

Learning Objectives

- 1) Realize that sound is all around us.
- 2) Know that all sounds are related to movement. When an object moves, it creates sound waves.
- 3) Understand the concept that sound waves are the medium through which sound can travel. Sound waves are similar to the waves produced when a rock is dropped into a pond. However, one cannot see sound waves; they are invisible.
- 4) Realize that sound waves travel in all directions, even around corners. Sound waves can travel through air, water, and even hard substances like wood.
- 5) Understand that sound waves can bounce off objects like a wall and come back. This is called an echo. Sound waves can also be absorbed by objects.
- 6) Know that the strength of the sound wave determines the strength of the sound. The stronger the sound wave, the louder the sound.
- 7) Understand that ears allow animals to hear sound waves. When sound waves enter the ear, they are led down the ear canal to the eardrum. As the waves hit the eardrum, they cause the membrane of the eardrum to vibrate. The vibrations of the eardrum match the vibrations of the sound waves. When the eardrum vibrates, three tiny bones in the ear also vibrate. The vibrations of the bones are passed to the auditory nerve, which sends a signal to the brain that tells the brain that sound is present.
- 8) Know that all sound comes from movement. When an object moves, it creates vibrations, which are back and forth movements. These movements create sound waves. In addition, the stronger the vibration, the further the sound wave will travel, and the weaker the vibration, the shorter the sound wave travels.
- 9) Understand that people make sound by vibrating their vocal cords. The faster the vibration, the higher the voice will be; the slower the vibration, the lower the voice will be. The property of sound that makes a sound high or low is called pitch.
- 10) Know that music is a series of organized sounds. Noise is a series of unorganized sounds.

- 11) Realize that people associate sounds with objects and feelings. For example, when we hear a siren, we may think of a fire engine or an ambulance, and when we hear someone crying we usually feel concern.

Suggested Activities

1) Before Viewing the video:

- a) Anticipatory Set: Have the children close their eyes and listen (in total silence) to all the sounds that can be heard in the classroom. Do this for 2 minutes. What did they hear? Why is it important to be able to hear? Discuss with your class.

2) After Viewing the Video:

- a) Questions: What causes sound? What can sound go through? Why are some sounds louder than others? How do we hear? (Review the video to find the answers.)
- b) Specific Activities:
 - i) Listening for Similarities and Differences Use 14 - 35mm cans (or contact-covered baby food jars). Divide into two groups of seven. Fill one set of 7 with: sand, rice, pennies, buttons, cut-up rubber bands, paper clips, tiny rocks, or any items you choose. Fill the second set of 7 with the same items. Teacher takes a jar from Set 1 and shakes it. Class guesses what it is. Then take jars from Set 2 and shake them one at a time until you find a match. Open jars to see if children heard correctly. Let children try this out in groups of two or three.
 - ii) What Do You Hear? Blindfold a child. Behind his/her back make noises with the following items: bell, scissors, paper (to crumple), pencil (to tap or drop), and hands (to clap) or items of your own choice. When a child cannot identify the sound, he must select someone to take his/her place.
 - iii) Helpful and Harmful Sounds Make a class list of sounds that warn us, scare us, make us happy, we like and we don't like.
 - iv) Seeing and Hearing Vibrations Have two children pulling a rubber band tight each child holding one part with a crooked finger. A third child twangs the band children see it and hear it. See what happens when the rubber band is pulled tighter. Tap a cymbal or a triangle. Have a child grab it and hear how the sound stops instantly.
 - v) Bulletin Board: Ears! Ears! Ears! Many animals hear very well and the shapes of their ears help them do

this. Have each child draw the head of any animal and cut it out. Put them on a bulletin board. Discuss which animals hear best and how the shape of their ears show this.

vi) Noise Concert (K-1 children love this!) Make a set of cards of pictures of things that make noise (cat, dog, bell, fire engine, etc.). Choose a child to be the "Sound Director" with a ruler for a baton. Flash a card. The children make that sound until the "director" signals for them to stop.

Vocabulary

Auditory nerve – a nerve inside the ear that picks up vibrations from the ear bones and signals the brain that the animal is hearing something

Ear – An organ in the body that allows an animal to hear sound

Ear bones – The three bones inside the ear that pick up vibrations from the eardrum. These bones then pass the vibrations on to the auditory nerve

Ear canal – The passage in the ear through which sound waves travel.

Eardrum – A membrane in the ear that turns sound waves into vibrations that vibrate the bones inside the ear

Music – A series of organized sounds

Noise – A series of unorganized sounds

Pitch – The property of sound that is determined by the speed of the sound wave. The higher the pitch, the higher the sound

Sound wave – A medium through which sound travels

Vibration – A back and forth motion

