

Statistics in Schools

Classrooms Powered
by Census Data

Vicki Glasier
June 13, 2019



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

Shape
your future
START HERE >

United States
Census
2020

Statistics in Schools

Statistics in Schools (SIS) is an ongoing program created using Census Bureau data. SIS provides free pre-K-12 classroom materials to improve students' statistical literacy and prepare them for an increasingly data-driven world.



SIS Program Goals



- Educate the public, specifically by improving statistical literacy of students
- Demonstrate applicability and utility of statistics and statistical concepts in educational activities
- Increase the Census Bureau's brand recognition
- Improve the public's familiarity with the work of the Census Bureau
- Encourage public cooperation in Census Bureau surveys and censuses

English Activities

- **Elementary**

Narratives and Names: To provide context for this activity, teachers will give students an overview of the Census Bureau. Then, students will complete a Quickwrite about their name and its history.

- **Middle**

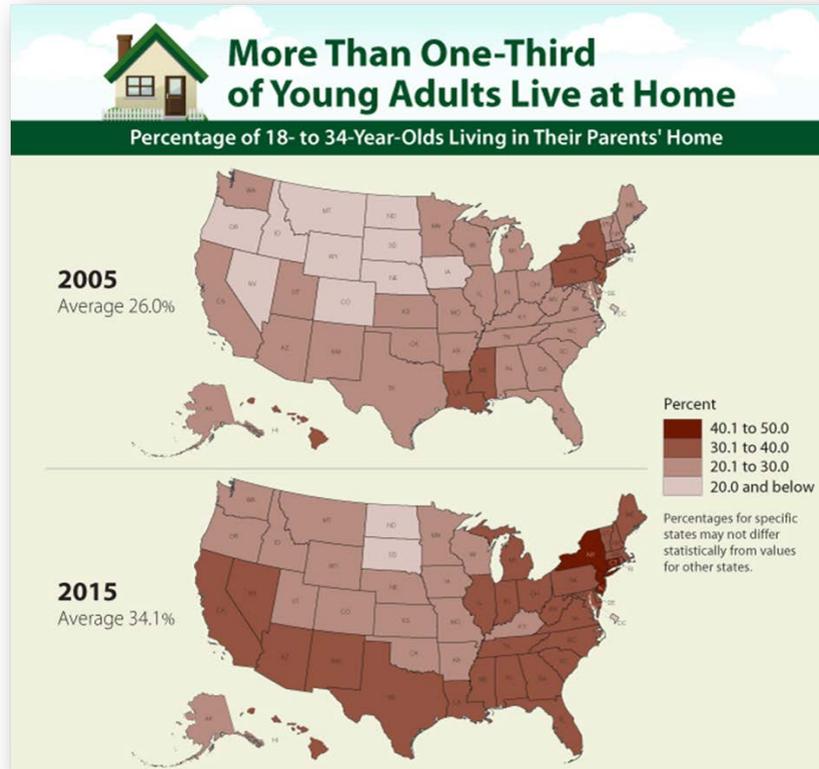
Numbers That Tell a Story: Using State Facts for Students, a data access tool from the U.S. Census Bureau, students will explore data about their state and voice their opinions on how the population has changed over time.

- **High**

"To Kill a Mockingbird": An Introduction to 1930s America: This activity teaches students about the setting of Harper Lee's famous novel "To Kill a Mockingbird," which takes place during 3 years (1933–1935) of the Great Depression.



How is Young Adulthood Changing?



History Activities

- **Elementary**

"I Have a Dream" – Learning About Martin Luther King Jr.: Students will analyze census data and graphs that demonstrate how certain aspects of the lives of African-Americans have changed since civil rights leader Martin Luther King Jr. delivered his "I Have a Dream" speech in 1963.

- **Middle**

Examining Changes in Data - African Americans' Education Levels Through the Years: Students will analyze and compare census data on the education levels of African-Americans in 1850 and in 1880.

