City Planning With Census Data

Mini Lesson: Teacher Version

Topic(s):

City planning, decennial census, funding, resources

Grade Level:

Elementary/Middle

Approximate Time Required:

45 minutes

Learning Objectives:

Students will be able to —

- Make decisions based on data.
- Solve for quotients of up to a four-digit dividend by a three-digit divisor.
- Present an argument by using data to support their stance.
- Make predictions about resources needed for their assigned community based on population.
- Understand why the decennial census is important to the distribution of federal funds.

Worksheet Description

Step into the shoes of a city planner and discover how U.S. Census Bureau data help shape your community. In this Mini Lesson, students will work in small groups to use a set number of tokens based on their city's population size as their budget to "purchase" services, businesses, and public spaces they believe their city needs the most.

Materials Required

- Student worksheets
- Calculators for each group of students

Before the Activity—5 Minutes

1. Ask students the following question: *Does anyone know what the U.S. Census Bureau is?* Allow students to raise their hands and answer.

   Answers will vary. Some students may have heard of the U.S. Census Bureau and the decennial census, some may think it is an opinion survey, and some may have no clue.

2. Encourage students to share their ideas before filling them in on the following key points about the decennial census and what the Census Bureau does:
   - The Census Bureau is a government organization that collects data on a variety of topics like the number of people that live in the United States, and where and how they live, and much more by asking different types of questions. They call these questions censuses and surveys.
   - The Census Bureau conducts a once-a-decade population count called a census. The goal of this U.S. Constitution-mandated effort is to count everyone living in the United States and its territories. Census data show how much and where in the U.S. population has grown, helping to determine each state's share of the 435 U.S. House seats as well as how billions of dollars in federal funding should be distributed to states and communities for public services like hospitals, schools, roads and public transportation (like buses), and healthcare (for instance, doctors' offices and hospitals).

During the Activity—35 Minutes

1. Begin by splitting the class into four groups. Then hand out one student worksheet to each student. Explain to the class that each group is being assigned one state capital, and they are going to act as a city planner for that city.

2. Next, tell students to complete the first blank column (Population Divided by 1,000) in Table 1 on their student worksheet, dividing the total population of each city by 1,000. Tell students that this exercise will let them base their decisions on "every 1,000 people" living in their city and also will make the numbers easier to use.

3. Next, explain to the class that they now need to calculate how many tokens each city is going to receive based on the number of adults and children they just calculated in column 3. Tell students their city will receive 2 tokens for every 1,000 people. Guide students to divide the population by 1,000, then multiply by 2 to determine the total number of tokens their city will receive.

Give students five minutes to come up with the number of tokens allocated to each of the four cities (and record on their worksheets). If students need help calculating the number of tokens for their city, you can also walk through the calculations as a class.

State Capital	Population	Population Divided by 1,000 (round to the nearest whole number)	Tokens
Montgomery, Alabama	195,300	195	390
Boston, Massachusetts	672,973	673	1,346
Juneau, Alaska	31,609	32	64
Santa Fe, New Mexico	89,837	90	180

Source: U.S. Census Bureau, 2025 Population Estimates

https://www.census.gov/quickfacts/fact/table/santafecitynewmexico,juneaucityandboroughalaska,-bostoncitymassachusetts,montgomerycityalabama,US/PST045219

4. Explain to students that they will now decide how to spend their budgets—that is, the allocated tokens for their city, as shown in Table 1—based on what they think their city needs and wants. Refer students to Activity Item: Community Services List, which shows a list of community services and businesses and their associated "prices" (in tokens, to make it clear that these are not real amounts used by the government). Give students 20 minutes to work in their groups to decide what community services and businesses they would like to have in their city and to complete the second table on their worksheet. (Note: Tell students to complete the second table with their group and wait to answer Questions #3 and #4 until after the class discussion.)

   Note: Students in the group for Boston may get stuck on how to spend their tokens because they have so many. Remind students to account for the larger population by increasing the amount of each service purchased.

5. Ask one student from each group to share which choices were easy, which were hard, and how they resolved their disagreements when deciding what to purchase for their city. Ask students why they chose certain businesses over others or if they have enough services to support their city *(hospitals, fire stations, schools, etc.)*

6. Next, give students five minutes to answer Questions #3 and #4.

   Question #3: How did the population of your assigned city compare to the populations of the other cities? How did that affect the number of resources you received for the people living in that city?
   Answers will vary based on students' assigned city but should note that cities with smaller populations had fewer resources and cities with larger populations had more resources.

   Question #4: After what you learned today, why is it so important for everyone in your community to be counted?
   Answers will vary but should include that it is important for every person to be counted to make sure each community gets the resources it needs to support its population.

After the Activity—5 Minutes

Ask students how having more people but the same number of resources could affect life in their community. Lead students to conclusions like, "There wouldn't be enough housing" or "not having enough doctors to care for people at the hospital." Make sure students understand that if people do not participate in the census – and aren't counted – their communities may not get the appropriate resources they need based on the actual number of people living there.

Creative Extensions:

Design a Storyboard: A Day in the Life of a Resident. Students create a simple comic-style storyboard showing how census-based investments can improve residents' everyday lives. For example, an adult who uses a new transit route to get to work, a teenager visiting a new community center or neighborhood library or a family benefiting from a new school.

Create a Community Investment Brochure. Students can take their city planning skills to the next level by creating a colorful brochure to pitch how they will spend a set budget in their community. They can use census data (population age, income, housing, transportation, etc.) to justify their choices. Their brochure could include their top three to five spending priorities, a short explanation of how each priority meets the needs demonstrated by the data, and photos or simple maps to illustrate their points.

Activity Item: Community Services List

Tokens available based on census: 2 tokens per 1,000 people

Cost of community services:

- Police Station = 10 tokens
- Fire Station = 10 tokens
- Hospital = 10 tokens
- School = 10 tokens
- City Hall = 5 tokens
- Library = 5 tokens
- Dentist Office = 5 tokens
- Zoo = 8 tokens
- Grocery Store = 8 tokens
- Gas Station = 4 tokens
- Pet Store = 3 tokens
- Amusement Park = 8 tokens
- Toy Store = 3 tokens
- Candy Store = 3 tokens
- Ice Cream Store = 3 tokens
- Fast Food Restaurant = 3 tokens
- Park/Sports Court/Field (soccer, basketball, etc.) = 8 tokens

About the Statistics in Schools Program

The Statistics in Schools program is designed to educate students about the work of the Census Bureau and the importance of civic engagement as future survey respondents, and to boost their data literacy skills through use of Census Bureau data in the classroom.

Mini Lessons are designed to introduce students to data on topics like population changes around the country and in their communities, languages spoken at home, creating and taking a survey, producing an infographic, and a variety of other themes in the classroom.

Use the topics and learning objectives above to decide which subject, unit, or theme this activity fits best.

About the Census Bureau

The Census Bureau is the federal government's largest statistical agency. It is dedicated to providing high-quality facts and figures about America's people, places, and economy.

In addition to the decennial census (which is a once-a-decade count of every person living in the United States), the Census Bureau conducts many other surveys on a variety of subjects, including education, health care, housing, and jobs.

Census Bureau data are used to:

- Help determine how billions of dollars in federal funds are distributed to states and communities each year.
- Show what the U.S. population looks like and how it lives.
- Help communities decide where public services like new schools, roads and hospitals are needed.