Srini Science Mind

Abdul Kalam Physical Science Group

NEW

9th class

PHYSICAL SCIENCE

LESSON PLAN with BYJU's Content

Visit: srini science mind

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LESSON PLAN

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching From	Timeline for teaching To	Any specific information
MOTION (Chapter – 7)	Introduction – Describing Motion	1			
	Motion along a straight line	1			
	Uniform motion and Non Uniform motion	1			
	Speed with direction	1			
	BYJU's Content Review	1			
	Rate of change of velocity	1			
	Graphical representation of motion (Distance – Time graph)	1			
	Velocity – Time graphs	2			
	Equations of motion and solved problems	2			
	Uniform circular motion	1			
	BYJU's Content Review	1			

Prior Concept/Skills:

1. How many types of motions are based on the path taken by the bodies in motion?
2. What is the rest of the object?
3. What is the S.I unit of speed?
4. How much distance from your home to school?

| Learning Outcomes:	No. of Periods
1. Describes scientific discoveries and inventions beliefs regarding motion.	1
2. Differentiates distance and displacement based on their physical properties.	1
3. Differentiates speed and velocity based on their physical properties.	1
4. Seek answers to queries on their own about how does speed of an object change?	1
5. Calculates using the data given of distance, velocity and speed,	1
6. Draws graphs of distance-time	1
7. Analyses and interprets graphs of distance-time	1
8. Draws graphs of speed-time graphs.	1
9. Analyses and interprets graphs of velocity-time graphs.	1
10 Communicates the findings and conclusions effectively of distance-time and velocity-time graphs.	1
11. Analyses and interprets graphs and figures of computing distance, speed, acceleration of objects in motion.	1
12. Derives formulae, equations of motion from velocity-time graphs	1

13. Measures acceleration and velocity using appropriate apparatus, instruments, and devices. 14. Uses scientific convention, symbols and equations to represents initial velocity, final velocity, acceleration, displacement and time.	1

TEACHING LEARNING PROCESS

Induction/Introduction:
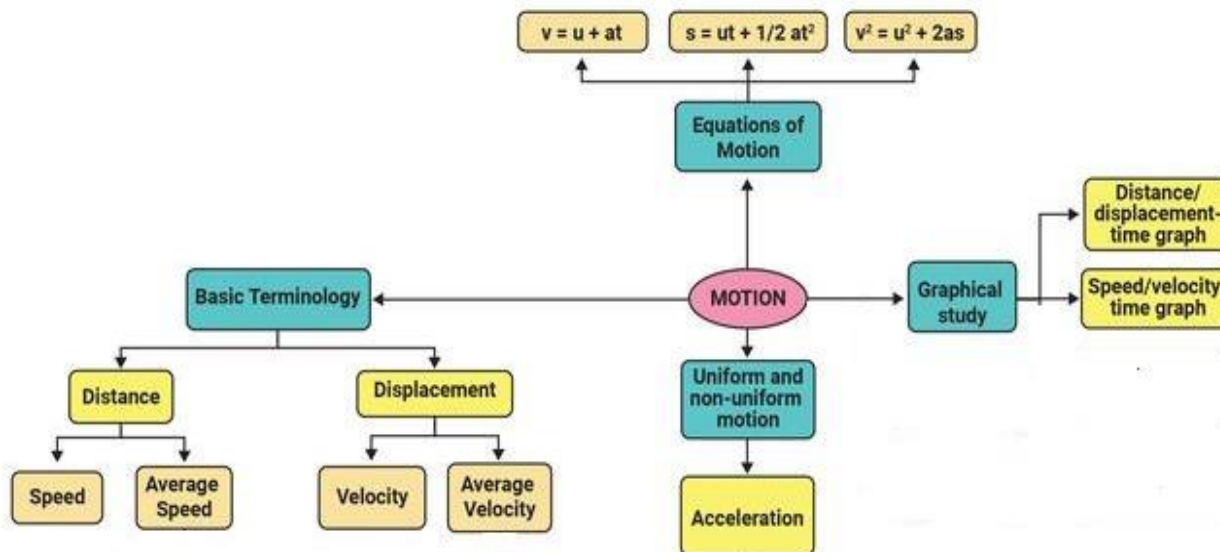
Experience and Reflection:
   1. Students are collecting information on types of motions in our daily life.
   2. Students observe the shapes of paths during their traveling time
   3. Students are able to interpret graphical data.
   4. Students are able to understand the instantaneous speed/velocity and find its values in daily life.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion about motion with activities	1. Collect the information on types of motion	1. Students give examples of origin.	1. Define the terms rest and motion.
2. Explain and conduct activities on motion along a straight line	2. Group discussion on when distance becomes equal to displacement.	2. Draw the paths of distance and displacement.	2. Define displacement?

