

GOOD WORD PUBLIC SCHOOL

ANNUAL CURRICULUM PLAN SESSION 2020-21

CLASS: X

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	Chemical reactions and equations	Students will be able to <ul style="list-style-type: none"> Know about the changes occur in our surroundings Understand the 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. <ul style="list-style-type: none"> Understand phenomenon of rancidity and 	Students will be able to <ul style="list-style-type: none"> Observe the changes occur in our surroundings and in terms of physical and chemical changes. 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 	Students will perform a set of reaction including - burning of magnesium wire, electrolysis of water, reaction of zinc and 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.	Students have learnt <ul style="list-style-type: none"> Characteristics of physical and chemical change Balancing of chemical equations 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 	Assignment Unit test Activity - To study the characteristics of 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.

		corrosion and its effects	environmental impacts of combustion of fossil fuel and minimize their use. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> About corrosion of metals, rusting of iron, favourable conditions for corrosion and common methods to prevent rusting. 	
June –July	Acids and salts	Students will be able to: <ul style="list-style-type: none"> 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. 	Students will be able to <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Metal Metal oxide 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 the help of universal indicator and predict their nature and how will you bring change in pH and colour of

		<ul style="list-style-type: none"> • 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	Metals and Non metals	<p>Students will be able to</p> <ul style="list-style-type: none"> • 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 	<p>Students will be able to</p> <ul style="list-style-type: none"> • Avoid the storage of acidic food in metal containers. • Prevent corrosion of iron articles at home by oiling/painting/greasing. • 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 	<ul style="list-style-type: none"> • Reaction of metals with acids. • Reaction of metals with salt solution in lab to compare the reactivity of metals Al, Zn, Fe and Cu 	<p>The students have learnt</p> <ul style="list-style-type: none"> • The physical and chemical properties of metals and non-metals 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 	<p>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.</p> <p>Reactivity series</p>

		<p>metals.</p> <ul style="list-style-type: none"> • Differentiate between roasting and calcinations. • Illustrate various methods to prevent corrosion of metals. • Understand the purpose of making alloys and their uses. 	<p>their glitter.</p>		<p>corrosion of iron articles at home by oiling /painting/greasing.</p>	
October & November	Carbon and its compounds	<p>Students will be able to</p> <ul style="list-style-type: none"> • Define combustion, oxidation, hydrogenation, addition and substitution reactions. • Distinguish between combustion of saturated and unsaturated carbons • Know about the terms covalent bond, tetravalency, catenation, homologous series and functional group. • Learn electron dot structure and IUPAC nomenclature. 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<p>Students have learnt</p> <ul style="list-style-type: none"> • 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 	<p>Class test</p> <p>Written Assignment</p> <ol style="list-style-type: none"> 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

		<ul style="list-style-type: none"> 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	Periodic classification of elements	<p>Students will be able to -</p> <ul style="list-style-type: none"> 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; 	<p>Students will be able to</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 	<p>Unit test Written assignment</p> <p>Activity To find the position of elements through its electronic configuration. To name the elements having $Z > 100$</p>

		<p>understand the significance of atomic number and electronic configuration as the basis for periodic classification recognize the periodic trends in physical and chemical properties of elements;</p> <ul style="list-style-type: none"> • 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 	<p>be motivated to follow a path of optimum values and life skills so that they can get success in life.</p>		<p>chapter and now critically think before explaining reasons about particular pattern of classification.</p> <ul style="list-style-type: none"> • 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, 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 & Working Days	Theme/ Sub-theme	Learning Objectives		Activities & Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioural (Application based)			
Jun - 04 / 24 Days Jul - 04 / 24 Days	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	<ul style="list-style-type: none"> The students will be asked to make the diagram of brain and label its various parts & relate with different the physiological activity controlled

