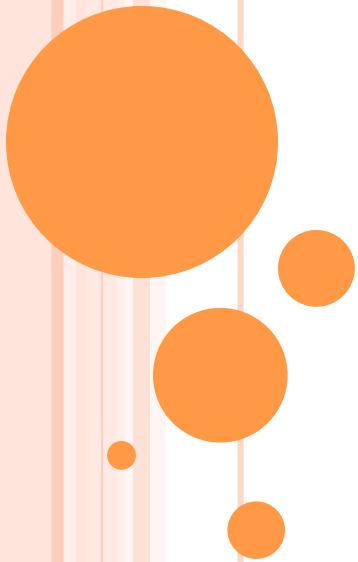


VELOCITY

Essential Questions:

- How is velocity different from speed?
- What information can we get from graphs of motion?



VELOCITY

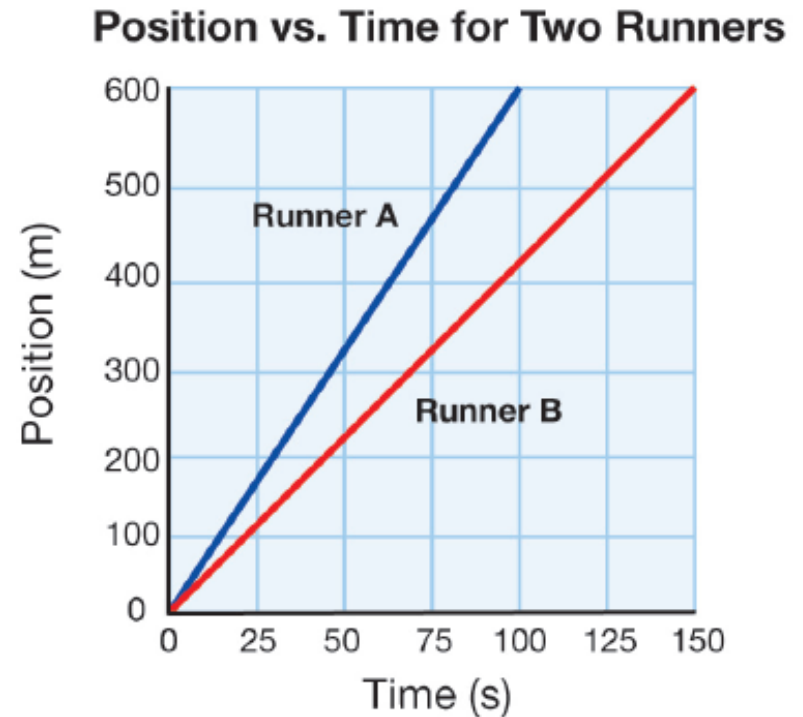
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- Includes both speed and direction.
 - Ex. 5 mph north
- A vector quantity (vectors have both magnitude and direction.) (video clip)
- Velocity can change even if speed doesn't.



GRAPHING MOTION

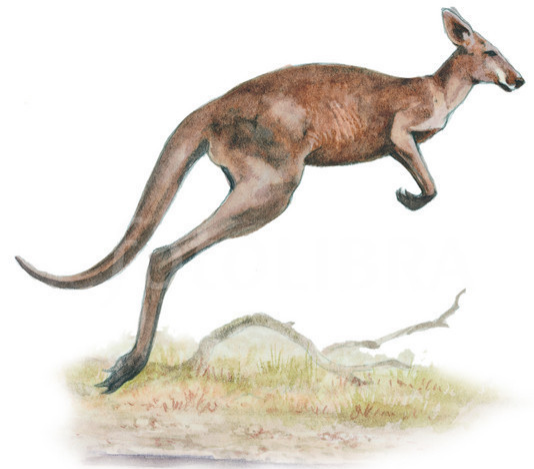
- Slope = steepness of the line
- Slope of the line represents the speed of the object
- Straight line = constant speed

