

Instructional Recipe

How Did Barbed Wire and Windmills Change the Face of Texas?

Grade 7, Texas History

Step 1 – Ask

Objectives:

Students will analyze the effects of scientific discoveries and technological innovations, such as barbed wire and the windmill on the developments of Texas.

Introduction:



Black Cow and Windmill. The Portal to Texas History.
<http://texashistory.unt.edu/ark:/67531/metaph44211/>. Accessed August 5, 2009.

Ask:

- ★ How do you think barbed wire and the windmill changed the look of the land in Texas?
- ★ Why do you think barbed wire was used in Texas?
- ★ What is the purpose of a windmill?
- ★ What are the advantages of using these innovations in Texas today?

Vocabulary:

- ★ **cattle ranch** - a farm devoted to raising cattle
- ★ **cattle trail** – route over which cattle are moved from one place to another
- ★ **livestock** – animals kept and raised for food or profit
- ★ **range** – open land where livestock can roam

TEKS:

- (7.20C)** analyze the effects of scientific discoveries and technological innovations, such as barbed wire, the windmill, and oil, gas, and aerospace industries, on the developments of Texas.
- (7.21 A)** differentiate between, locate, and use primary and secondary sources such as computer software, databases, media and news services, biographies, interviews, and artifacts to acquire information about Texas.
- (7.21B)** 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.
- (7.21C)** organize and interpret information from outlines, reports, databases, and visuals including graphs, charts, timelines, and maps.
- (7.21D)** identify points of view from the historical context surrounding an event and the frame of reference that influenced the participants.
- (7.21E)** support a point of view on a social studies issue or event.

Technology Application TEKS:

- 3A.** Discuss copyright laws/issues and models, ethical acquisition and use of digital information, citing sources using established methods
- 4B** Apply appropriate electronic search strategies in the acquisition of information including keyword and Boolean search strategies
- 6A** Determine and employ methods to evaluate the electronic information for accuracy and validity
- 6B** Resolve information conflicts and validate information through accessing, researching, and comparing data
- 6C** Demonstrate the ability to identify the source, location, media type, relevancy, and content validity of available information
- 7A** Plan, create, and edit documents created with a word processor using readable fonts, alignment, page setup, tabs, and ruler settings
- 7B** Create and edit spreadsheet using all data types, formulas and functions, and chart information
- 10A** Use productivity tools to create effective document files for defined audiences such as slide shows, posters, multimedia presentations, newsletters, brochures, or reports

Step 2 – Investigate

Try searching for *Texas AND “barbed wire”* or *Texas AND windmills*

Texas Heritage Online Resources:

- ★ Texas Historical Foundation. *Heritage, Spring 2003*. Austin, Texas. The Portal to Texas History. <http://texashistory.unt.edu/ark:/67531/metaph45378/>. Accessed August 5, 2009.
- ★ *Barbed wire*. The Portal to Texas History. <http://texashistory.unt.edu/ark:/67531/metaph31952/>. Accessed August 5, 2009.
- ★ *Rounding Up Cattle - Near Fort Davis, Texas*. The Portal to Texas History. <http://texashistory.unt.edu/ark:/67531/metaph40174/>. Accessed August 5, 2009.
- ★ *The Land of Opportunity: West Texas*. Abilene, Texas. The Portal to Texas History. <http://texashistory.unt.edu/ark:/67531/metaph46822/>. Accessed August 5, 2009.
- ★ *Herd of Cattle under a Wooden Windmill*. The Portal to Texas History. <http://texashistory.unt.edu/ark:/67531/metaph43210/>. Accessed August 5, 2009.
- ★ Texas Historical Foundation. “Taming the Devils Country: The Evolution of A West Texas Ranch Complex.” *Heritage, Volume 08, Number 02, Spring 1990*. Austin, Texas. The Portal to Texas History. <http://texashistory.unt.edu/ark:/67531/metaph45428/>. Accessed August 5, 2009.

EBSCO Resources:

- ★ Barbed Wire: From The Handbook of Texas. Edgewood Enterprise (TX), 9/28/2006, Vol. 99 Issue 39, p3-3, 1/6p; (AN 22825087)
<<http://search.ebscohost.com/login.aspx?direct=true&db=tih&AN=22825087&site=src-live>>
- ★ Barbed Wire: From The Handbook of Texas? Grand Saline Sun (TX), 9/28/2006, Vol. 110 Issue 39, p5-5, 1/6p; (AN 22830223)
<<http://search.ebscohost.com/login.aspx?direct=true&db=tih&AN=22830223&site=src-live>>
- ★ Turn, Turn, Turn. By: Banks, Suzy. Texas Monthly, Jan2007, Vol. 35 Issue 1, p56-58, 2p, 1 color; Reading Level (Lexile): 1310; (AN 23461574)
<<http://search.ebscohost.com/login.aspx?direct=true&db=tih&AN=23461574&site=src-live>>
- ★ Two Frontier Narratives: PICTURES OF THE PAST. By: Connor, Seymour V.. Buffalo Guns & Barbed Wire: Two Frontier Accounts by Don Hampton Biggers, 1991, p1-94, 103p; (AN 36087040)
<<http://search.ebscohost.com/login.aspx?direct=true&db=tih&AN=36087040&site=src-live>>
- ★ Barbed wire. *Columbia Electronic Encyclopedia, 6th Edition*, 1/1/2009, p1-1, 1p; Reading Level (Lexile): 1330; (AN 39045765)
<<http://search.ebscohost.com/login.aspx?direct=true&db=mih&AN=39045765&site=srck5-live>>
- ★ Windmill. *Columbia Electronic Encyclopedia, 6th Edition*, 1/1/2009, p1-1, 1p; Reading Level (Lexile): 1390; (AN 39040603)
<<http://search.ebscohost.com/login.aspx?direct=true&db=mih&AN=39040603&site=srck5-live>>