		<p>actions.</p> <p>Describe the Central Nervous system- Structure of Brain and its function</p> <p>To understand the role of Plant hormones, plant movement,</p> <p>Understand the role of Human hormones and their secretions.</p> <p>Comprehend that control and coordination in human beings is the sum of nervous system and endocrine system</p>	<p>Nervous System and it coordinates with different systems in the body to maintain oneness in running all the physiological activities together.</p> <p>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.</p> <p>Infer the effect of hormones for the changes in human after puberty .</p> <p>Appreciate the role of hormone to cope stress.</p> <p>Realize the role of plant hormones in regulating the process of phototropism, geotropism, hydrotropism, chemotropism etc.</p> <p>Illustrate examples from daily life to relate the effect of hormones on living system.</p>	<p>Reflex action will be introduced by demonstrating some activities in which the student responds to the stimuli without thinking.</p> <p>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.</p>	<p>and involuntary actions and could apply in real life situation</p> <p>Analyse and interpret the role of different hormones and its secretion in the life span of the organism.</p> <p>Interpret and describe various plant movements with phytohormones.</p>	<p>by it.</p> <ul style="list-style-type: none"> • Assignments • Unit test, Term end exam
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			Learn to imbibe positive qualities of others and ignore the negative ones.			
<p>Aug – 04 / 23 Days</p> <p>Sep - 04 / 24 Days</p>	<p>Chapter:- How do organism reproduce?</p>	<p>*Students will be able to learn and understand the concept DNA its structure, DNA copying and its importance.</p> <p>*They would be able to analyze and relate the concept of DNA copying with variation.</p> <p>*They would be able to acquire knowledge about different modes of reproduction and apply the concept in different living organisms.</p> <p>*They would be able to comprehend the mechanism of sexual reproduction in flowering plants and human beings.</p> <p>*They will be able to analyze and think critically about the changes in the</p>	<ul style="list-style-type: none"> 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 of flower for pollination. They will be able to interpret that night blooming flowers are white whereas the day blooming flowers are brightly coloured. They will be able to evaluate that congenital 	<p>*To study the binary fission and budding in Amoeba and yeast through permanent slides.</p> <p>*To study the different parts of dicot seeds. budding and binary fission with slides.</p> <p>the vegetative Propagation in Bryophyllum leaf.</p>	<p>1) Learner learnt and understood about the concept DNA its structure, DNA copying and its importance.</p> <p>2) Students were able to identify the significance of bright colour of flower for pollination.</p> <p>3) Students were able to share their opinion on DNA copying with variation.</p> <p>4) They were able to evaluate different types of High- Yielding varieties of wheat and rice.</p> <p>5) They were able to explore their critical thinking by studying the importance of</p>	<p>*To study the different parts of dicot seeds.</p> <p>*Unit test</p> <p>*Class Test</p> <p>*Assignment</p>

		<p>human body at puberty. *They will explore their critical thinking by studying the importance of reproductive health their problems and strategies</p>	<p>anomalies are due to genetic and environmental factors.</p> <ul style="list-style-type: none"> • 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 		<p>reproductive health their problems and strategies</p> <p>6) They were able to apply their knowledge to relate congenital anomalies are due to genetic and environmental factors.</p> <p>7) They were to analyzing importance and male and female sex ratio and sex determination of child is male heterogamy.</p>	
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			campaign regarding birth control measures.			
<p>Oct – 03 / 21 Days Nov - 04 / 23 Days</p>	<p>Chapter:- Heredity and Evolution</p>	<p>*Students will be able to learn and understand the concept DNA its structure, DNA copying and its importance in variation. *They will be able to understand variations arising during the process of reproduction can be inherited. *Students will comprehend about different Mendel laws of inheritance. *They will be able to understand about sex determination in human *They will be able to differentiate between inherited and acquired traits and will be able to understand to trace evolutionary relationships.</p>	<p>*To emphasized on development of skills like observational, experimental, knowledge ,understanding, analysis, interpretation and inculcating values like Awareness, Responsibility, responsibility, coordination and empathy Students will be able to identify the existence of wisdom teeth, auricular muscles and excessive growth of body hairs are vestigial organs in human population. They will be able to interpret inheritance of blood groups in human being. They will be able to evaluate that increased incidence of female foeticide in northern India and on basis of sex chromosome who is</p>	<p>To observe the ears of all students in class to study the rule of inheritance.</p> <p>To make a punnet square for dihybrid cross.</p> <p>To flip the coin and to sketch a face with different traits using genetic trait chart.</p> <p>To observe the specimens of evidence of evolution:. *Homologous and Analogous organ in plants and animals, Vestigial organs by specimens and charts.</p> <p>To analyze their genetical character through pedigree analysis</p>	<p>1) Learner learnt and understood about the concept DNA its structure, DNA copying and its importance in variation. 2) Students were able to identify the existence of wisdom teeth, auricular muscles and excessive growth of body hairs are vestigial organs in human population. 3) Students were able to share their opinion on sex determination in human 4) They were able to evaluate between inherited and acquired traits and will be able to understand to trace evolutionary</p>	<p>To make a punnet square for dihybrid cross.</p> <p>To analyze their genetical character through pedigree analysis</p> <p>Assignment</p> <p>Unit Test</p>