- **High**

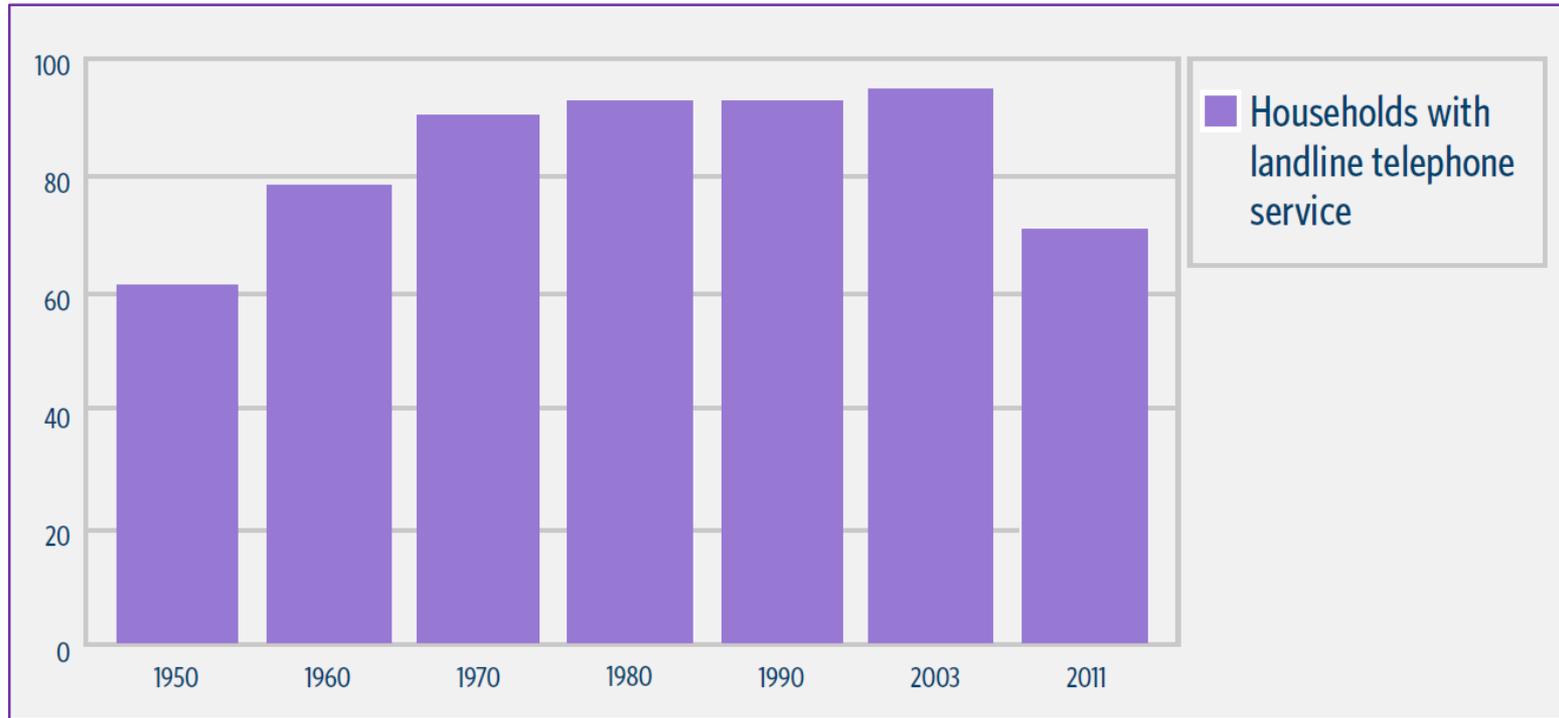
The Progressives and the 1920 Census: Students will interpret and analyze a political cartoon about the 1920 Census to better understand how the census was related to the Progressive movement of the early 20th century.



The History of the Telephone



Percentage of U.S. Households with Landline Telephone Service



Math Activities

- **Elementary**

Changes in My State: Students will learn about their state as they collect and organize business information using State Facts for Students, a U.S. Census Bureau data tool.

- **Middle**

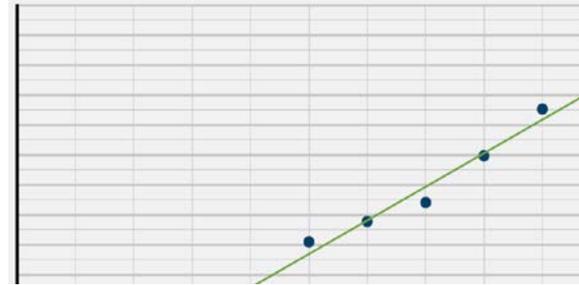
Fitting a Line to Data - Earnings and Educational Attainment: Students will investigate the relationship between earnings and different levels of educational attainment by creating a scatter plot, adding an approximate line of best fit to the plot, and judging the line's accuracy.

- **High**

Analyzing Relationships: Marriage, Divorce, and Linear Regression: Students will examine census data on marriage and divorce rates for women and men in each state and the District of Columbia.



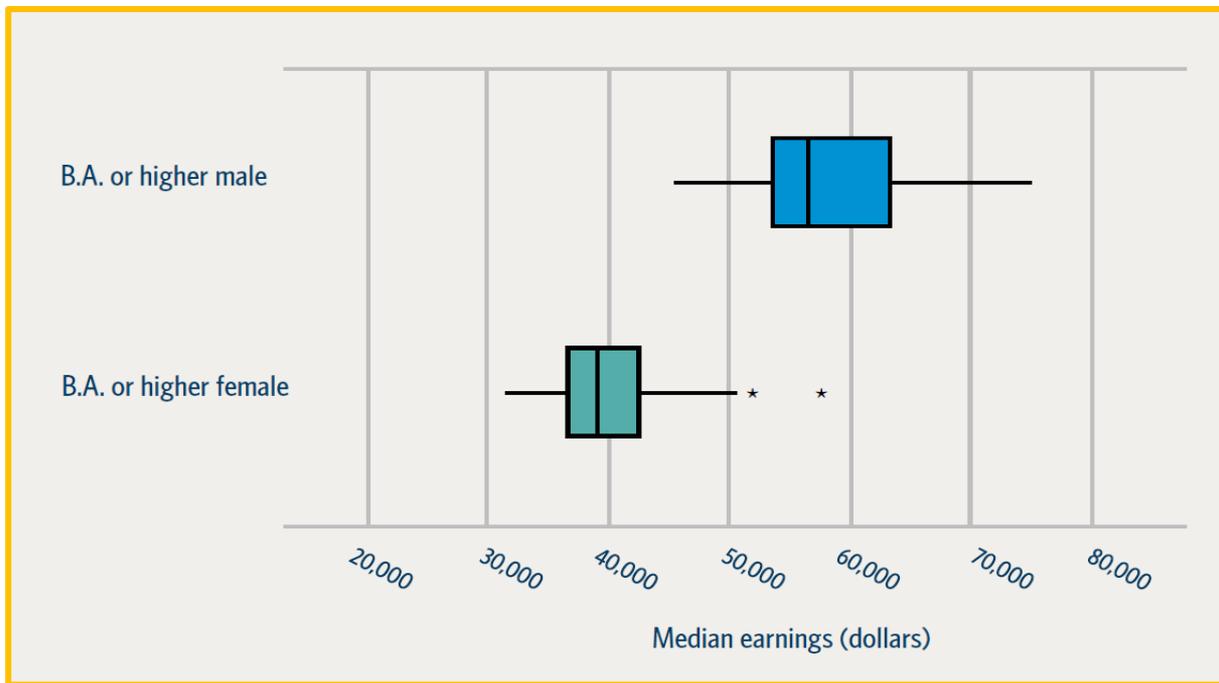
Median Annual Income Based on Approximate Years of Education



