

1975 – 1999

CRISIS IN AGRICULTURE

ACTIVITIES

*Created by Michael Young,
former History Department Chair,
Omaha Burke High School*

	GRADE LEVEL	PAGE
1. The Business of Farming: Math Exercises	4 th - 8 th - 12 th	2
2. Population Change: Geography Census Analysis	4 th - 8 th - 12 th	4

LESSON PLAN

There's More than Football in "Cornhuskers" By Ellen Kohtz, Boone Central Schools in Albion	4 th - 8 th	6
---	-----------------------------------	---

RESOURCES

11

Activity 1: The Business of Farming

Lesson Grade Level:

4th – 8th – 12th Grades

Activity: Math Exercises

Farmers have to do a lot of math. Have students read the Crisis in Agriculture section in the 1975-1999 timeline before answering the following questions:

http://nebraskastudies.org/1000/stories/1001_0100.html

- If a farmer is going to put 1 pint of weed chemical on each acre of soybeans s/he plants, how many gallons would it take to do 80 acres?
- How many pounds does a bushel of wheat weigh? How many loaves of bread weighing one pound could be made (in theory) from a bushel of wheat?

Use the Wheat Foods Council: Wheat Facts website to help find the answers:

<http://www.wheatfoods.org/AboutWheat-wheat-facts/Index.htm>

- If a farmer had 160 acres of wheat and each acre averaged 40 bushels, how many bushels of wheat would the farmer raise?
- If a farmer's soybean crop averaged 45 bushels per acre and s/he was paid \$5 per bushel, how much profit would the farmer make if s/he had the following expenses per acre?

\$15	fertilizer
\$10	weed killer
\$12	taxes
\$50	cost for planting, harvesting, etc.
\$80	interest charges for money borrowed to buy the land

Nebraska State MATHEMATICS Standards:

By the end of fourth grade, students will:

Standard 4.2.1 Estimate, add, subtract, multiply, and divide whole numbers without and with calculators and solve word problems.

Standard 4.3.2 Estimate, measure, and solve word problems using standard units for linear measure, area, mass/weight, capacity, and temperature.

Nebraska State SOCIAL STUDIES Standards:

By the end of fourth grade, students will:

Standard 4.1.8 Describe characteristics of a market economic system and the interactions of consumers and producers.

Standard 4.1.9 Demonstrate an understanding of **money** and the financial system used in the United States.

By the end of eighth grade, students will:

Standard 8.3.5 Explain the structure and operation of the United States economy and the role of citizens as producers and consumers.

By the end of twelfth grade, students will:

Standard 12.3.11 Analyze characteristics of the United States free market **economy**.

Nebraska State READING/WRITING Standards

By the end of fourth grade, students will:

Standard 4.1.2 Demonstrate the use of multiple strategies to increase their vocabulary.

Standard 4.1.3 Identify the main idea and supporting details in what they have read.

Standard 4.1.4 Identify the resource appropriate for a specific purpose, and use the resource to locate information.

Standard 4.1.7 Identify and apply knowledge of the text structure and organizational elements to analyze nonfiction or informational text.

Standard 4.1.8 Identify similarities and differences between two fourth grade level reading selections.

Standard 4.2.4 Demonstrate the use of multiple forms to write for different audiences and purposes.

Standard 4.2.5 Demonstrate the use of self-generated questions, note taking, and summarizing while learning.

By the end of eighth grade, students will:

Standard 8.1.1 Identify the main idea and supporting details in what they have read.

Standard 8.1.2 Identify, locate, and use multiple resources to access information on an assigned or self-selected topic.

Standard 8.1.7 Demonstrate the ability to analyze literary works, nonfiction, films, or media.

Standard 8.2.4 Demonstrate the use of multiple forms to write for different audiences and purposes.

Standard 8.2.5 Demonstrate the ability to use self-generated questions, note taking, summarizing and outlining while learning.

By the end of twelfth grade, students will:

Standard 12.1.1 Identify the main idea and supporting details in what they have read.

Standard 12.1.6 Identify and apply knowledge of the text structure and organizational elements to analyze non-fiction or informational text.

Standard 12.2.4 Use multiple forms to write for different audiences and purposes.