			<p>responsible for sex determination of sex of baby.</p> <p>They will be able to interpret that illegal abortion of female foetus is a crime that affect sex ratio in future.</p> <p>They will be able to appreciate fossils help to unfold the mystery of evolution reflects phylogeny</p> <p>They will be able to evaluate the transmission of resemblances, with ancestors or parent is due to genes.</p>		<p>relationships.</p> <p>5) They were able to explore their critical thinking that illegal abortion of female foetus is a crime that affects sex ratio in future.</p> <p>6) They were able to apply their knowledge to relate congenital anomalies are due to genetic and environmental factors.</p> <p>7) They were to analyzing importance of transmission of resemblances, with ancestors or parent is due to genes.</p>	
<p>Dec - 04 / 24 Days Jan - 03 / 19 Days</p>	<p>Chapter:- Our Environment</p>	<p>*To make the students learn and understand about the various abiotic and biotic factor that interacts in the environment.</p> <p>*Students will learn about various food chain and web in ecosystems.</p> <p>*They will be able to analyze the impact of human in the deteriorating the environment.</p>	<p>*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.</p> <p>Students will be able to</p>	<p>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.</p> <p>Create an aquarium- Design an aquarium on a paper. What are the things we keep</p>	<p>1) Learner learnt and understood about the various abiotic and biotic factor that interacted in the environment.</p> <p>2) Students were able to identify that tertiary consumers required more energy according to 10% law and therefore depends on multiple food options.</p>	<p>Pannel discussion on Global Warming</p> <p>Assignment</p> <p>Unit Test</p>

		<p>*They will be able to interpret the cause of global warming and depletion of ozone layer.</p> <p>*They will learn about how to use and manage biodegradable substances.</p> <p>*They will be able to analyze Three concepts of 'R'.</p> <p>*The students would be familiarized with various methods to manage the garbage</p>	<p>identify that tertiary consumers required more energy according to 10% law and therefore depends on multiple food options.</p> <p>They will be able to interpret layer of atmosphere in which ozone is present (stratosphere) and its importance.</p> <p>They will be able to evaluate that increased increase in size of ozone hole is due to human activities.</p> <p>They will be able to interpret the importance of bacteria and decomposers and consequences if decomposers are removed from environment.</p> <p>They will be able to evaluate the hazards of burning plastic and biological magnification.</p>	<p>in mind when we create?....(O2 pump to provide oxygen, Aquatic plants and animals for self sustaining...etc)</p> <p>What would happen if you do not take care while putting the aquatic animals which would eat others?</p>	<p>3) Students were able to share their opinion on cause of global warming and depletion of ozone layer.</p> <p>4) They were able to evaluate that increased increase in size of ozone hole is due to human activities.</p> <p>5) They were able to explore their critical thinking with various methods to manage the garbage</p> <p>6) They were able to apply their knowledge to relate Three concepts of 'R'.</p> <p>7) They were to analyzing importance of bacteria and decomposers and consequences if decomposers are removed from environment.</p>	
<p>Feb – 04 / 24 Days Mar – 04 / 24 Days</p>	<p>Management of Natural Resources</p>	<p>*Students will be able to understand about use of different natural resources.</p> <p>*They will be able to comprehend and</p>	<p>*To emphasized on development of skills like observational, experimental, knowledge, understanding, analysis,</p>	<p>*The students will be asked to find out about the international norms to regulate emission of carbon dioxide.</p>	<p>1) Learner learnt and understood about the use of different natural resources.</p> <p>2) Students were</p>	<p>Panel discussion on how we can contribute towards meeting the international norms to regulate emission of carbon dioxide.</p>

