

# *Historical Inquiry with*

## **The *Statistical Atlas of the United States (1870)* Occupations and School Attendance Chart**

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### **About the Historical Document**

The *Statistical Atlas of the United States Based on the Results of the Ninth Census 1870* was published in 1874 and compiled under the authority of Congress by Francis A. Walker, M.A., the superintendent of the ninth Census and a professor of political economy and history at the Sheffield Scientific School of Yale College (now Yale University). As stated on its title page, the document includes “contributions from many eminent men of science and several departments of the government.”

Walker supervised the Census using scientific methods and sought to make the Census information gathered more accessible to the general public by producing the *Statistical Atlas*, which provides explanations and charts and maps of the data collected. He expanded the amount of information collected in the Census and applied statistical techniques to more accurately reflect the development of the United States after the Civil War.

The page of the *Statistical Atlas* used in this activity includes a chart of gainful occupations and school attendance for the U.S. population and the population of each of the 37 states, the District of Columbia, and the areas known as the North West and South West Territories at the time of the 1870 Census. The full chart title is “Chart Showing for the United States and for Each State, with Distinction of Sex, the Ratio Between the Total Population Over 10 Years of Age and the Number of Persons Reported as Engaged in Each Principal Class of Gainful Occupations and Also as Attending School.” The four occupational categories are “Agriculture,” “Manufactures & Mining,” “Trade & Transportation,” and “Personal & Professional Services.” The single education category is “Attending School.” The chart depicts the states (areas) as equally sized squares, with the individual categories representing a proportion of the total state (area) population. For example, in 1870, Arkansas had a much smaller population than Alabama; however, the proportions shown on the chart for each category are somewhat similar for the two states. Each category is color-coded, with lighter colors depicting males and darker colors depicting females. A border around each square depicts the population that does not fall into any of the specified categories.

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### **Uses for This Activity**

This activity allows students to compare and contrast U.S. occupational categories and school attendance in 1870 across genders and states. It provides questions for students to practice historical inquiry and evaluate the chart. The questions are divided into the following topics: observe, reflect, question, and analyze. This activity may be used to introduce and engage students in the process of historical inquiry and/or to supplement study of workforce participation in the United States.

## Standards and Benchmarks (see page 9)

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### Grade Level

8-12

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### Materials

- Internet access and a whiteboard to display PDF 1 (page Pl.XXXII, “Chart Showing for the United States and for Each State, with Distinction of Sex, the Ratio Between the Total Population Over 10 Years of Age and the Number of Persons Reported as Engaged in Each Principal Class of Gainful Occupations and Also as Attending School” in the *Statistical Atlas of the United States Based on the Results of the Ninth Census 1870*): [https://www.stlouisfed.org/~media/Education/Lessons/pdf/maps/PDF1\\_SA1870Gainful-Occupations.pdf](https://www.stlouisfed.org/~media/Education/Lessons/pdf/maps/PDF1_SA1870Gainful-Occupations.pdf). A copy of PDF 1 is provided at the end of this activity for the teacher’s reference.

NOTE: The PDF version is provided because it has better resolution than the *Statistical Atlas* online version. The full *Statistical Atlas* is available at <https://fraser.stlouisfed.org/title/?id=64#scribd-open>. The chart in PDF 1 is on page 82 of the online version.

- Handout 1, one copy for each student
  - Handout 1—Answer Key for the teacher
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### Procedure