Standard 12.2.5 Demonstrate the ability to use self-generated questions, note taking, summarizing, and outlining while learning.

Nebraska State SCIENCE Standards

By the end of fourth grade, students will:

Standard 4.4.3 Develop an understanding of living things and environments.

Standard 4.5.1 Develop an understanding of the characteristics of earth materials.

Standard 4.6.2 Develop an understanding of science and technology.

Standard 4.7.3 Develop an understanding of environmental changes.

By the end of eighth grade, students will:

Standard 8.7.2 Develop an understanding of relationships among populations, resources, and environments.

Standard 8.7.3 Develop an understanding of natural hazards.

Standard 8.7.4 Develop an understanding of risks and benefits.

Standard 8.7.5 Develop an understanding of science and technology in society.

By the end of twelfth grade, students will:

Standard 12.2.1 Develop the abilities needed to do scientific inquiry.

Standard 12.4.4 Develop an understanding of the interdependence of organisms.

Standard 12.7.2 Develop an understanding of the effects of population change.

Standard 12.7.3 Develop an understanding of natural resources.

Standard 12.7.4 Develop an understanding of environmental quality.

Standard 12.7.6 Develop an understanding of the role of science and technology in local, national, and global challenges.

Standard 12.8.3 Develop an understanding of the history of science.

Activity 2: Population Change

Lesson Grade Level:

4th – 8th – 12th Grades

Activity: Geography Census Analysis

Have students read the Crisis in Agriculture section in the 1975-1999 timeline. Then, have students compare and contrast the information contained on the following web pages to help answer the following questions:

http://nebraskastudies.org/1000/stories/1001_0100.html

NE Dept. of Economic Development: Urban & Rural Population Changes Map

<http://www.neded.org/files/research/stathand/bsecc2.pdf>

POPULATION OF NEBRASKA TOWNS, 1930 to 1980

<http://www.neded.org/files/research/stathand/bsect5b.htm>

POPULATION OF NEBRASKA TOWNS, 1990 on

<http://www.neded.org/files/research/stathand/bsect5c.htm>

Nebraska County Population Map 1970

<http://maps.unomaha.edu/Peterson/compmapping/projects/Vehe/1970.html>

Nebraska County Population Map 1990

<http://maps.unomaha.edu/Peterson/compmapping/projects/Vehe/1990.html>

- In what counties are the largest cities in Nebraska located?
- What counties have lost the most population (—30 to —20.1) from 1970-1990?
- How do you explain the reasons for counties and/or cities gaining population or losing population?
- What geographic factors have affected the growth and/or loss of population of cities/counties/state?
- What are the political implications for a county/region to lose population?
- What steps would you suggest be taken by local communities and/or government leaders to address the declining population?

NOTE: Teachers should review these websites ahead of class to help guide students to the appropriate information, based on the students' skill levels.

Nebraska State SOCIAL STUDIES Standards:

By the end of fourth grade, students will:

Standard 4.1.7 Use higher level thinking processes to evaluate and analyze primary sources and other resources.

Standard 4.1.9 Demonstrate an understanding of **money** and the financial system used in the United States.

By the end of eighth grade, students will:

Standard 8.3.5 Explain the structure and operation of the United States economy and the role of citizens as producers and consumers.

Standard 8.4.2 Demonstrate skills for historical analysis.

Standard 8.4.6 Improve their skills in historical research and geographical analysis.

By the end of twelfth grade, students will:

Standard 12.1.12 Explain and demonstrate relationships between the geographical and the historical development of the United States by using maps, pictures, and computer databases.

Standard 12.2.11 Demonstrate historical research and geographical skills.

Standard 12.3.11 Analyze characteristics of the United States free market economy.

Nebraska State READING/WRITING Standards

By the end of fourth grade, students will:

- Standard 4.1.2** Demonstrate the use of multiple strategies to increase their vocabulary.
- Standard 4.1.3** Identify the main idea and supporting details in what they have read.
- Standard 4.1.4** Identify the resource appropriate for a specific purpose, and use the resource to locate information.
- Standard 4.1.7** Identify and apply knowledge of the text structure and organizational elements to analyze nonfiction or informational text.
- Standard 4.2.5** Demonstrate the use of self-generated questions, note taking, and summarizing while learning.

