

Kinematics - Algodoo Lesson

Names _____

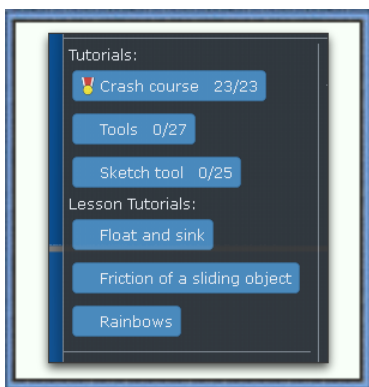
Date _____

Purpose:

To learn a software package that will allow you to make easy changes to physical simulations and observe and measure the effects. You will be sharing a computer for this activity, be sure that each student learns how to use Algodoo and the meaning of the kinematic graphs.

To submit your work, create a word document, and add screen capture images where appropriate.

Training

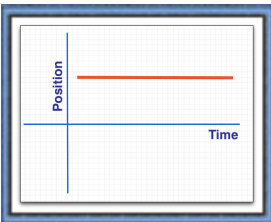
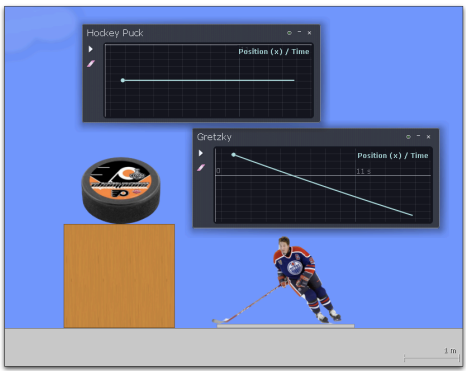


In the Algodoo software you will find three training sessions that will teach you the basics of the tools and concepts you'll need to know. Click through the first two, at least, and add a **screen capture** of your completed tutorials.

On the computers in the lab, using the printscreen button will copy the visible screen to the clipboard. You can then paste that clip into your document.

Position - Time graphs

In class, we discussed 7 different types of graphs. In Algodoo, create a simulation that makes the same position:time graph. Take a **screen capture** where the object and the graph can be shown. Explain in a few sentences what the object was doing, and how that motion matches the shape of the graph. The first type of graph was done for you as an example.

<i>example graph</i>	<i>Your Algodoo Screen Capture</i>	<i>Explain why the graph and the motion match</i>
		<p>The puck is just sitting on a flat table. It isn't moving, so the position doesn't change with time. The graph has a slope of zero, which matches a velocity of zero.</p> <p>(also on the screen is a hockey player with a constant negative velocity)</p>

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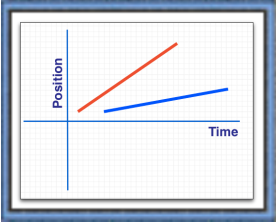
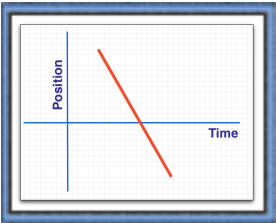
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Add a screen capture here that shows your completion of the training sessions in Algodoo.

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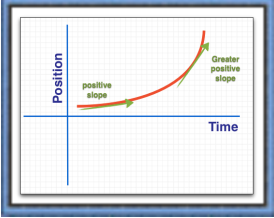
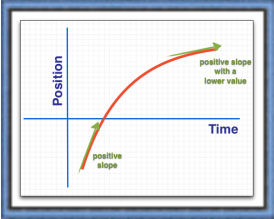
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7 position graphs	Your Algodoos Screen Capture	Explain why the graph and the motion match
2 		
3 		

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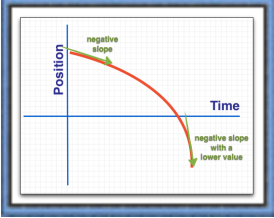
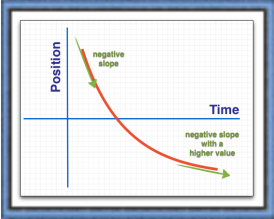
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7 position graphs	Your Algodoos Screen Capture	Explain why the graph and the motion match
<p>4</p>  <p>A position-time graph with 'Position' on the vertical axis and 'Time' on the horizontal axis. A red curve starts at the origin and curves upwards with an increasing slope. A green arrow points to the initial part of the curve with the label 'positive slope'. Another green arrow points to the steeper part of the curve with the label 'Greater positive slope'.</p>		
<p>5</p>  <p>A position-time graph with 'Position' on the vertical axis and 'Time' on the horizontal axis. A red curve starts at the origin and curves upwards with a decreasing slope. A green arrow points to the initial part of the curve with the label 'positive slope'. Another green arrow points to the flatter part of the curve with the label 'positive slope with a lower value'.</p>		

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7 position graphs	Your Algodoo Screen Capture	Explain why the graph and the motion match
<p>6</p>  <p>A position-time graph on a grid. The vertical axis is labeled 'Position' and the horizontal axis is labeled 'Time'. A red curve starts at a high position and curves downwards to the right, ending at a lower position. A green arrow points to the upper part of the curve with the text 'negative slope'. Another green arrow points to the lower part of the curve with the text 'negative slope with a lower value'.</p>		
<p>7</p>  <p>A position-time graph on a grid. The vertical axis is labeled 'Position' and the horizontal axis is labeled 'Time'. A red curve starts at a high position and curves downwards to the right, ending at a lower position. A green arrow points to the upper part of the curve with the text 'negative slope'. Another green arrow points to the lower part of the curve with the text 'negative slope with a higher value'.</p>		