1. Display *PDF 1: SA1870 Gainful Occupations* (as noted in the Materials section). Explain to the students that this is a primary source document. It is a chart from a document called the *Statistical Atlas of the United States Based on the Results of the Ninth Census 1870*. In this activity, they will practice historical inquiry by examining the chart and answering questions about it. Explain the following:
    - The *Statistical Atlas* was published in 1874 and is considered a watershed moment for statistics in the United States, bringing us on a par with our European counterparts.
    - The chart shows the employment (by occupation) and schooling of the U.S. population over 10 years of age for each of the 37 states, the District of Columbia, the areas known as the North West and South West Territories, and the nation as a whole at the time of the 1870 Census.
    - The first square on the chart is for the nation. The states follow in alphabetical order, with the District of Columbia and the two territories at the end.
    - The square size is the same for each state, but the size of each category is proportional to the total number of people in the state over 10 years of age.
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- The different-colored rectangles within the squares refer to the occupational and schooling categories of the people counted by the Census, with subcategories for males and females.
  - There is an explanatory note at the top under the title and a legend at the top right. The four categories of occupations are Agriculture, Manufactures & Mining, Trade & Transportation, and Personal & Professional Services.
2. Explain that today, the Bureau of Labor Statistics defines employed people as those 16 years of age and older who have jobs. They may work part- or full-time. (More details about who is considered in the workforce and how they are counted can be found at [http://www.bls.gov/cps/cps\\_htgm.htm](http://www.bls.gov/cps/cps_htgm.htm).)
  3. Explain that to have a gainful occupation means to earn a wage (or salary) for the task performed. Today, the Bureau of Labor Statistics collects data on occupations and has 23 major occupational categories—now called “occupational classifications”—with multiple subcategories. (Further details about occupational classifications can be found at [http://www.bls.gov/soc/major\\_groups.htm](http://www.bls.gov/soc/major_groups.htm).) The “Preface and Introduction to the Statistical Atlas” states that “criminal and shameful occupations” are excluded from the Census tables.
  4. Continue to display PDF 1. Distribute a copy of *Handout 1: Historical Inquiry* to each student. Have the students work in pairs and instruct them to look at the chart (PDF 1) together to find the answers to the questions on Handout 1. After students complete the activity, discuss their findings, referring to Handout 1—Answer Key as needed.

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### Assessment

5. Instruct the students to write an essay that (i) summarizes their findings and (ii) provides evidence gathered from this inquiry and classroom learning that supports their findings.

## Handout 1: Historical Inquiry

### Historical Inquiry with the *Statistical Atlas of the United States (1870)*: Interpreting the Gainful Occupations/Attending School Chart

#### Observe

1. What information does the title provide about this chart?
2. What does the legend tell you about this chart?
3. Which current states were not yet states and therefore not on this chart?
4. What does the note (under the title) indicate about the size of the border on each square?
5. What do you first notice about the square depicting the entire United States?

#### Reflect

6. Who was counted on this chart?
7. Why is this chart important?
8. How might this chart be biased?
9. What can you learn from examining this chart?
10. What additional information might help you understand this chart?

#### Question

11. What differences does the chart reveal about the various regions of the country?
12. What does this chart tell you about the United States and the world at this time?
13. Where can you find further information related to this topic?

#### Analyze

14. How has the United States changed since this chart was made?
15. How does the information on this chart foreshadow the future?
16. What features, if any, of this chart might still be the same today?

## Handout 1: Historical Inquiry—Answer Key

### Historical Inquiry with the *Statistical Atlas of the United States (1870)*: Interpreting the Gainful Occupations/Attending School Chart

#### Observe

1. What information does the title provide about this chart? (*The title indicates that the chart*
  - *provides information for the United States and each state,*
  - *reports information by gender,*
  - *reports as ratios the number of people gainfully employed and attending school relative to the total population,*
  - *includes the total population over 10 years of age, and*
  - *is based on the results from the ninth Census in 1870.*)
2. What does the legend indicate about this chart? (*The legend indicates the five categories included on the chart and the color code for each. The lighter shades represent males, and the darker shades represent females. The four occupational categories are Agriculture, Manufactures & Mining, Trade & Transportation, and Personal & Professional Services. The fifth category is Attending School.*)
3. Which current states were not yet states and therefore not on this chart? (*Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, New Mexico, North Dakota, Oklahoma, South Dakota, Utah, Washington, and Wyoming*)
4. What does the note (under the title) indicate about the sizes of the borders on the squares? (*The borders are referred to as “shaded intervals between the inner and outer squares” that represent the proportion of the population “not so accounted for.” So, the borders indicate the people who were uncategorized and thus not counted as gainfully employed or attending school.*)
5. What do you first notice about the square depicting the entire United States? (*Answers will vary but may include the following: Many people worked in agriculture. School attendance was about the same for men and women. Far more men than women worked in agriculture and manufactures and mining occupations. Very few women worked in trade and transportation occupations. There is a closer balance between the number of men and women working in personal and professional occupations, although there were still more men than women.*)

