

# Speed Graphs

## Today's Schedule

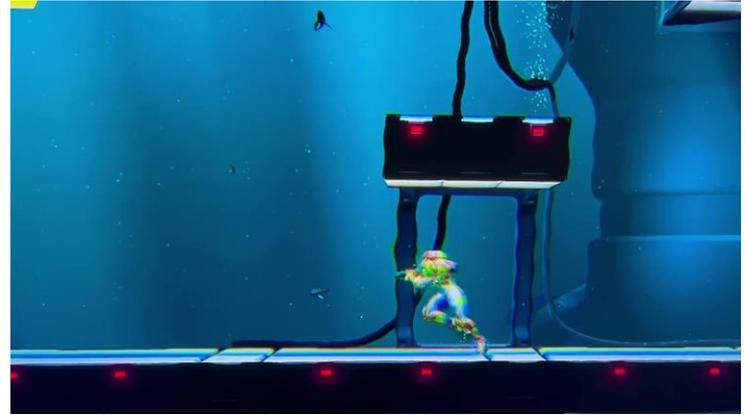
Since Miss Johnson is going to be helping students complete their electives selections for next school year, your job will be to complete this assignment while waiting for your turn to pick.

Read through the slides, watch the videos, and complete the questions in the gray boxes. When you are done, turn this in!





Circle the video that has a higher speed.



Why does it have a higher speed?



# Review of Notes From Friday

Speed = Distance / Time

Average speed = all distance traveled / total time

Velocity - speed an object travels in a given direction

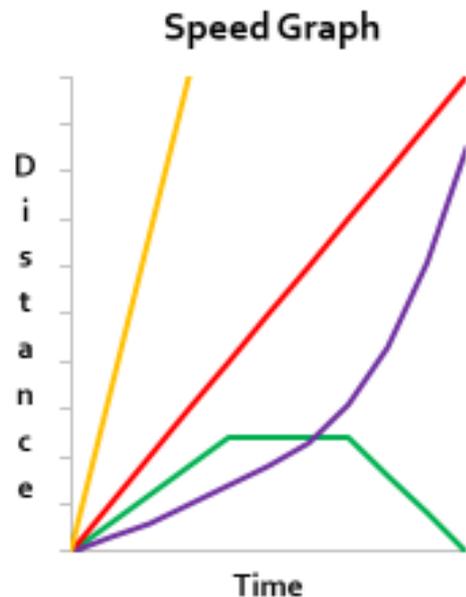
Acceleration - any change in speed or any change in direction



# Motion Graphing

## Speed Graphs

- A typical speed graph will have distance or position on the y-axis and time on the x-axis.
- Graphs help make motion easier to picture and understand.
- Lines represent an object in motion or speed.



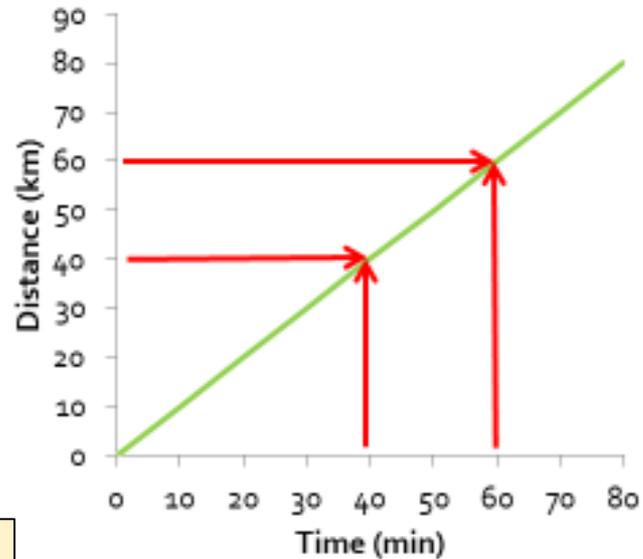
# Motion Graphing

## Constant Speed

- When the speed of an object remains the same, it does not increase or decrease.

You will see a straight line.