Differences in Earnings Across Sex and Educational Attainment



Distribution of U.S. State Median Earnings for Men and Women Whose Highest Level of Education Is a Bachelor's Degree

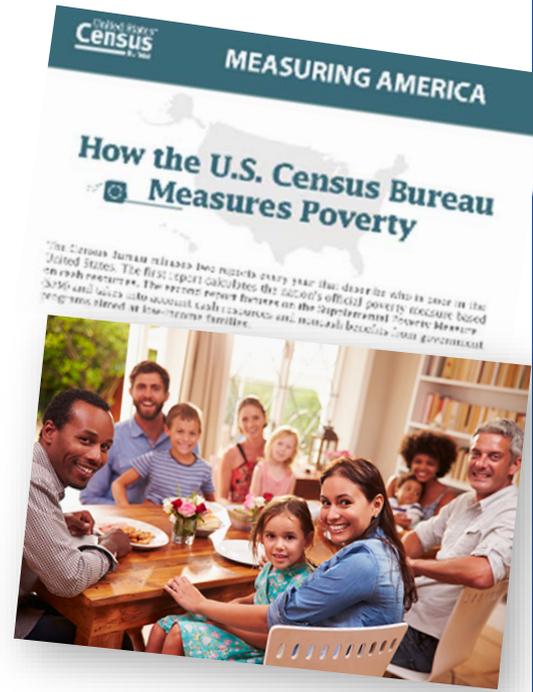


Sociology Activities

The Modern Family: Changes in Structure and Living Arrangements in the United States: Students will learn why families are important social institutions and how family structures, household sizes, and living arrangements have changed substantially since the 1970s.

An Investigation Into Immigration and Migration in the United States: Students will use tables and visualizations of data about geographic mobility to explore rates and patterns of migration within, and immigration to, the United States.

Poverty In America: Students will explore census data, including infographics and reports, to better understand rates of poverty in the nation.



An Analysis of the Millennial Generation

New Census Bureau Statistics Show How Young Adults Today Compare With Previous Generations in Neighborhoods Nationwide



- The percentage of young adults today who are foreign born has more than doubled since 1980 (15 percent versus 6 percent).
- Prior generations of young adults were more likely to have ever served in the armed services: 9 percent were veterans in 1980, compared with 2 percent today.
- Only about three in 10 young adults have ever been married, down from six in 10 in 1980.

Geography Activities

- **Elementary/Middle**

Getting to Know Your Neighbor: Students will create a population pyramid and examine data about their school's county.

Analyzing Correlations of Education and Income: Students will explore maps containing census data from 1950 through 2000 and analyze how education levels and median household incomes have changed over time.

- **High**

Mapping and Analyzing Race and Ethnicity: Students will use the Census Data Mapper data access tool to map, visualize, and analyze the geographic distribution of various races and ethnicities in the United States.



Examining Changes to the Environment Through Pictures and Data



Times Square, 1903



Times Square, 2012

Examining Changes to the Environment Through Pictures and Data

New York City, NY

Category	Historical Data	Current Data
Number of houses	249,991 (1900)	3,371,062 (2010)
Number of businesses	39,776* (1900)	1,050,911 (2012)
Population	3,437,202 (1900)	8,175,133 (2010)

**Business data in 1900 count only manufacturers (companies who create products), not all retail or service businesses.*

Statistics in Schools Resources

- Monthly Fun Facts
- Warm-Up Activities
- Videos
- Primary Resources
- Monthly Newsletter



Fun Facts: St. Patrick's Day - March 17

A History of St. Patrick's Day

- Originally the holiday was to honor St. Patrick, who introduced Christianity to Ireland in the 5th century. The tradition of wearing green on this day is a celebration of all things Irish.
- The world's first St. Patrick's Day parade was held on March 17, 1762, in New York City.
- In 1960 Congress proclaimed March as Irish American Heritage Month.

Golden States of Irish Ancestry

Total of the U.S. states with the highest percentage of Irish ancestry:

State	Percentage
Massachusetts	21.2%
New Hampshire	20.9%
Maine	18.2%

Lucky Charms

Educational information of people of Irish ancestry, 10 years and older:

- 78% Percentage of those with a bachelor's degree
- 94% Percentage of those with at least a high school diploma
- Occupations involving Irish-Americans, 10 years old and older:
 - 43% Work in management, business, science and other occupations
 - 40% Work in sales and office occupations

4-Leaf Clover Word Search

Find 10 words related to St. Patrick's Day and Irish culture.

Everything Irish!

- 20,500,000 Number of U.S. residents who speak Irish Gaelic
- 400 years of Irish independence
- 100+ Irish immigrants to New York City
- \$37.1B Irish exports to the U.S.