3. Discussion and conduct an activity on uniform motion and non-uniform motion.	3. Students give examples of uniform and non-uniform motions in our day-to-day life.	3. Students complete the homework.	3. Define Uniform motion?
4. Explain the measuring the rate of Motion and solve the problems on average speed	4. Solved the problems on average speed.	4. Students write the formula of average speed.	4. Write the unit of speed.
5. Explain the speed with direction and solve the problems on average velocity	5. Solved the problems on average velocity.	5. Students express the difference between speed and velocity.	5. Write the formula of average velocity?
6. Review of Byju's tab content	6. Viewing the content in Byju's Tab	6. Viewing the content in Byju's Tab	
7. Discussion and explain the rate of change of velocity(acceleration) and solved their problems	7. Students derive the formula for acceleration	7. Students complete the homework	6. When will you say a body is in uniform acceleration?
8. Discussion and draw the graphical representation Distance – Time graphs (Uniform speed)	8. Students draw the graph from the given data of Distance and Time	8. Students will be able to tell how information can be represented on a graph	7. What is the shape of a drawn graph?
9. Discussion and draw the graphical representation Distance –Time graphs (Non-Uniform speed)	9. Discuss the steps to be taken to draw a graph	9. What is distance-time graph of a Body?	8. What is the nature of the distance-time graph of a body moving with constant acceleration?
10. Discussion and draw the graphical representation of Velocity-Time graphs (Uniform motion)	10. Discussion on "What information gives us Velocity-Time graph?"	10. Students draw the velocity-time graph of a body	
11. Discussion and draw the graphical representation of Velocity-Time graphs (Uniform acceleration and Non-Uniform acceleration)	11. Collect the information on types of acceleration	11. Students complete the homework	9. Mention the uses of a velocity-time graph of a body.
12. Explain the equations of motion and solve the problems	12. Students solve the given problems	12. Students write the equations of motion	10. Write mathematical expression for average velocity?

13. Explain and conduct activity on uniform circular motion.	13. Students give examples of accelerated motion.		11.Define uniform circular motion?
14. Review of Byju's tab content	14. Viewing the content in Byju's Tab	13. Viewing the content in Byju's Tab	

Check For Understanding Questions	**TLM's (Digital+Print)**

1. Factual:
  1. How do we understand motion?
  2. When does the average velocity becomes zero?
  3. In uniform motion, Which physical quantity is constant?
2. Open Ended/Critical Thinking:
  1. When do the distance and magnitude of displacement becomes equal?
  2. What happens to acceleration when an object moves in a uniform circular motion?
  3. An ant is moving on the surface of a ball. Does its velocity change or not?
3. Student Practice Questions & Activities:
  1. Distinguish between speed and velocity.
  2. Draw velocity – time graph for a body moving with uniform velocity
  3. Define acceleration. Is it a scalar or a vector quantity?
  4. Which of the three is travelling the fastest? Increases uniformly at the rate of 10 m s-2, with what velocity will it strike the ground? After what time will it strike the ground?
	1. Used prepared Quiz paper.
	2. Utilized digital classroom.
	3. Provide video links QR codes, DIKSHA App
	4. YouTube video links
	5. Byju's Tab
	6. IFP

Assessment:
1. An athlete completes one round of a circular track of diameter 200 m in 40 *s*. What will be the distance covered and the displacement at the end of 2 minutes 20 s?
2. A motorboat starting from rest on a lake accelerates in a straight line at a constant rate of 3.0 m s^{-2} for 8.0 s. How far does the boat travel during this time?
3. State which of the following situations are possible and give an example for each of these:
   (a) an object with a constant acceleration but with zero velocity
   (b) an object moving with an acceleration but with uniform speed.
   (c) an object moving in a certain direction with an acceleration in the perpendicular direction.

SIGNATURE OF THE TEACHER   SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS