

National Institute of Open Schooling
Secondary Course : Science And Technology
Lesson 18 : Sound and Communication
Worksheet-18

1. While talking directly is the most used form of communication, technology has enabled us to use many other ways like telephone, radio, television, text message, and internet. Is there any difference between the direct communication and technology based communication?
 - a) If yes, support your answer with reasons
 - b) If no, support your answer with reasons
2. Perform an activity to verify that the sound has an association with vibrations? Explain how these vibrations are transmitted in a medium mechanically and how sound travels.
3. Perform an activity to justify that the sound results from vibration and needs a medium to travel (Gas/Solid/Liquid). Out of solid, liquid and gas in which medium sound travels fastest. Justify your answer.
4. Perform an activity to verify that a wave transfers energy from one point to the other without the medium particles moving from one point to the other. As we describe our friend by their name, height, colour, gender etc, similarly mention the parameters to describe wave.
5. Continue to Q4, Calculate wavelength for the frequencies 200 Hz and 1000Hz if the velocity of sound is 330 ms^{-1} . Also comment which sound wave will have its crests farther apart from each other - a wave with frequency 200 Hz or a wave with frequency 1000Hz? Justify your answer.
6. SONAR and RADAR are two techniques which have many applications. Write full abbreviation of SONAR and RADAR. Also mention their elements, working and applications.
7. Though communication need not always be verbal, still verbal communication has importance in day to day life of all. There are different modes of communication i.e. writing, facial expressions, body language and many more. Write in your own words what is the need and importance of communication.
8. Continue to Q7, observe your surroundings and enlist
 - a) Different types of communication
 - b) Different types of communication devices
9. The inventions of microphone, speakers, telephone, satellite, computer and internet have revolutionized communication. The basic working principle remains the same in all communication devices. Explain basic working principle of communication devices.

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10. Observe different musical instruments i.e. Flute (Baansuri), Tabla, Drum, Guitar, Piano, Harmonium, bells, Manjeera, Ghungroo, Chimta etc in your surroundings which produce sounds. You will observe that different instruments will produce different sounds. Explain the phenomenon why different instruments produce different sounds. Also comment what is the basic difference between noise and music?