Additional Websites:

- ★ <http://www.tshaonline.org/handbook/online/articles/BB/aob1.html>
- ★ <http://www.tshaonline.org/handbook/online/articles/WW/aow1.html>

Step 3 – Create

Students can work individually or with partners to create a chart that organizes the information they learned about Texas. Here are some suggested topics that could be included:

🔗 Technology Link – Students may use graphic organizer software such as Inspiration, draw a table in a word processor, or create a spreadsheet using Microsoft Excel to map out their ideas.

Allow students to share their information with another group or as a whole class.

	Barbed Wire	Windmill
Political Impact (laws, rights, fights, etc)		
Economic Impact (changes, profits, cattle industry, etc)		
Social Impact (changes in society, farm life, etc)		

Step 4 – Discuss

Students may choose one of the following projects to complete:

- ★ **Pick a side and then write and perform a speech on the following topic:** I believe that scientific innovations like barbed wire and the windmill were critical to the development and success of the state of Texas. **–OR–** I believe that scientific innovations like barbed wire and the windmill were hindrances to the success of the state of Texas. Be sure to include arguments about the political, economic and social impacts on the state.
- ★ Pretend you are a cattle rancher in Texas. **Write a journal about what happened to your ranch when barbed wire and the windmill were introduced in Texas.** Be sure to include entries that explain how these innovations impacted your ranch from a political, economic and social point of view.

🔗 Technology Link – Use a word processing or desktop publishing program, such as Microsoft Publisher, to write your speech and journal. Use the EBSCO image collection to locate graphics about Texas. Students could videotape their speeches and edit the videos using a software program, such as Windows Movie Maker or iMovie.



Step 5 – Reflect

Allow students to present their projects to the rest of the class. Use the following suggested rubric to assess the students' work. Make sure that the students are familiar with the rubric *before* they begin creating their project. They should refer to the rubric repeatedly to monitor their progress in creating their project.

🔗 Technology Link: You can also create your own rubric with your students at <http://rubistar.4teachers.org/index.php>.

Oral Presentation: Barbed Wire and the Windmill

Teacher Name: _____

Student Name: _____

CATEGORY	4	3	2	1
Content	Shows a full understanding of the topic.	Shows a good understanding of the topic.	Shows a good understanding of parts of the topic.	Does not seem to understand the topic very well.
Comprehension	Student is able to accurately answer almost all questions posed by classmates about the topic.	Student is able to accurately answer most questions posed by classmates about the topic.	Student is able to accurately answer a few questions posed by classmates about the topic.	Student is unable to accurately answer questions posed by classmates about the topic.
Preparedness	Student is completely prepared and has obviously rehearsed.	Student seems pretty prepared but might have needed a couple more rehearsals.	The student is somewhat prepared, but it is clear that rehearsal was lacking.	Student does not seem at all prepared to present.
Uses Complete Sentences	Always (99-100% of time) speaks in complete sentences.	Mostly (80-98%) speaks in complete sentences.	Sometimes (70-80%) speaks in complete sentences.	Rarely speaks in complete sentences.
Vocabulary	Uses vocabulary appropriate for the audience. Extends audience vocabulary by defining words that might be new to most of the audience.	Uses vocabulary appropriate for the audience. Includes 1-2 words that might be new to most of the audience, but does not define them.	Uses vocabulary appropriate for the audience. Does not include any vocabulary that might be new to the audience.	Uses several (5 or more) words or phrases that are not understood by the audience.

Cattle Rancher's Journal: Barbed Wire and the Windmill

Teacher Name: _____

Student Name: _____

CATEGORY	4	3	2	1
Content Accuracy	The journal contained 7 or more accurate facts about the topic.	The journal contained 5-6 accurate facts about the topic.	The letter contained 3-4 accurate facts about the topic.	The letter contained 1-2 accurate facts about the topic.
Ideas	Ideas were expressed in a clear and organized fashion. It was easy to figure out what the journal was about.	Ideas were expressed in a pretty clear manner, but the organization could have been better.	Ideas were somewhat organized, but were not very clear. It took more than one reading to figure out what the journal was about.	The journal seemed to be a collection of unrelated sentences. It was very difficult to figure out what the journal was about.
Sentences & Paragraphs	Sentences and paragraphs are complete, well-constructed and of varied structure.	All sentences are complete and well-constructed (no fragments, no run-ons). Paragraphing is generally done well.	Most sentences are complete and well-constructed. Paragraphing needs some work.	Many sentence fragments or run-on sentences OR paragraphing needs lots of work.
Capitalization and Punctuation	Writer makes no errors in capitalization and punctuation.	Writer makes 1-2 errors in capitalization and punctuation.	Writer makes 3-4 errors in capitalization and punctuation.	Writer makes more than 4 errors in capitalization and punctuation.
Analysis	Journal analysis of impact of innovations on cattle ranches is clear and explained well.	Journal analysis of impact of innovations on cattle ranches is clear but not well explained.	Journal analysis of impact of innovations on cattle ranches is clear but no explanation is attempted.	Journal analysis of impact of innovations on cattle ranches is unclear and not well explained.