

Name: _____

Waves and Sound Notes

1.) Waves are _____. In fact, you observe many different kinds of waves everyday. You _____ waves that move through matter, such as those that cause _____ to rise and sink in the ocean. You _____ waves such as those that produce _____ and _____ waves such as those that produce _____.

2.) What does a wave transfer? _____

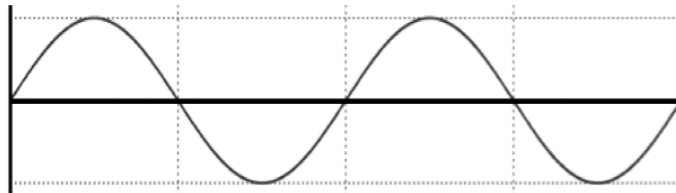
3.) What is a medium?

4.) A wave causes particles in a medium to _____.

5.) What is an oscillation?

6.) Equilibrium is also known as the _____ position.

7.) *Label the equilibrium (rest position) on the wave below.*



8.) A wave does NOT transfer _____. The wave causes particles to _____ up and down or left and right. However, they always return to _____ once the wave has passed.

9.) What are the two main kinds of waves?

1.) _____

2.) _____

10.) Mechanical waves are produced by a _____ or _____ object. Mechanical waves require a _____ (solid, liquid or gas). They cannot travel through a _____.

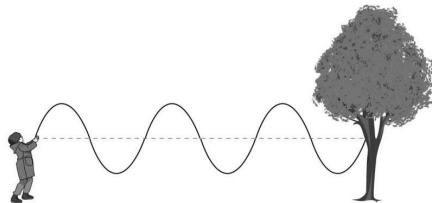
11.) List two types of mechanical waves:

1. _____

2. _____

12.) Draw a picture of a transverse wave below:

13.) Explain *IN YOUR OWN WORDS* how a transverse wave travels through the rope in the picture.



14.) In a longitudinal wave, the particles of the medium move in the _____ direction as the movement of the wave.

15.) Explain how a longitudinal wave moves through a slinky.

16.) What are three important properties of a wave?

1. _____
2. _____
3. _____

17.) Amplitude is the _____ of the wave. It is the maximum displacement of a wave from its _____ position or _____.

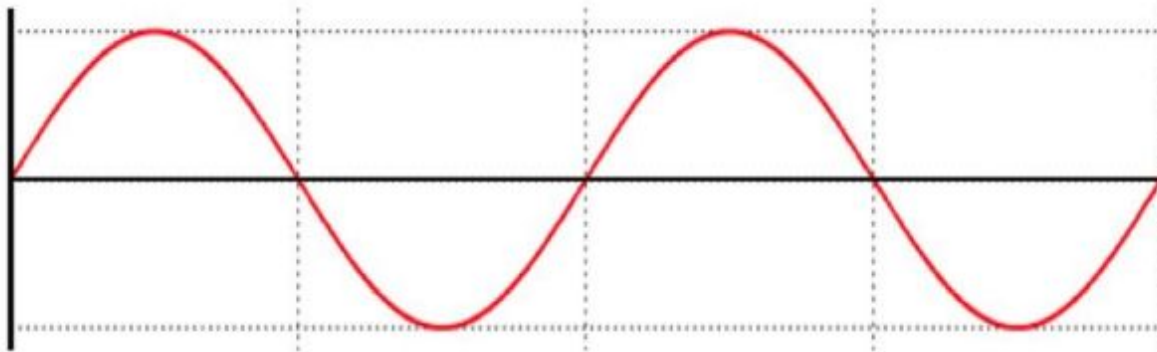
18.) Waves with a higher amplitude carry _____.

19.) The _____ the amplitude of a sound wave, the more _____ carried by the wave and the _____ the noise.

20.) The frequency of a wave is the _____ of times a wave cycles in one _____.

21.) Try to label on the wave below:

- Crest
- Trough
- Wavelength
- Amplitude
- Equilibrium (rest position)



22.) Mechanical movement can cause an object to _____. A vibrating object causes particles around it, including particles in the _____, to vibrate. Vibrating air particles create _____ waves that can be _____ by humans.

23.) In music, pitch corresponds to the _____ position of a note on a musical scale.

24.) Sound waves with a _____ frequency oscillate _____. These waves produce sound with a _____ pitch. Sound waves with a _____ frequency oscillate _____. These waves produce sound with a _____ pitch.

25.) _____ is a measure of loudness. It is measured in _____.

Reflection Questions

1. Why do particles in a medium move as a wave passes through it?

2. Compare and contrast transverse and longitudinal waves.

3. How is wavelength and frequency related?

Light

1.) What kind of wave is a light wave? _____

2.) What color of visible light has the lowest frequency? _____

3.) How does amplitude effect light waves? _____