

Name: _____

Date: _____

Period: _____

Characteristics and Types of Waves

Directions: Answer each of the following as either True or False.

1. Longitudinal waves require a medium. _____
2. Longitudinal waves are also mechanical waves. _____
3. Higher frequency sounds will travel faster than lower frequency sounds. _____
4. Waves are disturbances that transmit both matter and energy. _____
5. Electromagnetic waves can travel through space. _____
6. Waves travel fastest in gas/air and slowest in solid/earth. _____

Directions: Identify each of the following as either Transverse or Longitudinal.

7. Sound waves _____
8. Microwaves _____
9. Visible Light _____
10. Mechanical Waves _____
11. Ocean Waves _____
12. X-Rays _____

Directions: Fill in the blank with the correct word.

13. A _____ is caused by a vibration and carries _____ through a medium or space.
14. A _____ is any solid, liquid or gas that a _____ passes through.

15. In a _____ wave particles vibrate at right angles to the direction the wave travels.

16. In a _____ wave particles vibrate back and forth in the same direction that the wave travels.

17. Electromagnetic waves are _____ waves that do not require a _____ to travel through.

18. Mechanical waves can be either _____ or _____ and require a _____ to travel.

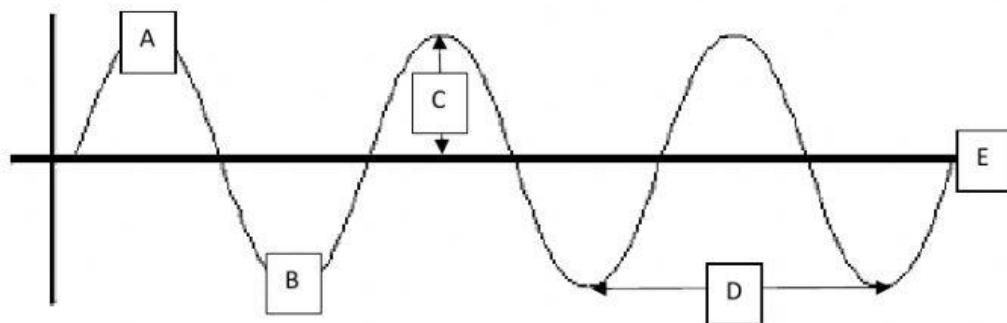
19. Sound travels fastest in _____, a little bit slower in _____ and are slowest in _____.

20. According to the kinetic theory, the closer the molecules of a substance, the _____ the vibrations are transferred.

21. The _____ is the time needed for a wave to make one complete cycle and the _____ is the number of cycles per unit of time.

Directions: Label the parts of each of the following pictures.

22.



