

# The Physics 500

## Purpose

The purpose of this activity is to calculate the average velocity of at least three different types of races with every group member participating in each activity.

## Materials

Meter sticks, stop watch, tape

## Procedure

Work in groups of approximately three students and determine the speed of selected events. You can invent any race including hopping on the same foot, backward walk, skipping, etc. Organize your plan to determine the speed of each race in which your group is involved.

When experiments are done in which measurements are taken, a good experimenter organized a table in which all measurements are recorded that will be used to make the necessary calculations. The final quantity that we desire to measure, such as speed in this activity, should be located in the extreme right-hand column of your table. All other measured quantities that are necessary to calculate speed should be placed in columns to the left of the speed column. Always show the units used in measured and calculated values in the top of each column along with the name of the quantity. Construct a table such as the one started below by adding columns between “activity” and “speed” to show what you measured. Record as many digits as you can read directly plus one estimated digit from your measuring instruments.

(Add columns, names and units you  
used in your instruments)

Activity	Speed _____ (units)
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The crawl	
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Running	
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Hopping	
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## Summing Up

1. How are speed, distance, and time related?
2. Would the recorded speeds represent the maximum velocity for each event? Explain.
3. List the fastest event in the class in miles per hour is  $1.0 \text{ m/sec} = 2.237 \text{ mph}$ .