ESPALIER HERITAGE SCHOOL

GRADE X- ANNUAL PLAN 2025-26

Class: X **Book: NCERT Book for Science**

Subject: Chemistry

Month	Chapter	No. of Periods	Topic	Learning objective	Learning Outcome
April	**Chemical reaction and Equations**	15	• Physical and chemical changes Chemical changes caused due to chemical reaction. • Representation of a chemical reaction as a chemical equation. Concept of word equation and symbolic equation. • Balancing a given chemical equation. • Converting a word equation into symbolic equation and balancing it. Identifying the given reaction as combination or decomposition. **Experientiallearning:** **Activity 1** To observe the burning of magnesium ribbon and check the nature of product formed. **Skills:** Critical thinking. **Activity2** To observe the reaction of quick lime with water. **Skills:** Critical thinking	➢ Relate the substances taking part in chemical reaction and formed as a result to identify the reactants and products. ➢ Use chemical symbols and formulae properly to acquire the skill of writing chemical equation. ➢ Apply law of conservation of mass in order to balance the chemical equation. Categorise the given reaction in terms of reactants and products as combination and decomposition	➢ To relate the substances taking part in chemical reaction and formed as a result to identify the reactants and products. ➢ To use chemical symbols and formulae properly to write the chemical equation. ➢ To apply law of conservation of mass in order to balance the chemical equation. To categorise the give reaction in terms of reactants and products as combination and decomposition reaction

May	**Chemical Reaction and Equations**		• Classify the reaction as displacement or double displacement reaction. Reactivity series and displacement reaction • Precipitation and neutralization reaction. • Oxidation and reduction in terms of addition and removal of oxygen and hydrogen. Identifying the oxidizing and reducing agents. **Activity3** • To observe the reaction between copper sulphate solution and iron nails. **Skills:** Technical ability, critical thinking	➢ Classify the given reaction as displacement and double displacement based on the reactants involved and products formed. ➢ Understanding the reactivity series and its application in displacement reactions. ➢ Predict the reaction as oxidation or reduction based on addition or removal of oxygen or hydrogen. Detect changes in smell, colour, taste of food items in order to explain the oxidation of food articles.	➢ To classify a given reaction as displacement or double displacement reaction. ➢ To understand the application of reactivity series in displacement reaction. To predict the reaction as oxidation or reduction and identify the substance oxidized/ reduced
June	**Acids, bases and salts**	18	• Formation of H^+ and OH^- ions in aqueous solution of acids and bases. Taste of acids and bases Nature of acids as mineral or organic and their strength. Presence of various acids in different food items.	➢ Write down the ions present in an aqueous solution of acid or a base to explain why aqueous acid/ base conduct electricity. ➢ Recall the taste of acids and bases in order to point out if the given food item contains acid or base. Observe the action of given substance With various indicators to find out their nature	➢ To identify the ions present in the aqueous solution of acids/bases. To be able to relate the nature of substance with its taste and its nature to be acidic or basic.
July	**Acids, bases and salts**		• Action of indicators on acids and bases and their change in behavior. Reaction of metals with acids to give hydrogen gas. Reaction of metal carbonates and Bicarbonates with acids to give carbon dioxide.	➢ Detect the formation of hydrogen gas on treatment of a metal with dilute acid. ➢ Detect the formation of carbon dioxide on treatment of metal carbonate or bicarbonate with dilute acids.	➢ To detect the formation of hydrogen gas on treatment of a metal with dilute acid. ➢ To detect the formation of carbon dioxide on treatment of metal carbonate or bicarbonate with dilute acids.

