

Teaching with Data: Using Our Nation's Statistical Snapshot

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The 2010 questionnaire distributed by the Census Bureau to U.S. households is the tool used to help fulfill the constitutional requirement to count each resident of our nation. The primary purpose of this enumeration is to determine how many congressional representatives will be assigned to each state and provide information about population characteristics among states for redistricting. However, the census will also provide a statistical snapshot of our nation that we get just once a decade. Since our nation's inception, this statistical overview has provided decision-makers with invaluable information about the age and sex distribution of our population, patterns of settlement, total number of residents, and other socio-demographic and economic characteristics of the nation's population.

The 2010 Census will provide information about the characteristics of our nation that social scientists, historians, geographers, students, and researchers will use for centuries. This is the information that local, state and national decision-makers use regularly to plan for the future, determine policies, and develop programs that affect all of us.

Prepare your students to understand the twenty-third census by arming them with information on how the Census Bureau collects, processes, and interprets individual responses into statistical information that results in the snapshot of our nation—the ultimate social science activity!

This year, through the 2010 Census, the Census Bureau asks just six questions about the individuals in each household—name, sex, age, date of birth, Hispanic ethnicity, and race. The other four questions are about the household.

In this lesson, we will first ask students to review the current picture of the United States and compare it to the snapshot of the nation taken 100 years ago. Then students will gather their own data to make observations about their

own households and compare it to the United States population.

Students are already data users and will likely use data compiled from the information collected during the 2010 Census in the future. This exercise will give them the opportunity to understand how the information collected from their own household will be combined with information from millions of other households to prepare the statistical overview of our nation for 2010. This understanding is essential for making informed choices on how to use data for research, planning, and policymaking, and other decisions in their future. They may even imagine their descendants viewing historical data about them and those descendants wondering about the process used to collect data in 2010 and about the lives of their forebearers.

1. Have students examine Table 1, Figure 1, and Figure 2 and describe how the nation has changed since 1910.
2. Have students compare the questions on ethnicity and race from the 2010

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Color or Race, Nativity, and Parentage from 1910

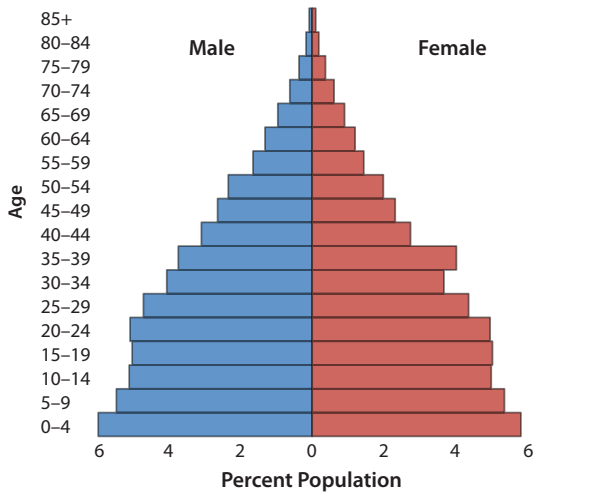
...The classification by color or race generally distinguishes from six groups, namely white, negro, Indian, Chinese, Japanese, and "all other." On account of their comparatively small number, the four last-named groups are combined in some of the tables.

The white population is divided into four groups: (1) Native, native parentage—that is having both parents born in the United States; (2) native, foreign parentage—having both parents born in foreign countries; (3) native, mixed parentage—having one parent native and the other foreign born; (4) foreign born...

The classification by color or race, and in the case of the white population by nativity and parentage, results in five principal classes of the population—the native whites of native parentage, the native whites of foreign or mixed parentage, the foreign-born whites, the negroes, and all others. The last-named group is frequently omitted from the tables, as it comprises several very different subclasses and yet in the aggregate is numerically unimportant in most parts of the United States.

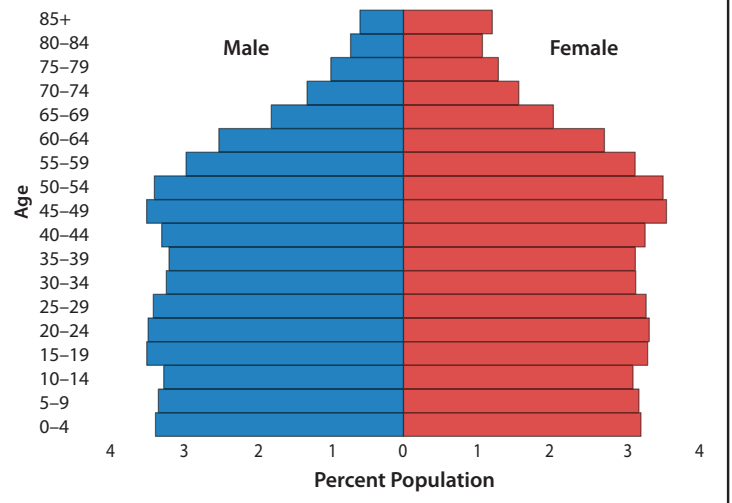
Source: United States Census Bureau, *Thirteenth Census of the United States Taken in the Year 1910, Volume I, Population 1910, Chapter II Color or Race, Nativity and Parentage.*

Figure 1. United States Population by Age and Sex: 1910



Source: United States Census Bureau, *Thirteenth Census of the United States Taken in the Year 1910, Volume 1, Population, 1910*. Government Printing Office: Washington, DC, 1913.

Figure 2. United States Population by Age and Sex: 2010 (projected)



Source: Population Division, U.S. Census Bureau, "Table 12. Projections of the Population by Age and Sex for the United States: 2010 to 2050 (NP2009-T12)". Released: August 14, 2008.

