ATOMIC ENERGY EDUCATION SOCIETY

Class 8 Science *Lesson 13*

Sound (Handout 1)

- Sound is a form of energy that produces the sensation of hearing in our ears.
- **Sound is produced due to vibrations**.
- The to and fro motion of a body from its rest position is called oscillatory motion.
- Vibrations are fast oscillations

  Examples
- When you blow a whistle, the vibrations of particles in air produces sound.
- When a bell is struck, it vibrates to produce sound.
- When we speak, our vocal cords vibrate to produce sound in the larynx.
- When you pluck a stretched rubber band, it vibrates and produces sound.

  Sound produced by humans

Human beings produce sound when our vocal cords vibrate on blowing air through them by our lungs.

- Our throat has a part called larynx. The voice is produced in the larynx. It is also called voice box. It is located at the upper end of windpipe. Two vocal cords are stretched across the voice box or larynx in such a way that it leaves a narrow slit between them for passage of air.
- When the lungs force air through the slit, the vocal cords vibrate, producing sound.

Sound needs a medium for propagation

Sound cannot travel through vacuum. Sound requires a medium for its propagation i.e. for travelling from one point to another

- Sound can travel in all mediums, solids, liquids and gases.
- Sound travels faster through a solid medium than through liquids and gases.

We hear through our ears

The human ear consists of three main parts.

- External ear: It consists of pinna, auditory canal and ear drum (tympanum). Its function is to collect and direct the sound waves to the middle ear.
- Middle ear: It consists of three tiny bones that vibrate in response to the vibrations of the ear drum.

The three tiny bones intensify the vibrations picked up from ear drum by 20 to 25 times. They transfer the vibrations to inner ear.

- Inner ear : It basically consists of a part called cochlea which is associated with hearing.

The sound waves are converted into nerve impulses in inner ear and travel through the auditory nerve to the brain.