

SUBJECT: SCIENCE		ARMY PUBLIC SCHOOL, CHENNAI		ANNUAL LESSON PLAN - 2025 -2026	
CLASS : X		SEC: A,B,C		TEACHER'S NAME: Sona.N. Praganya R G	
MONTH	NO. OF WORKING DAYS	TOPIC(With Sub-Topics)	NO.OF PERIODS	LEARNING OBJECTIVE	ACTIVITIES
APRIL	20	<p>PHY: "LIGHT"-Ch-10 Light:Reflection and Refraction Reflection, Laws of reflection, Characteristics of images formed by plane mirror, Spherical mirrors-terms related to spherical mirrors, Rules for tracing images formed by spherical mirrors,Image formation by a concave mirror in different positions of the object, Image formation by convex mirror,Mirror Formula Magnification formula for mirrors</p> <p>CHE: Ch.1 Chemical Reactions & Equations Characteristics of Chemical Reaction,Chemical Equations(Steps to write chemical equation, Balancing Chemical Equations)</p> <p>BIOLOGY: CH : 6 Life Processes : 'Living Being'. Basic concept of nutrition, respiration, transport and excretion in plants and animals.</p>	12	<p>To enable the learners to</p> <ul style="list-style-type: none"> -Verify laws of reflection -Recognise concave and convex mirror -Locate pole and centre of curvature of the mirror -Calculate the radius of curvature and focal length of the mirror -Locate pole, focus and centre of curvature. <p>Integrates the Law of conservation of mass in representing chemical reactions into symbolic forms</p> <ul style="list-style-type: none"> -Understand different life processes in living beings -Draw the path of reflected ray. -Apply laws of reflection in tracing the path of ray - Explain the process of absorption of CO₂ & H₂O, in order to understand how autotrophs obtain substances necessary for nutrition -List and explain the strategies employed by heterotrophs to take up food, in order to understand how heterotrophs obtain nutrition -Illustrate the process involved in human digestive system, in order to explain how humans obtain nutrients from food -Outline and explain the ways of breakdown of glucose by various pathways, in order to explain how energy is obtained in organisms -Illustrate the process of transport of oxygenated & deoxygenated blood by human heart, in order to explain how oxygen is transported to cells -Describe the function of blood vessels, arteries, platelets & lymph in human body, in order to understand how human transportation system works -Explain the function of xylem (vessels and tracheids) in plants, in order to explain how plants take up water from soil Explain the function of transpiration in order to explain how water travels up in plants -Illustrate the process involved in human excretory system, in order to explain how waste is transported out of humans' body 	<p>Term I Activities:</p> <p>PHY: Multiple Assessment Activity</p> <ol style="list-style-type: none"> 1. Determination of the focal length of Concave mirror by obtaining the image of a distant 2. Image formation in concave mirror- all the positions At infinity, beyond C, At C, Between F and C <p>CHEM: Group Activity: Giving some skeletal equations and asking the students to balance them</p> <p>BIOLOGY-Model making of any one human body system (individual)</p> <p>Diagram - Nutrition in Amoeba.</p> <p>Presentation of functions of heart/Kidney (group)</p>
JUNE	20	<p>"PHY LIGHT- Ch-10 Light:Reflection and Refraction contd.. : Refraction & Laws of refraction, Refractive Index, Spherical lens- Convex & Concave lens. Refraction by Spherical lens, some important terms related to spherical lens Image formation,Lens formula, Linear magnification by lens, power of lens Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses.Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life (excluding colour of the sun at sunrise and sunset.)</p> <p>CHE Ch.1 Chemical Reactions & Equations :Types of Chemical reactions, Combination reaction, decomposition reaction, displacement reaction, double displacement reaction, redox reaction, Corrosion and rancidity</p> <p>BIOLOGY : Ch-6 Contd. Ch-7 Control and Coordination Animals - Nervous System Outline the working of a reflex arc in humans. Human Brain</p>	12	<p>To make the learners to</p> <ul style="list-style-type: none"> - Trace the path of light ray through a glass slab -Illustrate the path of incident and reflected light. -Elaborate the process of atmospheric refraction, in order to understand natural phenomena, like twinkling of stars and advance sunrise and delayed sunset. -Explain the process of scattering of light, in order to understand natural phenomena, like Tyndall effect, blue colour of the sky & red colour of sun at sunrise & sunset -Solve numericals based on refraction - Draw the ray diagrams for concave and convex lenses - derive the lens equation -Categorises the given reactions into Combination, Decomposition, Displacement, Double Displacement reactions and Redox Reactions. -Describe transpiration and other ways in which plants shed extra wastes, in order to explain excretion in plants -Draw the structure & explain the functioning of a neuron, in order to explain how electrical signals travel in human body -Outline the working of a reflex arc, in order to explain how reflex actions take place in humans -Illustrate the location and functions of different parts of human brain, in order to understand working of human brain 	<p>Enrichment Activity:</p> <ul style="list-style-type: none"> - Image formation in concave/Convex lens- all the positions - At infinity, beyond C, At C, Between F and C Refraction through glass slab - Performing and observing the following reactions and classifying them (i) Action of heat on ferrous sulphate crystals (ii) Reaction between sodium sulphate and barium chloride solutions <p>Temporary mount of leaf peel to observe stomata</p>
