

Featured Activity: Population Change Over Time

Topic(s):

Decennial census, data collection, bar and line graphs, population

Grade Level:

3-4

Approx. Time Required:

35 minutes

Learning Objectives:

Students will be able to:

- Build vocabulary.
- Identify trends in data over time.
- Draw conclusions from data in a table or graphic.
- Make predictions based on data.
- Understand the connection between population and the distribution of resources within their community.
- Understand why it's important that they are counted in the 2020 Census.

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 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 to make sure the government can provide money to each community for things like roads and parks.
- Make sure an adult in your home counts you in the 2020 Census.





About the Modifications

- **This activity is a modified version of the 2020 SIS Featured Activity: Population Change Over Time for third and fourth grade classrooms. It has been modified to accommodate K-12 English language learners (ELLs).**
- **Sections have been added to this teaching guide that call out modifications made specifically for ELLs.**

Materials Required

- **Printed ELL student worksheets**

Worksheet Description

This featured worksheet focuses on how the decennial census benefits students, their families, and their communities, highlighting why participation is important. For third and fourth grade students, this worksheet focuses on basic concepts such as what the Census Bureau does and how the census helps the students' community.

Before the Activity—10 Minutes

For ELLs: Before the lesson, when you hand out student worksheets and activity items to all students, hand out the **Word Bank and Vocabulary to English language learners as well. Introduce the key concepts and vocabulary to your students. Use your discretion in choosing which are already understood and which require previewing.**

Key Vocabulary for ELLs:

- **Data:** Facts usually represented by numbers
- **Resources:** Money or services in a community
- **Funds or Funding:** Money
- **Population:** The number of people who live in an area

Note for ELLs: During discussions, encourage students to use the word bank in their worksheet to find words to support them in their oral answers. Provide sentence stems on the board for students, as needed, to help them answer questions.



1. Explain to students that today the class will be learning about the importance of using data to guide our thinking and decision-making, because:
 - Data helps us know:
 - How many people are in our class.
 - How many resources, like papers, markers, and books, our class needs.
 - What type of school-subjects students enjoy most.
 - In the same way, it's important for our government to know data about the people in our country, such as the population of cities and states, so that the government can provide the right amount of funding (money) for community services.
 - Explain that population means how many people live in a particular area.

For ELLs: Check for Understanding: Pair up students for a “turn and tell” with a partner. “Why is data important for the decisions we make?” Use the sentence starter, “Data is important because _____.”

2. Tell students that one way the government learns about changes in population is the decennial census, which counts every person in the United States. Explain that the government uses census data to decide how it should distribute money for such things as roads, schools, fire stations, and hospitals. Tell students that the census occurs every 10 years and that the next census will occur soon, in 2020.
3. Begin by splitting students into two groups, “State A” and “State B,” with roughly the same number of students in each state. Record on the board how many people live in each state. Explain to students that if this were a true decennial census, each of the two states would get equal funding for many national programs, since the census population data guides how these funds are allocated.
4. Next, pick half the students from State A and move them to State B, again recording the number of people in each state. Ask students how life in their state will be affected by either the increase or the decrease in the number of people. Should the funding given to their state increase or decrease?

For ELLs: Let students talk among themselves first. Then have them discuss the questions as a class. Students should use the following sentence starter to guide their conversations: “The funding should _____ (increase/decrease) because _____.” For example, “The funding should increase because the population increased, and the state needs more resources.”

Lead students through a discussion of how the change in population would affect traffic and road conditions, schools and class sizes, or food assistance benefits. Reinforce the notion that the government needs to get an accurate count of people in every decennial census so that it can make good decisions about where to provide resources.



During the Activity—20 Minutes

1. For ELLs: For the non-ELL version of this worksheet, teachers would pass out student worksheets at this time. For classrooms with ELL students, worksheets should already be passed out. Do what suits your classroom best.

2. Show students how they can use *real* census data collected from past censuses to identify trends, just as the government does. Direct students to **Activity Item 1: State Population Change Over Time** on their student worksheet. Explain that these are heat maps that show population change over time. The darker the color, the greater the population increase. Ask students what changes they notice based on each map. Teachers may want to note for students that Alaska and Hawaii didn't become states until 1959.

For ELLs: As you read through the questions, encourage students to underline or add notes for terms with which they're not familiar. For example, they might draw an upward arrow next to "increase" and a downward arrow next to "decrease" to aid in comprehension. Be sure to monitor conversations and help students with correct language usage.

3. Using **Activity Item 2: State Population Data Table**, have students look up population data for your state and one other state in a different part of the country. Tell students to record the name of the other state in the left column of the table in Question #1 of their worksheets. Then have students use the data on page 6 of their student worksheets to complete the table.

For ELLs: Depending on their level of English proficiency, students may do this individually or with a partner, or you may facilitate this as a group activity.

4. **(Note: This step is optional for ELLs.)** Next, tell students to use the population data from their table to create their own bar graph (third grade) or line graph (fourth grade) to complete Question #2. **If your English language learners do not graph their data, have them skip this question in their student worksheet and move on to Question #3.**

5. After students have completed their graphs, have them individually answer Questions #3 through #6 on their worksheets to compare how your state's population has increased or decreased in relation to the other state's population.

Question #3: Did your state grow a lot (double or more) or just a little since 1890? What about the other state? Why do you think that is?

For ELLs: Use the sentence starter, "The population of my state grew _____ since 1890. In the other state, it grew _____."

Answers will vary, depending on the state's data. For example, Arizona grew a lot because the state's population was over six times greater in 2010 than in 1950.



Question #4: Do you think the population of your state will increase or decrease in the 2020 Census?

For ELLs: Use the sentence starter, "I think that the population of my state will _____ because _____."

Answers will vary, depending on your state's data, but if your state grew a lot from 1950 to 2010, students will likely predict that their state's population will increase again in 2020.

Question #5: Using your prediction from Question #4, how will this likely change the resources your state receives?

For ELLs: Use the sentence starter, "If the population _____ (increases/decreases), then _____."

Answers will vary, depending on your state's data. If your state's population increased, students should predict that resources will also increase.

Question #6: Based on what you learned today, what would happen if people didn't answer census questions or didn't count everyone in their home accurately?

For ELLs: Use the sentence starter, "If people didn't answer census questions accurately, then _____."

Answers will vary but may include the idea that states would not get the funding they needed for schools, roads, or other programs.

After the Activity—5 Minutes

1. Facilitate a classroom discussion by walking through Questions #3 through #6, one at a time, asking students to share their answers with the class.
2. Reinforce to students that it is very important to get an accurate count in the 2020 Census so that each state can get the right amount of resources for its people.

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. Share with them why you think your state's population will increase or decrease based on the data you reviewed in class. Then tell them how that change in population might affect government funding that benefits your community.