A. _____

B. _____

C. _____

D. _____

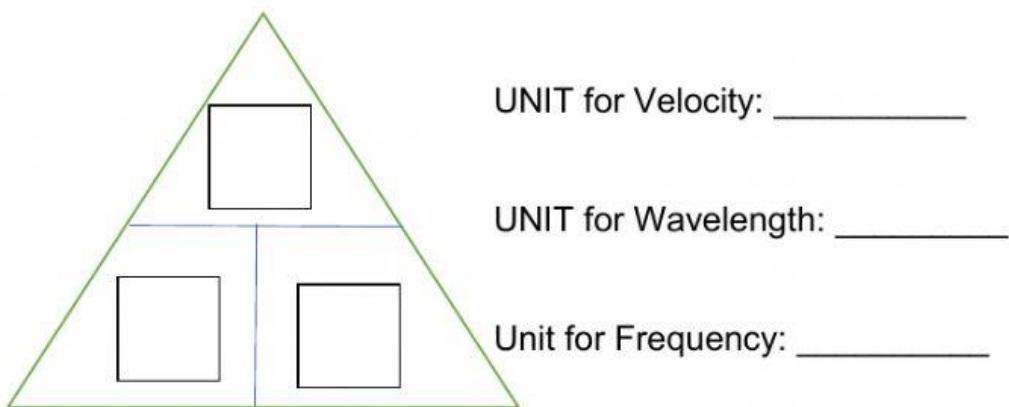
E. _____

Name: _____

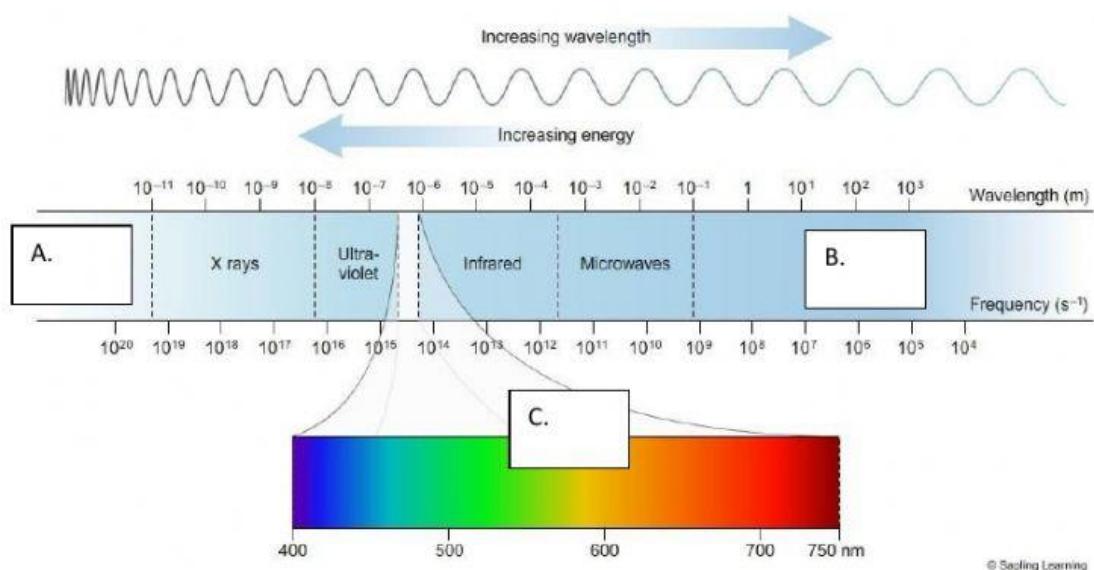
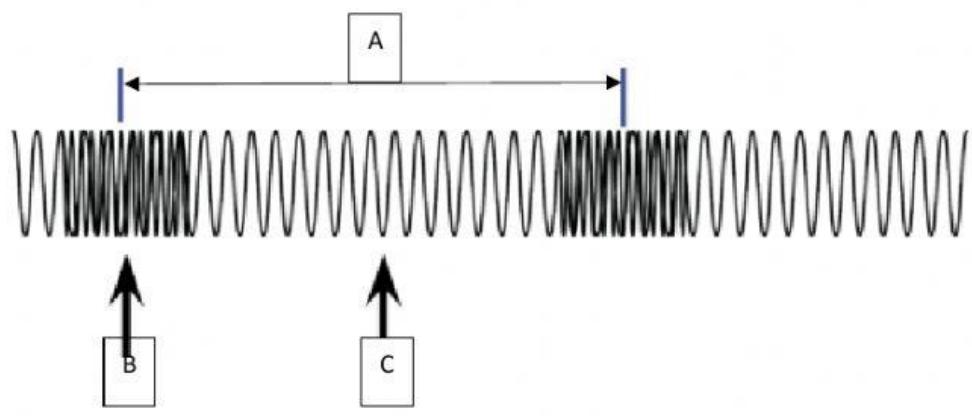
Date: _____

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23.



24.



Name: _____

Date: _____

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A. _____

B. _____

C. _____

Directions: Answer each of the following questions completely.

25. How are frequency and period related to each other?

26. What is the speed of a wave with a frequency of 750 hertz and a wavelength of 9.8 meters? (SHOW VEMA)

27. Can you hear sound in outer space? Explain why or why not?