JULY	20	<p>CHE: CH 2 Acids, bases and salts: Their definitions in terms of furnishing of H⁺ and OH⁻ ions, General properties, examples and uses, neutralization, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of Sodium Hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris</p> <p>BIOLOGY : Ch- Control and Coordination (Contd.) Coordination in Plants,Tropic movements in plants, in order to understand how plants respond to environmental triggers like light, gravity, water, the function of endocrine glands in human body.</p>	8	<p>To make the learners to</p> <ul style="list-style-type: none"> -plan and conduct Ohm's law experiment to verify the facts. -Distinguish between Resistance and Resistivity. -Calculate using the data given resistance of a system of resistors. -solve the in-text, exercise and related questions of the concept learnt. -Calculate the heat produced due to flow of electric current. -Outline the observations & conclusions of various activities based on the properties of Metals and non metals. -Compare the chemical properties of metals and nonmetals from child's own interpretation & reasoning -Understands the difference between Calcination and Roasting - List down the reasons for changes in DNA copying and their effect on ecosystem, in order to understand importance of variations -Illustrate the process of fission in amoeba, leishmania & plasmodium, in order to understand how unicellular organisms divide -Illustrate the process of fragmentation in Spirogyra & spore formation in Rhizopus, in order to understand how multicellular organisms with simple body design divide -Illustrate the process of regeneration in Planaria, in order to understand how fully differentiated multicellular organisms divide -Illustrate the process of budding in Hydra, in order to understand how fully differentiated multi-cellular organisms use regenerative cells to divide -Illustrate the process of vegetative propagation in plants like sugarcane, roses, grapes in order to understand how plants reproduce without seeds -Label the different parts of a flower and explain their functions, in order to understand how flowers reproduce to form fruit -List down the changes occurring in male and female body in teenage years, in order to understand effects of puberty -Illustrate the male reproductive system, in order to understand its function in reproduction -Illustrate the female reproductive system, in order to understand its function in reproduction -Describe the changes taking place in female body after/ without fertilization, in order to understand human reproduction -List down the ways to avoid fertilization, in order to avoid pregnancy and maintain reproductive health 	<p>1.A. Finding the pH of the following samples by using pH paper/universal indicator:</p> <ol style="list-style-type: none"> (i) Dilute Hydrochloric Acid (ii) Dilute NaOH solution (iii) Dilute Ethanoic Acid solution (iv) Lemon juice (v) Water (vi) Dilute Hydrogen Carbonate solution. <p>2.Studying the properties of acids and bases (HCl & NaOH) on the basis of their reaction with:</p> <ol style="list-style-type: none"> a) Litmus solution (Blue/Red). b) Zinc metal. c) Solid sodium carbonate <p>Experiments- Carbon dioxide is given out during respiration.Tropism and types</p> <ul style="list-style-type: none"> - Reflex arc and pathway <p>PERIODIC TEST 1</p>
AUGUST	20	<p>PHY: Ch12 Effects of Current Electric current and circuit, Electric potential and potential difference, Ohm's Law factors on which the resistance of a conductor depends, resistance of a system of resistors,Heating effect of electric current, Electric power</p> <p>CHE:Ch 3. Metals & Non-Metals Introduction- Physical and chemical properties of metals and non-metals, metallurgical processes, Corrosion and its prevention</p> <p>BIOLOGY Ch-8 How do organisms reproduce? Introduction</p> <ul style="list-style-type: none"> -The importance of variation -Fission -Fragmentation & Spore formation -Regeneration -Budding -Vegetative Propagation -Sexual Reproduction in Flowering Plants -Human male and female reproductive system -Reproductive health 	12	<p>To make the learners to</p> <ul style="list-style-type: none"> -plan and conduct Ohm's law experiment to verify the facts. -Distinguish between Resistance and Resistivity. -Calculate using the data given resistance of a system of resistors. -solve the in-text, exercise and related questions of the concept learnt. -Calculate the heat produced due to flow of electric current. -Outline the observations & conclusions of various activities based on the properties of Metals and non metals. -Compare the chemical properties of metals and nonmetals from child's own interpretation & reasoning -Understands the difference between Calcination and Roasting - List down the reasons for