Places With The Luckiest Names*

City	Population
Shafter City, California	5,500
Charlton, South Carolina	3,200
Shawnee, Texas	2,500
Charlton, California	1,500
Charlton, Texas	1,500

STATISTICS IN SCHOOLS
Classrooms Powered by Census Data
Happy Valentine's Day
United States Census Bureau

Fun Facts: Valentine's Day - February 14

Fun Facts: Valentine's Day - February 14

State Facts for Students



Virginia

Population X		
	2010	2017
Population	8,001,024	8,470,020
Rank	12	12
Median Age	37.5	38.2
Total 8 year-olds	101,788	101,667
Boys	51,809	51,779
Girls	49,979	49,888
Total 9 year-olds	103,755	105,498
Boys	52,931	53,579
Girls	50,824	51,919
Total 10 year-olds	103,931	105,840
Boys	53,356	54,199
Girls	50,575	51,641
Total 11 year-olds	102,061	104,909
Boys	52,264	53,585
Girls	49,797	51,324
Total 12 year-olds	101,406	104,268
Boys	51,904	53,285
Girls	49,502	50,983
Total 13 year-olds	101,716	105,235
Boys	51,705	53,506
Girls	50,011	51,729
Total 14 year-olds	102,132	104,216
Boys	52,395	52,780
Girls	49,737	51,436
How People Get to Work:	2010	2017
Drive Alone	77.1%	77.4%
Car Pool	10.0%	8.7%
Public Transportation	4.4%	4.2%
Work at Home	4.3%	5.4%
Computer and Internet Use:	2017	
Homes with a Computer		91.8%

May I have another state, please?

Virginia X

History

- Date of Statehood: June 25, 1788
- Population 1800: 807,557
- Population 1860: 1,119,348
- Population 1900: 1,854,184
- Population 1950: 3,318,680
- Population 2000: 7,078,515
- Population 2010: 8,001,024

I never knew that! *

- Nickname: Old Dominion
- Flower: Dogwood
- Tree: Dogwood
- Bird: Cardinal
- Dance: Square Dance
- Fossil: Chesapeake Jeffersonius
- Dog: American Fox Hound
- Shell: Oyster

Who told you this stuff?

The U.S. Census Bureau takes a census of the population every 10 years, and censuses of economic activity and governments every five years. And every year, the Census Bureau conducts more than 100 other surveys. Data on this page come from the 2010 Census, the American Community Survey, Population Estimates, County Business Patterns, and Puerto Rico Community Survey.

How are these data collected?

The U.S. Census Bureau sends questionnaires in the mail or contacts businesses and households to participate in its surveys.

* State and Island Area symbol information was obtained from various non-Census Bureau resources including state web sites, educational web sites, and commercial entities.

How People Get to Work:	2010	2017
Drive Alone	77.1%	77.4%
Car Pool	10.0%	8.7%
Public Transportation	4.4%	4.2%
Work at Home	4.3%	5.4%
Computer and Internet Use:		2017
Homes with a Computer		91.8%

Geography X

	2010
Capital	Richmond
Largest City	Virginia Beach
Second Largest City	Norfolk
Persons Per Square Mile	202.6

Business X

	2010	2016
Dentist Offices	3,068	3,365
Amusement Parks	11	15
Fast-Food Restaurants	6,027	6,376
Toy Stores	249	230
Video/Disc Rental Stores	293	20
Zoos & Botanical Gardens	17	17
Candy & Nut Stores	59	56
Pet & Pet Supply Stores	232	282
Ice Cream & Frozen Dessert Makers	3	5

Note: As is the case with all surveys, statistics from sample surveys are subject to sampling and nonsampling error.

Scavenger Hunt: Where is Gina the Geographer

- Students will participate in an online scavenger hunt based on a story that a geographer named Gina, who loves to travel, has escaped to an undisclosed location.



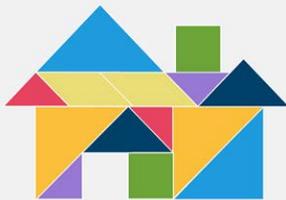
“I have a sweet tooth and eat candy maybe a little more often than I should (don’t tell my dentist!). This state/territory had only one candy and nut store in 2016, so I knew I couldn’t go there. Which state/territory can you eliminate?”

Coming Soon: New Art Resources

Part 4 - Create Your Dream Home Using Two-Dimensional Shapes

Connect your two-dimensional shapes — triangles, quadrilaterals, pentagons, and hexagons — on your construction paper in a design you like and glue them in place to make your dream home! (Make sure you use at least three different types of shapes.)

Student creations will vary and do not necessarily need to show the number of bedrooms. Here is an example:



Fun Facts and 5-Minute Challenges

Fun Facts: Earth Day - April 22

What in the world is Earth Day?

- Earth Day is recognized every year to raise awareness of environmental issues and inspire an appreciation for the environment.
- Environmental activists coined Earth Day in response to a proposal of oil spill in waters near Santa Barbara, CA, in 1969.

Power Up!

\$9.7 billion: The total revenue in 2012 for all electric power generation industries in the United States that use renewable energy sources, such as hydroelectric, wind, geothermal, biomass, solar, and other electric power generation.

1,219: The number of hydroelectric, wind, geothermal, biomass, solar and other electric power generation establishments in the United States in 2012.

12,988: The number of employees working in hydroelectric, wind, geothermal, biomass, solar, and other electric power generation establishments in the United States in 2012.

How can you tell if the ocean is friendly? It waves.

Feelin' Hot, Hot, Hot

Across occupied housing units in the United States in 2016, it is estimated that:

- 57 million** were heated by utility gas (That's approximately 48% of all homes)
- 2.2 million** were heated by wood (That's 2% of all homes)

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

Fun Facts: Earth Day - April 22nd

TEACHING GUIDE

About Fun Facts

Fun Facts are student-friendly handouts that tie statistics from the Census Bureau to holidays, anniversaries, and other observations. These fact sheets—which are designed to be used at varying grade levels and across different subjects—can be used at the end of class (if students finish their work early), during a lighter day (perhaps when a substitute teacher is present), or on/before a holiday (when there may be an opportunity for flexibility outside the curriculum).

Using Earth Day Fun Facts in the Classroom

Teachers should first review the different types of renewable energy with students.

