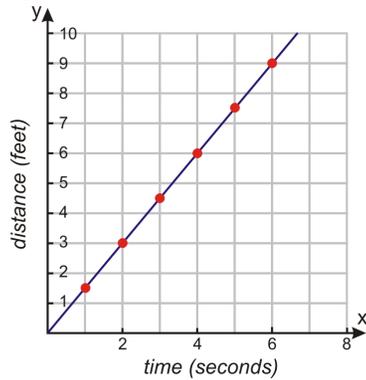


Making and Interpreting Distance-Time Graphs

Describing motion is done using both words and graphs. The wording can be confusing but the graphs always give you a picture of what is happening. Remember that motion is a change in position measured by distance and time.

Making a graph showing distance and time can tell you a great deal about the motion of an object. Look at the axes below.

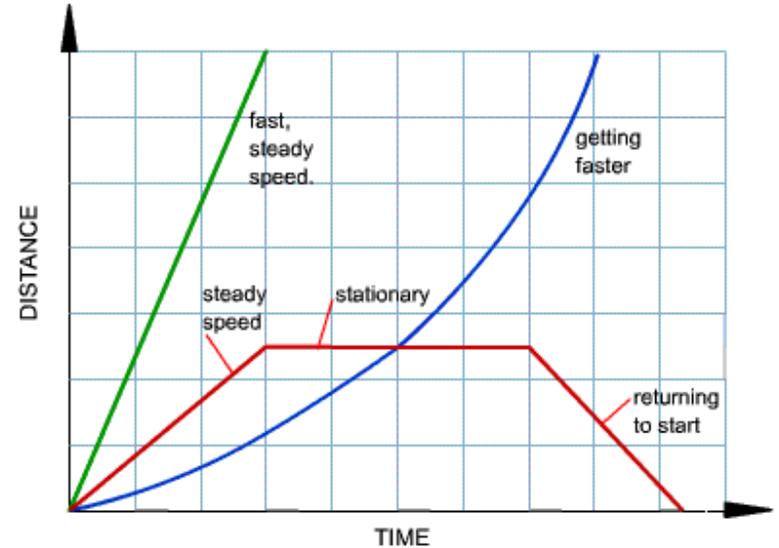


Time is always plotted along the X-axis and Distance is always plotted along the Y-axis. Time is usually in seconds but can also be in minutes or hours. Distance is usually in meters but can be in feet or inches.

Questions:

1. How many seconds are recorded on the graph? _____
2. How many feet are recorded on the graph? _____
3. What distance was traveled after 2 seconds? _____
4. How long did it take the object to travel 9 feet? _____

The shape of the line will tell you what is happening to the motion of the object. Look at the graph below.



Questions:

1. What is the shape of the line if the object is moving at a steady speed? _____
2. What is the difference between the line that shows a steady speed and the one that shows the fast, steady speed? _____
3. What is the shape of the line if the object is stationary? _____
4. What happens to the line if the object is returning to start? _____
5. Is the object speeding up, slowing down or stationary at this time? _____
6. If the object is getting faster, how does the shape of the line change? _____



- Trace over the horizontal lines with a red color.
- Trace over the diagonal lines with a blue color.
- Put a hatch mark (/) over the diagonal lines that show the time you spent going back to the locker.

Questions:

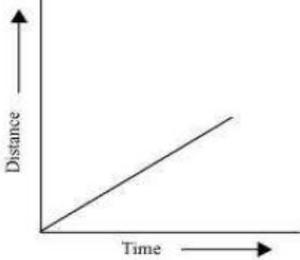
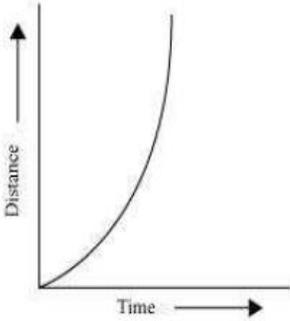
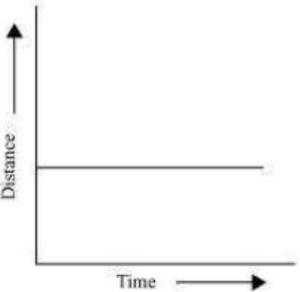
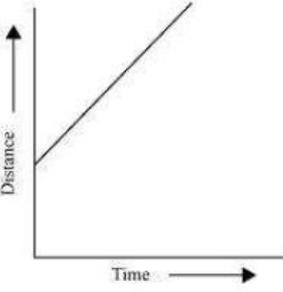
- What were you doing during the time of the red horizontal lines? _____
- What do the red horizontal lines represent on a graph? _____
- What were you doing during the time of the blue horizontal lines? _____
- What do the blue diagonal lines represent on a graph? _____
- What were you doing during the time of the blue diagonal lines with the hatch marks? _____
- What do the blue diagonal lines with the hatch marks represent on a graph? _____
- Why might some groups' diagonal lines rise more steeply when compared to other groups? _____
- Suppose you and your friend have the exact same class schedule. Would your time-distance graphs look identical? _____ Why or why not? _____

DO NOT Glue until cut out.

Cut on the solid lines.

Place glue under the anchor tabs

Place in your notebook

<p>Describe the motion shown by the line below</p>  <p>A graph with 'Distance' on the vertical axis and 'Time' on the horizontal axis. A straight line starts at the origin (0,0) and extends upwards and to the right at a constant slope.</p>	<p>Describe the motion shown by the line below</p>  <p>A graph with 'Distance' on the vertical axis and 'Time' on the horizontal axis. A curve starts at the origin (0,0) and curves upwards, becoming steeper as it moves to the right.</p>
<p>Describe the motion shown by the line below</p>  <p>A graph with 'Distance' on the vertical axis and 'Time' on the horizontal axis. A horizontal line is drawn at a constant distance value above the time axis.</p>	<p>Describe the motion shown by the line below</p>  <p>A graph with 'Distance' on the vertical axis and 'Time' on the horizontal axis. A straight line starts at a point on the vertical axis (representing a non-zero distance at time zero) and extends upwards and to the right at a constant slope.</p>



Name _____

Period _____

Exit Ticket

Making and Interpreting D-T Graphs

1. What does a horizontal line represent on a distance-time graph?
 - A. Slow movement
 - B. Going back to start
 - C. No movement
2. What does a diagonal line rising steeply represent on a distance-time graph?
 - A. No movement
 - B. Fast movement
 - C. Slow movement
3. What does a diagonal line going back to zero represent on a distance-time graph?
 - A. Slow movement
 - B. Going back to start
 - C. No movement
4. On which axis is time placed on a distance-time graph?
 - A. X-axis
 - B. Y-axis
 - C. Z-axis
5. On which axis is distance placed on a distance-time graph?
 - A. X-axis
 - B. Y-axis
 - C. Z-axis



Name _____

Period _____

Exit Ticket

Making and Interpreting D-T Graphs

1. What does a horizontal line represent on a distance-time graph?
 - A. Slow movement
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 - C. No movement
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 - A. No movement
 - B. Fast movement
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 - C. Z-axis
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 - A. X-axis
 - B. Y-axis
 - C. Z-axis