



# Sound

- Sound plays an important role in our lives and helps us to communicate with others.
- It is a form of energy which produces sensation of hearing in our ears.
- Sound is produced by vibrating body. e.g. when a tightly stretched band is plucked, it vibrates and produces sound. The moment it stops vibrating, the sound also stops.
- Vibration means a kind of rapid *to and fro* motion of an object.
- Sound requires a medium to travel, i.e. solid, liquid or gases.
- Sounds which are very pleasant to hear are called **musical sounds** whereas the sounds which are unpleasant to hear are called **noises**.

- ☑ Speed of sound is maximum in solids and minimum in gases.

*The table given below represents the various sound used by creature for communication.*

Animals	Their Sounds
Cats	Meow
Dogs	Bark
Elephants	Trumpet
Frogs	Croak
Monkey	Scream
Owls	Hoot or hiss
Birds	Chirp

## Loudness of Sound

- The measure of sound reaching the ear per second is known as loudness.
- It depends on the sensitivity or the response of our ears.
- Loudness refers to how loud or soft a sound seems to a listener.
- It is measured in decibel (dB).

*The table given below gives some idea of the loudness of sound coming from various sources*

Sound	Loudness
Normal breathing	10 dB
Soft whisper (at 5 m)	30 dB
Normal conversation	60 dB
Busy traffic	70 dB
Average factory	80 dB

- The sound above 80 dB is physically painful.

## Excessive Noise

- The presence of excessive noises or unwanted sounds in the environment causes lack of sleep, irritation, loss of hearing, etc.
- A person who exposed to a loud sound continuously may get temporary or even permanent impairment of hearing.
- Hearing in pairment can be corrected by hearing aid devices.
- Hearing aid device receives sound through a microphones.
- The major sources of noises in our homes are television and transistor radio at high volumes, kitchen appliances, etc.



# Practice Exercise

1. A body can produce sound by  
(a) moving (b) vibrating  
(c) tightening (d) None of these
2. The sound of a cat is  
(a) meow (b) trumpet  
(c) croak (d) chirp
3. Chirping is the sound of  
(a) cats (b) birds  
(c) monkey (d) dogs
4. The sounds which are very unpleasant to hear are called  
(a) noise (b) music  
(c) melody (d) None of these
5. The vibrating part of a flute is  
(a) string (b) air column  
(c) membrane (d) hire
6. By which part 'Veena' produced the sound?  
(a) Air column (b) String  
(c) Membrane (d) None of these
7. Drum produces sound through  
(a) air column (b) string  
(c) membrane (d) None of these
8. The range of sound is characterised by  
(a) loudness (b) vibration  
(c) length (d) distance
9. By which sense organ we hear sound?  
(a) Ear (b) Nose (c) Eye (d) Brain
10. The sound in human being is produced by  
(a) eardrum (b) vocal cords  
(c) nose (d) ear canal
11. The sound usually produced by dolphins are .....  
(a) click (b) quack  
(c) chirp (d) scream
12. The sound of a snake is  
(a) croak (b) trumpet  
(c) bark (d) hiss
13. Sound can travel in  
(a) solid (b) liquid  
(c) gas (d) All of these
14. Which of the following is the characteristics of sound?  
(a) loudness (b) noise  
(c) music (d) None of these
15. Loudness is measured in .....  
(a) metre (m) (b) centimetre (cm)  
(c) decibel (dB) (d) gram (g)
16. The normal breathing of loudness is  
(a) 20 dB (b) 10 dB  
(c) 30 dB (d) 40 dB
17. Any sound ranging upto 50 dB is considered as  
(a) soft whisper  
(b) normal breathing  
(c) normal conversation  
(d) busy traffic
18. The sound produced by average factory is upto loudness range  
(a) 30 dB (b) 40 dB  
(c) 80 dB (d) 60 dB
19. Sound reaches to our ear by  
(a) nervous system  
(b) skeletal system  
(c) auditory nerve  
(d) None of the above
20. A person having partial hearing loss can hear properly by using a device called .....  
(a) hearing aid (b) sonometer  
(c) musical aid (d) silencer

## Answers

1	(b)	2	(a)	3	(b)	4	(a)	5	(b)	6	(b)	7	(c)	8	(a)	9	(a)	10	(b)
11	(a)	12	(d)	13	(d)	14	(a)	15	(c)	16	(b)	17	(c)	18	(c)	19	(c)	20	(a)