			Reaction of some metals with bases. Nature of metal and non metal oxides formed. • **Experiential learning:** **Activity 1** • To observe the action of dilute sulphuric acid on zinc granules and check the gas formed. • To observe the action of dilute hydrochloric acid on sodium carbonate and check the gas formed.		
August	**Acids, bases and salts**		• Importance of pH in our daily lives • Manufacture of sodium hydroxide, common salt, washing soda, baking soda, bleaching powder and plaster of paris. • Learning the chemical reactions involved in the formation of above compounds. • Understanding the uses of these compounds in our day to day life. ○ **Skills:** data collection and analysis. **Activity2** • To observe the change in colour of pH paper on treatment with lemon juice, toothpaste, soap solution, milk, tap water and orange juice. ○ **Skills:** Technical ability	➢ Understand the concept of pH. ➢ Know the general methods of preparation of some common chemical compounds . Understand the chemical reactions involved in preparation of those compounds and identify their uses.	➢ To understand the concept of pH. ➢ To know various practical applications of pH in everyday life. To know the preparation, properties and uses of some important chemical compounds such as bleaching powder, baking soda, washing soda etc

Septem ber	**Chapters 1& 2** **Metals and nonmetals**	14	Revision of chapters1&2HOTS questions from both the chapters. • Reaction of metals with oxygen, water and dilute acids. • Reactivity series and its application. • Evolution of hydrogen and its detection. • Specific conditions for reaction of different metals with water and the products formed in each case. **Activity1** • To observe the reaction of magnesium with water and iron with steam. **Skills:** criticalthinking, knowledge	➢ Predict the products when metals and nonmetals react with oxygen, water, dilute acids. ➢ Writing balanced chemical equations for the above chemical reations. ➢ Analyse the process of getting metals from their oxides, carbonates and sulphides in order to extract them from their ores.	➢ To understand the reactions of metals and nonmetals with water, dilute acids etc ➢ To be able to write balanced chemical equations for the above reactions. To know the basic processes involved in extraction of metals from their ores and different techniques involved depending upon the nature of metal and its reactivity
October	**Metals and nonmetals**		• Occurrence of metals in nature as minerals and ores. Different types of ores. General principles involved in extraction of metals. • Principles involved in extraction of metals and process involved. Purification and refining of metals and their uses. Corrosion of metals and its prevention	➢ Understand the bonding between metals and nonmetals ➢ Drawing electron dot structures of some common ionic compounds ➢ Knowing the general principles involved in extraction of metals. ➢ Explain the process of electrolytic refining in order to assess how to obtain pure metal from impure samples. Observe corrosion in metal articles and its process in order to develop Ways to prevent corrosion by forming alloys, painting, galvanizing.	➢ To know the bonding between metals and nonmetals. ➢ To be able to draw the electron dot structures of some ionic compounds. ➢ To know the process of metallurgy. To know the process of electrolytic refining

Novem ber	**Carbon and its Compou nd s**	22	• Electronic configuration of carbon and its tetravalency. • Anomalous behavior shown by carbon. • Catenation **Activity1** • **<u>Subject enrichment:</u>** • To understand the contribution of IUPAC in Organic chemistry. • **Skills:** technical ability, attention to detail. • Drawing electron dot structures of various carbon compounds to classify them as alkanes, alkenes and alkynes. • Draw the structure of carbon compounds involving functional groups to understand their properties. Writing the formula of compounds in the same homologous series. • Predicting the properties of compounds on the basis of the homologous series they are present in. Using the rules specified by IUPAC, writing the names of various carbon compounds containing • Functional groups. • Burning of saturated and	➢ Write down the electronic configuration of carbon in order to predict the formula of carbon compounds and illustrate the structure of molecules of carbon compounds with chain, branched and ring structure. ➢ Able to make and understand the electron dot structures of various saturated and unsaturated carbon compounds. ➢ Understand the classification of hydrocarbons as alkanes, alkenes and alkynes. ➢ Know about common functional groups and nomenclature of compounds containing them. ➢ Writing the formula of compounds falling in one homologous series ➢ To observe the burning of carbon compounds in oxygen to classify them as saturated and unsaturated compounds. ➢ Illustrate the chemical properties of carbon compounds as oxidation, combustion, addition substitution etc along with balanced chemical reaction. ➢ Identify reaction of carbon with chlorine in the presence	➢ To understand the reason for existence of carbon in different allotropic forms. ➢ To know about catenation and its impact. To understand the concept of existence of hydrocarbons and their types. ➢ To be able to draw the electron dot structures of some covalent compounds. ➢ To understand the classification of hydrocarbons into straight chain, branched chain, cyclic etc ➢ To know the basic IUPAC rules for nomenclature of hydrocarbons. ➢ To be able to draw different isomeric structure and write their IUPAC names. ➢ To know about homologous series and its characteristics. ➢ Burning of different compounds. ➢ Reaction of various Hydrocarbons/carbon with Chlorine in presence of Light. ➢ Reaction of Alkenes with hydrogen in the presence