Distance vs. Time



# Motion Graphing

## No Speed/Stopped

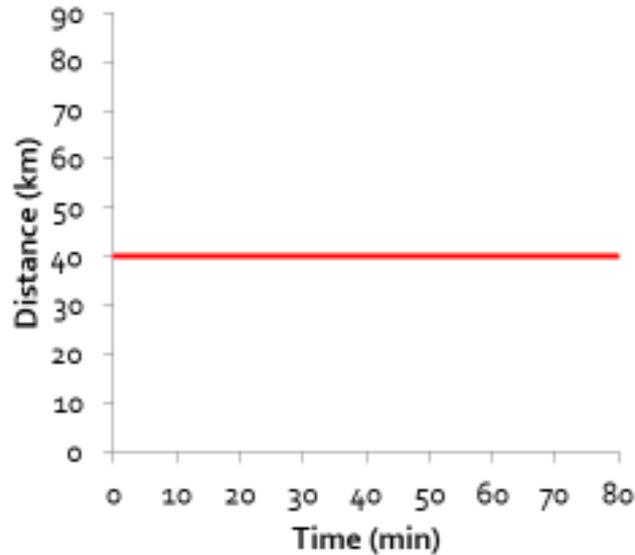
- An object is at rest.

Ex. - *Stopping at McDonalds for lunch.*

- Time changes but distance stays the same.

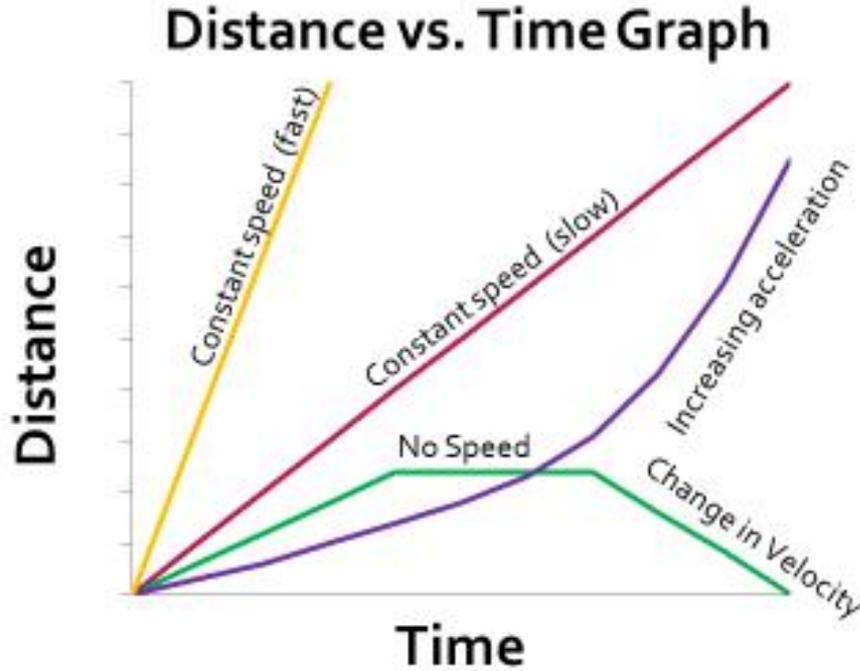
You will see a straight horizontal line.

Distance vs. Time



# Speed Graph

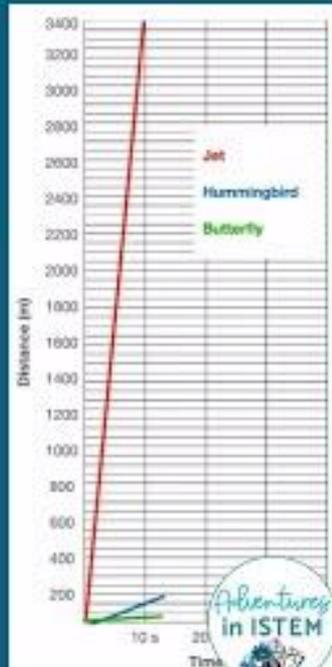
Compare & contrast the yellow line and the red line.  
What do you observe?



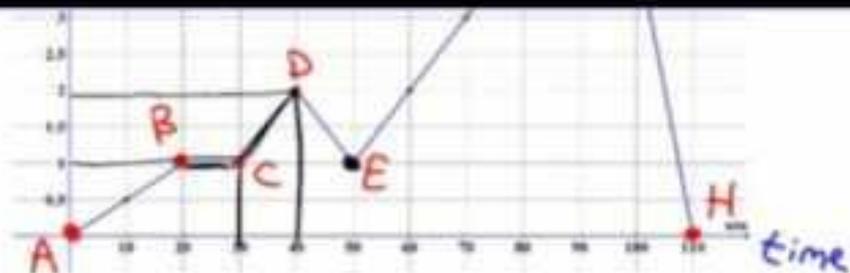


	10 s	20 s	30 s
Jet	3,430 m	6,860 m	10,290 m
Hummingbird	150 m	300 m	450 m
Butterfly	25 m	50 m	75 m