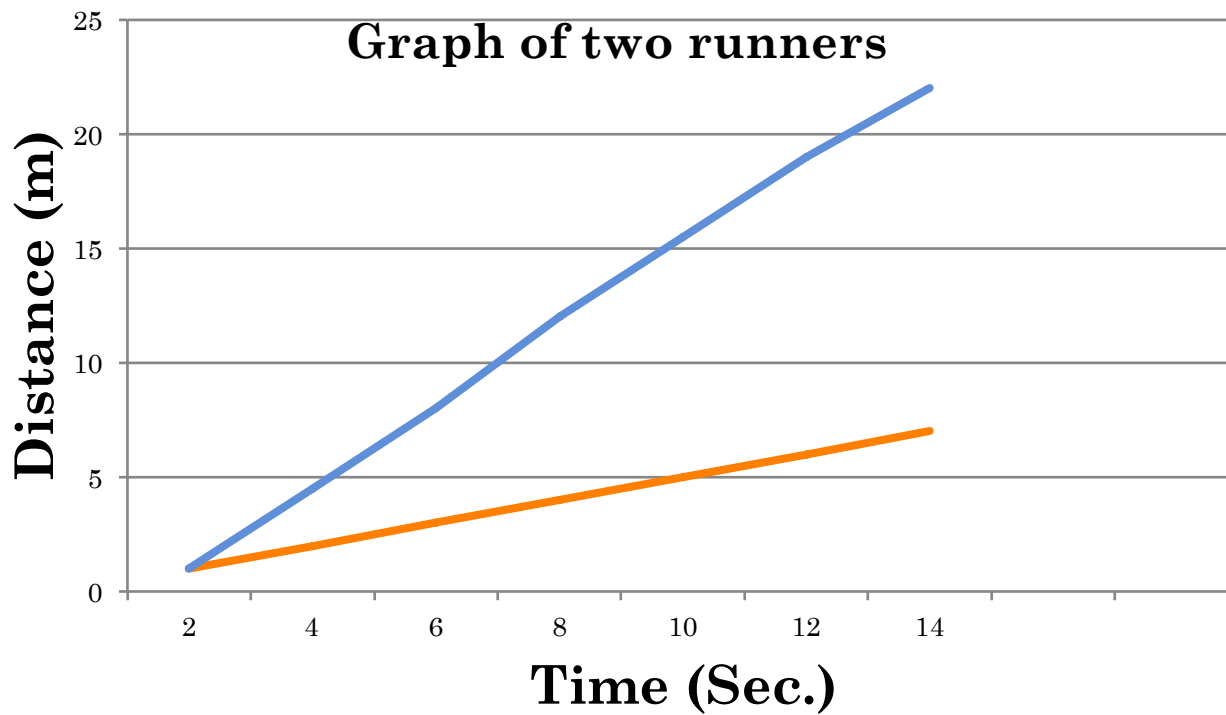


- Two dogs are running at 20 mph in opposite directions.
- Do they have the same speed?
 - Yes – they are both going 20 mph
- Do they have the same velocity?
 - No – because they are going in opposite directions.



