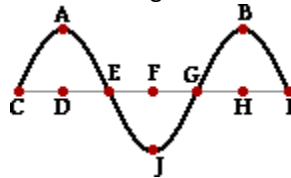
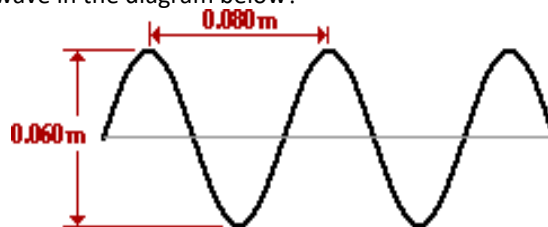


1. A single disturbance that moves from point to point through a medium is called a.....  
a. period                      b. periodic wave                      c. wavelength                      d. pulse
2. If the particles of the medium are vibrating to and fro in the same direction of energy transport, then the wave is:  
a. longitudinal                      b. sound                      c. standing                      d. transverse
3. When the particles of a medium are vibrating at right angles to the direction of energy transport, then the wave is:  
a. longitudinal                      b. sound                      c. standing                      d. transverse
4. A transverse wave is traveling through a medium. See diagram below. The particles of the medium are vibrating:



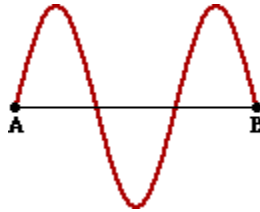
- a. parallel to the line joining AD.                      b. along the line joining CI.  
c. perpendicular to the line joining AD.                      d. at various angles to the line CI.  
e. along the curve CAEJGBI.
5. If the energy in a longitudinal wave travels from south to north, the particles of the medium would be vibrating:  
a. from north to south, only                      b. both north and south  
c. from east to west, only                      d. both east and west
6. As a pulse travels through a uniform medium, the speed of the pulse.  
a. decreases                      b. increases                      c. remains the same
7. The main factor which effects the speed of a sound wave is the:  
a. amplitude of the sound wave                      b. intensity of the sound  
c. loudness of the sound                      d. properties of the medium  
e. pitch of the sound
8. As a wave travels into a medium in which its speed increases, its wavelength would:  
a. decrease                      b. increase                      c. remain the same
9. As a wave passes across a boundary into a new medium, which characteristic of the wave would NOT change?  
a. speed                      b. frequency                      c. wavelength

10. What is the amplitude of the wave in the diagram below?



- a. 0.03 m.                      b. 0.04 m.                      c. 0.05 m.                      d. 0.06 m.
11. The wavelength of the wave in the diagram above (Question #10) is \_\_\_\_ m.  
a. 0.030                      b. 0.040                      c. 0.060                      d. 0.080

Consider the following diagram for Questions #12-#13.



12. How many waves are shown in the diagram?  
a. 1                                      b. 2                                      c. 3                                      d. 1.5
13. If the distance from point A to point B in the diagram is 60 cm, then the wavelength is \_\_\_\_\_.  
a. 20 cm.                                      b. 40 cm.                                      c. 60 cm.                                      d. 90 cm.
14. The number of cycles of a periodic wave occurring per unit time is defined as a wave's \_\_\_\_\_.  
a. wavelength.                                      b. period.                                      c. amplitude.                                      d. frequency.
15. A periodic and repeating disturbance in a lake creates waves which move outward from its source to produce circular wave patterns. If the frequency of the source is 2.00 Hz and the wave speed is 5.00m/s then the distance between adjacent wave crests (wavelength) is \_\_\_\_ meters.  
a. 0.200                                      b. 0.400                                      c. 1.25                                      d. 2.50                                      e. 10.0
16. What is the frequency of a wave that has a speed of 0.4 m/s and a wavelength of 0.020 meter?  
a. 10 hertz.                                      b. 20 hertz.                                      c. 0.008 hertz.                                      d. 0.5 hertz.
17. Many wave properties are dependent upon other wave properties. Yet, one wave property is independent of all other wave properties. Which one of the following properties of a wave is independent of all the others?  
a. wavelength                                      b. frequency                                      c. period                                      d. velocity
18. A pendulum makes exactly 40 vibrations in 20.0 s. Its period is \_\_\_\_\_. (Be careful of the units.)  
a. 0.500 Hz.                                      b. 0.500 s.                                      c. 2.00 Hz.                                      d. 2.00 s.                                      e.  $8.00 \times 10^2$  Hz.
19. A period of 0.005 seconds would be equivalent to a frequency of \_\_\_\_ Hz.  
a. 20                                      b. 50                                      c. 200                                      d. 500                                      e. 2000
20. **TRUE or FALSE:**  
The number of waves generated per second by a source is called the frequency of the source.  
a. True                                      b. False
21. **TRUE or FALSE:**  
The SI (international system standard) unit for frequency is hertz.  
a. True                                      b. False
22. **TRUE or FALSE:**  
Doubling the frequency of a wave source (without altering the medium) doubles the speed of the waves.  
a. True                                      b. False
23. If the frequency of a wave is doubled and if the speed remains constant, its wavelength is \_\_\_\_\_.  
a. quartered.                                      b. halved.                                      c. unchanged.                                      d. doubled.
24. Constructive interference of waves occurs when two crests meet.  
a. True                                      b. False
25. Which one of the following CANNOT transmit sound?  
a. Liquid air                                      b. Gaseous oxygen                                      c. Liquid water  
d. Solid steel                                      e. Perfect vacuum