Renewable energy resources heavily exist in nature, never run out, and do not pollute the environment. By contrast, non-renewable energy—which includes coal, propane, petroleum, and natural gas—formed millions of years ago and will run out. Types of renewable energy include:

- Biomass energy:** Energy generated from animals and plants, such as wood, dried vegetation, crop residue, and garbage. When biomass is burned, the energy is released as heat.
- Geothermal energy:** Energy generated from heat in the ground—for example, from the hot rocks beneath the Earth's surface or from the extremely hot molten rock (magma) found even deeper underground.
- Hydroelectric energy:** Energy extracted from flowing water, often in a river, that spins the blades of a turbine connected to a generator.
- Wind energy:** Energy extracted from moving air (winds) that turns the blades of a wind turbine connected to a generator.
- Solar energy:** Energy generated from the sun, often through solar panels, which are made of materials that can be used in computer chips. When sunlight hits the panels, it knocks electrons loose from their atoms to generate electricity.

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

5 Minute Challenge: Toy Makers by State

Warm-Up Activity

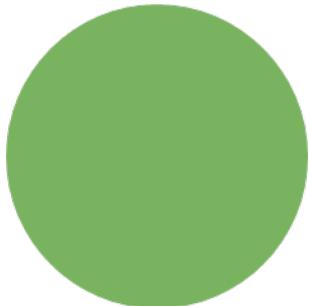
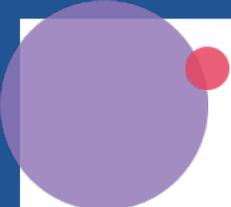
Total Number of U.S. doll, toy, and game manufacturing establishments: **557**

Imagine you just received money to start a toy manufacturing company anywhere in the United States!

- Based on the map at the top, and what you already know about the 50 states, write a paragraph explaining where you want to start your company and why. (Your answer should take into account the number of manufacturers already located in that state.)
- Write down two questions that you could ask to help you make your decision.

Source: 2016 County Business Patterns
<https://www.census.gov/schools>

Legend:
 ■ 31 or more
 ■ 20 to 30
 ■ 1 to 19
 ■ None



Constitution Day Resources

- o 5 Minute Challenge Warm-Up Activities:
 - Apportionment Map
 - The Amazing Apportionment Machine
- o Fourth of July Fun Facts

Related Activities:

- o Authorizing the First Census –The Significance of Population Data (HS)
- o Population Profile of Our New Nation: A Comparison of the 1790 and 1800 Censuses (MS)
- o Trends in Congressional Apportionment (HS)
- o Voting Trends in America, 1964-2014 (ES)
- o An Investigation Into Immigration and Migration in the United States (HS)
- o 19th Century Immigration - Causes & Effects (HS)
- o Art Activity – Patriotic Pinwheel (Skills: construction, 3D design, shapes, measuring, physical science) – coming soon

What's New for 2020?

Our 2020 SIS materials will leverage Census data and hands-on activities to remind educators, parents, and students of the importance of 2020 Census completion. SIS will provide:

A storybook with activities for children in preschool and early grades.

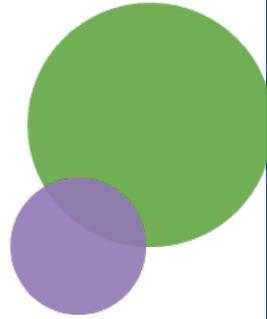
New activities – making a total of more than 200 available!

Engaging videos

Resources for English language learners and adult students studying English as a second language

Large, colorful maps with fun census-based facts about the country and its territories, including state-by-state comparisons.

Materials Development



- 67 new activities for students in **pre-K** through grade 12
- Activities and resources for ELL and adult ESL students with corresponding educator guides.

“How the Census Helps My
Community and Me”

“Diversity in My Home
and Community”

“Reapportionment”

“Constitution Day”

“Diversity: Languages Spoken in the United States”

SIS Worksheets

2020 CENSUS STUDENT ACTIVITY Name _____

National Pet Day

	Number of establishments	Full-time employees	Annual payroll (\$ in 100,000s)		Number employed	Median income
Veterinary services	30,611	223,197	\$11.3B	Veterinarians	36,815	\$90,328
Pet care (except veterinary) services	15,466	83,605	\$1.6B	Veterinary assistants and laboratory animal care	29,360	\$26,044
Pet and pet supplies stores	9,164	108,695	\$2.1B	Nonfarm animal care	123,343	\$23,207

Source: 2018 County Business Patterns. Note: County Business Patterns statistics only include establishments with paid employees.

Source: 2018 American Community Survey

If you had to be a veterinarian, a veterinary assistant/laboratory animal caretaker, or a nonfarm animal caretaker, which would you choose? List the positives and negatives of your choice in the chart below, using any of the data above to support your points. If you need help making a decision, ask yourself these questions: Which job pays the highest median income? Which job interests you the most, and why?

Positives of the job	Negatives of the job

United States Census 2020
Classrooms Powered by Census Data
STATISTICS IN SCHOOLS

