

Names _____, _____, _____

Title: What's your speed?

Problem: What do the slopes of the lines on a position time graph tell you? For example: steep slopes, no slope, downward slopes?

Hypothesis:

Materials: Motion Detector, computer with logger pro.

Procedure:

1. Connect motion detector.
2. Open Logger Pro.
3. Go to File; Open; Choose Physics with computers.
4. Open "01 a Graph Matching."
5. Set up motion detector. Click "Collect" and determine how graphs are made. DO NOT SAVE ANY.
6. AFTER PLAYING, determine how **close** you can get to the detector that will measure accurately according to the graph. Place minimum distance in space below.
7. Once the minimum distance has been determined, make a graph that has at least three different sections of smooth slopes(least noise as possible). Once you are satisfied with your graph, check with instructor for approval.
8. Once approved, get the x and y coordinates for the initial and secondary points for each slope you will calculate the speed for. This is best done by putting the cursor over the points and looking in the lower left corner for the coordinates. (ask for help if necessary) Record these in the table below.
9. Once you have your data for each slope, calculate your speed at each section.
10. Hand copy the image of your graph on the back of this sheet the best you can and annotate with the speeds you calculated of each major slope. USE A RULER!!!!

Data:

Minimum Distance registered by detector: _____

Slope	X ₁	Y ₁	X ₂	Y ₂	Speed
1					
2					
3					

Conclusion:

