

Transverse Wave (Def and examples)

Longitudinal Wave (Def and example)

$$V = f \lambda$$

Speed of sound at STP = 331 m/s

Speed of light in vacuum (or air) =  $3.00 \times 10^8$  m/s

1. What is the wavelength of a 440 Hz sound?
2. What is the wavelength of radio station 1010 kHz
3. A 0.32 kg mass attached to a spring undergoes simple harmonic motion with a frequency of 1.6 Hz. What is the spring constant of the spring?
4. A wave oscillates 5.0 times a second and has a speed of 6.0 m/s. What are the (a) frequency (b) period (c) wavelength of this wave?
5. As you sit in a fishing boat, you notice that 12 waves pass the boat every 45 seconds. If the distance from one crest to the next is 7.5 m, what is the speed of these waves?
6. A wave moves by you with a speed of 5.6 m/s. The distance from a crest of this wave to the next trough is 2.4 m. What is the frequency of this wave?
7. How much time is required for a wave to travel two wavelengths?