Waves: Day 3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Core: \_\_\_\_\_ Date: Thursday, March 23rd

Quick Check

1. How does the matter of a transverse wave travel? A) Side to side B) In circles C) Up & Down
2. How does the matter of a longitudinal wave travel? A) Back & Forth B) In circles C) Up & Down
3. T/F: Both longitudinal and transverse waves need matter to travel through. A) True B) False

Vocabulary

Amplitude – Crest – Wavelength

Trough – Line of Origin – Frequency

1. The highest part of a transverse wave: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. The lowest point of a transverse wave: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. The level of the medium BEFORE the disturbance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. The distance from the crest of a transverse wave to the line of origin: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. The distance between two crests or two troughs of a transverse wave: \_\_\_\_\_\_\_\_\_\_\_\_\_

6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the number of cycles a wave completes in a period of time.

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N

 Volume Pitch

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| --- | --- |
| * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- the volume of a wave (1/2 the height of a wave). As the wave height \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the volume \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* For Transverse waves:
1. Find the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Use a ruler to measure the distance between the line of origin and either the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or the trough. This distance is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

\* RULE: the higher the number, the higher the volume. \_\_\_\_\_\_\_\_\_\_\_\_\_ *waves have a higher volume.** For longitudinal waves:

1. Find a \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Use a ruler to measure the distance from the \_\_\_\_\_\_\_\_\_\_\_ of the compression to the \_\_\_\_\_\_\_\_ of it. \*RULE: The larger the distance, the higher the volume. *A bigger \_\_\_\_\_\_\_\_\_\_\_\_ makes the wave have a greater volume.* | * Frequency- the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, high or low (length of a wave). As wavelength \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the pitch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* For transverse waves:

1. Pick two successive \_\_\_\_\_\_\_\_\_\_\_\_\_\_ or troughs.2. Use a ruler to measure the distance between them. This distance is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.\*RULE: the higher the number, the lower the pitch. *Waves that are \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ have a lower pitch.** For longitudinal waves:

1. Find two successive \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the wave.2. Use a ruler to measure the distance between each one.\*RULE: the larger the distance, the lower the pitch. *A wave with \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ compressions has a low pitch.* |

**FUN FACTS:** Young people can hear between 20-20,000Hz. \* Dogs can hear frequencies that range from 67-45,000Hz. \* As you age, your ability to hear high frequencies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.\* Sounds travels faster in water than in air. Closer \_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ movement.

**Choose from one of the following activities to complete:**

**Activity!**

A) [I’m a little confused still.] With a partner, get an iPad. Watch the BrainPop video “Waves” and take the quiz. Then, move on to one of the other two activity options if you have time.

B) [I’m ready to practice.] Divide the back of this paper into four quadrants & label them: “High Volume & High Pitch,” “High Volume & Low Pitch,” “Low Volume & High Pitch” and “Low Volume & Low Pitch.” Then get a wave sheet from Ms. George. Cut out and sort the waves into the appropriate quadrant. Check your answers with a partner before you glue anything down!

C) [I’m ready for a challenge.] Pick your favorite *appropriate* song on YouTube. Listen carefully to the sounds. Pick 5 sounds (voice, drums, etc) and try to draw them on the back of this paper. Think: are they loud or soft? Are they high or low pitch?