



LESSON PLAN

LIVIN' IN HIGH COTTON: TECHNOLOGY AND TEXAS'S KING CROP

Social Studies, Grade 7

OBJECTIVE

Through the use of primary source video, students will develop an understanding of cotton farming in Texas and the technological innovations that have led to Texas' flourishing cotton industry.

PROCESS

Prior Knowledge

This lesson assumes students are familiar with cotton as a staple of fabric production.

Students have a basic understanding of the following terms: cotton boll, cotton gin, and cotton lint.

Hook

Take a poll of the number of students in the room wearing jeans. If there are none, change the question to the number of students who own a pair of jeans.

Share with students that most jeans are made from approximately 1 lb of cotton. 1 lb of cotton contains approximately 160 cotton bolls. A cotton plant can produce up to 100 bolls and a bale of cotton contains approximately 500 pounds. A pair of jeans is composed of the yield of approximately 1.5 cotton plants. Ask students to calculate as a class the number of cotton plants needed to dress them for the day (or altogether) along with the number of bolls, number of pounds of cotton and number of bales of cotton needed to produce the jeans.

As a class, brainstorm a list of other materials (non-clothing) made of cotton that they might encounter on a day-to-day basis. What items would be difficult to do without? Are any surprising? Items to discuss include various types of clothing, netting, paper, bookbinding, sheets, tents, money, towels, cooking oil, and baseballs.

Lesson

Although cotton came to Texas with Spanish missionaries, it emerged as the "king" of Texas crops in the late 1880s and has continued to be the number one crop in the state. Technological innovations played a large role in cotton's rise of importance in the Texas economy. Share this information with the class to prepare them to watch four videos relating to this theme.

The first video, The Ernest M. Hunt Family Film Collection, no. 8 - Rancho Feliz (1943), https://texasarchive.org/2010_02124, comes from right across the Texas border in New Mexico. This film was made right around the time farmers were switching to mechanical cotton



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pickers, but in this film, cotton is being picked by hand. While watching the video, discuss what you are seeing:

Create a list as a class, or individually, of the resources being used to collect cotton.

Also, share with students that it is estimated that picking an acre of cotton by hand required 125 hours of human power. The emergence of the mechanical cotton picker reduced this number to 25 hours of human power an acre.

The next video, The Jim W. Keeland Collection, no. 7 - Texas Crop Harvests (1956), https://texasarchive.org/2011_02275 shows the harvest of cotton using a mechanical picker in Southeast Texas. While watching the video, discuss what you are seeing:

Continue your list of resources being used to collect cotton.

Discuss how those resources differed from the last film.

Reference your total number of bales of cotton needed to clothe your class in jeans. This machine's bin holds approximately 750 lbs of cotton before ginning, which will result in half a bale. How many bins full of cotton are needed to clothe the class?

The first two videos show how cotton picking changed in 20th century Texas. Prepare the class for the next film by hypothesizing other changes that might have made the cotton industry flourish in Texas. Questions to start discussion:

- What happens after the cotton is ginned?
- How is it transported?

Watch the segment of the last film, The Underwood Family Collection, no. 1 - West Texas Compress and Warehouse Company, https://texasarchive.org/2009_02796. This film shows a cotton compress in the Panhandle/West Texas region where bales of cotton are being pressed and weighed after ginning (the area where the majority of Texas cotton is now produced).

While watching the video, discuss:

- Add to your list of resources using the materials seen in this film
- Why would you want to compress cotton into a standardized bale?
- Where would the cotton have gone to next?

Assignment: Students should research and write a paragraph about each of the 3 innovations (the cotton picker, the cotton compress and the cotton gin) featured in the films. They should find the date it was invented and how the technology would have changed the process of cotton production. Students should include a final paragraph describing an industry related to cotton's life after it has been grown, harvested and compressed.



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Independent Practice

Although Texas is the top cotton producer in the nation, it is one of many crops grown in the state.

Ask students to research another crop that is grown in Texas and create a poster presentation for the class. Students can choose from corn, wheat, hay, sorghum, peanuts, rice, soybeans, oats, sunflower, potatoes, beans, and sugarcane. The poster could include the following:

- An image of the crop
- A description of the weather and soil conditions needed to grow the crop
- A list of potential uses of the crop
- A map indicating where the crop is produced
- A description of technologies used to harvest, process, and distribute the crop and the industries surrounding these technologies
- A conclusion as to why the crop might be popular in the regions of Texas in which it is grown
- An estimate of the number of acres planted and/or harvested (see USDA NASS website)

Videos



The Ernest M. Hunt Family Film Collection, no. 8 - Rancho Feliz (1943)

https://texasarchive.org/2010_02124



The Jim W. Keeland Collection, no. 7 - Texas Crop Harvests (1956)

https://texasarchive.org/2011_02275



The Underwood Family Collection, no. 1 - West Texas Compress and Warehouse Company

https://texasarchive.org/2009_02796



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RESOURCES

“Cotton Culture,” The Handbook of Texas

<https://tshaonline.org/handbook/online/articles/afc03>

“Agriculture,” Texas Almanac

<https://texasalmanac.com/topics/agriculture/agriculture>

Lesson Plans, Cotton Campus

<https://www.cottoncampus.org/Cotton-Miracle-of-Nature-Lesson-Plans/cotton2000.pdf>

Cotton Farming in Texas Lesson Plan, Portal to Texas History

<https://education.texashistory.unt.edu/lessons/newspapers/cottonFarmingTexas/index.htm>

Cotton, Touching Us Daily, Texas A&M Agrilife Extension

http://comal.agrilife.org/files/2011/08/cottontouchingusdaily_12.pdf

“Cotton,” The Land of Opportunity: West Texas, Portal to Texas History

<https://texashistory.unt.edu/ark:/67531/metaph46822/m1/10/?q=%22cotton%20growing%22>

United States Department of Agriculture (search for Texas current statistics)

https://www.nass.usda.gov/Statistics_by_State/Texas/

Cotton Ginning Photograph, Portal to Texas History

<https://texashistory.unt.edu/ark:/67531/metaph59161/m1/1/?q=%22cotton%20gin%22>

“Cotton-Compress Industry,” The Handbook of Texas

<https://tshaonline.org/handbook/online/articles/drc02>

“A Look at Texas Agriculture”, National Organization Agriculture in the Classroom

<https://www.agclassroom.org/student/>

TEKS

Social Studies, Grade 7

1A - Identify the major eras in Texas history, describe their defining characteristics, and explain why historians divide the past into eras, including Natural Texas and its People; Age of Contact; Spanish Colonial; Mexican National; Revolution and Republic; Early Statehood; Texas in the Civil War and Reconstruction; Cotton, Cattle, and Railroads; Age of Oil; Texas in the Great Depression and World War II; Civil Rights and Conservatism; and Contemporary Texas

6D - Explain the political, economic, and social impact of the agricultural industry and the development of West Texas resulting from the close of the frontier



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7B - Define and trace the impact of "boom-and-bust" cycles of leading Texas industries throughout the 20th and early 21st centuries such as farming, oil and gas production, cotton, ranching, real estate, banking, and computer technology

8A - Create and interpret thematic maps, graphs, charts, models, and databases representing various aspects of Texas during the 19th, 20th, and 21st centuries

13A - Analyze the impact of national and international markets and events on the production of goods and services in Texas such as agriculture, oil and gas, and computer technology

20C - Analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries

21B - Analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions

21H - Use appropriate mathematical skills to interpret social studies information such as maps and graphs

22D - Create written, oral, and visual presentations of social studies information