Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bell \_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_

**Transverse Waves Worksheet**

**Amplitude Wavelength**

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Define the following vocabulary terms:

Amplitude-

Wavelength-

Frequency-

Wave speed= (wavelength) X (frequency)

**Measuring Practice:**

A camera takes a picture of a wave in a string for one full second. You can use a ruler to measure in centimeters. For each wave answer the following questions and measure parts of the wave.

**Wave 1**

1. How many full wavelengths are there in this wave? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Measure one Wavelength: \_\_\_\_\_\_ cm 3. Measure the Amplitude: \_\_\_\_\_\_ cm

4. If this picture was taken over one second, what is the frequency of the wave? \_\_\_\_\_ Hz

5. You measured the wavelength and found the frequency of the wave. Use the two measurements to calculate the speed of the wave in centimeters per second.

 \_\_\_\_\_\_\_\_\_\_ cm/s

**Wave 2**

****

1. How many full wavelengths are there in this wave? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Measure one Wavelength: \_\_\_\_\_\_ cm 3. Measure the Amplitude: \_\_\_\_\_\_ cm

4. If this picture was taken over one second, what is the frequency of the wave? \_\_\_\_\_ Hz

5. You measured the wavelength and found the frequency of the wave. Use the two measurements to calculate the speed of the wave in centimeters per second.

 \_\_\_\_\_\_\_\_\_\_ cm/s

**Wave 3**

****

1. How many full wavelengths are there in this wave? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Measure one Wavelength: \_\_\_\_\_\_ cm 3. Measure the Amplitude: \_\_\_\_\_\_ cm

4. If this picture was taken over one second, what is the frequency of the wave? \_\_\_\_\_ Hz

5. You measured the wavelength and found the frequency of the wave. Use the two measurements to calculate the speed of the wave in centimeters per second.

 \_\_\_\_\_\_\_\_\_\_ cm/s

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bell \_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_

**Longitudinal Waves Worksheet**

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Define the following vocabulary terms:

Period-

Compression-

Rarefaction-

Wave speed= (wavelength) X (frequency)

Frequency and Period are inversely related Frequency= 1/period **and** Period= 1/frequency

**Measuring Practice:**

A camera takes a picture of a wave in a string for one full second. You can use a ruler to measure in centimeters. For each wave answer the following questions and measure parts of the wave.

**Wave 1**

****

1. How many full wavelengths are there in this wave? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Measure one Wavelength: \_\_\_\_\_\_ cm

3. If this picture was taken over one second, what is the frequency of the wave? \_\_\_\_\_ Hz

4. If you were to time how long it takes one complete wavelength to pass you by, you have

measured the \_\_\_\_\_\_\_\_\_\_\_\_\_.

5. Using the frequency you found in question 3, what is the period of the wave? \_\_\_\_\_\_\_\_\_\_

**Wave 2**

****

1. How many full wavelengths are there in this wave? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Measure one Wavelength: \_\_\_\_\_\_ cm

3. If this picture was taken over one second, what is the frequency of the wave? \_\_\_\_\_ Hz

4. If you were to time how long it takes one complete wavelength to pass you by, you have

measured the \_\_\_\_\_\_\_\_\_\_\_\_\_.

5. Using the frequency you found in question 3, what is the period of the wave? \_\_\_\_\_\_\_\_\_\_

**Wave 3**

****

1. How many full wavelengths are there in this wave? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Measure one Wavelength: \_\_\_\_\_\_ cm

3. If this picture was taken over one second, what is the frequency of the wave? \_\_\_\_\_ Hz

4. If you were to time how long it takes one complete wavelength to pass you by, you have

measured the \_\_\_\_\_\_\_\_\_\_\_\_\_.

5. Using the frequency you found in question 3, what is the period of the wave? \_\_\_\_\_\_\_\_\_\_