

Name _____ Date _____

Graphing of Motion and Forces

Directions

The following data table shows a banana racer traveling down a plane. The time was taken at each one-meter interval as it traveled. Use your TI-73 Explorer™ to answer the following calculations.

1. Complete the table by calculating the speed of the object by dividing the time of travel into the distance traveled.
2. Using the following data table, design and label a graph on a Calculator Based Laboratory™ 2 (CBL 2™) then on graph paper that represents the data.

Time (seconds)	Distance (meters)	Speed (MPS)
0.21	1	
1.67	2	
3.67	3	
3.99	4	
4.21	5	

Answer the following Questions

1. Does the speed of the racer increase or decrease during its travel?
2. What kind of relationship do we see between time and distance?
3. Which two distances take the longest amount of time for the car to travel between?
4. Which two distances take the shortest amount of time for the car to travel between?
5. What is the cause for the car gaining speed as it travels down the ramp?
6. What are the variables on your graph?
7. If I wanted to decrease the speed of my racer, what could I do?
8. Which variable would be changed if I slowed down the racer?

Extensions

Look up the following definitions and write them on your vocabulary sheet.

Constant speed

Momentum

Constant Velocity

Acceleration

Velocity

Write a paragraph on a separate sheet of paper stating what the above words have to do with your graph and the data table. Also tell me what these words have to do with *your* racer. Make sure that you make a graphic organizer to go with your paragraph.