NAME: _____ TEACHER: _____

DATE: _____ LAB PARTNERS: _____

Lab 1: How Fast Do You Walk?

Problem: To collect and analyze distance and time data for an object in Uniform Motion (Constant Speed.)

Please follow the general lab report format. (Attach pages as needed.)

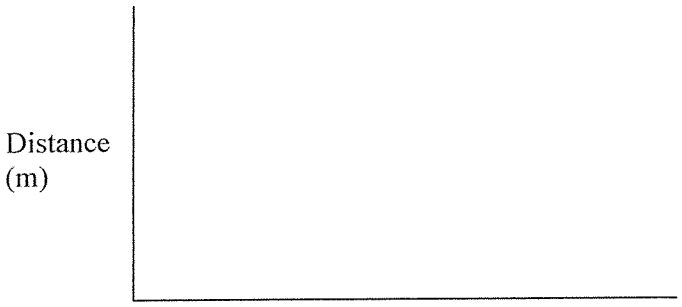
Data: Please remember to record all data with the same units actually used to take measurements. Record your data in a neat table.

Analysis:

1. Make a graph of distance versus time for the "Slow Walker." (Time must be on the horizontal axis.)
2. Draw a line of best fit.
3. On the same graph record the distance versus time for the "Fast Walker". You will need to make these data points distinguishable from the previous data. For example make a tiny square around set of data points and a tiny circle around the second set of data points.
4. Draw a line of best fit. To distinguish between the two best fit lines you can make one line "dotted". On a corner of the graph provide a key identifying the meaning of circles, squares, solid lines and dotted lines.
5. Calculate the slope of each line. Show all your work including slope equation, substitution with units and the answer with units.

Questions:

1. Describe what is similar about the graphs of both sets of data.
2. Describe what is different about both sets of data.
3. What does the slope represent?
4. If one of the walkers started to speed up (accelerate) how would the graph change?
5. Sketch how the graph would look if one of the walkers could only walk half the distance and then stood still.



Conclusion:

1. Describe the graph of distance versus time for an object moving at constant speed.
2. How is the speed of an object represented on a graph of distance versus time?