

CLASS:IX

SUBJECT:PHYSICS

ANNUAL CURRICULUM PLAN SESSION 2026-27

TOPIC	INNOVATIVE / ART INTEGRATION/ EXPERIENTIAL LEARNING / INTER DISCIPLINARY	Expected Learning Outcomes
DESCRIBING MOTION AROUND US Distance, displacement, speed, velocity, acceleration, uniform and non uniform motion, elementary idea of circular motion, distance- time graph and velocity time graph	EXPERIENTIAL LEARNING ✎To understand distance and displacement can be same in some situations and different in some situations. ✎Calculate the average walking or running by evaluating the distance and time. ✎Identify the nature or kind of motion of own or anybody. ART INTEGRATION ✎Drawing of various graphs INTER DISCIPLINARY ✎Integration with mathematics	✎They have learned the concept of various terms related to motion such as distance, displacement, speed, velocity and difference between them. ✎They have learned the concept and examples of the uniform and non- uniform motion. ✎They have learned to represent motion by using graph. ✎They have learned the term acceleration. ✎They have learned the concept of uniform circular motion and its application in daily life. ✎They have learned use of term average speed and average velocity while moving of any object.

HOW FORCE AFFECTS MOTION

force (balanced and unbalanced force) and motion, Newton's laws and its applications, inertia, momentum, Impulse,

EXPERENTIAL LEARNING

- ✍ To understand that mass and inertia are related.
- ✍ Apply the inertia of rest and motion and direction to different situation Understand the concept of momentum and impulse and their applications.
- ✍ To understand application of all the three laws in our daily life.
- ✍ Apply the concept and applications of Newton's second laws in daily actions like why a fielder pulls his hand backward; while catching a cricket ball?
- ✍ To study motion of object in terms of momentum.
- ✍ To understand that there is a reaction to every action.

INTER DISCIPLINARY

- ✍ Integration with art and mathematics

- ✍ They have learned the concept of force and difference between balance and unbalanced forces.
- ✍ They have learned the relation $f=ma$.
- ✍ They have learned the concept of inertia and its type.
- ✍ They have learned the keys of Newton's laws and their applications.
- ✍ They have learned the concept of momentum and impulse and their use in daily life.
- ✍ They have learned the concept and types of collision.
- ✍ They have learned the derivation of the relation between the KE and Momentum of body
- ✍ They have learned the application of inertia of rest and motion in day to day life
- ✍ They have learned the application and concept of Newton's laws in daily actions.
- ✍ They have learned the to calculate the force and momentum of object on the basis of Newton's laws.

**EARTH AS A SYSTEM
:ENERGY,MATTER
AND LIFE.**

EXPERENTIAL LEARNING



- *Explain the interconnectedness between different spheres of earth (hydrosphere,biosphere,geosphere,cryosphere and atmosphere)
- *explain the nature of solar radiation
- *explain that solar radiation is electromagnetic waves having different frequencies
- *explain how heat from the sun warms the earth's surface differently based on the shape,latitude and tilt of the earth
- *explain the interaction of solar radiation with the earth's surface and relate differential heating of earth surface with the atmosphere
- *describe how the latitude and the tilt of the earth and absorption and reflection of solar radiation by different surfaces cause differential heating of earth's surface
- Identify various components of the earth that interact with the solar energy
- *explain biogeochemical cycles and the roles of biogeochemical cycles in circulating matter and energy continuously between the non living and living organisms ,making nutrients available and maintain environmental balance .

Students have learned :-

- The concept of interconnectedness between different spheres
- *Nature of solar radiation
- *interaction of solar radiation with earth's surface and how heat from the sun
- *role of atmosphere in influencing weather and climate on the earth
- *biogeochemical cycles and roles of biogeochemical cycles in circulating matter in environment ,making nutrients available and maintaining environmental balance

WORK ,ENERGY AND SIMPLE MACHINES work and types of work, energy and types of energy, conservation of energy ,power.	EXPERIENTIAL LEARNING ✍ Identify different forms of energy in our surrounding. ✍ Apply the concept of work in daily actions like person carries a load on his head. ✍ Analyze the different forms and conversion of energ like chemical into electrical. ✍ Understand and derive law of conservation of energy. ✍ Differentiate between energy and work and their interconversion. ✍ Understand the concept of power and average power ✍ Understand the concept that to carry work energy is always needed. • Identify different simple machines (pulley ,inclined plane and lever) define mechanicl advantage and calculate the value for simple machine	Students have learned :- ✍ The concept of work and its type. ✍ The concept of energy and its type. ✍ The meaning of different forms of energy and its uses ✍ The concept of conservation of energy. ✍ To derive conservation of energy mathematically. ✍ To derive the expression for potential and kinetic energy. ✍ To differentiate between energy and work. ✍ The concept of power and average power. ✍ To apply the concept of work in daily actions like person carries a load on his head. ✍ To analyze the situation to differentiate which type of work being preceded in some situation like pulling or
	INTER DISCIPLINARY ✍ Showing work done against gravitational force. ✍ Identify different types of work in various situation.	pushing a roller. ✍ The different forms and conversion of energy like chemical into electrical. ✍ To calculate the power consumption in different situation.

Sound

Sound wave, terms related with sound like frequency, wavelength etc, reflection of sound, echo, Reverberation, sonic boom, ultrasound and its applications, SONAR, Different characteristics of sound wave.

EXPERIENTIAL LEARNING

- ✍ Apply the concept of sound propagation in loudspeaker.
- ✍ Use of the concept of loudness and pitch during public use of loudspeaker.
- ✍ Analyze the concept of echo i.e. megaphone, stethoscope etc.
- ✍ The meaning and concept of frequency, wavelength, time period.
- ✍ Meaning of echo and reflection of sound.

ART INTEGRATION

To draw various wave forms

LAB ACTIVITY

- ✍ Verify the laws of reflection of sound.

- ✍ They have learned
- ✍ The Concept of sound and its propagation.
- ✍ Different types of waves such as longitudinal and transverse.
- ✍ The meaning and concept of frequency, wavelength, time period.
- ✍ The Concept of loudness and pitch.
- ✍ The Difference between intensity of sound and loudness.
- ✍ The Meaning of echo and reflection of sound.
- ✍ The Concept of the reverberation of sound and its application.
- ✍ Meaning of sonic boom and ultrasound and its application.
- ✍ Concept of the SONAR.
- ✍ Apply the concept of sound propagation in loudspeaker.
- ✍ Analyze the concept of loudness and pitch during public use of loudspeaker.