

Use the internet to find the following information.

1. Define Infrasonic
2. Give an example of infrasonic sound in use.
3. Define ultrasonic
4. Give an example of ultrasonic sound in use.

Speed of a wave = wavelength x frequency $v = \lambda f$ v= velocity (speed), measured in m/s λ = wavelength, measured in m f= frequency, measured in Hz (Hz = 1/s)	The speed of a wave depends on the medium that it is travelling through. $f = 1/T$ f= frequency, measured in Hz T= period, measured in s
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1. Elephants can speak and hear in the infrasonic sound range. The minimum frequency that elephants can hear is 16 hertz. Given a speed of sound of 340 m/s, what is the wavelength of this sound?
2. Bats are thought to be able to hear frequencies up to 110,000 Hz. Again, if the speed of sound is 340 m/s, what is the wavelength of this sound?
3. Some wavelengths are said to be as large as a football field. What would be the frequency of a sound at 340 m/s that has a wavelength of 100 m?

4. Find the speed of a wave that has a wavelength of .5 meter and a frequency of 680 Hz?

5. The string on a piano that produces a B flat. If the sound waves produced by this string have a wavelength in air of 2.92 meters, what is the frequency of a wave traveling at 340 m/s?

6. Find the period of the wave in B flat.

7. An FM radio station broadcasts electromagnetic waves at a frequency of 107.9 MHz (equal to 107,900,000 Hz). These radio waves have a wavelength of 9.86 meters. What is the speed of the waves?