An age-sex graph usually referred to as a population pyramid, shows a population's age and sex composition. The horizontal bars represent the proportion (or numbers) of males and females in each age group. The sum of all of the age groups in the graph equals 100 percent of the population. These graphs show population in five-year age groups. The left side of the graph shows males and the right side, females. The bar at the bottom represents the youngest age group and the top bar, the oldest age group. Please remember that this graph shows the population at one point in time. A set of graphs can help you compare a place at two points in time (as shown here) or compare different populations, such as two states at the same point in time.

Source: Population Reference Bureau, "Population-Building a Foundation" Activity 3: Constructing and Interpreting Age-Sex Graphs. Retrieved from: www.prb.org/Educators/LessonPlans/2005/PopulationBuildingaFoundation/Activities/Activity3.aspx

Table 1

	1910 ¹	2000–2010 ²
Total Population (excluding outlying possessions)	91,972,266	310,233,000 ³
Land Area (square miles) (excluding outlying possessions)	2,973,890	3,537,438 ⁴
Percent Increase from previous census	21%	10%
Population Density	30.9	87.6 ⁵
Average Household Size	4.5	2.6 ⁶
Median Age	24.1	36.9
Sex Ratio	106	97
Percent White (non-Hispanic)	88.9	65
Percent Black (non-Hispanic)	10	12
Percent Hispanic	NA	16.0
Percent Asian (non-Hispanic)	NA	4.5
Percent Other	0.4	2.5
Position of the Center of Population	In Bloomington Indiana	In Phelps County, Missouri ⁷

→ **NOTE:** Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

No, not of Hispanic, Latino, or Spanish origin

Yes, Mexican, Mexican Am., Chicano

Yes, Puerto Rican

Yes, Cuban

Yes, another Hispanic, Latino, or Spanish origin — Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on. ↗

9. What is Person 1's race? Mark one or more boxes.

White

Black, African Am., or Negro


American Indian or Alaska Native — Print name of enrolled or principal tribe. ↗

Asian Indian Japanese Native Hawaiian

above: A portion of the informational copy of the 2010 census, showing questions 8 and 9, concerning Hispanic persons and race.

Census questionnaire to the description of the classification of race from the 1910 Census. Have a discussion about how society viewed race in 1910 compared with today.

Examining Age and Sex Composition

1. Have students create a survey to collect the following information from each member of their households: age and sex. They should not attach names to the information. That way the information will remain confidential. Remember, the information should be provided for every member of their households, not just immediate family members.
2. Students will organize the above information to calculate the median age and sex ratio (number of males/number of females \times 1000) for the total populations of their combined households.
3. Then students will compile the information to create an age-sex distribution chart for their households. Visit the Population Reference Bureau website for detailed instructions about constructing a population pyramid: www.prb.org/Educators/LessonPlans/2005/PopulationBuildingaFoundation/Activities/Activity3.aspx.
4. Students may then compare their median age, sex ratio, and age-sex distribution to that of the whole nation and describe and explain the similarities and differences.
5. Based on the information portrayed from the 1910 Census, from current and projected information for 2000-2010, and students' own data collection efforts, have students project how the population of the United States might be portrayed in 100 years, after the 2110 Census.
6. Students may also collect data on their state from www.census.gov to compare with their classroom information. 

Answer to Question 1, How the Nation has Changed Since 1910

The United States population has more than tripled in size since 1910 growing from nearly 92 million to over 310 million. The land area has increased as New Mexico, Arizona, Alaska, and Hawaii have been added to the nation (although Arizona and New Mexico were included in the 1910 Census as states). Between 1900 and 1910, the U.S. population grew more than 20 percent, while population growth during the last decade has been slower. As the population has grown, so too has the population density, nearly tripling since 1910 from 31 people per square mile to nearly 88 per square mile today. Our nation is older—the median age has increased from 24.1 years to nearly 37 years. And while there were more men in 1910, there are now more women in the general population. The nation is much more diverse. And over the last 100 years the nation has become more urbanized, and spread further south and west each decade, with the population center moving over 350 miles south and west since 1900. In summary our nation is larger, more diverse, older, more urbanized, and more likely to live in southern and western states than in 1900.

Notes

1. Bureau of the Census, *Thirteenth Census of the United States Taken in the Year 1910, Volume I, Population, General Report and Analysis* (U.S. Government Printing Office: Washington, D.C., 1913).
2. U.S. Census Bureau, Population Division, "Projections of the Population and Components of Change by Net International Migration Series for the United States: 2010 to 2050 (NP2009-T1)," released December 16, 2009; Population, Increase, Density, Age, Sex Ratio, Race compiled from 2008 population projections.
3. U.S. Census Bureau, *Statistical Abstract of the United States: 2010* (U.S. Government Printing Office: Washington, D.C., 2009); Average household size and median age are estimates for 2006-2008 from the American Community Survey
4. Land Area is for 2000. Source: U.S. Census Bureau, *Statistical Abstract of the United States: 2010*. (U.S. Government Printing Office, Washington, D.C., 2009).
5. Population Density, Percent Increase, and Sex Ratio are based on population projections for 2010.
6. Average household size is for 2006-2008. Source: U.S. Census Bureau, 2006-2008 American Community Survey, retrieved from http://factfinder.census.gov/servlet/ACSSAFFacts?_submenuid= factsheet_0&_sse=on.
7. Center of United States Population in 2000. Source: U.S. Census Bureau, *Statistical Abstract of the United States: 2010* (U.S. Government Printing Office: Washington, D.C., 2009).

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