

# Counting for Pennies:

## Exploring the intersection between the census and community

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### OBJECTIVES:

- Understand the two main purposes of the decennial census in the United States
- Observe the connection between the number of people counted in a community and the amount of money available to meet their needs
- Consider the implications of hard-to-count populations in a community contributing to an undercount of the population
- Practice using percentages
- Practice comparing decimals and fractions
- Analyze the effects of having more or less money to address the needs of individuals and communities
- Discuss topics such as the census (source of data), distribution of resources in the state, political representation at various levels of government, and implications of changes in population over the coming decade

**RECOMMENDED AGES:** First through adult, working in groups is encouraged

**TIME NEEDED:** 15 to 20 minutes

### MATERIALS:

- Board with 100 squares in ten rows of ten squares and five regions
- 100 pennies
- 100 items to represent community members (optional)
- 20 3" diameter Dixie cups
- Materials representing schools, hospitals, parks, fire houses, police stations (optional)
- Information on percentage of hard-to-count populations in the community (found through the Response Outreach Area Mapper - <https://www.census.gov/roam>)

### PREPARATION:

- Discussion about the purpose of the United States Census and its role in the local community
- Review of how money from taxes is distributed and used in the community
- Development of predictions by participants about what might happen if there is not enough money to meet community needs
- Recognition that area and population vary and that this activity is a model

### DIRECTIONS:

1. List the types of services provided and used by all people. Note that some services are used often (stop lights) and some services are not used very often (fire trucks).
2. Discuss that the leaders need to know the number of people in an area so that they can provide the right amount of services.
3. Using the game board with 100 squares, place each item representing a community member in one of the squares.
4. Place the 20 cups at the side of the board.

5. Explain that the purpose of the Census is to count everyone where they live and that each person or family is responsible for responding to the Census.
6. Observe that sometimes not everyone is counted in the Census. Depending on the make-up of the group, discuss why that might be. Information on hard-to-count population is available here:  
<https://academic.oup.com/poq/article/81/1/144/2649123?guestAccessKey=b8ecff7b-e929-400d-a35c-6a434a094fd0>
7. Create a community on the board where not everyone is counted by covering up some of the items representing people on the board. Take the cups and cover up squares in each region as described below.  
 Region A – no squares  
 Region B – 1 cup  
 Region C – 4 cups  
 Region D – 6 cups  
 Region E – 9 cups
8. Discuss how the cups represent people who did not get counted by the United States Census Bureau. Explain that this is what the government sees when people are not counted.
9. Review how the government gets money. Discuss the tax process. Hold up the bag of 100 pennies to demonstrate the tax money paid by all the people on the board.
10. Place ten of the pennies to the left of each of the ten rows of the board, using all 100 pennies. These ten pennies demonstrate what the community should have to support its people.
11. Using the first two rows, which have all the people showing, move ten pennies on the first row and ten pennies on the second row to the right side of the board. This demonstrates that Region A has all the money it should have been allocated.
12. For the remaining rows, note how many squares are covered up. Move only the number of pennies to the right side of the board for the people who can be seen. Each region will have progressively less money for the community's needs.
13. Take the cups off the squares. The people are still in the community, even if they have not been counted by the Census. The community has to serve the people who have been counted AND the people who have not been counted.
14. Compare how much money per person each region has. Note that Region E has almost less than half the amount of money per person than does Region A.  
 Region A – 1.00 penny per person  
 Region B – 0.95 penny per person  
 Region C – 0.80 penny per person  
 Region D – 0.70 penny per person  
 Region E – 0.55 penny per person
15. Discuss what could be done to improve the situation.

### **GUIDING QUESTIONS:**

Q. What kinds of services and resources does your community need? Are those services free? Where does the money come to fund those services?

A. schools, safety, roads, parks, water

Q. How many resources does each area or region get for a particular service?

A. Think about how many people are in an area, how large the area is, how often people have to be rescued, and how many vehicles are needed

Q. How the government figures out how many people there are in an area?

A. Explain that the government cannot look down on a city or a town or a farm and see how many people there are.

Q. How does the pot of money the government collects through taxes get distributed to the community?

A. One way that money goes back to people is through services in the community that people use in common – sometimes often, sometimes never. The way that the money is distributed is based on the number of people in a community.

Q. What happens if all the people in a community are not counted?

A. If not everyone is counted, then the community will have less money, even if everyone pays their taxes. Businesses will not know how many people in an area might buy their products. Schools will not know how many teachers to hire. “If you are not counted, the community cannot plan for you.” There is no way to move money to the community for it to be used without counting everyone.

Q. Which communities do not get all the money they need?

A. Some communities get all the money they need. Some communities get less money. Observe where there are insufficient funds or disparities.

## **MODIFICATIONS:**

For younger participants, focus on counting how many people are covered up and how many are uncovered. Participants could cut out pictures of people or services to illustrate their community.

For older participants, invite them to have more autonomy in the lesson and incorporate additional mathematical concepts.

If game pieces are not available or you do not want to use them, pictures of people can be printed/drawn/pasted on the game board. Participants may want to create a game board that is representative of their community.

## **EXTENSIONS:**

Consider identifying hard-to-count populations with a particular item on the board.

To relate the project more directly to the community, figure out how much each penny is worth in the local budget of the city, county, school district, or other jurisdiction.

Discuss what would happen to the money that is collected by people who are not counted. Consider how the government distributes money.

If there is sufficient time and room, the pennies could be located in each square where each “person” is. Then the pennies can all be moved to the left of the board as an example of how taxes are collected, even from people who are not counted in the Census.

Acknowledge that this is a model, and that not every person in a square in the community pays the same amount in taxes. Students in an economics or math class could examine

different kinds of tax revenue and consider differences among communities in terms of revenue and distribution.

**NOTE:**

Thanks to Dustin Senger, Census Partnership Specialist for the United States Census Bureau, who challenged us to create this activity.