		<p>infer their knowledge in deciding the ways by which these resources will be managed for sustainable development.</p>	<p>interpretation and inculcating values like Awareness, Responsibility, responsibility, coordination and empathy towards environment.</p> <p>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.</p> <p>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.</p>	<p>*Panel discussion on how we can contribute towards meeting those norms.</p>	<p>able to identify that how we and our family member can play important role in regulation the daily use of some natural resources.</p> <p>3) Students were able to share their opinion onin deciding the ways by which these resources will be managed for sustainable development.</p> <p>4) They were able to evaluate that energy can be produce from waste.</p> <p>5) They were able to explore their critical thinking with importance of making water potable and consequences of drinking unclean water.</p> <p>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.</p>	
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SUBJECT: PHYSICS

<p>JUNE</p>	<p>LIGHT- Reflection and Refraction</p>	<p>SPECIFIC LEARNING OBJECTIVES: Students will be able to-</p> <ul style="list-style-type: none"> • Define reflection • State laws of reflection • Differentiate 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 affecting refractive index • Explain refraction through spherical lenses • Draw image formation for 	<p>BEHAVIOURAL LEARNING OBJECTIVES: Students will be able to –</p> <ul style="list-style-type: none"> • Understand the difference between 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 	<p>Students can be asked to draw image formation, predict the result by using laws and then check the same in lab. Students can also be asked to keep the screen at the estimated positions in order to verify the image formation of mirror. Activity- Various spherical mirrors will be shown and how they are different than plane mirrors will be discussed. t of image formation will be introduced.</p> <p>Lab Activity- refraction through glass slab will be performed by students and they will also be taught relation between emergent ray incident ray.</p> <p>Calculate the rough focal length of the convex lens and concave mirror.</p>	<p>Students learnt to-</p> <ul style="list-style-type: none"> • Define reflection • State laws of reflection • Differentiate between types of reflection • Prove laws of 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 	<p>Unit test and numerical problems previous year board questions.</p>
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		<p>spherical mirrors and state the nature and position of image.</p> <ul style="list-style-type: none"> • Make use of mirror formula • Draw image formation by spherical lenses. • 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. 	<p>straw/ spoon when kept in glass filled with water etc.</p> <ul style="list-style-type: none"> • To apply that apparent depth is less than real depth. • Use various lenses. • Calculate focal length and power of lens. 		<p>depth.</p> <ul style="list-style-type: none"> • Use various lenses. • Calculate focal length and power of lens. 	
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<p>JUNE-JULY</p>	<p>Human Eye and Colourful World</p>	<p>I - <u>Specific Objectives</u> Students will be able to-</p> <ul style="list-style-type: none"> • State cause and correction of defects of vision like myopia, hypermetropia, presbyopia etc. • Define phenomenon of dispersion and state its cause. • Explain Rayleigh Scattering. <ul style="list-style-type: none"> • Explain the working of human eye. • Draw the diagrams of defected eye and corrected eye. • Draw path of light through a glass prism. 	<p>II - <u>Behavioral Objectives</u></p> <p>Students will be able to –</p> <ul style="list-style-type: none"> • Apply concepts to daily life- • Explain apparent position of stars. • Justify advanced and delayed sunrise and sun set. • Explain about the blue colour of clear sky. • Justify white colour of clouds etc. 	<p>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.</p> <p>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.</p> <p>Lab Activity- refraction through glass Prism will be performed by students and they will also be taught relation between emergent ray incident ray.</p>	<p>Students learnt to-</p> <ul style="list-style-type: none"> • 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. • 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. 	<ul style="list-style-type: none"> • Class Test and FAQ for the some topics
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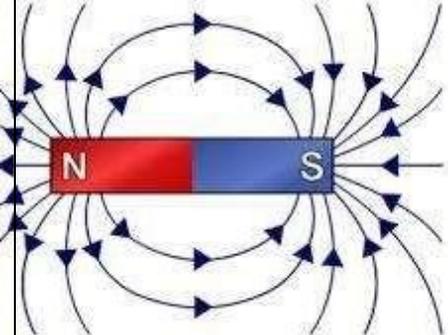
AUGUST	SOURCES OF ENERGY	<p>STUDENTS WILL BE ABLE TO –</p> <ul style="list-style-type: none"> • Define Solar, Wind, Hydro And Ocean Energy • Explain The Working Of Solar Devices Along With Their Advantages And Disadvantages • Explain Working Of Hydro Power Plant, Wind Mills • Understand How Geothermal And Ocean Energy Is Harnessed • State advantages and limitations of various resources 	<p>STUDENTS WILL BE ABLE TO-</p> <ul style="list-style-type: none"> • 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. • 	<p>Class Activity-</p> <ul style="list-style-type: none"> • Videos of working of – power plants mills <p>Using of geothermal and ocean energy.</p> <p>Students will be asked to find the locations of above plants and the energy harnessed by them.</p> <ul style="list-style-type: none"> • Students will be asked to prepare ppt on various types of resources, their harnessing, advantages and disadvantages. 	<p>STUDENTS WILL BE ABLE TO –</p> <ul style="list-style-type: none"> • 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 	
SEPTEMBER - OCTOBER	ELECTRICITY	<p>Students will be able to-</p> <ul style="list-style-type: none"> • State properties of charges • State 	<p>Students will be able to –</p> <ul style="list-style-type: none"> • Understand potential difference is 	<p>Activity- Various devices which provide potential difference will be discussed and will be shown.</p> <p>Class Activity- Teacher will</p>	<p>Students learnt to-</p> <ul style="list-style-type: none"> • State properties of charges • State coulomb's law 	<ul style="list-style-type: none"> • To verify Ohm's law.

