

<p>Lesson Plan Overview: In this lesson students will learn how to create scatter plots using Brooklyn gentrification demographics. Students will use the learning strategies of prediction and inference to strengthen their understanding of how scatter plots reveal correlations between variable: some positive, some negative, and some correlated.</p>	<p>Classroom Preparation for Lesson: Make sure the individual chart papers are prepared ahead of time and all the data has been printed out and photocopied for the students. Post the questions that are in the lesson launch on the board or on chart paper so the students can see them as well as hear them. Also, prepare the questions that students will need to think about while composing their presentations. Post these where students can see them.</p>
<p>Lesson Objective: Students will create scatter plots using 2 variables from demographic data and identify the correlation between the variables. In addition, students will present their findings of how the variables are related to Brooklyn's gentrification.</p>	<p>Key Concepts, Terms, and Vocabulary:</p> <ul style="list-style-type: none">• Demographics• Median (Income)
<p>Learning Strategies Used:</p> <ul style="list-style-type: none">• Prediction• Inference• Analysis	<p>Resources Needed for This Lesson:</p> <ul style="list-style-type: none">• Chart paper• Brooklyn demographic data compiled from radicalmath.org and infoshare.org (2 small data-sets: one on the relationship between median income and bachelor's degrees, and one other one.• Markers• Math Journals

Lesson Launch – Build Background for New Learning:

1. Math Journal Writing: Do you think that income and education are related? What clues inform your prediction?
1. Explain that today we will be learning to create our own scatter plots as aid in our investigation of gentrification.
2. Ask students what “demographics” are. Have the students make inferences about the definition based on the words *demo* (think of what the word demonstrate means) and *graphics*. If the students are still unsure, define / explain the meaning. Then, pass out the demographic data.
3. Model how to create a scatter plot using the demographic data for median income and percent of people with a bachelor’s degree. First, think aloud about the data and make a prediction about what it might look like when being mapped on the scatter plot. Then, model thinking about setting up the scatter plot, what should go on the x and y-axes and what the scale should be for the particular data points. Also, model plotting 2-3 data points on chart paper or a projector/overhead. (Students can take notes in their math journals.)
4. Students should chart additional data-points in their math journals, and then reflect on how accurate their initial prediction was.

Students Investigate New Learning:

1. In pairs or groups of three, students will choose a different pair of variables (other than the pair used in the “modeling” section above) from the demographic data. They will be using this data to create their own scatter plot.
2. Before they create the scatter plot, ask the students to predict what they think the scatter plot will look like and draw a rough sketch of their prediction in their math journals, listing the inferences they have made to support their prediction.
3. Students will create the scatter plot on chart paper using markers. They will also need to label what type of correlation their scatter plot creates.
4. Walk around and confer with students asking them to explain how they made decisions about organizing the scatter-plot, and the resources they used to help them (their math journals, each other, yesterday’s examples of scatter plots, etc.):
 - How did you create your scatter plot? What steps did you take? Why?
 - Was your prediction correct? If yes, what clues did you see that told you the scatter plot would look like that? If no, why do you think your scatter plot turned out differently from what you expected?
 - What do you think your scatter plot says about the relationship between the two variables? What is the correlation? How do you know?
 - What inferences can you make about your variables and how they connect on the scatter plot with regards to gentrification? In other words, what is the data telling you about gentrification in Brooklyn?

Students Synthesize New Learning:

- Math Journal:
 - 3 words you associate with the concept of gentrification.
 - 2 tips you have for someone creating a scatter plot who is struggling with arranging data on the x and y axis.
- Share with the class: 1 way that your thinking about gentrification is evolving, and what is influencing you.