits of microorganisms. 3.They would get the knowledge about the commercial uses of microbes. 4. to learn the role of microbes in nitrogen fixation in nature. 5. to be aware of the diseases caused by them. 6. to gain knowledge about various food preservation techniques.	Behavioral objectives student will learn 1. how a little amount of curd can be used to set a larger quantity of milk into curd. 2. Why children are given vaccination. 3. why dough of food items like bhatura and idli rise after fermentation. 4. Appreciate the importance of microbes in industries like alcohol, wine, bread, bakery. 5.Realisetheir importance in medicines such as antibiotics, vaccines. 6. understand the need of food preservation techniques.	1. Showing video on microorganisms. 2. Observation of a drop of pond water under microscope. 3. Showing fermentation of dough rise in volume. Showing slides of microorganisms. https://www.youtube.com/watch?v=Twp381zHuTE Onion and Human Cheek cells Meity O labs	Students would: 1. identify the various microorganisms and their structure. 2. aware about the harms and benefits of microorganisms. 3. Get the knowledge about the commercial uses of microbes. 4. Why children are given vaccination. 5. Appreciate the importance of microbes in industries like alcohol, wine, bread, bakery. 6. Realise their importance in medicines such as antibiotics, vaccines	To observe some permanent slides of common microorganisms under the microscope and describe the shape and special feature of each along with the application.
December - January 20 +23 days	Reproduction in animals	Specific Objectives: To enable the students to 1. Understand male and female reproductive	Behavioral objectives student will learn 1. How do babies	1. Look out for clusters of frog eggs floating in water and write down the color and size of eggs. 2.. Make drawings of different eggs of	Students would: 1. Understand male and female reproductive systems.	Panel Discussion about puberty, problems related with adolescence,

(5 + 6 periods)		systems. 2. differentiate between oviparous and viviparous animals. 3. learn about IVF technique and test tube babies. 4. gain knowledge about internal and external fertilization and development of embryo. 5. be aware of asexual methods like cloning.	develop inside the mother. 2. Why does our body change when we reach our teen age. 3. how sex of the baby is determined. 4. some animals lay eggs while some give birth to young ones. 5. how test tube babies are born.	animals like-frog, lizard, hen , crow and analyse the differences 3. Explanation of life cycle of frog. 4. Discussion on reproductive health.	2. Differentiate between oviparous and viviparous animals. 3. Learn about IVF technique and test tube babies. 4. How do babies develop inside the mother? 5. Why does our body change when we reach our teen age. 6. How sex of the baby is determined. 7. Some animals lay eggs while some give birth to young ones. 8. How test tube babies are born.	reproductive health and common myths and taboos faced by students regarding adolescence.
Febuary-Marchv23 +24 days (6+ 7periods)	Reaching the age of adolescence	Specific Objectives 1.They would be provided knowledge about the various functions performed by different endocrine glands, Changes during puberty, Secondary sexual character. 2.They would be able to relatet their concepts with puberty and adolescence.	Behavioral objectives students learnt 1. what-is adolescence 2 the noticeable changes that occur during puberty such as-increase in height, body shape, change in voice of males, appearance of pimples	1.Calculation of full height likely to be at the end of adolescence and drawing the graph for the same. 2. Preparing charts and posters on adolescent diets and paste them in class to create awareness. 3. Discussion on avoiding the use of drugs.	They would be provided knowledge about the various functions performed by different endocrine glands, Changes during puberty, Secondary sexual character. 2.They would be able to relate their concepts with puberty and adolescence. 3.They would be made	Assessment through- Oral interaction on location and hormones and functioning of hormones secreted by endocrine glands. Rubrics: Knowledge accuracy

		3.They would be made aware about adolescent problems 4. They would learn about nutritional needs and reproductive health of adolescent.	Mental and emotional maturity bodily changes during adolescence 4. myths and taboos regarding bodily changes during adolescence		aware about adolescent problems. 1. what-is adolescence 2 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	

SUBJECT:Science (chemistry)

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioural (Application based)			
June – July 17+26Days	Theme-Synthetic 1.Fibres and	1.Recall the meaning of the term fiber	1. learners will learn to collaborate	Recall activity Learners will enlist the known natural and synthetic fibres	1.Learner will be able to define the term fiber ,	1. Data collection and

