BCM SCHOOL

A Sr. Sec School Affiliated to CBSE,New Delhi

Annual Academic Calendar

Class :- IX **Subject :PHYSICS** **Session :- 2020-2021**

NCERT BOOK :TEXT BOOK OF SCIENCE

MONTH	TOPIC	LEARNING OUTCOMES	SOURCE/RESOURCES	SUGGESTED ACTIVITIES
	CHAPTER 8:-MOTION	**The learners will be able**	**NCERT/STATE TEXT BOOK**	
	Introduction Rest & motion – Definition with Examples	* To understand that rest and motion are relative.	https://youtu.be/F-WGuMkT79g	*Classify any five object that are rest and in motion
	Scalar and vector quantities Motion along a straight line Distance Displacement Uniform motion Non uniform motion	*To correlate various physical quantities like distance, displacement, different type of motion	https://youtu.be/oDl49Hl2LB4 https://youtu.be/eUXv-z8JcEs https://youtu.be/LezCQhYkC0c	*Find the magnitude of the displacement between your home and School
April	Speed ,Average speed Speed with direction Average velocity SI units Numericals	*To differentiate between average speed and velocity with day to day observations *To understand and evaluate the numerical value of different quantities and also associate it with their units.	https://youtu.be/5H4M7PXtaek	* Measure the time it takes you to walk from your house to your bus stop or the school. And average speed
		*To understand and evaluate the numerical value of different quantities and also associate it with their units.	https://youtu.be/BFmx43TtRa8	
	Acceleration and retardation Uniform acceleration and non uniform acceleration Numericals	*Understand the difference between acceleration and retardation from daily life examples and able to calculate	https://youtu.be/wQFkzSq55JU	*List any five examples of uniformly accelerated motion from your day to day observation

	Graph : concept and importance Graphical representation of motion by s- t graph	* able to analyse and interpret graph * represent motion of given situation in graphical manner	https://youtu.be/OlW0jtYErHM	*Draw different types of s-t graph as listed in Assignment
MAY	Graphical representation of motion by v - t graph Calculation of acceleration and distance from Numericals based on graphs	*To identify the type of motion from d-t graph and v-t graph. *To develop numerical solving skills	https://youtu.be/5Q3UBGr0UwQ	*Analyse Activity 8.10 (NCERT) Plot the distance-time graph for their motions on the same scale and interpret
	Equations of motion by graphical method-		https://youtu.be/qO4pHr8hWVQ	*After watching Link 10 Plot a graph and derive equation of motion graphically
	Numerical problems based on equations of motion. Uniform circular motion	*To evaluate speed in circular motion * To develop numerical solving skills	https://youtu.be/kbDgz-7dY9M	* After watching Link prepare an assignment of any 10 numericals
JUNE	**SUMMER BREAK**			
JULY	**CHAPTER 9- FORCE AND LAW OF MOTION** Force – Definition , effects Types of force Balanced and unbalanced forces	* Learner are able to differentiate between balanced and unbalanced forces * To analyse the effect of force	https://youtu.be/cwLMejalz-E	*Make an activity based short video of balanced and unbalanced force in your home
	Newton's first law of motion Definition of inertia Reasoning questions based on first law.	*To learn and understand the scientific definition of force	https://youtu.be/6nE0OcuBxbk	* To find at least 10 examples from your daily life and classify in different types of inertia
	Newton's second law of motion. F=ma Momentum, impulse – definition and units	*To understand the terms like , impulse and momentum and derive their units	https://youtu.be/FCUN6HEmnz8	* Find out few activities involving momentum in your daily life
		*Interpret and apply the knowledge of terms in solving numericals	https://youtu.be/5fcVDF4DNXE	
	Newton's third law of motion Conservation of momentum.	*Able to evaluate the numerical value Based on conservation of momentum	https://youtu.be/zaAET9vd9cM	*Based on reasoning find out five examples of action and reaction