			unsaturated compounds differently. • Reaction of hydrocarbons with oxygen, hydrogen etc • Reaction of alkenes with hydrogen in the presence of nickel catalyst. Reaction of alkanes with chlorine in the presence of light. • Various chemical tests to distinguish between ethanol and ethanoic acid. Cleansing action of soaps and micelle formation. **Activity2** **Experiential learning** To test the given compounds as ethanol and ethanoic acid using various chemical tests. • **Skills:** Attention to detail, technical ability	of light. ➢ Performing various tests to distinguish between ethanol and ethanoic acid. To describe the formation of micelle in order to understand how soap works.	of Nickel catalyst. ➢ Classification of Saturated/Unsaturated compounds. Tests to distinguish between ethanol and ethanoic acid.
December	**Sample papers & revision**				
January	**Sample papers & revision**				

Subject - **Biology**
Book- NCERT SCIENCE TEXTBOOK FOR CLASS X

Month	Chapter	No. of pr.	Topics	Learning Objective	Learning Outcome
April	CH- 5 Life Processes	18	Revision of previous knowledge- Recapitulation of academic vocabulary – nutrition, respiration, excretion, reproduction, environment, etc Nutrition – Types Autotrophic nutrition in detail, Light and CO_2 necessary for photosynthesis Opening and closing of Stomata • Holozoic Nutrition in Amoeba and Human beings • Respiration – Aerobic and Anaerobic • Respiration in Human beings- Tidal and residual volume, movement or ribs and diaphragm during inhalation and exhalation, • Transport system in Human Beings - Human heart, Blood and blood vessels, Human heart- Pulmonary and systemic circulation, structure of human heart, Blood- its composition and functions. Blood vessels- Arteries, veins and capillaries ACTIVITY: **Role play** – Holozoic nutrition in Amoeba ACTIVITY -2 Group discussion on "Warm blooded animals have four chambered heart". **Skills:**Critical thinking	To help the learners ➢ Explain the process of absorption of CO_2 and H_2O in order to understand nutrition in autotrophs ➢ List and explain the strategies employed by heterotrophs to take up food ➢ List the enzymes and their functions involved in human digestive system ➢ Outline and explain the ways of breakdown of glucose by various pathways ➢ Illustrate the process of transport of oxygenated and deoxygenated blood by human heart ➢ Describe the functions of blood vessels, blood and lymph in human	Learners will be able to: ➢ Compare autotrophic nutrition and heterotrophic nutrition ➢ Describe autotrophic nutrition in plants and heterotrophic nutrition in humans ➢ Explain the processes like aerobic and anaerobic respiration ➢ List the components of blood ➢ Explain the mechanism of circulation of blood in human body ➢ Describe the need of transport system ➢ Draw labelled diagrams of digestive, respiratory, circulatory systems ➢ Draw flow charts/ concept maps/ graphs – such as digestive, respiratory and circulatory systems. ➢ Develop awareness on maintaining good health

