KIDS WORLD SCHOOL, NAGPUR
SESSION – 2026-27
CLASS - X
SUBJECT – PHYSICS

UNIT		Topic	Sub-Topic	Month		Suggested Ice-Breaking Activity	Teaching Pedagogy	Curricular Goals	Competency	Expected Learning Outcome	Assessment
No.	Name			Starting	Closing						
1	Electricity	*Current *Potential Difference *Circuit and its components *Ohm's Law *Resistance *Resistivity *Series and Parallel combination Heating Effect of Current *Applications of heating Effect	Numerical on current, p.d., ohm's law, Resistivity. *Joules law of heating	JUNE	JULY	Dance on a song when instructed to PLAY and stop when instructed OFF.	* Inquiry _ Based Learning *Modelling Instructions *Peer Instructions *context Based Learnings *Interactive Demonstration *Constructivism *Pedagogical Content Knowledge(PCK) *Metacognition	CG.1. Explore the physical world around them and understand scientific principles and laws based on observations and analysis. CG.2. Comprehend the concepts of electric current, circuits, and circuit components. CG.3. Apply Ohm's Law to calculate voltage, current, and resistance in electric circuits. CG.4. Analyse electric circuits: Analyse electric circuits, including series and parallel circuits. CG.5. Understand electric power and energy: CG.6. Understand the concepts of electric power and energy, and calculate electrical energy consumption. CG.7. Develop problem solving skills: Develop skills to solve problems related to electric circuits and electrical energy.	C.123. Applies the concept that ordered flow of charges constitutes electric current, the effect of potential difference is the cause for motion of charges and analysis of the diagrammatic representation of circuits and its components. C.2. Explains the relationship between electric potential difference and flow of charge i.e.; current and connect it to ohm's law. Manipulates and analyses different characteristics of the circuit (current, voltage, resistance) and mathematically express their relationship (ohm's law), and applies it to everyday usage (electricity bill, short circuit, safety measures).. C.3. Defines Electric current, electric potential, resistance scientific terms and represents the relationship between rate of flow of charges and time, electric potential as relationship between amount of work done in moving charges by charged moved, resistance as ratio of potential difference and current.	LO.1. Develops understanding about electric field, electric potential, electric potential difference and one volt. LO.2. Draws linkages about the effect of potential difference is the cause for ordered flow of charges in a conductor. LO.3. Learn V= W/Q and use the formula and its units. LO.4. Describes the relationship between V,I and R Using Ohms Law and Learns the Formula and SI Units of Physical Quantities.	ASSESSMENT AS LEARNING

