

Analyzing Noise Complaints Data

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:

- To analyze and visualize data
- To understand noise as the number one quality-of-life complaint in New York City
- To inform and empower students to know how to handle noise problems, using 311

Recommended for:

6th – 12th grade students

Materials:

- Colored pencils (optional)
- NYC Noise Code Fact Sheet
- NYC Noise Complaint Data by Borough (attached)
- "Analyzing 311 Noise Complaint Data by Borough" worksheet (attached)
- "[Mapping New York's Noisiest Neighborhoods](#)" article (January 2015)

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.

- To make a noise complaint, call 311.
- Also refer to:
 - "[Mapping New York's Noisiest Neighborhoods](#)" January 2015
 - "[NYC Noise Pollution and how the City resolves it](#)" July 2016
- Data concerning 311 complaints is available on NYC Open Data (search term: 311 complaints).

Method:

- **Introduction:** Start by discussing noise issues in a city. Recap the effects on stress levels, concentration, and hearing loss.
- Also as an introduction, you can have students read or review the article, "Mapping New York's Noisiest Neighborhoods."
- Discuss the options that a NYC resident can pursue when bothered by noise.
- **As a class:** Ask students to predict how many noise complaints, on average, New Yorkers have called in per year.
 - In total in NYC
 - In 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 in to the number and types of noise complaints?
- *This prediction is not outlined in the "Analyzing 311 Noise Complaint Data by Borough" worksheet. 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 amongst New Yorkers.*

- Collect predictions in their journals or up on the board.
- Pass out attached worksheet, “Analyzing 311 Noise Complaint Data by Borough.”
- Have students *individually* make their predictions about the borough with the most noise complaints on their worksheet.
- Introduce the data on calls to 311 about noise.
 - Note: this data is taken over a 5-year period. Have students divide the data by 5 and write down the average # 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.
 - Are there more or less noise complaints than were expected by the class?
 - Which borough has the most complaints? Which has the least?
 - Was this expected?
- Have students make a chart to represent the data. What representation would be best?
 - Pie chart
 - Bar graph

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?

Extension:

- Go to [NYC Open Data](#) and prepare data:
 - Sample a section to look at types of noise complaints
 - Look at noise complaints in comparison to total number of complaints
- You can refer to the “[Mapping New York’s Noisiest Neighborhoods](#)” article for ideas.
- You can also look at the [Mayor’s Management Report](#) to gather data on noise complaints from the past year.

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 website at:
www.nyc.gov/dep

311 Noise Complaint Data by Borough

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

Analyzing 311 Noise Complaints Data by Borough

Prediction:

Based on what you read in “Mapping New York’s Noisiest Neighborhoods,” make an informed prediction on which borough has the most noise complaints. Use information from the text and from your own experiences to support your answer.

Data Analysis:

1. Looking at the data, which borough has the most noise complaints?

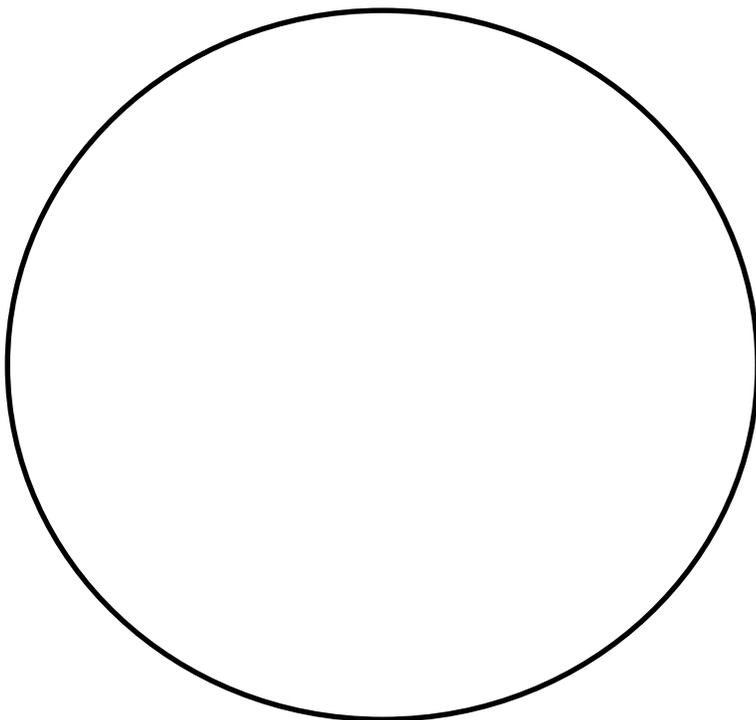
2. How many noise complaints does this borough have? _____
3. Write this number as a percentage (hint: divide the number of noise complaints for the borough by the total number of noise complaints in NYC)

4. Calculate the percentage of noise complaints for each borough:

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

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

New York City 311 Noise Complaints by Borough



Key

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

Discussion

1. Is there an even distribution of noise complaints throughout New York City?
Support your answer.

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.”)

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