May	CH- 5 Life Processes		• Transportation in plants-Transport of water and minerals through xylem • Transpiration – a necessary evil, root pressure • Transport of food through phloem **Experiential Learning-**Put a twig of plant in coloured water and observe it. • Excretion in Human beings, Artificial kidney Excretion in plants **Case study -** A situation with some information about renal disease will be given. **Skills**: Critical thinking and self awareness	➢ Illustrate the process involved in transport of materials through xylem and phloem in plants ➢ Describe the mechanism of filtration of blood in the kidneys and excretion of wastes in human body	➢ Explain the process of ascent of sap and translocation ➢ List the components of our excretory system and explain the process of filtration of blood ➢ Draw labelled diagrams of excretory system
June	CH- 6 Control and Coordination	16	• Control and Coordination in Animals – Nervous system: Structure of a neuron, stimulus and conduction of messages, synapse, Central nervous systemand Peripheral nervous system • Parts of brain and the actions controlled by the brain • Spinal cord, cranial and spinal nerves, Stimuli and responses ACTIVITY1 **Subject Enrichment**: Lab Experiment- 1. Light is necessary for photosynthesis. 2. CO_2 is released during respiration. 3. Stomata on the surface of a leaf ACTIVITY --2 **Art Integrated project** **Model of a neuron** using clay/any waste material **Skills:** Creative Thinking	➢ List the components of our nervous system ➢ Illustrate the location and functions of different parts of human brain ➢ Explain the conduction of message through nerves ➢ Draw the structure and explain functioning of a neuron	➢ Describe the components of our nervous system ➢ List the various lobes of human brain and their functions ➢ Explain the process of conduction of nerve impulse ➢ Draw a labelled diagram of a neuron ➢ Draw flow chart on reflex arc ➢ Make models of neuron/ reflex arc

July	CH- 6 Control and Coordination		• arc in order to explain how reflex actions take place in humans • Illustrate the functions of endocrine glands in human body in order to understand functioning of hormones • Examine tropic movements in plants in order to understand how plants respond to environmental triggers like light, gravity and water • Nastic movement in touch-me-not plants **Case study on common disorders of endocrine glands** A situation with some information about hormonal disorders (Goitre/ Diabetes) will be given. **Skills**: Critical thinking and self awareness ACTIVITY- 1 **Learning wheel** on endocrine glands and hormones in human beings **Skills:** Creative thinking	➢ Draw reflex arc in order to explain how reflex actions take place in humans ➢ Illustrate the functions of endocrine glands in human body in order to understand functioning of hormones ➢ Examine nastic/ tropic movements in plants in order to understand how plants respond to environmental triggers like touch, light, gravity and water	➢ Draw a labelled diagram of a reflex arc ➢ List the components of reflex arc ➢ Explain the hormonal control on human physiology ➢ Describe tropic and nastic movements in plants ➢ Relate the growth of root, shoot and nastic movements with respect to light, gravity and touch
August	Ch- 13 Our Environment	14	• Biodegradable and non-biodegradable wastes and their impact on environment • Ecosystem and its components • Natural and artificial ecosystems Food chains and food webs • Food chains and food webs, Trophic levels, Energy flow, Energy pyramids, Biomagnification • Ozone formation, its role, causes of ozone depletion and its ill effects on human health **HOTs:** Calculations based on energy flow through different trophic levels of a food chain **Skills:** Critical thinking ACTIVITY – 1 **Art Integrated Learning**- Impact of	➢ Classify different waste products as biodegradable and non-biodegradable in order to assess their effect on environment ➢ Tabulate the organisms feeding on another and energy transfer between them in order to form a food chain or a food web ➢ Classify biotic and abiotic components and their interaction with each other ➢ Describe the formation and importance of ozone in order to identify ways to protect it from depletion	➢ Classify biotic and abiotic components and their interaction with each other ➢ Describe the formation and importance of ozone in order to identify ways to protect it from depletion ➢ take steps to promote sustainable development ➢ Take initiatives to protect environment ➢ Describe ozone formation and its importance ➢ Minimise the use of aerosols, CFCs to prevent ozone depletion ➢ Make models using eco-friendly materials