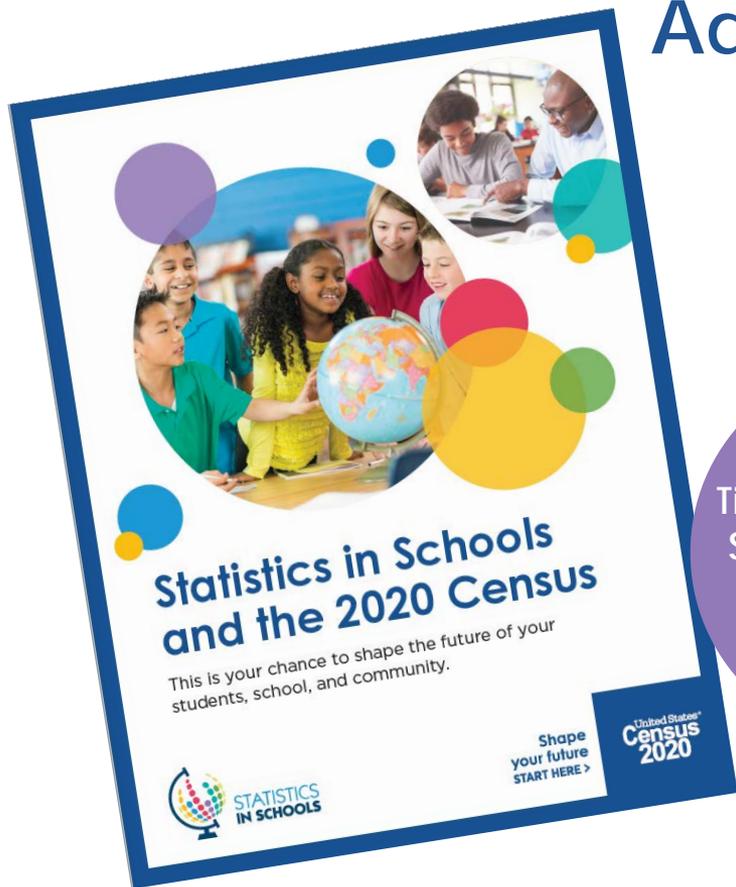
Activity Question #1

Activity Question #2

Activity Question #3

United States Census 2020
census.gov/schools
STATISTICS IN SCHOOLS

Administrator Kit



Program
Overview

Frequently
Asked Questions

Printable Information
for teachers

Timeline and Next
Steps for Schools

Student Take
Home Flyer

Pre-K Materials

- Activity Book
- Song/Music Video
- Webisode
- Classroom Worksheets
- Take-home letter to parents



explaining the materials available and how to get involved

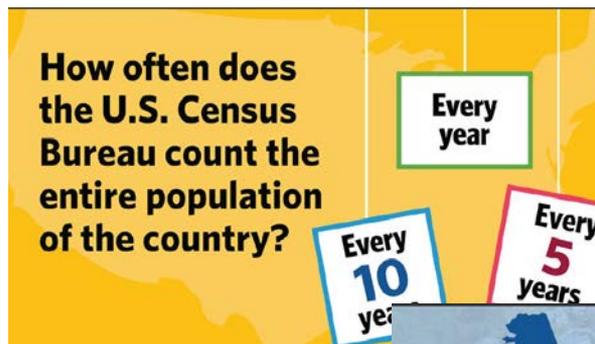
Videos for Teachers and Students

“Getting an Accurate Count”

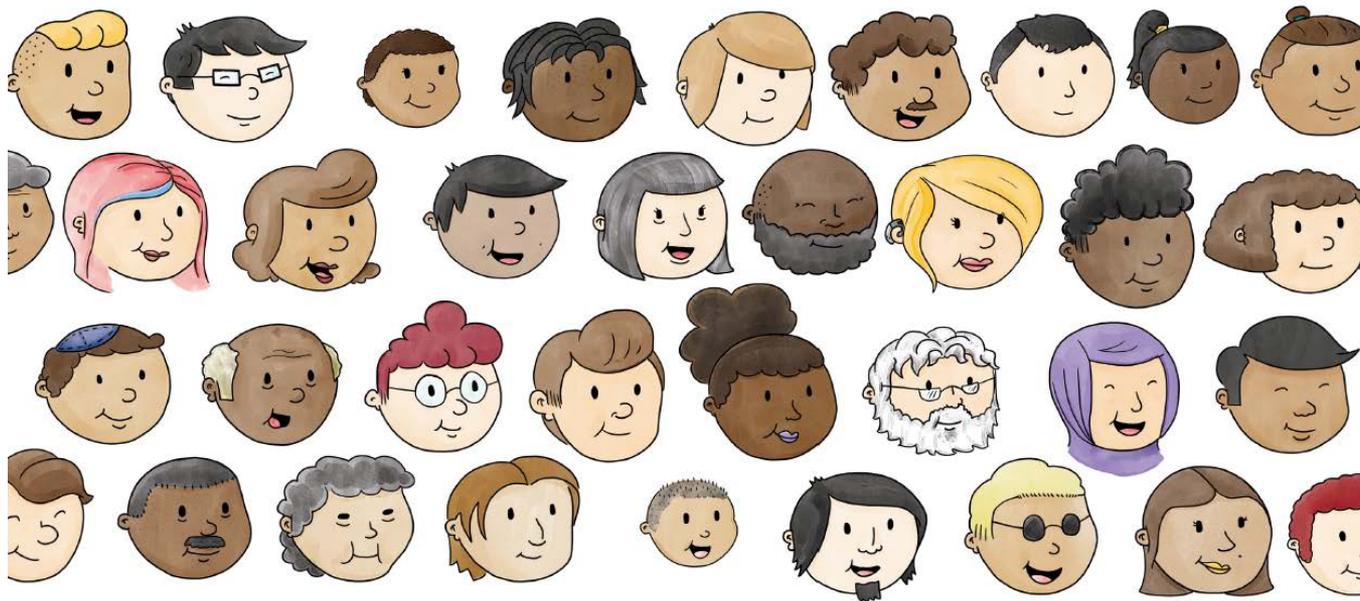
“The 2020 Census Challenge”

“What Will You do After High School?”