2	Magnetic Effect of Electric Current	*Magnetic Field * Magnetic Field due to straight conductor * Magnetic Field due loop * Magnetic Field due to Solenoid *Flemings Left Hand rule .	*Magnetic Field due to Bar Magnet *Properties of Magnetic Field *Right Hand Thumb Rule *AC and DC	AUGUST	AUGUST	Make different Figure gesture used in Yoga's.	* Inquiry _ Based Learning *Modelling Instructions *Peer Instructions *context Based Learnings *Interactive Demonstration *Constructivism *Pedagogical Content Knowledge(PCK) *Metacognition	CG.1. Explores the physical world around them, and understands scientific principles and laws based on observations and analysis. CG.2. Explores the nature of science by doing science. CG.3. Draws linkage between scientific knowledge and knowledge across other curricular areas.	C.1. Designs and plan for scientific inquiry. Draws inferences based on the data & understanding of scientific concepts, theories, laws & principles. C.2. Applies the scientific principles to explain phenomena in other subjects (MRI in medical sciences). C.3. Applies Oersted's experiment principle in electromagnets, motors, dynamos, transformers. C.4. Explains the relationship between electric current & Magnetic field. C.5. Draws magnetic field lines for a bar magnet in order to identify magnetic field strength at different points around a magnet. C.6. Analyse the significance of neutral, earth and live wire in order to understand formation of domestic electrical Circuit. State and define right hand rule and Fleming's left hand rule in order to know the direction of magnetic field and force acting on current carrying conductor.	LO.1. Relates processes and phenomena with cause / effects such as deflection of compass needle due to magnetic effect of electric current. LO.2. Describes the contribution of Oersted's in the field of electricity and magnetism. LO.3. Takes initiative to know about scientific discoveries / inventions, such as Maxwell's discovery that electricity and magnetism are related.	ASSESSMENT FOR LEARNING
3	Light	*Reflection *Spherical Mirrors *Refraction *Glass Slab * spherical Lenses *Powers	*Reflections by mirror *Sign conventions by mirror/ lenses. *Numerical on mirror/lens * Power of combination	AUGUST	OCTOBER	Start laughing when tube light is switched on and stop laughing when tube light is switched off.	* Inquiry _ Based Learning *Modelling Instructions *Peer Instructions *context Based Learnings *Interactive Demonstration *Constructivism *Pedagogical Content Knowledge(PCK) *Metacognition	CG.1. Explores the physical world around them, and understands scientific principles and law's based on observations and analysis. CG.2. Explores the nature of science by doing science.	C.1. Manipulates the position of the object and properties of lenses (Focus, centre of curvature) to observe image characteristics and correspondence with a ray diagram and extends this understanding to a combination of lenses. C.2. Develops accurate and appropriate models for ray diagrams of spherical mirrors and draws ray diagrams for spherical mirrors. Develops accurate and appropriate models for ray diagrams of spherical lenses and draws ray diagrams for spherical lens.	LO.1. Represent the path of incident ray and reflected ray in order to decipher the position and nature of image formed. LO.2. Express u, v, f in the mirror formula in order to apply sign convention in solving word problems to find the unknown variable. LO.3. Demonstrates the path of light when it travels through a rectangular glass slab, in order to formulate laws of refraction of light.	. ASSESSMENT OF LEARNING

4	Human Eye and Colorful world	*Human Eye and its working *Defects of vision *Dispersion of light *Atmospheric refraction *Scattering O Light	*Myopia *Hypermetropia *Formation of Rainbow. *Twinkling of Star *Apparent Position of star *Early sunrise and delay sunset *Blue colour of Sky	NOVEMBER	DECEMBER	*cover eyes and walk in a straight line	* Inquiry _ Based Learning *Modelling Instructions *Peer Instructions *context Based Learnings *Interactive Demonstration *Constructivism *Pedagogical Content Knowledge(PCK) *Metacognition	CG.1. Explores the physical world around them and understands scientific principles and laws based on observations and analysis. CG.2. Explores the structure and function of the living world at the cellular level. CG.3. Explores interconnection between organisms and their environment. Knows and explains the significance contributions of Indian scientist Sir C.V Raman and Raman Effect and inventions, discoveries, scattering of light. CG.4. Explains the processes of atmospheric refraction, scattering and dispersion of light.	C.1. Explain the relation between wave speed, frequency and wave length and find the relation between scattering of light with size of the atom or molecule. Manipulates the position of object and properties of eye lenses and observe the image characteristics and correspondence with eye defects. Defines power of accommodation, eye defects, power of lens, scattering of light, dispersion of light and Tyndall effect etc. C.2. Explain the structure of human eye and how the parts are functioning. Define types of eye defects. Differentiate eye defects (myopia, hypermetropia and presbyopia) Describes and explain the common defects of myopia, hypermetropia, presbyopia and its corrections.	LO.1. Illustrate the parts and functions of human eye in order to understand how humans see and the vision process of the human eye. Identifies different parts of human eye. Draws structure of human eye and label its parts. LO.2. Classifies defects of human eye. Draws defects diagrams for eye and correction defects using lens for human. LO.3. Traces the path of white light rays through a prism, in order to determine that white light is made of seven colours.	ASSESSMENT OF LEARNING