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### Reflect

6. Who was counted on this chart? *(All persons over 10 years of age residing in the United States, the District of Columbia and the North West and South West Territories)*
7. Why is this chart important? *(Answers will vary but may include the following: The chart gives a visual depiction of the employment breakdown in each state in 1870 that allows for quick and easy comparison. It shows us what people were doing in different regions of the country.)*
8. How might this chart be biased? *(Answers will vary. Bias is not readily discernible on this chart.)*
9. What can be learned from examining this chart? *(Answers will vary but may include that it shows how the proportions of people in different occupations and attending school differed between men and women and across states and different areas of the country.)*
10. What additional information might be helpful for understanding this chart? *(Answers will vary but may include the following: It would be helpful to know the populations of each state and the types of jobs included in each of the categories. Knowing the percentage of the total population and the population of each state that is between 10 and 18 years of age would help determine whether low school attendance was due to there being few children in this age group or lack of school attendance.)*

### Question

11. What differences does the chart reveal about the various regions of the country? *(Answers will vary but may include the following: Southern states [e.g., Alabama, Georgia, Louisiana, and Mississippi] had proportionately more workers in agriculture and fewer people attending school than Northeastern states [e.g., Connecticut, Maine, New York, and Massachusetts]. The proportions of manufacturing and mining occupations were greatest in the Northeastern states, Nevada, and the North West Territories.)*
12. What does this chart tell you about the United States and the world at this time? *(Answers will vary but may include the following: The United States had a mixture of gainful occupations and education was available in every state and territory. Although it does not speak to these categories worldwide, it can be used to compare the United States with other countries.)*
13. Where could you find additional information related to this topic? *(Answers will vary. Students could refer to the full Statistical Atlas for additional information or the Census website at <http://www.census.gov/prod/www/decennial.html>.)*

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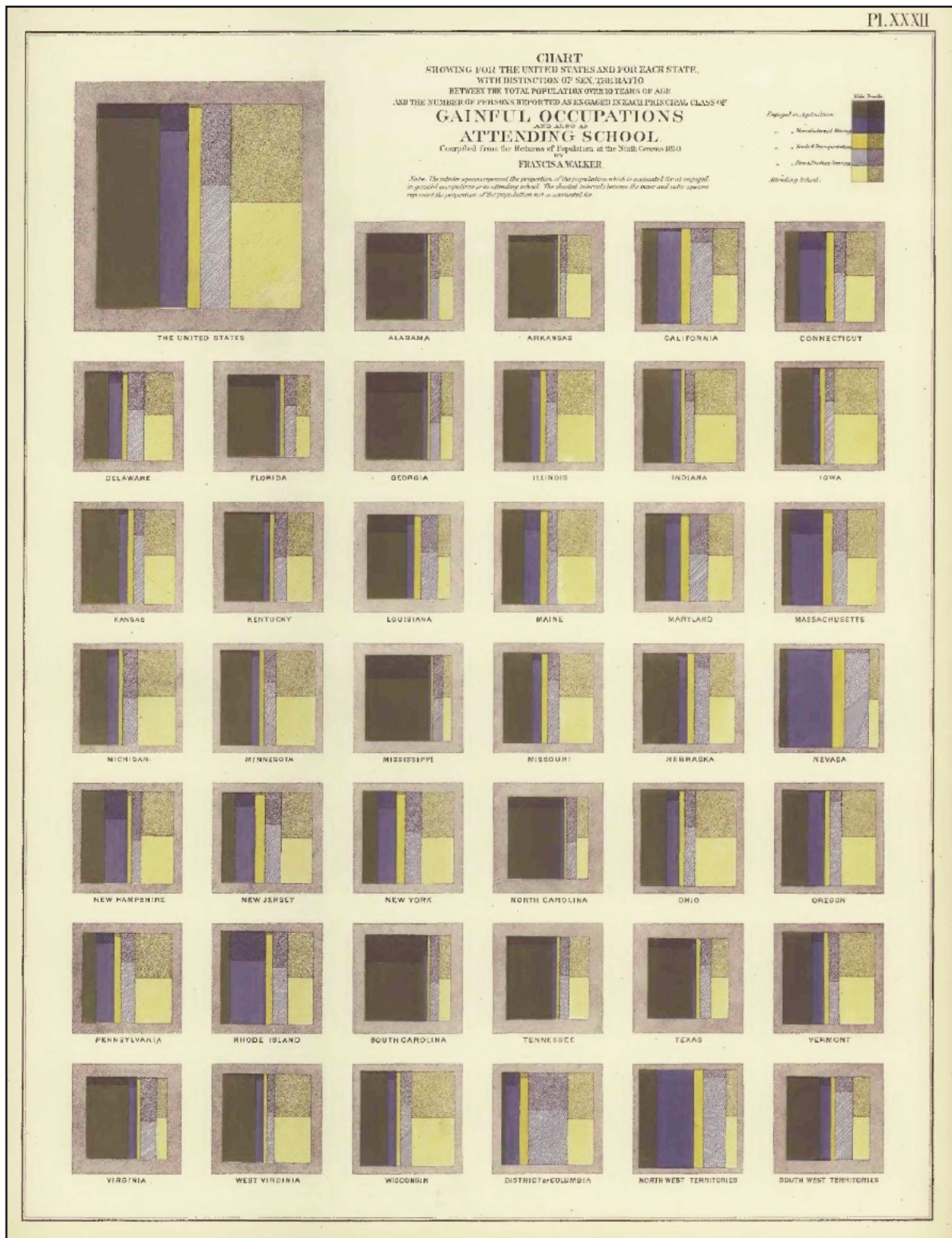
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### Analyze

