

Name: _____

Speed Lab

Hypothesis: How can we calculate the speed we sprint, jog, or walk without a radar gun?

Procedure:

1. In partners there will be a runner/timer and a measurer.
2. The runner will walk in a straight line for three seconds, stand in place for three seconds, and then run in a straight line for three more seconds.
3. The measurer will use a meter stick to record the distance the runner traveled every three seconds.

Data

Event	Time elapsed in seconds	Distance from the start in meters. (Use this in your graph)	Distance traveled between events in meters (Use this to calculate speed for each event)	Speed for each event = distance/ time
Start	0 seconds		No data	
Walk	3 seconds			
Rest	6 seconds			
Run	9 seconds			

Calculate the **average speed** at which your team moved through the entire journey by dividing the total distance traveled by the total time it took to travel that distance.

Total Time = _____

Total Distance from start = _____

Average Speed = _____

Results:

Watch the following video to help you understand how to make distance-time graphs:

<https://www.youtube.com/watch?v=9LQdLDDEJ1g>

Plot your data on graph paper to make a distance-time graph.

Analysis:

1. Why is the line for your entire journey a broken line and not one long straight line?
2. Why is the line for the rest period a straight horizontal line?
3. On a distance time graph a straight horizontal line with no slope represents_____.
4. On a distance time graph a line with a positive slope represents_____.
5. If you were to do another event at the end where you walk back to start how far would you travel?
6. What would the slope look like for the event mentioned in Question 5?