

Name: _____ Date: _____

Sound

Q1. State one observation from everyday life which shows that sound travels slower than light.

Ans. _____

Q2. What are called inaudible sounds?

Ans. _____

Q3. How is pitch related to frequency?

Ans. _____

Q4. The sound from a mosquito is produced when it vibrates its wings at an average rate of 500 vibrations per second. What is the time period of the vibration?

Ans. _____

Sound

Q1. State one observation from everyday life which shows that sound travels slower than light.

Ans. Lightning and thunder take place in the sky at the same time and at the same distance from us. Lightning is seen earlier and thunder is heard later. This shows that sound travels slower than light.

Q2. What are called inaudible sounds?

Ans. The fact is that sounds of frequencies less than about 20 vibrations per second (20 Hz) and higher than about 20,000 vibrations per second (20000 Hz) cannot be detected by the human ear. Such sounds are called inaudible sounds.

Q3. How is pitch related to frequency?

Ans. The frequency determines the shrillness or pitch of a sound. If the frequency of vibration is higher we say that the sound is shrill and has a higher pitch. If the frequency of vibration is lower, we say that the sound has a lower pitch.

Q4. The sound from a mosquito is produced when it vibrates its wings at an average rate of 500 vibrations per second. What is the time period of the vibration?

Ans. Time period = $1/(\text{Frequency of Oscillation})$

Frequency of oscillations = 500 Hz

Time period = $1/500 = .002 \text{ s}$