			non – biodegradable substances on Forest Ecosystem (Jharkhand) and Marine ecosystem (Telangana)- Collage making, slogan writing, songs or any art form Students spread awareness on ill effects of non-biodegradable substances on animals by distributing cloth bags having messages for animal protection. • **Skills:** Creative& critical thinking		
September	CH- 5, 6 &13		Revision of CH –6, 7 & 15 SA, LA and HOTS Questions Diagram practice		
October	CH- 7 How do Organisms Reproduce?	12	• Modes of reproduction used by single organisms- Fission, fragmentation, Regeneration, Budding, Vegetative reproduction, spore formation • Sexual reproduction, Why the sexual mode of reproduction? Sexual reproduction in flowering plants • Reproduction in human beings, development of embryo, role of placenta, seminal vesicles and prostate gland • Reproductive health, bacterial and viral STDs, methods of contraception ACTIVITY- **Subject Enrichment:** Observe permanent slides of binary fission in Amoeba and budding in yeast.	➢ Illustrate the process of fission in amoeba, leishmania and plasmodium in order to understand how unicellular organisms divide ➢ Illustrate the process of fragmentation in Spirogyra, regeneration in Planaria, budding in Hydra, vegetative propagation in plants and spore formation in Rhizopus ➢ Label the different parts of a flower and explain their functions ➢ Explain double fertilisation in plants ➢ List down the changes occurring in male and female body in teenage years in order to understand effects of puberty ➢ Describe the changes taking place in female body without/ after fertilisation ➢ List various methods of contraception	➢ Compare binary fission in *Amoeba* with *Leishmania* ➢ Explain the differences among various modes of asexual reproduction ➢ Explain the differences between fragmentation in *Spirogyra* and regeneration in *Planaria* ➢ Describe double fertilisation in plants ➢ Draw labelled diagrams of a bisexual flower and pollen germination and fertilisation ➢ Describe secondary sexual characters in male and female ➢ Explain gamete formation and fertilisation ➢ Describe the embryonic development in mother's womb, role of placenta ➢ Explain various methods of contraception and their needs in controlling STDs and preventing pregnancy

November	CH- 8 Heredity and Evolution	12	• Accumulation of variation during reproduction, Heredity, Rules of Inheritance of Traits – Mendel's combinations, How do these traits get expressed – monohybrid and dihybrid crosses • Sex determination- sex chromosomes, environmental sex determination ACTIVITY 1- Evolution " Telephone" Students stand in a line. A complicated message whispered in the ear of the first student and the last one says that loudly.	➢ Explain how changes in DNA can lead to stronger/better species ➢ State and explain Mendel's traits and Laws of Inheritance ➢ Explain the combination of sex chromosomes in order to understand how sex is determined in humans	➢ Relate variations with reproduction ➢ Explain Mendelian traits and their transmission through generations ➢ Describe sex determination in man and role of environment in sex determination ➢ Relate more number of females in some organisms like turtle due to global warming ➢ Respect diversity
December	CH- 5, 6, 7, 8 & 13		• Life Processes - Nutrition, respiration, transportation and excretion • Control and Coordination- Nervous and chemical control in humans, tropic and nastic movement in plants and phytohormones • Reproduction- asexual and sexual • Mendel's Laws of Inheritance, sex determination Our environment- Biodegradable and non-biodegradable wastes, Biomagnification		
January	CH- 6, 7,8,9 & 15				PRE- BOARD

Month	Chapter	No. of pr.	Topics	Learning Objectives	Learning Outcomes
April	**RECAPITULATION** **CH-9** **LIGHT-REFLECTION AND REFRACTION**	12	• Overview of full syllabus • Fundamental and derived units of physical quantities to be dealt in the syllabus • Definition of SI unit of physical quantities. • Operations on numbers in standard form • Revision of light,reflection and its types. • Types of images(real and virtual) • Plane mirror and spherical mirrors. • Terms associated with spherical mirrors and image formation. ACTIVITY-1 **Subject Enrichment**:- Determination of focal length of a concave mirror by focusing a distant object.	Enable learners to: • define SI units • operate large numbers easily • recall concept of reflection • differentiate real and virtual images • State the laws of reflection of light, in order to understand how light travels in a medium when it encounters another object. • Outline the rule of image formation by spherical mirrors in order to complete the ray diagrams by drawing reflected rays. • represent the path of incident ray and reflected ray in order to decipher the position and nature of image formed	Learners will be able to : • define SI units • operate large numbers easily • recall concept of reflection • differentiate real and virtual images • State the laws of reflection of light, in order to understand how light travels in a medium when it encounters another object. • Outline the rule of image formation by spherical mirrors in order to complete the ray diagrams by drawing reflected rays. • represent the path of incident ray and reflected ray in order to decipher the position and nature of image formed