“Chance of a Decade”



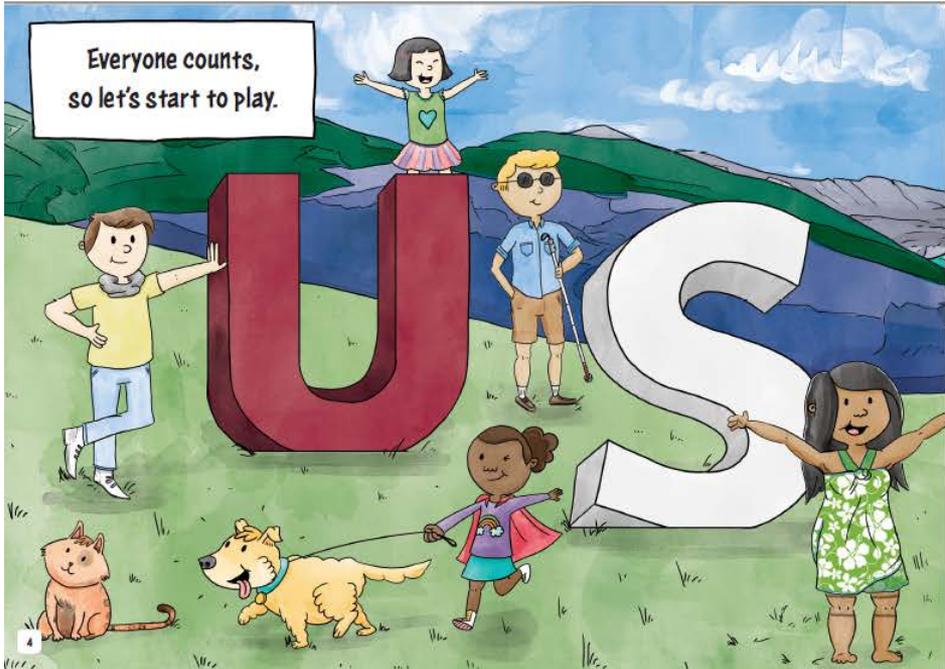
Everyone Counts!



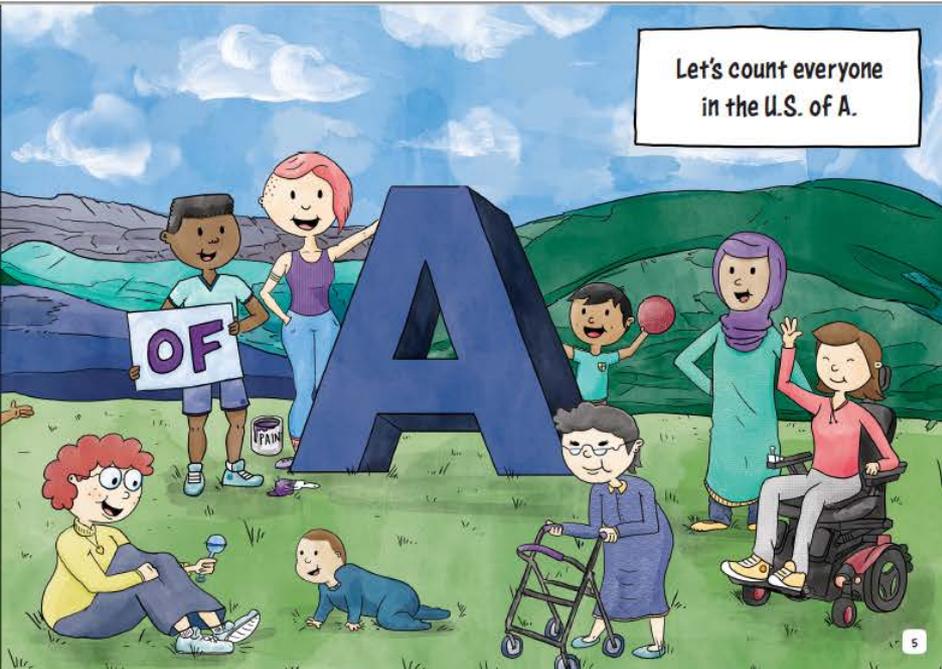
Shape
your future
START HERE >

United States®
Census
2020

Everyone counts,
so let's start to play.