(2+5periods)	Plastics	&fabrics and list the natural fibers.	with the peer group for productive outcome.	with their uses, the reason for the choice and advantages of using them in terms of cost durability and maintenance in the tabular form.	yarn and fabric	Analysis of the Plastics manufactured and used.
		2.Understand the meaning of synthetic fiber .and contrast natural and synthetic fibers.	2.learners will be environment sensitive and promote 'R' policy.	Learners will form different formations by long chains and understand the terms like monomer, polymer and polymerisation to understand the formation of synthetic fiber.	2.Learner will be able to define the term monomer, polymer & polymerization.	2.(Informal Assessment) Analysis of the strengths of fibres
		3.State the term Plastics and differentiate between types of plastics; Recognize different linkages of monomers in plastics. Analyse the qualities of biodegradable plastics and nonbiodegradable ones.	3.learners will develop the strength to face the harsh situations.	Student Activity Learners will check the strengths of different types of threads and find the strongest using the different threads, a stand and weights. https://www.youtube.com/watch?v=z0JeLIbw7Wc –Strength of Fibres	3.Apply the knowledge of the properties of synthetic fibers before selecting a fiber for a particular purpose.	
	1. Types of synthetic fibres	4. Apply the knowledge of the properties of synthetic fibers before selecting a fiber for a particular purpose and Evaluate the effects of excessive use of plastics on environment .	4. learners will learn to use the available resources judiciously in a manner that their good qualities are enjoyed, at the same time without harming others	Student Activity (at home) Learners will find the water absorption capacity of different fabrics and discuss the observations. Different pieces of the fabrics will be dipped inthe same amount of water and soaked for known time. The amount of water left at the end will be noted and the difference will give the water absorbtion .	4.Learner will describe and differentiate the properties and uses of plastics.	

	2. concept of monomers and polymers			Brain storming on Plastic – A Boon or Bane.	5.Learner will realise the harmful effects of excessive use of plastics on environment and apply and suggest the 'R' policy.	
	3.Plastics – Types; Advantages and disadvantages;			Videos Video https://www.youtube.com/watch?v=r4Q22ApGdd8 How its made - Plastics Video https://www.youtube.com/watch?v=tNXTtdD-s1w Plastics And The Environment https://www.youtube.com/watch?v=_YEGewENa6E Environmental Impact of Plastic Water Bottles		

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Specific objectives	Behavioural objectives			
August-September 20+24 Days (3+6 periods)	2. Coal and Petroleum	• To understand that the formation of fossil fuels and differentiate the types as renewable and non renewable. • To understand the process of	• Learners will appreciate and judiciously use fossil fuels and also provide appropriate alternatives.	Warm – Up Activity- The learners will take an account of the fuel consumption in the homes : like LPG, petrol / diesel or the CNG Learners will find out the total expenditure on electricity , petrol, and cooking gas in the house for the past three months . They will suggest the ways	• Learners have learned the formation of available natural resources like coal and petroleum • They will come	**To Draw mind map showing all the components obtained on fractional distillation of petroleum, their boiling point, and applications in day to day life.(VA)**

		destructive distillation of coal and refining of petroleum and the uses of products in day to da y life. • Student should be able to explain basic facts about various renewable energy sources such as solar, hydropower, wind, geothermal, and biomass. • Identify the advantages and disadvantages of renewable energy sources • Explain basic economic concepts used to analyze energy issues • Contribution of the alternatives towards reducing emissions of air pollutants, greenhouse gases	• Learner will be environment sensitive.	to reduce the consumption of all the three sources. Learners will mark the places in India where super thermal power plants and petroleum refineries are located . Video watching - Coal https://www.youtube.com/watch?v=BQ_Ethb6_Wk https://www.youtube.com/watch?v=iN6LvH_4Q3g Video- Formation of petroleum and natural gas	to know the different products and uses of the same. • They will have learnt the judicious use of the available resources and created awareness in the society. • They are sensitised towards environment.	

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific	Behavioural			

		(Content Based)	(Application based)			
November-December 20 +20 Days (3+3 periods)	3.Metals And Non- metals	• To be able to Identify of substances as metals and non metals	• To retain one's unique qualities	• students would be provided some solid things like from laboratory and surroundings and would be asked to classify those on the basis of appearance ,texture, shininess and ringing sound	• Students will infer that metals are generally hard only with some exceptions Like sodium,potassium and lithium,and non-metals are soft and brittle. • metals are good conductors of heat and electricity where as non-metals are not • students will infer that metals are malleable and non-metals are brittle	Experimental (informal assessment) Learners will be asked to test reactivity of metals and non metals with common acids and bases Half Yearly Exam
	1. Physical and chemical Properties	• Physical properties of metals like colour, texture, sonority , malleability,ductility etc	• While retaining one's unique qualities, one should be flexible as per the situations	• mentor will show the burning of magnesium ribbon,ash collected and tested with litmus • mentor will show the burning of sulphur ,water added to the jar of sulphurdioxide and Tested with litmus • mentor will demonstrate the reactivity of Na with water	• students will comprehend that different metals will react differently with water • they will understand that reactive metals react with acids and bases to form	