AUGUST	**CHAPTER 10- GRAVITATION** Introduction Newton's Law of gravitation Importance Numericals	* To understand the importance of newton's law of gravitation. And universal constant	https://youtu.be/sYaeBZlGc4I	* Solve the given assignment based in force and law of motion
		* understand the phenomenon related to gravitation	https://youtu.be/iFTPcXzC-z8	
			https://youtu.be/mKgqvOkdX9g	
	Free fall Difference between 'g' and 'G'. Derive formula of 'g Value of 'g' on earth Difference between Mass and Weight	* Evaluate the numerical value of g at different places like earth and moon. Or at poles and equator of the earth	https://youtu.be/OiNqgT_82a4 https://youtu.be/rUeabHa-jM0	*Compare the weight of different objects at earth and the moon
SEPTEMBER		**MID-TERM EXAMINATION**		
OCTOBER	**CHAPTER-11 WORK AND ENERGY** Energy and its forms Kinetic energy Derive the expression for KE Numericals on KE Potential energy Derive the expression for PE	*To Identify and list different types of energy and relation between mass and velocity through KE	https://youtu.be/IrjoZ8ciHDE	* List 5 examples of transformation of different forms of energy into kinetic and potential energy With the help of pendulum list the transformation of energy and note down in your note-copy
November	Numericals on PE Transformation of energy Law of conservation of energy Conversion of PE to KE during a free fall	*The learner are able to derive expression of KE and PE	https://youtu.be/pSZV77U12RQ	
		* To develop problem solving technique and understand the phenomenon of transformation of energy	https://youtu.be/N6TKBpQUzrM	
		*To comprehend various examples showing transformation of energy during free fall	https://youtu.be/uEzCP-FMn8o	
	Power Commercial unit of electrical energy Relation between SI unit and commercial unit of energy Numericals	*Able to calculate electricity bill of their house	https://youtu.be/eulQktEZkjM	*Calculate the electricity bill of your house for the month of November by calculating power, energy consumption by appliances
		*To understand the relation between commercial and SI unit of energy.	https://youtu.be/JzkuSLanoeM	

LIST OF EXPERIMENTS

1. Preparation of:
(a) A true solution of common salt, sugar and alum
(b) A suspension of soil, chalk powder and fine sand in water
(c) A colloidal solution of starch in water and egg albumin/milk in water and distinction between these on the basis of
Transparency
Filtration criterion
Stability
2. Preparation of
(a) A mixture
(b) A compound
using iron filings and sulphur powder and distinction between these on the basis of:
Appearance, i.e., homogeneity and heterogeneity
Behaviour towards a magnet
Behaviour towards carbon disulphide as a solvent
Effect of heat
3. Perform the following reactions and classifying them as physical or chemical changes:
(a) Iron with copper sulphate solution in water
(b) Burning of magnesium ribbon in air
(c) Zinc with dilute sulphuric acid
(d) Heating of copper sulphate crystals
(e) Sodium sulphate with barium chloride in the form of their solutions in water.
4. Preparation of stained temporary mounts of (a) onion peel, (b) human cheek cells & to record observations and draw their labeled diagrams.
5. Identification of Parenchyma, Collenchyma and Sclerenchyma tissues in plants, striped, smooth and cardiac muscle fibers and nerve cells in animals from prepared slides. Draw their labeled diagrams. (Unit-II)
6. Determination of the density of solid (denser than water) by using a spring balance and a measuring cylinder.
7. Establishing the relation between the loss in weight of a solid when fully immersed in
(a) Tap water
(b) Strongly salty water, with the weight of water displaced by it by taking at least two different solids.
8. Verification of the law of conservation of mass in a chemical reaction.

DELETED CHAPTERS			
SR.NO	**NAME OF THE CHAPTER/TOPICS**	**LEARNING OUTCOMES**	**SUGGESTED ACTIVITIES**
1	**CHAPTER 11- GRAVITATION** Thrust, Pressure Applications Up thrust ,Buoyancy, Density, Relative density. Why do objects float and sink? Archimedes Principle Numericals	*To understand the applications of thrust and pressure. understand the concept of flotation. * To relate Archimedes principle with floating objects.	*Perform any two experiments related to concept of floatation and record its video
2	**CHAPTER 12 SOUND** Introduction Production of sound Propagation of sound needs medium to travel . Types of waves – Longitudinal and transverse waves	*Able understand how the sound is produced and propagates *Able understand different types of waves and their characteristics	* Analyse and list different types of waves and their characteristics
3	Characteristics of wave – Wavelength , speed , amplitude and frequency Numericals Speed of sound in different media Reflection of sound Numericals based on echo	*Able apply concept of multiple reflection of sound in real life situations *understand the concept of ultrasound list the applications of ultrasound	create your own model on Reflection of sound and note down time of reflection of sound
4	Reverberation Uses of multiple reflection of soundk, Range of Hearing Infrasound Ultrasound Applications of ultrasound	*Able apply concept of multiple reflection of sound in real life situations *understand the concept of ultrasound list the applications of ultrasound	*Make a list of animals that come under infrasonic and ultrasonic and also note down their frequencies
5	SONAR Working of a SONAR Numericals based on SONAR Structure of human ear Functions of various parts of human ear	*Able to Calculate the distance using the concept of SONAR *Explain working of human ear and various functions	draw a structure of human ear and indicate the various parts with the help of colours

***** These chapters will be assessed for internal assessment only and not to be assessed in board examination.**