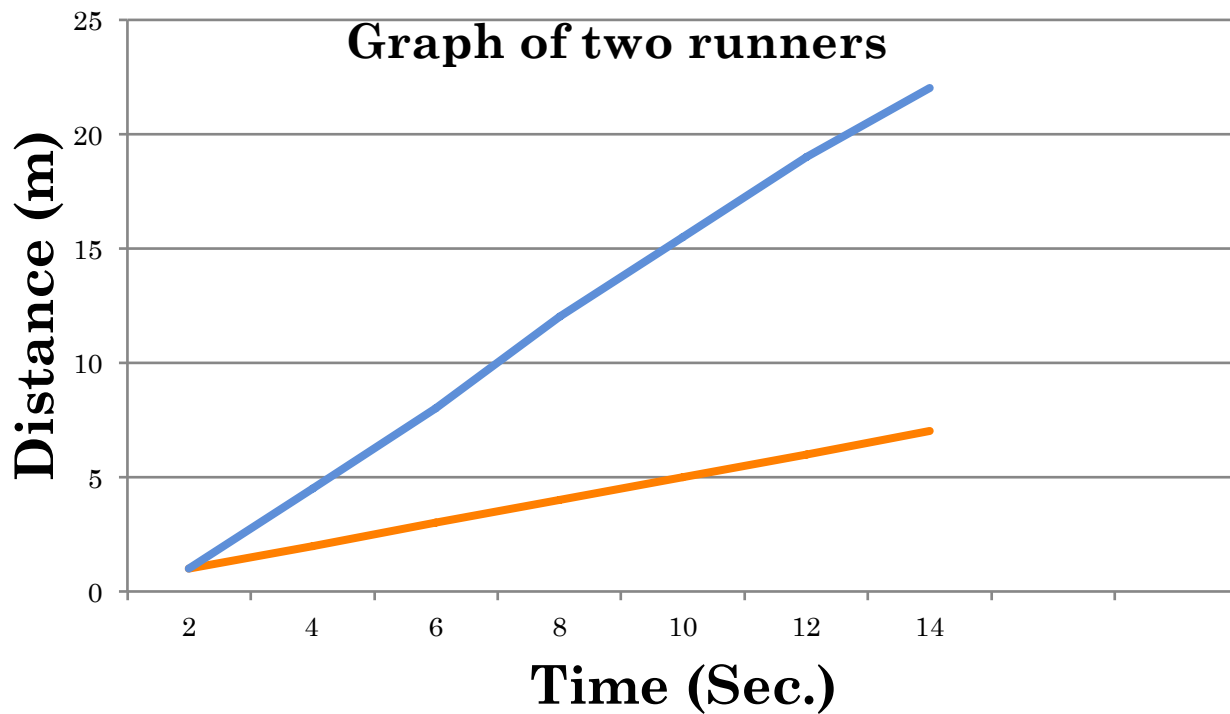
- A kangaroo hopped at a constant 10 m/s as it rounded a rock.
- Is it going at a constant speed?
 - Yes
- Is it going at a constant velocity?
 - No – because its direction is changing.





- Who went faster, Blue or Red?
 - Blue
- Which line has a greater slope?
 - Blue

