**FPS – Waves Intro Virtual Lab**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

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| I can… |
| *Define the parts of a wave.**Relate the properties of a wave.* |

* ***Go to http://phet.colorado.edu/***
* ***On the left, click “Simulations”***
* ***Scroll all the way to the bottom and click the LAST simulation – “Waves on a String”***
* ***Click the play button***

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| ***Laws of Motion lab*** |
| 1. Let’s make some observations to start. What are some things we can change?
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| 1. Select “Manual”. Then, click and drag the wrench. Describe how these waves look. (Ex.: is it smooth? Are they fast?)
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| 1. Select “Oscillate”.  Describe these waves and how they are different from “Manual”.
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| 1. Select “Pulse”. Then, click the green button. What happens? How is this different from manual or oscillate?
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| 1. Select “Oscillate” and “No End”. What are the 4 properties you can change at the bottom of the screen?
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| 1. Change the “Amplitude” however you like. What happens?
 |  |
| 1. Change the “Amplitude” however you like. What happens?
 |  |
| 1. What are the three types of “ends” you can have?

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| 1. Select “Fixed End.” List any differences you notice.
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| 1. Select “No End.” List any differences you notice.
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| 1. Look around the room. Are there any objects **with fixed ends**? List them.
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| 1. Now let’s play with amplitude and frequency. What is the current **amplitude** and **frequency**? Include UNITS.
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| 1. Press “pause” and sketch the wave.
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| 1. Change the Amplitude to **1.25 cm** and press play. Press pause again, and sketch the wave.
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| 1. Change the Frequency to **0.80 Hz** (or close) and press play. Press pause again, and sketch the wave.
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| 1. Compare your sketches from #14 and #15. In COMPLETE sentences, describe how the wave changed.
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| 1. In COMPLETE sentences, describe what happens to a wave if frequency goes UP. (Use the simulation to help you if you need to!)
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| **The Quiz!** |
| Go to http://join.quizizz.com and enter the game pin on the board to get started! Record your nickname and score below. |