

# Analyzing Noise Complaints

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## Description:

Students will make predictions about the quantity of noise complaints made to 311, New York City’s main source of government information and non-emergency services. Students will then analyze data gathered from 311 services.

## Objectives:

- Analyze and visualize real-world data about noise pollution in New York City
- Understand noise as the number one quality-of-life complaint in New York City
- Inform and empower students to know how to handle noise problems, using 311

## Vocabulary:

Civics, noise, Noise Code

## Materials:

- Colored pencils
- NYC Noise Code Summary Guide
- “Analyzing 311 Noise Complaints Data” worksheet
- [Mapping New York’s Noisiest Neighborhoods](#) article (*note: if unable to access, reach out to DEP for a PDF copy*)

## Background Information:

Noise is a sound that is loud, distracting, annoying, or unpleasant. Extended exposure to noise can have a negative effect on a person’s body and mind. Noise complaints continue to be the number one quality of life issue for New York City residents.

In 1936, the first noise bill became law in New York City. It banned the use of loud instruments and speakers from 11:00 pm to 7:00 am and

any loud noise near schools, hospitals, and courts. In 2007, Mayor Bloomberg signed a new noise code that would change the existing code to better reduce noise as the city modernized and faced new issues. Some of the categories in the New York City Noise Code include construction, commercial music, motor vehicles, and audio devices. To date, the most common complaints have been about disruptive music or parties; disturbances from banging or pounding; noise made by people, such as loud talking or loud television; and construction projects.

To make a noise complaint in New York City, call 311. Data from 311 complaints is available on [NYC Open Data](#) (Search term: 311 complaints). Follow the instructions below to access this public data.

1. Open the 311 Service Requests 2010 to Present dataset. The data can be visualized in a chart or map by going to the “Visualize” drop down menu and choosing the “Create Visualization” option.
2. Follow the steps on the NYC Open Data “How To” page in the “Tutorial: Creating a Simple Map using 311 data” section to add a filter for the desired time period of 311 complaints.
3. To sort the data by borough, go to the Data menu on the left side of the page, open the drop-down menu labeled “Select Column” in the Dimension section and select the Borough option.
4. To only view noise complaints, select “Add Filter” on the top right corner of the page, filter the data by “Complaint Type”. In the menu under Complaint Type, choose the “CONTAINS” option and type in “Noise”. You will now be able to see all noise complaints that are reported to 311.

The tutorial for creating a simple map using 311 data can be found on the [NYC Open Data “How To” page](#).

## Method:

- Start by discussing noise issues in New York City. Review the effects of noise on health, concentration, and hearing loss.
- Allow time for students to complete page 1 of the worksheet “Analyzing 311 Noise Complaints Data.” Consider predictions for the noisiest and quietest areas of NYC.
- After, have students read the New Yorker article, [Mapping New York’s Noisiest Neighborhoods](#). Were predictions correct? What surprised them?
- Discuss the options that a NYC resident can pursue when bothered by noise.
- Ask students to predict how many noise complaints, on average, New Yorkers call in each year.
  - Total for New York City
  - Total for a specific borough
- Ask students why they think a specific borough would have more complaints than another would. What kinds of noise complaints do you think are made? How do social and political issues factor into the number and types of noise complaints?
  - This activity can be used to help students think about the sheer number of noise complaints made and the reason why noise is the number one quality-of-life complaint among New Yorkers.
- Look at a satellite image or take a walking tour to understand the composition of a particular area. Ask students to think about activities and land use that can impact sound and noise.
- Collect predictions in journals or on the board.
- Introduce the 311 Noise Complaint Data by Borough chart on page 2 of the worksheet.
  - Note: this data is taken over a 5-year period.
- Have students divide the data by 5 and write down the average number of noise complaints per year, by borough, in the space provided on the chart. Students can

then compare these yearly averages to the numbers they predicted as a class.

- Ask students, “Are there more or less noise complaints than expected?” Which borough had the most complaints, and which had the least? Why do you think that is?
- Students should then complete the rest of the worksheet.

## Discussion:

- What factors affect the 311 data?
- What is missing from the 311 data? Do you think that this data is a proper representation of noise in each borough?
- How does noise affect city residents’ quality of life?
- How do different human activities affect the amount of noise complaints in an area?
- What can be done to encourage more people to use 311 to report noise complaints?

## Extension:

- Use [NYC Open Data](#) to study other noise issues in the city.
- Get creative! Have students create their own noise maps of NYC. Pull ideas from the article, [Mapping New York’s Noisiest Neighborhoods](#).
- Look at the [Mayor’s Management Report](#) to gather data on noise complaints from the past year. Noise is listed under “Environmental Protection”
- Read the [New York is Getting Louder and Louder](#) article to see how noise complaints changed due to stay-at-home orders and the switch to working from home. To better understand and use the 311 noise complaint data, visit NYC OpenData.

