



STATE COUNCIL OF EDUCATIONAL RESEARCH & TRAINING
TELANGANA, HYDERABAD.

ACADEMIC YEAR 2020-21

Class: IX

LEVEL-2

Subject: Physical Science

Name of the lesson: MOTION.

WORKSHEET: 12

Topic: To Measure Speed & Velocity

KEY CONCEPT

- Activity to measure average speed and average velocity

LEARNING OUTCOMES

students can,

1. Conduct an activity to measure average speed
2. Conduct an activity to measure average velocity

INTRODUCTION

You have learnt about average speed and average velocity in previous worksheets. Now we shall learn how to measure these average speed and average velocity through an activity.

❖ Activity :

Aim: to measure average speed and average velocity.

Materials required : stop watch, measuring tape, whistle



1. To measure average speed :

Procedure:

- Choose two points (say 'A' & 'B') 50m apart in the school playground.
- Ask some students to stand at point A and ask another group of students with stopwatches to stand at 'B'.
- When you blow the whistle, the students at A start running towards B in any path. At the same time the students at B start their stop watches.
- Note that for each runner there is a student at B to measure the time taken for completing the race.

- Note the time taken by each student to cover the distance between A & B in the table.
- Student who took the least time to reach B(from A) is said to be the fastest runner and he has the greatest speed.

S.No	Student Name	Distance Travelled	Time taken to reach B'	Average Speed= (distance/time)
1.		50m		
2.		50m		
3.		50m		

- Measure the average speed of each student using the formula as shown in tabular form.

2. To measure average velocity:

Procedure:

- Repeat the whole activity after drawing a set of parallel straight lines from A to B and ask each student to run along a line this ensures that each student is covering the same distance along a straight line specified for him/her from A to B
- Measure the time taken by each student and note it in a table (as shown above) and calculate the average velocity of each student.
- As students run in a specified direction from A to B in this activity, the distance between A to B denotes displacement.
- By measuring the ratio of displacement and time taken, average velocity can be calculated.
- Try to draw the tabular form to note down the observation in the above activity.



ASSESSMENT

1. A student can run 100m distance in 8 second, find his speed.
2. If the velocity of a student is 8m/s then find displacement covered by him in 8 second.
3. Student A travels a distance 75m in 15 sec and student B travels a distance of 80m in 20sec. Whose speed is more?
4. A cheetah can sprint 100m in 4sec, find the distance covered by it 10sec.
5. Can we measure the velocity of athletes in the given figure? Why?



❖ Suggested project:

Calculate the average speeds of students of your class who have participated in 100m and 200m running race. Write a report.