					hydrogen gas.	
	2. Reactions with Acids and Bases	• To study the reactivity of metals and non-metals with air,water, acids and bases	• To be empathetic	• Students in groups will test the action of acids (dil HCl and H2SO4) on metals like Zn,Al,Fe https://www.youtube.com/watch?v=Sqac9wocFtA Relative Reactivity of Metals - MeitY OLabs https://www.youtube.com/watch?v=n8mnZxLETsg Reaction of Zinc with Dilute Sulphuric Acid - MeitY OLabs https://www.youtube.com/watch?v=9xaFPO4qnPA Burning of Magnesium in Air - MeitY OLabs https://www.youtube.com/watch?v=og4WF6V2NuY Burning of sulphur https://www.youtube.com/watch?v=q7_Kun0pZ_E Single Displacement Reaction - MeitY OLabs https://www.youtube.com/watch?v=Kwf3vUnaXDo Single Displacement Reaction - MeitY OLabs	• They will displacement reactions are those reactions in which a more reactive metal displaces a less reactive metal from its salt solution • Students will know the reactivity series and why the metals have different reactivity speeds • students will recognize the uses of metals and non-metals in daily life.	
	3.Displacement reactions	• To analyse corrosion				
	4. Uses of metals and Non-metals in daily life	To understand the applications of metals and non metals in daily life.				

Month & Working	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific	Behavioural			

Days		(Content Based)	(Application based)			
January 23 Days (4periods)	Combustion and Flame	• Recall the process of Combustion • Recognize the necessary conditions of combustion • Differentiate and compare the types of combustion on the basis of availability of oxygen • Explore the working of a simple fire extinguisher • Identify different zones of a candle flame • Explain the fuel efficiency in terms of calorific value	1.Learners will understand that it is very dangerous to sleep in a room with a coal fire burning and the doors and windows closed. 2. The learners will be aware of the fire dousing and in times of need will render assistance.	1.Learners will collect different types of materials like – paper, cotton, straw, wooden icecream stick, dry leaves, nylon rope,piece of stone, piece of glass, iron nail, Copper wire, charcoal etc. each of the piece is held overa flame for some time. Materials that catch fife and burn are noted. 2.A paper cup with filled with water has to be kept on a stand over a flame and observed whether it burns or not. The reasons are to be expressed for the same. 3.The learners need to information on the different types of fuels used for various purposes. They will also find out which one is least expensive and least polluting.	1.Learners will recall the process of combustion and the conditions needed for it. 2. They will differentiate and analyse the types of combustion occurring in real life. 3. They will understand regarding the working of fire extinguishers. 4. they will be able to analyse the cleaner fuel, that is least expensive and sustainable.	Report writing on the types of fire extinguishers suitable to douse the fire incidents.

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities &Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioural (Application based)			
February – March 23+24Days (6+6periods)	4. Air and water Pollution	Recall the composition of air and define the terms pollution and pollutants Explain air pollution ;List some air pollutants ;Discuss the sources of air pollutants;Examine the harmful effects of air pollutants Develop an understanding of Green house effect and Global warming and name various green house gases Explore the ways to reduce air pollution and predict the meaning of water pollution Enlist the factors responsible for water pollution Describe the meaning of potable water Determine various ways to reduce pollution	• Learner will inculcate that too much of something or too little of the same in the life can be harmful. Every thing in the nature must be well balanced. One should be balanced in harsh situations in life.	1.Learners will make a note of the smoke , fumes, dust and dirty odour in the air at different spots like school, neighbor hood, outskirts of the city. 2.Learners will tabulate the list of the common pollutants in air and water separately and find the information on the sources and the effects on the health of humans and thew environment. 3.To collect water samples from various sources and test for the water quality parameters like clarity, colour ,odour, acidic /basic. This has to be tabulated and conclusion has to be drawn whether it is potable or not.	Learners will be able to define the terms pollution and pollutants. Learners will analyse the impacts of air and water pollution. Learner will be environment sensitive Learner will learn to be balanced in the harsh situations and be stable.	Observation and Analysis (Based on activity 3)