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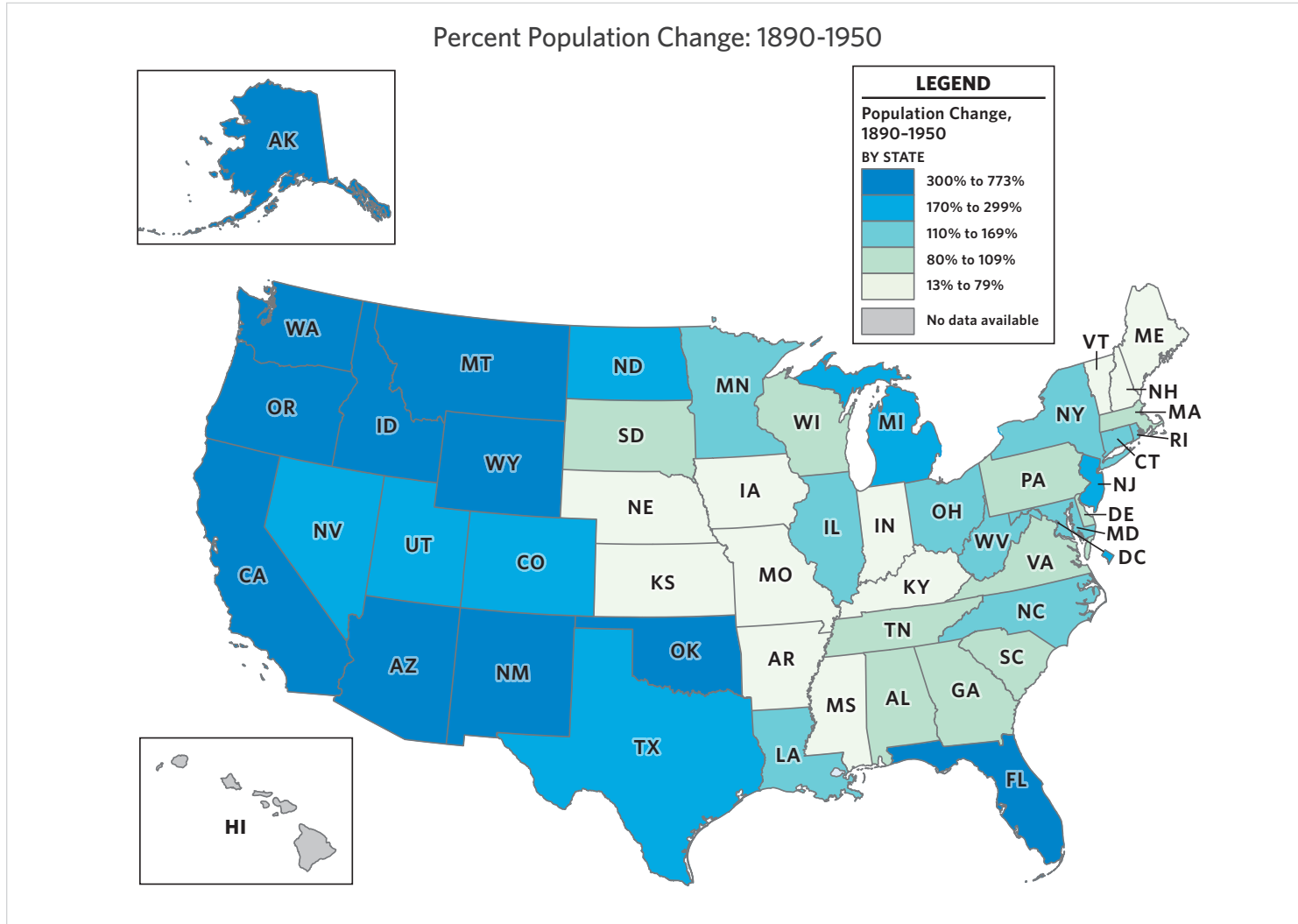
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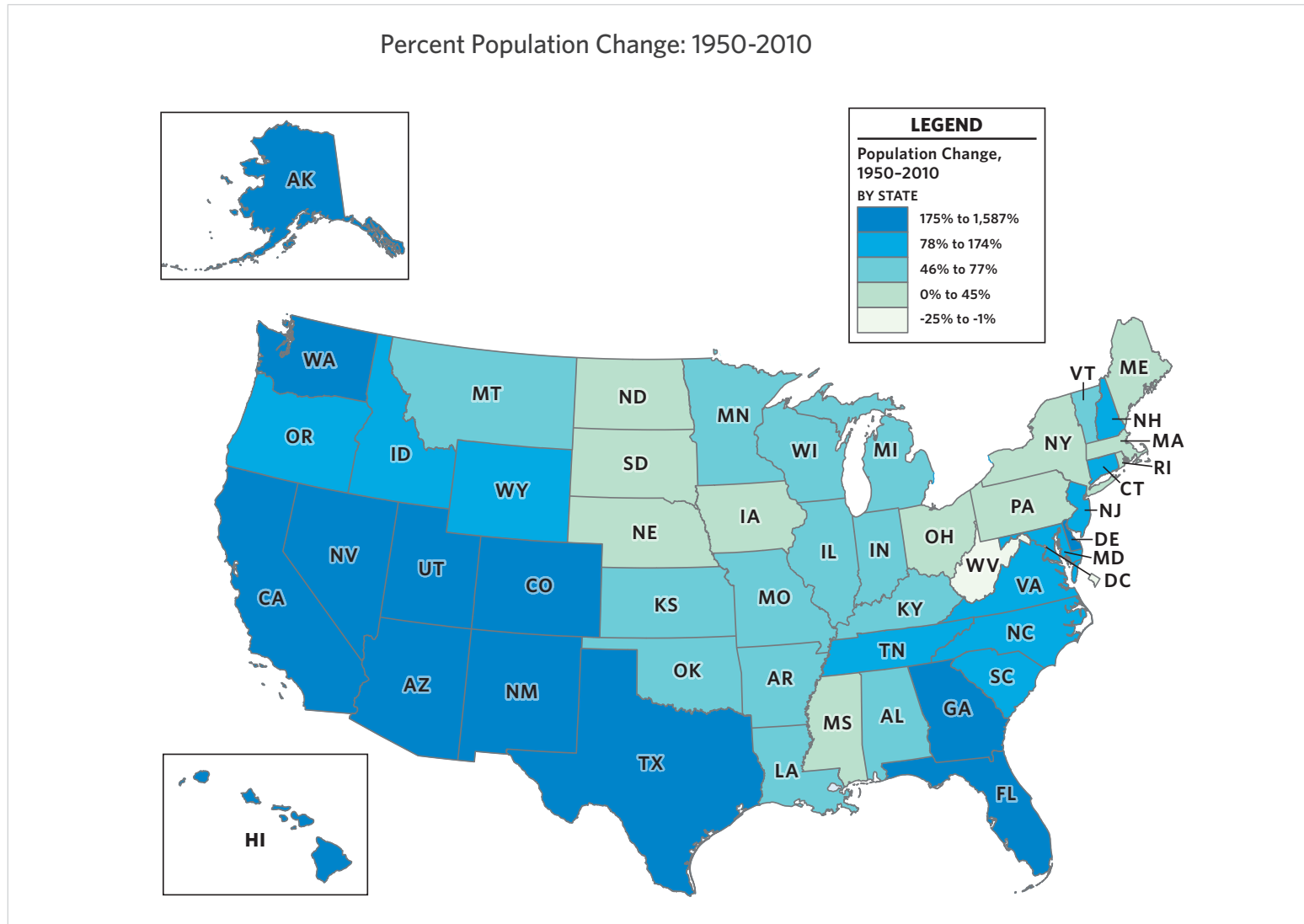


