

**Affiliation No. 1130703****Class Notes****CLASS: VIII DIVISION: _____****SUBJECT: SCIENCE****PREPARED BY: Prathibha Hebbar****LESSON: 10 – Sound****Pre Activity** : - Draw or stick a picture of tuning fork and write short note.

Key Words :

1. Amplitude
2. Eardrum
3. Frequency
4. Hertz (Hz)
5. Larynx
6. Oscillation
7. Pitch
8. Time period
9. Vibration

Q1. A pendulum oscillates 40 times in 4 seconds. Find its time period and frequency.**Ans:***Time period = Time taken / Number of oscillations*

$$= 4/40$$

$$= 0.1 \text{ seconds}$$

Frequency = Number of oscillations / Time taken

$$= 40/4 = 10 \text{ Hz}$$

Q2. 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 = Time taken / Number of oscillations*

$$= 1/500$$

$$= 0.002 \text{ seconds}$$

Q3. Identify the part which vibrates to produce sound in the following instruments:**(a) Dholak (b) Sitar (c) Flute****Ans:**

(a) Dholak: Dholak has stretched membranes which vibrate to produce sound.

(b) Sitar: In sitar, the stretched strings, when vibrate, they produce sound.

(c) Flute: Flute is a wind musical instrument which uses air column to produce sound.

Q4. What is the difference between noise and music? Can music become noise sometimes?**Ans:**

Music is a sound which produces a pleasing sensation while noise is an unwanted and unpleasant sound. Music is produced by nature, musical instruments etc. Noise is produced by horns of vehicles, by machines etc. Music can become noise when we play it at very high volume or too many music are being played at the same time with unpleasant loudness.

Q5. List sources of noise pollution in your surroundings.**Ans:**

Major causes of noise pollution are sounds of vehicles, explosions including bursting of crackers, machines, loudspeakers etc. Sources in the home may lead to noise pollution. Television and transistor radio at high volumes, some kitchen appliances, desert coolers, air conditioners, all contribute to noise pollution.

Q6.Explain in what way noise pollution is harmful to humans.

Ans:

Lack of sleep, hypertension (high blood pressure), anxiety and many more health disorders may be caused by noise pollution.

A person who is exposed to a loud sound continuously may get temporary or even permanent impairment of hearing.

Q7.Your parents are going to buy a house. They have been offered one on the roadside and another three lanes away from the roadside. Which house would you suggest your parents should buy?

Explain your answer.

Ans:

Closer to roadside, larger the noise pollution. So, I would suggest a house which is three lanes away from the roadside because the pollution level (both air and noise pollution) is somewhat less there.

Q8. 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. Can you explain?

Ans:

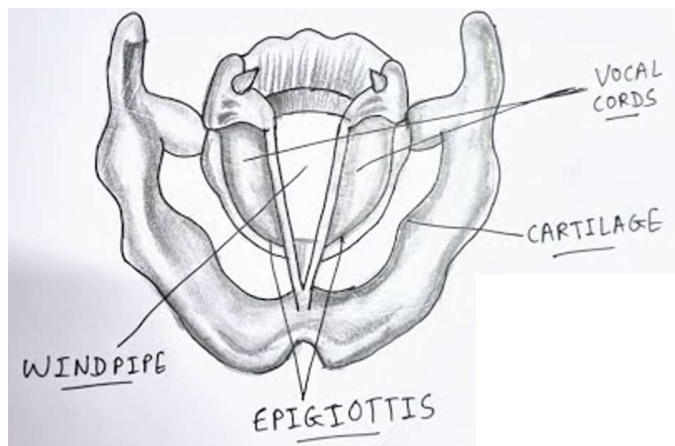
Speed of sound is 330 m/s and speed of light is 300,000,000 m/s. Light travels much faster than sound that is why lightning is seen earlier and thunder is heard.

LONG ANSWER QUESTIONS:

Q1. Sketch larynx and explain its function in your own words.

Ans:

In humans, the sound is produced by the voice box or the larynx. Two vocal cords, are stretched across the voice box or larynx in such a way that it leaves a narrow slit between them for the passage of air. When the lungs force air through the slit, the vocal cords vibrate, producing sound. Muscles attached to the vocal cords can make the cords tight or loose. When the vocal cords are tight and thin, the type or quality of voice is different from that when they are loose and thick.



Post Activity : - Draw a neat labelled diagram of human ear.

Subject Tr

HOD

Co Ordinator

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