

# Mapping Sound and Noise

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## Description:

Students will practice spatial visualization through mapping sounds and noises heard in their neighborhood or school.

## Objectives:

- Practice mapping skills.
- Understand the difference between sound and noise.
- Introduce NYC noise regulations.
- Relate noise, sound, and noise codes to their own classroom and community.

## Vocabulary:

Noise, onomatopoeia

## Materials:

- Colored pencils or crayons
- Blank paper
- Google Maps of the neighborhood or school for reference
- “NYC Noise Code Categories” reference sheet
- Sample Sound Map(s)

## Background Information:

A sound is something that can be heard. A noise is a sound that is unwanted or unpleasant. New York City classifies noises into eight categories, listed on the “NYC Noise Code Categories” reference sheet. Some of the categories include construction noise, refuse collection vehicles, and noise from neighbors and pets. Each category has a time period in which a certain decibel level is allowed.

## Method:

- Inquire about sounds in the students’ daily lives: what types of sounds do you hear in the classroom? In school? On the playground? In your neighborhood? On your school commute? Collect answers on the board or have students brainstorm in small groups.
- Now that you have a list of sounds, how do we define sound? Brainstorm verbally or with an idea web.
- Explain that the class will be doing a hearing exercise in the classroom, school, or around the school.
- Each student will find their own “sit spot” within view of the teacher. They will have 7-10 minutes to listen carefully and attentively to their surroundings and to draw out a “Sound Map.”
- There are many ways to draw a sound map, but all start with marking the “sit spot.” Use the samples included at the end of this lesson for inspiration.
- The sound map should have both words and drawings. The words can be the source of the sound, the onomatopoeia, or both. An onomatopoeia is a word formed to describe or associate with the noise of the word it represents.
- The student (or the teacher) can decide how to visualize the sounds, for example:
  - With arrows pointing to the direction the sound came from and the size of the arrow representing the volume of the sound.
  - With abstract shapes representing the sound in the area where the sound was heard (this is good for depicting noises in motion).
  - With drawings of the source of the sound such as a car honking (the students can first map words and then add drawings after).

- If preferred, the students can start with a simple map of their school or block and fill in sounds on the map (create your own or print from Google Maps).
- After the listening time is up, regroup and have students share what kinds of sounds they heard.
- After you have discussed sound, talk about noise. Ask students to compare and contrast sound and noise. *A noise is an unwanted or offensive sound.* Discuss students' perception around sounds that some don't consider noise.
- Tell students to pick out sounds from their earlier session that could be considered noise.
- Use the "NYC Noise Code Categories" reference sheet attached at the end of this lesson to introduce the different sound and noise categories the NYC Department of Environmental Protection uses to regulate noise.
- Instruct students to color-code the noises on their sound maps by category. Students can use the color-coding already provided on the reference sheet; remind them to include a key on their map.
- Title sound maps and (if students want) add details to ground the map to an actual place by labeling the street names or the school buildings on their map.
- How easy was it to visualize the sounds that you heard?
- Were there more pleasant sounds or unpleasant noises on your sound map?
- Are there sounds that you consider noise that that are not regulated within the Noise Code categories?
- How do you think that these sounds and noises affect you, your neighborhood and school?
- Why is it important for New York City to have a noise code?

### Extension:

- Have the students do a sound map both inside the classroom and outside the classroom.
  - Are there sounds that you can hear in both places?
  - Which place has more noise?
- Explore [The Roaring Twenties Project](#), an interactive soundscape exploring the historical sounds of NYC.
- Challenge students to try sound walking. A sound walk is a walk focused on listening to the surrounding environment.
  - Use the article "[A Pocket Guide to Soundwalking](#)" for more information on how to design a sound walk for your students.

### Discussion:

- Why is it important to understand sound and noise in your neighborhood?
- Did you hear anything new or unexpected while you were sound mapping?
- Were there certain sounds that were hard to recognize? What did you decide that those sounds were?

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For more information visit [www.nyc.gov/dep](http://www.nyc.gov/dep)

# NYC Noise Code Categories

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CONSTRUCTION



ANIMALS



FOOD VENDORS



AIR CONDITIONERS



BARS & RESTAURANTS



GARBAGE TRUCKS



MOTOR VEHICLES



COMMON COURTESY



# Sample Sound Maps