Activity Item 1: State Population Change Over Time





Activity Item 1: State Population Change Over Time (Cont.)



Source: U.S. Census Bureau, 1890 Census, 1950 Census, 2010 Census

<https://www.census.gov/dataviz/visualizations/021/508.php>

[census.gov/schools](https://www.census.gov/schools)





Activity Item 2: State Population Data Table

State Name	1890 Population	1950 Population	2010 Population
Alabama	1,513,401	3,061,743	4,779,736
Alaska	32,052	128,643	710,231
Arizona	88,243	749,587	6,392,017
Arkansas	1,128,211	1,909,511	2,915,918
California	1,213,398	10,586,223	37,253,956
Colorado	413,249	1,325,089	5,029,196
Connecticut	746,258	2,007,280	3,574,097
Delaware	168,493	318,085	897,934
District of Columbia	230,392	802,178	601,723
Florida	391,422	2,771,305	18,801,310
Georgia	1,837,353	3,444,578	9,687,653
Hawaii	N/A	499,794	1,360,301
Idaho	88,548	588,637	1,567,582
Illinois	3,826,352	8,712,176	12,830,632
Indiana	2,192,404	3,934,224	6,483,802
Iowa	1,912,297	2,621,073	3,046,355
Kansas	1,428,108	1,905,299	2,853,118
Kentucky	1,858,635	2,944,806	4,339,367
Louisiana	1,118,588	2,683,516	4,533,372
Maine	661,086	913,774	1,328,361
Maryland	1,042,390	2,343,001	5,773,552
Massachusetts	2,238,947	4,690,514	6,547,629
Michigan	2,093,890	6,371,766	9,883,640
Minnesota	1,310,283	2,982,483	5,303,925
Mississippi	1,289,600	2,178,914	2,967,297
Missouri	2,679,185	3,954,653	5,988,927
Montana	142,924	591,024	989,415
Nebraska	1,062,656	1,325,510	1,826,341
Nevada	47,355	160,083	2,700,551
New Hampshire	376,530	533,242	1,316,470
New Jersey	1,444,933	4,835,329	8,791,894
New Mexico	160,282	681,187	2,059,179



Activity Item 2: State Population Data Table (Cont.)

State Name	1890 Population	1950 Population	2010 Population
New York	6,003,174	14,830,192	19,378,102
North Carolina	1,617,949	4,061,929	9,535,483
North Dakota	190,983	619,636	672,591
Ohio	3,672,329	7,946,627	11,536,504
Oklahoma	258,657	2,233,351	3,751,351
Oregon	317,704	1,521,341	3,831,074
Pennsylvania	5,258,113	10,498,012	12,702,379
Rhode Island	345,506	791,896	1,052,567
South Carolina	1,151,149	2,117,027	4,625,364
South Dakota	348,600	652,740	814,180
Tennessee	1,767,518	3,291,718	6,346,105
Texas	2,235,527	7,711,194	25,145,561
Utah	210,779	688,862	2,763,885
Vermont	332,422	377,747	625,741
Virginia	1,655,980	3,318,680	8,001,024
Washington	357,232	2,378,963	6,724,540
West Virginia	762,794	2,005,552	1,852,994
Wisconsin	1,693,330	3,434,575	5,686,986
Wyoming	62,555	290,529	563,626

Source: *U.S. Census Bureau, 1890 Census, 1950 Census, 2010 Census*

<https://www.census.gov/dataviz/visualizations/021/508.php>