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

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Analyzing 311 Noise Complaints Data

**Directions:** On the map, mark FIVE locations with an **N** that you think are the noisiest places in NYC. Mark FIVE locations with a **Q** that you think are the quietest places in NYC. Reflect on your predictions and answer the questions below.



1. Which areas did you mark as the quietest and loudest in New York City?

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2. Which borough do you think gets the most noise complaints? Why? Justify your reasoning in 2-4 sentences.

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

## 311 Noise Complaint Data by Borough

**Directions:** Use the 311 Noise Complaint Data by Borough below to help you fill in the blanks on the chart and answer the following questions.

| Borough            | # of Noise Complaints (2010-2015) | Average # of noise complaints per year |
|--------------------|-----------------------------------|--|
| BRONX              | 19190                             |  |
| BROOKLYN           | 74897                             |  |
| MANHATTAN          | 143194                            |  |
| QUEENS             | 51678                             |  |
| STATEN ISLAND      | 11036                             |  |
| <b>Grand Total</b> | <b>299995</b>                     |  |

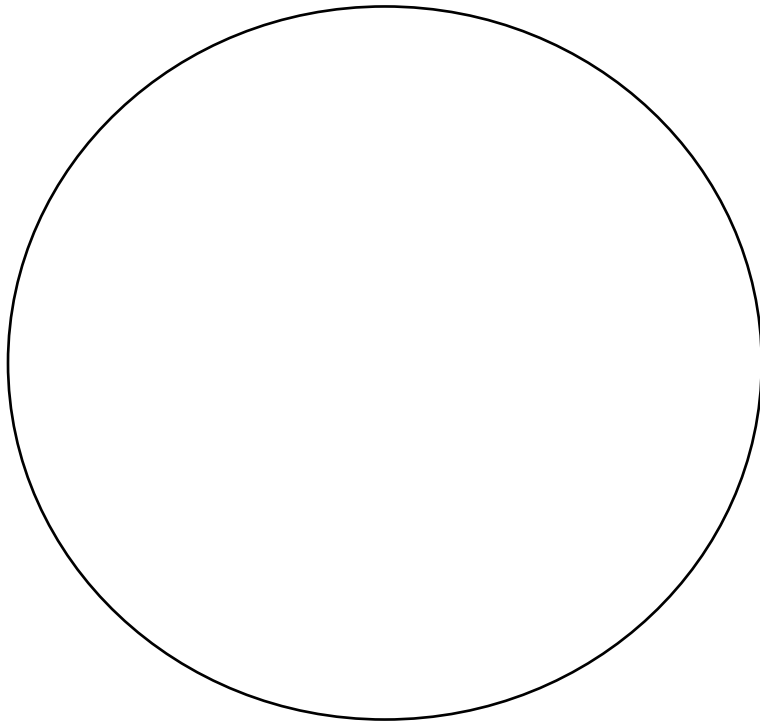
Source: NYC Open Data

- Looking at the data, which borough has the most noise complaints? \_\_\_\_\_
- How many noise complaints does this borough have? \_\_\_\_\_
- Write this number as a percentage: \_\_\_\_\_
- Calculate the percentage of noise complaints for each borough:

| Borough       | Percentage of Noise Complaints (2010-2015) |
|---------------|--|
| Bronx         | %  |
| Queens        | %  |
| Manhattan     | %  |
| Brooklyn      | %  |
| Staten Island | %  |

5. Using these percentages, create a pie chart showing where noise complaints are coming from by borough.

**New York City 311 Noise Complaints by Borough**



| <u>Key</u>               |                            |
|--------------------------|----------------------------|
| <input type="checkbox"/> | <b>Bronx</b> _____         |
| <input type="checkbox"/> | <b>Brooklyn</b> _____      |
| <input type="checkbox"/> | <b>Manhattan</b> _____     |
| <input type="checkbox"/> | <b>Queens</b> _____        |
| <input type="checkbox"/> | <b>Staten Island</b> _____ |

**Discussion:**

1. Is there an even distribution of noise complaints throughout NYC? Support your answer.

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2. Why do you think the borough with the most noise complaints has so many noise complaints? (You can reference “Mapping New York City’s noisiest neighborhoods”)

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3. Do you think that this data is an accurate representation of noise in NYC? Why? If not, what else could be used to represent noise in NYC?

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4. Why is it important to study noise in NYC?

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