14. How has the United States changed since this chart was made? *(Answers will vary but may include the following: The North West and South West Territories are now states. The number of men and women in agricultural occupations has declined dramatically; federal and state laws do not allow 10-year-olds to work outside their homes. There are many more occupational categories. Women's participation in the workforce has gone up dramatically.)*
  
15. How does the information on this chart foreshadow the future? *(Answers will vary but may include that states with large amounts of rich farmland are still engaged in agriculture, and states with rich mining resources still have the most mines.)*
  
16. What features of this chart might still be the same today? *(Answers will vary.)*

*Historical Inquiry* with the SA (1870) Occupations and School Attendance Chart

Copy of PDF 1





## Standards and Benchmarks

### College, Career & Civic Life C3 Framework for Social Studies State Standards

#### Dimension 2, Applying Disciplinary Tools and Concepts

- **Historical Sources and Evidence: By the End of Grade 8**

D2.His.11.6-8. Use other historical sources to infer a plausible maker, date, place of origin, and intended audience for historical sources where this information is not easily identified.

D2.His.12.6-8. Use questions generated about multiple historical sources to identify further areas of inquiry and additional sources.

D2.His.13.6-8. Evaluate the relevancy and utility of a historical source based on information such as maker, date, place of origin, intended audience, and purpose.

- **Causation and Argumentation: By the End of Grade 8**

D2.His.14.6-8. Explain multiple causes and effects of events and developments in the past.

D2.His.15.6-8. Evaluate the relative influence of various causes of events and developments in the past.

D2.His.16.6-8. Organize applicable evidence into a coherent argument about the past.

- **Historical Sources and Evidence: By the End of Grade 12**

D2.His.11.9-12. Critique the usefulness of historical sources for a specific historical inquiry based on their maker, date, place of origin, intended audience, and purpose.

D2.His.12.9-12. Use questions generated about multiple historical sources to pursue further inquiry and investigate additional sources.

- **Causation and Argumentation: By the End of Grade 12**

D2.His.14.9-12: Analyze multiple and complex causes and effects of events in the past.

D2.His.15.9-12: Distinguish between long-term causes and triggering events in developing a historical argument.

D2.His.16.9-12: Integrate evidence from multiple relevant historical sources and interpretations into a reasoned argument about the past.