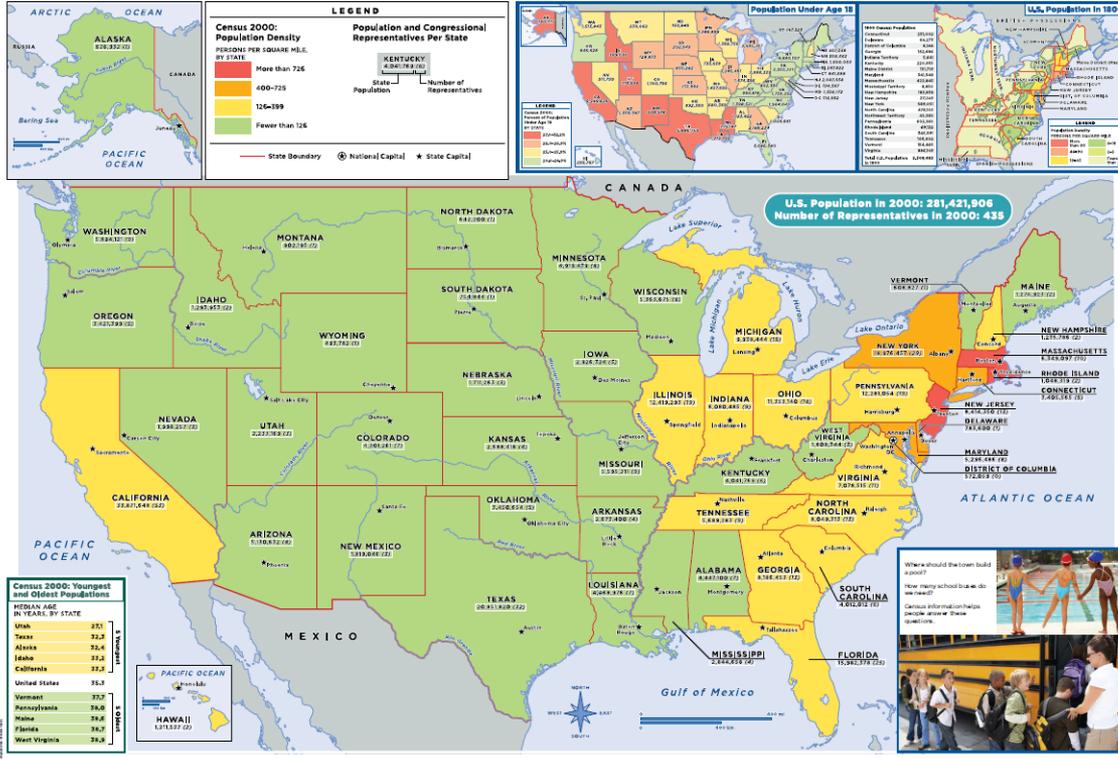


Let's count everyone
in the U.S. of A.



Wall Maps

United States Population



Teacher Ambassador Program



SIS ambassadors will champion the program in their classrooms, schools, and communities, and in doing so promote a complete 2020 Census count.

Partnerships

“Empowering students to be educated consumers of data.”



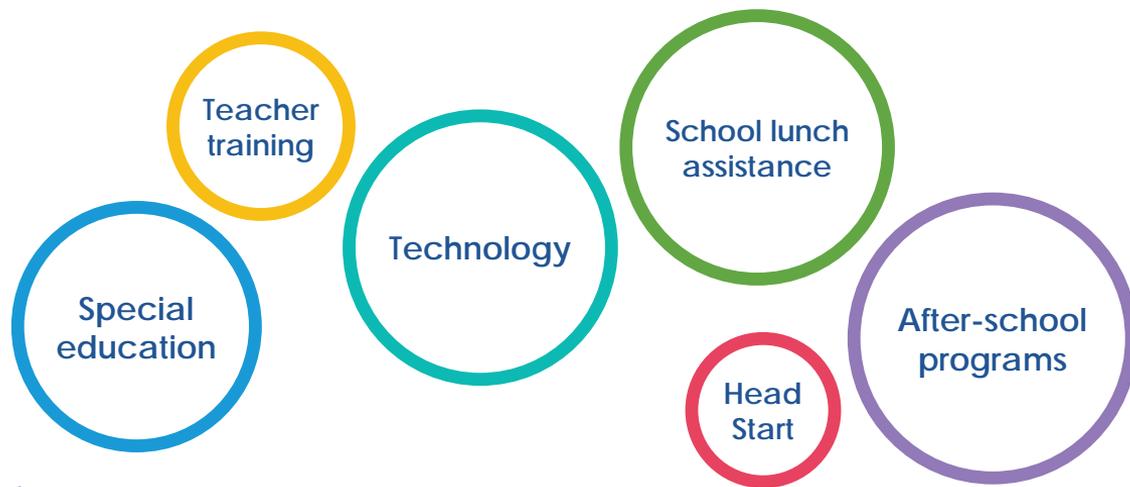
NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

Conferences

- National Council of Teachers Mathematics
- Head Start Association
- National Charter School Conference
- Association of Middle Level Education (speaking)
- National Association for the Education of Young Children (speaking)
- National Council for the Social Studies (speaking)
- Council of Great City Schools (speaking)
- National School Board Association (speaking)

Shape the future for our children. Start Here.

The 2020 Census has especially important consequences for education. Information gathered by the 2020 Census will be used to drive local school planning and decisions regarding the allocation of federal funds for schools.





You Can Make the Difference

Help shape the future of your schools, students, and community by partnering with Statistics in Schools

- ✓ Inform parents/guardians and educators about the census, its benefits, and key dates.
- ✓ Send a direct message to your users/members about census key dates.
- ✓ Include 2020 Census messaging in your existing communications channels.
- ✓ **THINK BIG!** Work with Census to brainstorm new ways to support a complete and accurate count.



2020 Census Roadmap

The 2020 Census Statistics in Schools (SIS) program is being developed and implemented to increase awareness of, and the overall public response to, the decennial census by engaging administrators, teachers, students, and their parents/guardians in public conversations about the census. Additionally, the program will continue to promote understanding of statistical concepts and introduce the use of data to students in a variety of subjects.



Start Now!

New materials and worksheets will be coming, but get started with the SIS program now by checking out www.census.gov/schools. You'll find a wealth of resources like worksheets, fun facts and data tools that help students in grades K-12 learn key skills in a variety of subjects all by using Census Bureau data.

March
2019

August
2019

Check it Out!

New worksheets that teach all about the 2020 Census and the importance of being counted are posted to the SIS website. These lessons have been created by educators across the country in conjunction with Census Bureau data experts.

Preschool Fun!

Little ones can join in the SIS excitement. New worksheets for children ages 2-5 will be posted on the website. Additionally, check out the other great activities like a coloring and activity book and interactive song that teaches our youngest learners all about the 2020 Census.

Video Delight!

Check out the cool new videos and webisodes that help children understand what the decennial Census is and why it's important that everyone be counted.

Dec.
2019

Sept.
2019

Back to School!

Principals across the country will receive administrator kits that include many of the great materials the 2020 SIS program has to offer. Go to your principal to see the colorful maps, promotional items and other SIS materials.

March
2020

SIS Week March 2-6!

For a whole week in schools across the country educators will join forces to show how students can use the SIS program in their classrooms.

April
2020

Census Day April 1, 2020!

The 2020 Census will be officially open. Help your community by reminding your students to tell their caregivers to complete the 2020 Census form. Remember the Census provides funding for a variety of resources that help your school and community.



Contact Statistics in Schools

Email: victoria.r.glasier@census.gov

or

statsinschools@census.gov

Telephone: (301) 763-4030