changes in DNA copying and their effect on ecosystem, in order to understand importance of variations -Illustrate the process of fission in amoeba, leishmania & plasmodium, in order to understand how unicellular organisms divide -Illustrate the process of fragmentation in Spirogyra & spore formation in Rhizopus, in order to understand how multicellular organisms with simple body design divide -Illustrate the process of regeneration in Planaria, in order to understand how fully differentiated multicellular organisms divide -Illustrate the process of budding in Hydra, in order to understand how fully differentiated multi-cellular organisms use regenerative cells to divide -Illustrate the process of vegetative propagation in plants like sugarcane, roses, grapes in order to understand how plants reproduce without seeds -Label the different parts of a flower and explain their functions, in order to understand how flowers reproduce to form fruit -List down the changes occurring in male and female body in teenage years, in order to understand effects of puberty -Illustrate the male reproductive system, in order to understand its function in reproduction -Illustrate the female reproductive system, in order to understand its function in reproduction -Describe the changes taking place in female body after/ without fertilization, in order to understand human reproduction -List down the ways to avoid fertilization, in order to avoid pregnancy and maintain reproductive health 	<p>Lab Activity:</p> <ul style="list-style-type: none"> - Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I. Determination of the equivalent resistance of two resistors when connected in series and parallel. - To find the reactivity of metals by performing some reactions <p>Enrichment Activity:</p> <ul style="list-style-type: none"> Draw diagrams of types of asexual reproduction (i) Binary fission in Amoeba and budding in yeast. Slide observation. -Longitudinal section of Flower. -Discuss the reproductive health and hygiene
SEPTEMBER	20	Revision of Term I For Physics ,Chemistry and Bio	8	Revision	HALF YEARLY EXAMINATION
		<p>PHY CH 13 Magnetic effects of Current Magnetic field and field lines Magnetic Field due to a current carrying conductor, Right Hand Thumb Rule, Force acting on a current carrying conductor when kept in a magnetic field</p>		<p>To make the learners to</p> <ul style="list-style-type: none"> -Draw magnetic field lines for a bar magnet -Draw magnetic field lines for a current carrying circular loop 	<p>Multiple Assessment Activity (Worksheet/PPT/Model/Collage/Chart)</p> <p>Portfolio</p> <p>Lab Activity:</p>

OCTOBER	20	<p>CHEM: CH 4. Carbon & its Compounds Bonding in carbon and in other molecules, Versatile nature of carbon, Saturated and unsaturated hydrocarbons, Nomenclature)</p> <p>Biology-CH-9 HEREDITY</p> <p>-Mendel's experiments</p> <p>-Sex determination</p> <p>CH-15 OUR ENVIRONMENT</p> <p>-Ecosystem</p> <p>-Food chain and Food web</p> <p>-Ozone depletion</p> <p>-Managing the Garbage</p>	12	<p>-Apply the right hand thumb rule for finding out the direction of magnetic field for a current carrying conductor.</p> <p>-Understands the difference between single, double and triple covalent bonds.</p> <p>-Arrive at conclusions based on observations and the structures of ring structures like benzene using Olabs</p> <p>-Explain the rules of nomenclature of Functional groups</p> <p>-Differentiates between homologous series of alkanes, alkenes and alkynes</p> <p>-Explain Mendel's traits of inheritance, in order to understand how traits are inherited from one generation to next</p> <p>-Explain the combination of sex chromosomes, in order to understand how sex is determined in humans</p> <p>-Classify biotic and abiotic components and their interaction with each other, in order to describe an ecosystem</p> <p>-Tabulate the organisms feeding on one another (producers, consumers, decomposers) and energy transfer between them</p> <p>-Describe the formation & properties of ozone, in order to identify ways to protect it from depletion Managing garbage</p> <p>-Classify different waste products as biodegradable or nonbiodegradable, in order to assess their effect on environment</p>	<p>Study of the following properties of acetic acid (ethanoic acid):</p> <p>i) Odour. ii) Solubility in water. iii) Effect on litmus. iv) Reaction with Sodium Hydrogen Carbonate</p> <p>Enrichment Activity : Class work copy. Record works</p>
NOVEMBER	20	<p>PHY CH 13 Magnetic effects of Electric Current :Electromagnetic Induction, Domestic Electric Circuits</p> <p>CHEM: CH 4. Carbon & its Compounds: Chemical properties of carbon and its compounds, Soaps and detergents</p>	12	<p>To make the learners to</p> <p>-Understand the characteristics of domestic electrical circuits</p> <p>-categorize organic reactions as combustion, oxidation, addition and substitution reactions</p> <p>-state the properties of ethanol and ethanoic acid</p>	<p>Lab Activities:</p> <p>1. Study of the comparative cleaning capacity of a sample of soap in soft and hard water.</p> <p>2. Visualising the magnetic effect of current</p>
DECEMBER					
JANUARY					
FEBRUARY					
MARCH					
Signature of the Teacher	Signature of the coordinator	Signature of the Principal			