		<p>coulomb's law</p> <ul style="list-style-type: none"> • 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 	<p>required for the flow of current.</p> <ul style="list-style-type: none"> • 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 	<p>introduce various components of electric circuit in the lab/ classroom by elaborating how to connect it and its use.</p> <p>Lab Activity- Ohm's law will be verified by the students in the lab. They will note down observations and will calculate the result.</p> <p>Class Activity- Students will be explained about various combinations of resistors and will be asked to identify series and parallel combinations.</p> <p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • To calculate net resultant resistance in series combination. • To calculate net resultant resistance in parallel combination.
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electric
circuits.

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.

<p>November December</p>	<p>MAGNETIC EFFECT OF ELECTRIC CURRENT</p>	<p>Students will be able to-</p> <ul style="list-style-type: none"> • Draw and State properties of magnetic field lines. • Explain and perform Orested experiment. • Draw and explain properties of magnetic field lines due to current carrying circular coil. • State and apply Right hand 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 	<p>BEHAVIOURAL LEARNING OBJECTIVES: Students will be able to –</p> <ul style="list-style-type: none"> • 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 to Generator. • Can prepare electromagnet s and make use of them. 	<p>1. Class Activity-Concept of the magnetic field is introduced with the help of following activity.</p> 	<p>Students learnt to-</p> <ul style="list-style-type: none"> • Draw and State properties of magnetic field lines. • Explain and perform Orested experiment. • Draw and explain properties of magnetic field lines due to current carrying circular coil. • State Right hand 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. 	<p>.Lab Activity Ask them to draw magnetic lines of forces</p>
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- 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.
- Find out the direction of magnetic field

					<p>lines due to current carrying solenoid.</p> <ul style="list-style-type: none">• 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.	
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