

Name: _____
 Date: _____
 Class: _____

Speed Lab

Purpose: To calculate average speed using measurements of time and distance.

$$\text{Speed} = \text{Distance} \div \text{Time} \qquad \text{Meters} \div \text{Seconds} = \text{meters/second (m/s)}$$

Materials: 50 Meter running course Stop Watch Calculator

Procedure:

1. Meet with class outside at the 50 Meter running course
2. At the given signal, run as fast as you can past the 50 meter mark.
3. Record your name, the distance and your running time on the data table below.
4. Ask 5 other students from your class for their data and record in data table.
5. Use the formula above to calculate the speed of each runner. The units will be meters per second (m/sec).
6. Calculate the speed of each runner in miles per hour (mph) by using the following formula:

$$\underline{\hspace{2cm}} \text{ m/ sec} \times 1 \text{ yd/.91} \times 1 \text{ mile/1720 yds} \times 60 \text{ sec/ min} \times 60 \text{ min/ hr} = \underline{\hspace{2cm}} \text{ mph}$$

Or use this formula:

$$\underline{\hspace{2cm}} \text{ m/ sec} \times 2.997 = \underline{\hspace{2cm}} \text{ mph}$$

7. Make a six column bar graph o the results of this lab. Plot mph on the Y axis and each runner on the X axis.

Results and observations :

| Runner's Name | Distance (50m) | Time (sec) | Speed (D/T) | mph |
|---------------|----------------|------------|-------------|-----|
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Analysis and Conclusion:

1. If you ran at the same speed as you did above or 175 meters, how many seconds would it take you?
2. How far could you run in 55 seconds?