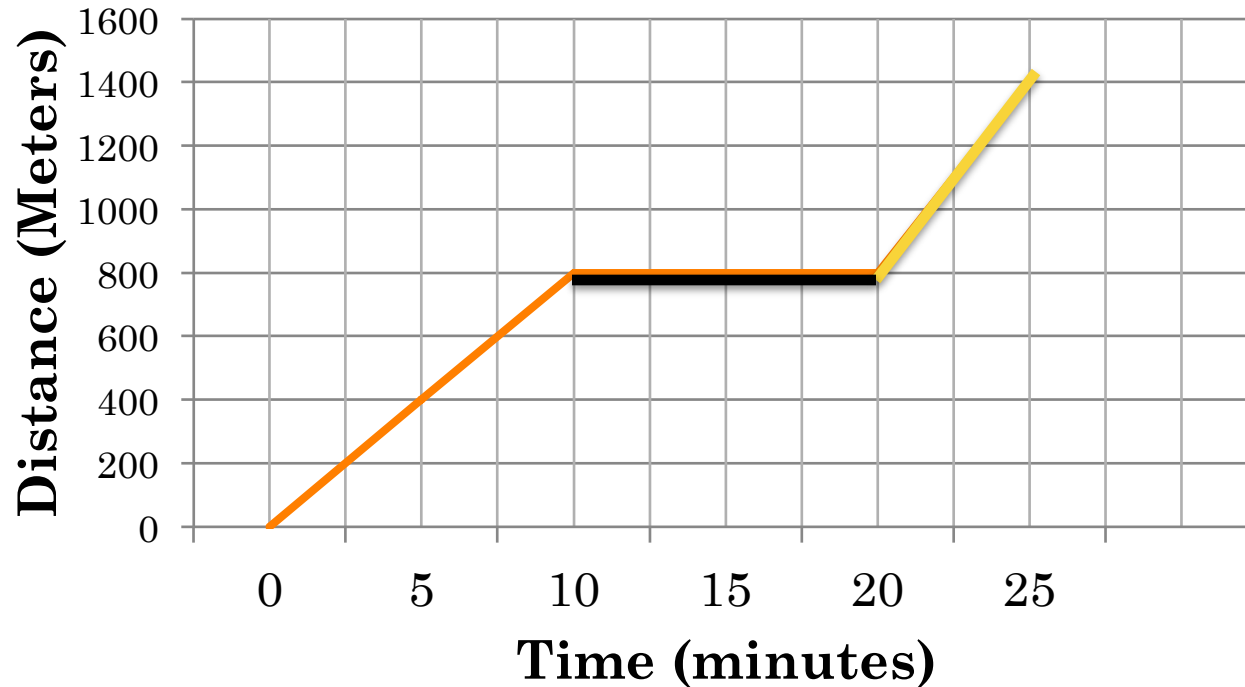




- True or false: Both runners ran at a more or less constant speed.
 - True
- Which runner went farther?
 - Blue



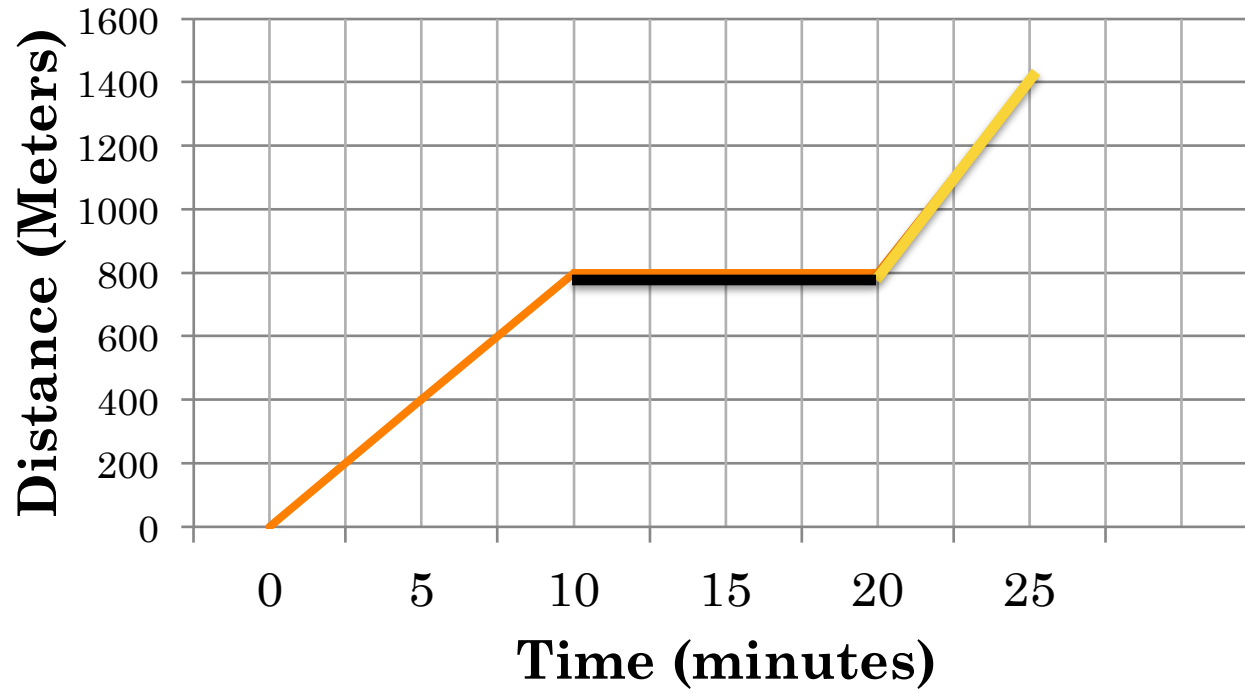
Graph of Ruth's Motion



- Is Ruth traveling at a constant velocity?
 - No
- What section of the graph shows Ruth going the fastest? (orange, black or yellow)
 - Yellow



Graph of Ruth's Motion



- What section of the graph shows that Ruth stopped?
(orange, black, or yellow)
 - Black

