BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI – 110034

SUBJECT:- PHYSICS

CHAPTER:- MOTION

TOPIC:- Speed , Velocity and Average Speed

GUIDELINES:

Dear students
- There are 2 assignments:

  o Assignment 1 : Based on speed and velocity
  o Assignment 2: Based on average speed

- Solve the assignments in the Physics notebook.
- Suitable Video links have been provided with every assignment.
- Please read NCERT too for better understanding of these concepts

  NCERT LINK FOR THE CHAPTER:

  http://ncert.nic.in/textbook/textbook.htm?iesc1=8-15

SUBTOPICS:

  ➢ SPEED & VELOCITY
  ➢ AVERAGE SPEED

Let us try to understand these terms that we use in our day to day life for describing motion:

 VIEW THE FOLLOWING LINK

https://www.youtube.com/watch?v=n2dEhtfMyX4

A. SPEED AND VELOCITY

Sno.	Differentiating property	Speed	Velocity
1.	*Definition*	The rate at which an object covers a certain distance is known as speed.	Velocity can be defined as the rate at which an object changes position in a certain direction or rate of change in displacement
2.	*SCALAR OR VECTOR*	Scalar quantity	Vector quantity
3.	*Magnitude*	Speed can never be negative or zero.	Velocity can be zero, negative, or positive.
4.	*Unit*	m/s	m/s

PLEASE NOTE:

As we proceed further, we need to learn how to define the units of various physical quantities or in other words we need to know their measure e.g SI unit of speed or velocity is m/s and

Measure(definition) of 1m/s is given as

Speed = Distance /Time

Or   1m/s=1m/1s

In other words:

(If an object moves a distance of 1m in 1s then its speed is 1m/s)

Assignment 1

1. A boy walks 4 m north and then turns to his right and walks 3 m more. Calculate his distance and displacement. If he takes 5s(sec) to walk this distance, find his speed as well as velocity for this journey.

2. Convert the following speeds into SI units
   (a) 54 km/hr   (b) 36km/hr   (Given: 1km=1000m, 1hr=3600s)

B. AVERAGE SPEED

Average speed is calculated using the formula:

$$Average\ Speed = \frac{Total\ Distance}{Total\ Time}$$

View the following links and answer the Assignment 2 that follows

LINKS: https://www.khanacademy.org/science/in-in-class9th-physics-india/in-in-motion/in-in-average-speed-and-average-velocity/v/average-speed-velocity-with-examples

https://www.khanacademy.org/science/in-in-class9th-physics-india/in-in-motion/in-in-average-speed-and-average-velocity/v/average-speed-solved-numerical

Also refer to Example 8.2 and 8.3 on page no 102 of NCERT for further clarity of the concept.

Assignment 2

1. John drove for 3 hours at a rate of 50 km per hour and for 2 hours at 60 km per hour. What was his average speed for the whole journey?

2. What information do odometer and speedometer of a car provide us with?

From NCERT: Solve Questions 1to 5 from page no 102 and Questions 2 and 3 on page no 112

STAY HOME STAY SAFE