## Motion Interpreting Graphs







- A  $\rightarrow$  (0,0) Starting point
- AB  $\rightarrow$  20min to travel 1km
- BC  $\rightarrow$  Stopped for 10 min
- CD  $\rightarrow$  10 min travelled 1km
- DE  $\rightarrow$  turned around 10m fa



**What is happening during each section of the graph in terms of a story that you made up?**

A - B:

B - C:

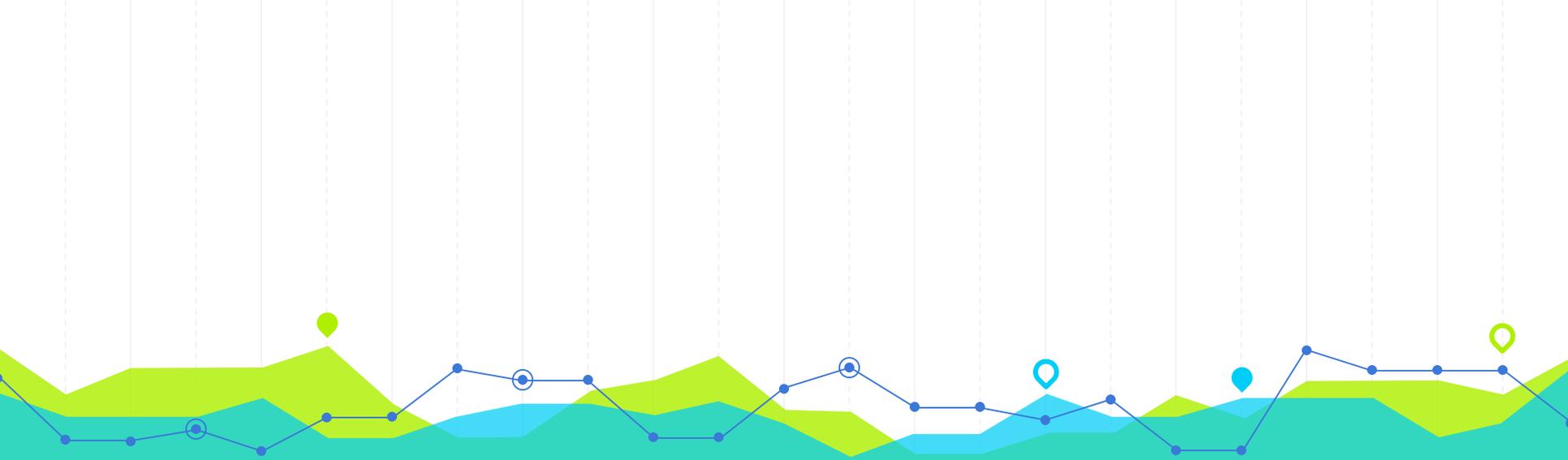
C - D:

D - E:

E - F:

F - G:

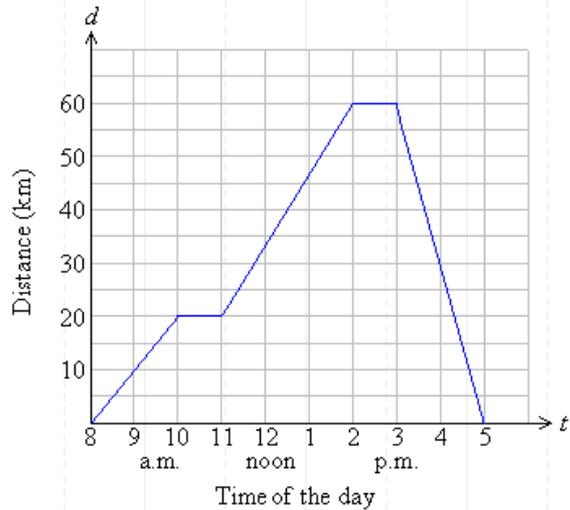
G - H:



# Does your story match the graph from the video?

Go back and try to create a graph based just on your story. Does it match up? Or is it off a bit?

Now analyse the graph on the left. Create your own story about what is happening to create their speed graph.





**You should now be able to interpret speed graphs for motion and be able to create your own speed graphs based on motions given!**

# What To Do Now That You Are Done

1. Turn this assignment in
2. Look in StudentVue for any missing work in science
3. Complete any missing science work or missing work in other classes if you don't have any missing science work
4. Create your own speed graphs based on stories that you know, or create your own stories and make a graph on them
5. Go to past posts to play the games and motion simulations

