**Phet Simulations – WAVE Related**

<http://phet.colorado.edu/sims/html/wave-on-a-string/latest/wave-on-a-string_en.html>

**Set up the simulation in the following way, then press play and answer the questions**.

2. **Draw this wave in the box:**

* Amplitude = 1.25 cm
* Frequency = 1.0 Hz

 

1. **Draw this wave in the box:**
* Amplitude = 0.5 cm
* Frequency = 3.0 Hz
* **Oscillate**
* **No End**
* **No damping**
* **High tension**
* **Slow Motion**

3. What happens to the wave when the amplitude is increased?

4. What happens to the wave when the frequency is increased?

5. Describe two other things you learn about waves from this simulation.

<http://phet.colorado.edu/en/simulation/legacy/wave-interference>

**Set up the simulation in the following way, then press play and answer the questions**.

7. Draw the **Compression/Longitudinal** wave with high frequency and high amplitude

 

6. Draw the **Compression/Longitudinal** wave with low frequency and low amplitude

 

* **SOUND TAB**
* **Show the graph**
* **Grayscale**

9. Draw the **Transverse** wave with high frequency and high amplitude

 

8. Draw the **Transverse Wave** with low frequency and low amplitude

 

10. If in class, use earbuds and turn the **sound on**. Describe what happens to the sound when you:

 Increase the **frequency**-

Decrease the **frequency**-

Increase the **amplitude-**

Decrease the **amplitude**-

11. Click on the **Particle Button** which shows atoms marked with a **red X.** Describe how the individual atoms in a sound wave behave and describe whether they move with the energy.

12. Set the **frequency** on about 0.25 and the **amplitude** on 1.0 with the **particle** **button** **on**. Press play and then pause it. Draw the sound wave below and label the **compressions** and **rarefactions**.