May	**CH-9** **LIGHT-REFLECTION AND REFRACTION** **(Contd.)**	6	• Uses of spherical mirrors. • Sign convention for reflection by spherical mirrors. • Mirror formula and magnification. • Refraction of light. • Refraction through a rectangular glass slab.	• express u, v, f in the mirror formula in order to apply sign convention in solving word problems to find the unknown variable. • deduce the nature and size of image by magnification in order to relate height of object with height of image. • demonstrate the path of light when it travels through a rectangular glass slab, in order to Formulate laws of refraction of light.	• express u, v, f in the mirror formula in order to apply sign convention in solving word problems to find the unknown variable. • deduce the nature and size of image by magnification in order to relate height of object with height of image. • demonstrate the path of light when it travels through a rectangular glass slab, in order to Formulate laws of refraction of light.
June	**CH-9** **LIGHT-REFLECTION AND REFRACTION** **(Contd.)**	12	• The refractive Index. • Absolute refractive index and related numerical problems. • Refraction by spherical lenses. • Image formation by lenses. • Image formation in lenses using ray diagrams. • Sign convention for spherical lenses. • Lens formula and magnification. • Related numerical problems. • Power of a lens and related numerical.	• Compare the speed of light in one medium with another in order to calculate refractive index.Represent the path of incident & reflected light rays from a concave lens ,in order to decipher the position and nature of the image formed. • Illustrate the path of incident & reflected light Rays from a convex lens,in order to decipher the position and nature of the image formed. • Construct the lens formula for a lens relating v, u, f; in order to find an unknown variable given	• identify the angle of incidence and the angle of refraction. The student should be able to relate the direction which light bends (towards or away from the normal) if given the relative speed of light in the two medium

			ACTIVITY-2 **<u>Subject Enrichment:</u>** **<u>i)</u>** Determination Of Focal length of a convex lens by focusing a distant object. <u>ii)</u> Tracing the path of the rays of light through a rectangular glass slab for different angles of incidence.Measure the angle of incidence,angle of refraction,angle of emergence and interpret the result. ACTIVITY-3 **<u>Experiential Learning:-</u>** Activity to show what caused the objects to be visible in one kind of a liquid and not in others. **Skills-**Creative and critical thinking	the other two. ● State the magnification-for a lens,in order to relate height of Object with height of image. ● Calculate the power of a lens, in order to determine its power to converge or diverge.	● relate magnification of image with object and image distance.
July	**CH- 10** **HUMAN EYE AND COLOURFUL WORLD**	12	● The human eye. ● Power of Accommodation. ● Defects of vision and their correction	● Illustrate the parts and function of the human eye,in order to understand how humans see the objects around them.	● Eye helps us in visualizing objects and also helps us in light perception, color, and depth perception. ● The human eye consists of

	SDG:- Good Health and-well Being		• Refraction of light through a prism. • Dispersion of white light by a glass prism. • Formation of Rainbow. • Atmospheric Refraction. • Scattering of light.	• Describe how focal length of eye changes, in order to understand how humans see close and far objects. • Identify the defects of vision in the human eye(myopia, hypermetropia, presbyopia) and their causes, in order to devise a correction method for them. • Examine the path of light rays through a prism,in order to determine how light gets deviated when travelling through a prism. • Trace the path of white light rays through a prism,in order to determine that white light is made of seven colours. • 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 the Tyndall effect, blue colour of the sky.	the following parts: Sclera, cornea, iris, pupil, lens, retina, and optic nerve. • When the **atmosphere** refracts more star-light towards us, the star appears to be bright and when the **atmosphere** refracts less star-light. • Scattering of light that we come across in day-to-day life are: Blue colour of the sky • Out of the seven components present in sunlight, blue colour is scattered the most by the particles present in the atmosphere and hence, the sky appears blue.

