

Reapportionment

Topic(s):

Priority values, standard deviation, representation, government

Learning Objectives:

Students will be able to:

- Integrate information from diverse sources into a coherent understanding of an idea.
- Integrate quantitative analysis with qualitative analysis in print or digital text.

Grade Level:

9-12

Approx. Time Required:

35 minutes

Introduction

The 2020 Census Statistics in Schools (SIS) program is designed to educate students about the decennial census and to teach them educational concepts and skills, such as data literacy, through use of census data in the classroom. Responding to the census helps your community get its fair share of funding. Census data guides how more than \$675 billion in federal funding is distributed to states and communities each year. These funds support vital community programs that help children, such as schools, hospitals, housing, and food assistance. By educating students about the 2020 Census, you can help encourage a complete count.

The 2020 Census SIS program can be used with educational standards across the United States. You can use the topics and learning objectives above to determine which subject and unit plan or theme this activity will best fit into.

About the 2020 Census

In addition to the information that is built into instructions for this activity, the following points provide an easy, grade-appropriate way to explain the decennial census to your students.

- The decennial census is a count of every person living in the United States that occurs every 10 years.
- It is important that every person be counted so that the government can properly distribute \$675 billion to communities.
- The population of every state as counted in the census also determines how many representatives each state is given in the U.S. House of Representatives.
- You can do your part by making sure an adult in your home counts you—and every person living in your home—in the 2020 Census.





Materials Required

- Printed student worksheets
- A smartboard or projector with internet access
- A map of congressional districts in your state
- [The Amazing Apportionment Machine](https://www.census.gov/schools/resources/videos/apportionment-machine.html) video (<https://www.census.gov/schools/resources/videos/apportionment-machine.html>)
 - If technology is unavailable in the classroom, teachers may omit the video.
- Student laptops or tablets to access [My Congressional District](https://www.census.gov/mycd/) (<https://www.census.gov/mycd/>)
 - If technology is unavailable in the classroom, teachers could project the webpage onto the front board for all students to view and could then lead the activity as a class.
 - Teachers could also record the total population data for five districts according to instructions in the activity ahead of time and write it on the board for students to reference.

Worksheet Description

Students will learn about the decennial census and its impact on their communities. Using past data, students will predict population changes from the 2010 Census to 2020. Then students will reallocate seats in the U.S. House of Representatives based on the predicted changes.

Before the Activity—5 Minutes

1. Ask students what they know about the legislative branch of the government. How are the two bodies of the legislative branch determined? Allow students to answer. Then explain that while every state gets two senators (and that this number never changes), the number of representatives each state gets in the U.S. House of Representatives is determined by a process called reapportionment. Reapportionment divides the 435 seats in the House of Representatives among the 50 states according to each state's population. The population is determined by the decennial census. The census results are then used to calculate the number of House seats to which each state is entitled.
2. Display a map of congressional districts in your state to illustrate the idea of congressional districts. If your state has only one district, show a nearby state with many districts, such as California.
3. Hand out the student worksheets.



During the Activity—25 Minutes

1. Pose a challenge to your students: Would you rather be 1 out of 100,000 voters or 1 out of 500,000 voters? Give students a few minutes to discuss this with their peers and record their answer on their student worksheet. Then solicit responses. Explain that a person's vote would have a bigger impact if they were 1 out of 100,000.
2. Show students [The Amazing Apportionment Machine](https://www.census.gov/schools/resources/videos/apportionment-machine.html) video (<https://www.census.gov/schools/resources/videos/apportionment-machine.html>). After the video, remind students that reapportionment is the process of dividing the 435 seats in the U.S. House of Representatives among the 50 states according to each state's population. The official population number is determined by the decennial census.
3. Direct students to the [My Congressional District](https://www.census.gov/mycd/) (<https://www.census.gov/mycd/>) Census Bureau webpage and have them look up the current estimates for the populations of five districts in their state (including their own). Then have the students complete Question #2 and the table in Question #3 of their student worksheet. If your state does not have five districts, instruct students to look up current estimates for additional districts outside of their own state but still nearby. An example for North Carolina is included below.

District Number	Ideal district population in your state (Total population of state in 2018/ Number of districts)	Actual population of district in 2017	Percent deviation from ideal district
1	790,263	759,049	0.03949824299
2	790,263	835,806	0.05763018134
3	790,263	755,647	0.04380313896
4	790,263	856,104	0.08331530136
5	790,263	758,376	0.04034985821
6	790,263	768,546	0.02748072477
7	790,263	800,096	0.01244269313
8	790,263	789,484	0.0009857477827
9	790,263	788,020	0.002838295605
10	790,263	760,410	0.03777603152
11	790,263	759,358	0.03910723392
12	790,263	860,866	0.08934114339
13	790,263	781,657	0.01089004547
	Average:	790,263	0.03734297219



4. Have students answer Question #4 on their student worksheet. Then ask students: Which districts have more people than average? Which districts have fewer people than average?

- **Note:** If students need help with Question #4, instruct them to calculate the average of the data in the column labeled “Absolute value of the % deviation from ideal district” in Question #3 of their student worksheet.
- For AP statistics, have students calculate the true standard deviation.

After the Activity—5 Minutes

1. Lead a discussion, asking students if we should reapportion more frequently than every 10 years. Would this be feasible? What problems could this potentially create? Is it necessary?

Home Extension

Teachers, please read the instructions for the students’ homework assignment out loud to the class:

Take your student worksheet home and share it with an adult in your home. Ask people in your home if they know how many representatives your state has in the U.S. House of Representatives and who the representative is for your district. Ask them who will be taking the 2020 Census for your household.

