

Moving Man - Position vs. Time Graphs

Background – Graphs are not just an evil thing your teacher makes you create, they are a means of communication. In this activity you will learn to speak and read “graph”.


Learning Goals – The students will:

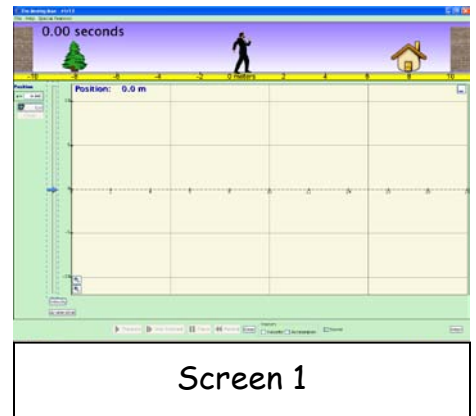
- Develop a general knowledge of distance time graphs.
 - What a graph of a person standing still would look like
 - What a graph of a person moving away from an observer would look like.
 - What a graph of a person moving towards an observer would look like.
 - How differences in speed appear on the graph

Procedure – do the following activity using this web site

[http://phet.colorado.edu/simulations/sims.php?sim=The Moving Man](http://phet.colorado.edu/simulations/sims.php?sim=The_Moving_Man)

Then click on “Run Now”

1. **Getting started.** After “Moving Man” is open leave the position graph open but close all of the other graphs, velocity and acceleration, by clicking on the  button. Your screen should look like screen 1.
2. **Making observations.** By either clicking on the man or the slider cause the man to move back and forth and observe what shows up on the graph. Using the axes provided below make a sketch of the graph that is produced by each action described next to each axis.



Screen 1

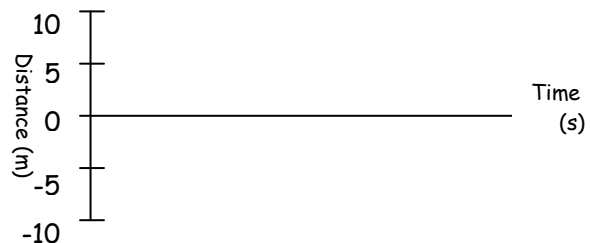
A man moving from 0m to 10m at a slow steady pace.



A man moving from 0m to 10m at a fast pace.



A man standing still at 4m.



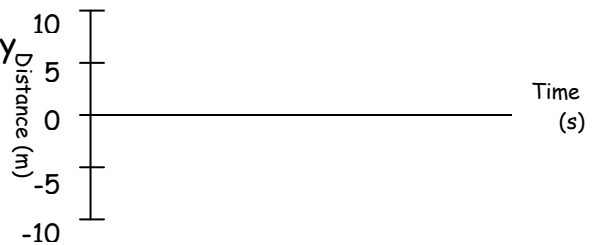
A man moving from 0m to 10m at a slow steady pace, then moving back to 0m at a fast pace.



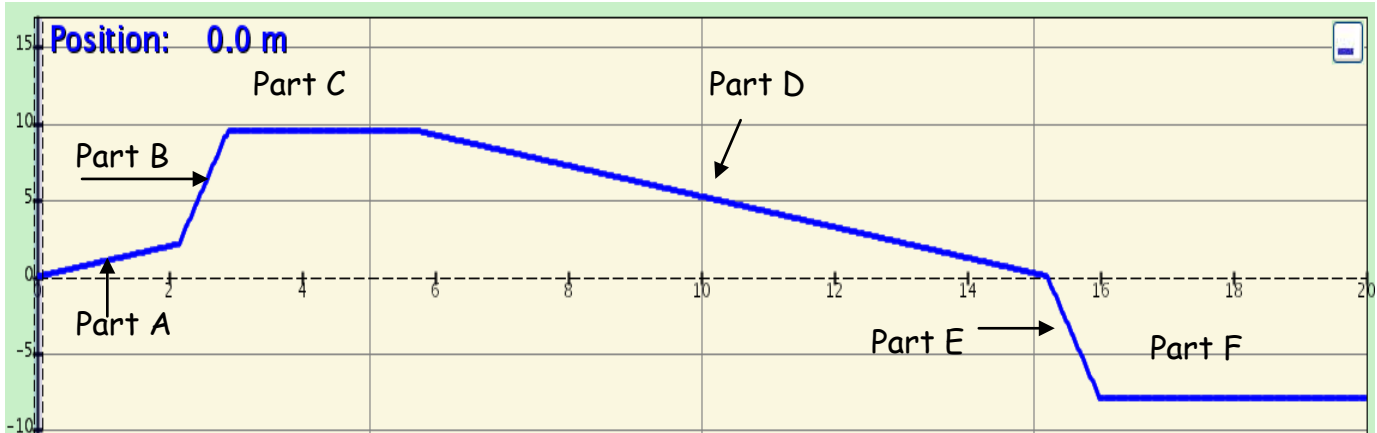
A man moving from 0m to 5m at a slow steady pace, then moving back to 0m at a slow steady pace.



A man moving from 0m to -10m at a slow steady pace.



Apply what you learned. Look at the graph below and for the different parts of the graph that are marked write a statement about what is happening. Be sure to include the direction of motion and the speed of motion.



Part	Description of direction and speed
A	
B	
C	
D	
E	
F	