August	**CH- 10** **HUMAN EYE AND COLOURFUL WORLD(Contd.)** **CH-11** **ELECTRICITY**	12	**<u>Art Integrated Learning:-</u>** Trace the path of white light rays through a prism, in order to determine that white light is made of seven colour. ● Electric current and circuit. ● Electric potential and potential difference. ● Circuit diagram and Ohm's law ACTIVITY **<u>Experiential Learning:</u>** Group activity to understand electric circuit, electric charge,electric current and electric potential by making a simple circuit containing wires,switch, cells and a torch bulb. **Skills:**Curiosity,Critical Thinking.	● Evaluate the charge flowing through a conductor in a given time, in order to calculate current flowing through it. ● Determine work done in moving a charge across two points, in order to calculate potential difference between two points ● Identify the electrical components and their functions, in order to build a functioning circuit. ● Plot a graph between voltage and current, in order to prove ohm's law & find resistance	● Define electric charge , electric current , electric circuit , one ampere etc. ● · Recall S I unit of physical quantities used, learn formula used. ● Draw different electric symbols and electric circuits. ● solve numerical problems given in the text books.
September	**CH-9 & 10**		Revision of CH–9 & 10 SA,LA and HOTS Questions Diagram practice.		

October		9	• Factors on which resistance of a conductor depends. • Resistance of a system of resistors. • heating effect of electric current • electric power **Subject Enrichment-** • Verification of ohm's law. • equivalent resistance of two resistors when connected in series/parallel	• Define resistivity and its range for different materials,in order to classify substances as conductors,alloys and insulators. • Determine the resultant resistance in a series and a parallel combination, in order to identify the suitable combination like house etc. • explain and calculate the heating effect of electric current in order to learn how appliances like heater and iron works. • Calculate power in order to represent electric consumption in domestic circuits.	• Define resistivity and its range for different materials,in order to classify substances as conductors,alloys and insulators. • Determine the resultant resistance in a series and a parallel combination, in order to identify the suitable combination like house etc. • explain and calculate the heating effect of electric current in order to learn how appliances like heater and iron works. • Calculate power in order to represent electric consumption in domestic circuits.
November '24	**CH-12** **MAGNETIC EFFECTS OF ELECTRIC CURRENT**	12	• Magnetic field and field lines. • Magnetic field due to a straight current carrying conductor. • Magnetic field due to a straight current carrying circular loop. • Magnetic field due to a straight current carrying solenoid. • Force on a current carrying conductor in a magnetic field. • Domestic Electric	• Draw magnetic field lines for a bar magnet, in order to identify the magnetic field strength at different points around a magnet. • Represent magnetic field lines for a straight current carrying conductor, in order to identify the magnetic field strength at different points around it. • Draw magnetic field lines for a current carrying circular loop, in order to identify the magnetic field strength at different points	• Electricity and Magnetism - The goal is for students **to learn how magnetic poles interact**. Also, they will learn the shape of the magnetic lines of force and how the domains of a magnet are arranged. • Electromagnets- The students will make an electromagnet and determine the strength of the electromagnet.

			circuits. **Art Integrated learning:-** Analyse the Significance of neutral, earth and live Wire, in order to understand formation of a domestic electric circuit with the help of label diagram	around it. • Outline magnetic field lines for at current carrying solenoid, in order to identify the magnetic field strength at different points around it.State Fleming's Left-Hand rule, in order to understand the working of an electric motor. • Analyse the significance of neutral, earth and live wire, in order to understand formation of a domestic electrical circuit.	
December	CH-9,10,11,12	9	Revision of CH – 10,11 & 12 SA, LA and HOTS Questions Diagram practice		
January	CH-9,10,11,12	9	Revision of CH – 10,11 & 12 SA, LA and HOTS Questions Diagram practice		