Unit 8 Lesson 12: Larger Populations

1 First Name versus Last Name (Warm up)

Student Task Statement

Consider the question: In general, do the students at this school have more letters in their first name or last name? How many more letters?

1. What are some ways you might get some data to answer the question?

2. The other day, we compared the heights of people on different teams and the lengths of songs on different albums. What makes this question about first and last names harder to answer than those questions?

2 John Jacobjingleheimerschmidt

Student Task Statement

Continue to consider the question from the warm-up: In general, do the students at this school have more letters in their first name or last name? How many more letters?

1. How many letters are in your first name? In your last name?

2. Do the number of letters in your own first and last names give you enough information to make conclusions about students' names in your entire school? Explain your reasoning.

3. Your teacher will provide you with data from the class. Record the mean number of letters as well as the mean absolute deviation for each data set.

   a. The first names of the students in your class.

   b. The last names of the students in your class.

4. Which mean is larger? By how much? What does this difference tell you about the situation?

5. Do the mean numbers of letters in the first and last names for everyone in your class give you enough information to make conclusions about students' names in your entire school? Explain your reasoning.

3 Siblings and Pets

Student Task Statement

Consider the question: Do people who are the only child *have more pets*?

1. Earlier, we used information about the people in your class to answer a question about the entire school. Would surveying only the people in your class give you enough information to answer this new question? Explain your reasoning.

2. If you had to have an answer to this question by the end of class today, how would you gather data to answer the question?

3. If you could come back tomorrow with your answer to this question, how would you gather data to answer the question?

4. If someone else in the class came back tomorrow with an answer that was different than yours, what would that mean? How would you determine which answer was better?

4 Sampling the Population

Student Task Statement

For each question, identify the **population** and a possible **sample**.

1. What is the mean number of pages for novels that were on the best seller list in the 1990s?

2. What fraction of new cars sold between August 2010 and October 2016 were built in the United States?

3. What is the median income for teachers in North America?

4. What is the average lifespan of Tasmanian devils?