

# Discovering Sound and Noise

## ACTIVITY 1: Distinguishing Between Sound and Noise in the Environment



### Description:

Through several activities, students will be able to distinguish between sound and noise in their environment by performing active listening. They will also define the differences between each term.

These activities address the following New York City Department of Education Performance Standards for Science:

Elementary: S1b, S4c, S5b, S5d, S5f, S6a

Middle School: S1c, S4c, S5b, S5d, S5f, S6a, S8b

High School: S1d, S4c, S5b, S5e, S5f, S6a, S8b

### Objectives:

- To distinguish between the concepts of sound and noise in the environment.
- To explain and demonstrate how sound and noise are produced.
- To discuss the health effects of noise in the environment.

### Materials:

Tuning fork  
Cup of water  
Whistle  
Blackboard and chalk

### Background Information:

- Noise is unwanted sound.
- People may perceive sounds differently.
- Noise can cause many health-related and psychological disturbances in your body.

### Method:

- Ask the students to define the word sound. Ask for examples of sound in the environment (ones that they hear on a daily basis). Write this list on the blackboard.
- Ask the students how sound is produced. When they answer vibrations, tell them that you want to demonstrate this to them. Have everyone put two fingers on their adams apple.

- At the count of 3, have everyone hum and then stop. Question the students on what they felt (vibrations, buzzing). This demonstrates that sound is produced by vibrations.
- Tell the students that they are all going to participate in an experiment. For this experiment, a cup of water and a tuning fork will be needed. Tell them that you are going to hit the tuning fork and then put it in the cup of water. What do they think will happen? Do the demonstration. Ask them what happened and why?
- Now ask the students to define the word noise. Have them give examples of noise they hear every day and write this list next to the sound list they came up with earlier.
- Tell the students that you are going to blow a whistle in two ways and their job is to tell you which way is a sound (blow lightly) and which way is a noise (blow strongly). Why?

### Discussion:

- Discuss the ways noise hurts us. Have the students formulate ideas of how they can reduce their exposure to noise in the environment.
- Ask the class to tell you three things that they learned today.
- Read a book about sound and noise. Use DEP's Great Books and Web Sites About Sound and Noise for children.

### For more information contact:

New York City  
Department of Environmental Protection  
59-17 Junction Boulevard  
Flushing, NY 11373  
educationoffice@dep.nyc.gov

Also visit DEP's Web site at:

[www.nyc.gov/dep](http://www.nyc.gov/dep)