By the end of eighth grade, students will:

- Standard 8.1.1** Identify the main idea and supporting details in what they have read.
- Standard 8.1.2** Identify, locate, and use multiple resources to access information on an assigned or self-selected topic.
- Standard 8.1.7** Demonstrate the ability to analyze literary works, nonfiction, films, or media.
- Standard 8.2.4** Demonstrate the use of multiple forms to write for different audiences and purposes.
- Standard 8.2.5** Demonstrate the ability to use self-generated questions, note taking, summarizing and outlining while learning.

By the end of twelfth grade, students will:

- Standard 12.1.1** Identify the main idea and supporting details in what they have read.
- Standard 12.1.6** Identify and apply knowledge of the text structure and organizational elements to analyze non-fiction or informational text.
- Standard 12.2.4** Use multiple forms to write for different audiences and purposes.
- Standard 12.2.5** Demonstrate the ability to use self-generated questions, note taking, summarizing, and outlining while learning.

Nebraska State SCIENCE Standards

By the end of fourth grade, students will:

- Standard 4.1.2** Develop an understanding of evidence, models, and explanation.
- Standard 4.4.3** Develop an understanding of living things and environments.
- Standard 4.6.1** Develop an understanding of technological design.
- Standard 4.6.2** Develop an understanding of science and technology.
- Standard 4.7.3** Develop an understanding of environmental changes.

By the end of eighth grade, students will:

- Standard 8.6.1** Develop an understanding of technological design.
- Standard 8.7.2** Develop an understanding of relationships among populations, resources, and environments.
- Standard 8.7.3** Develop an understanding of natural hazards.
- Standard 8.7.4** Develop an understanding of risks and benefits.
- Standard 8.7.5** Develop an understanding of science and technology in society.

By the end of twelfth grade, students will:

- Standard 12.2.1** Develop the abilities needed to do scientific inquiry.
- Standard 12.6.1** Develop an understanding of technological design.
- Standard 12.7.2** Develop an understanding of the effects of population change.
- Standard 12.7.3** Develop an understanding of natural resources.
- Standard 12.7.4** Develop an understanding of environmental quality.
- Standard 12.7.6** Develop an understanding of the role of science and technology in local, national, and global challenges.
- Standard 12.8.3** Develop an understanding of the history of science.

Lesson Plan: There's More than Football in "Cornhuskers"

By Ellen Kohtz, Boone Central Schools in Albion

Lesson Grade Level:4th – 8th Grades**Length:**

Two to five class periods

Lesson Objectives:

1. Students will find and compare facts about raising corn in the 1920s and 1940s to raising corn now.
2. Students will use the Internet to gather factual and anecdotal information from reliable Internet sources.
3. Students will use photograph analysis sheets for analysis.
4. Students will be able to name parts of a corn plant.
5. Students will display what they have learned to the class and guests of the class.

Nebraska State SOCIAL STUDIES Standards:*By the end of fourth grade, students will:*

- Standard 4.1.1** Compare communities and describe how United States and Nebraska communities changed physically and demographically over time.
- Standard 4.1.7** Use higher level thinking processes to evaluate and analyze primary sources and other resources.
- Standard 4.1.8** Describe characteristics of a market economic system and the interactions of consumers and producers.

By the end of eighth grade, students will:

- Standard 8.4.2** Demonstrate skills for historical analysis.
- Standard 8.4.6** Improve their skills in historical research and geographical analysis.
- Standard 8.1.8** Describe key, social, economic and cultural developments from WWI through the Great Depression.
- Standard 8.1.9** Describe key people, events, and ideas since World War II.
- Standard 8.3.5** Explain the structure and operation of the United States economy and the role of citizens as producers and consumers.

Nebraska State READING/WRITING Standards*By the end of fourth grade, students will:*

- Standard 4.1.3** Identify the main idea and supporting details in what they have read.
- Standard 4.1.4** Identify the resource appropriate for a specific purpose, and use the resource to locate information.
- Standard 4.1.7** Identify and apply knowledge of the text structure and organizational elements to analyze nonfiction or informational text.
- Standard 4.1.8** Identify similarities and differences between two fourth grade level reading selections.
- Standard 4.2.4** Demonstrate the use of multiple forms to write for different audiences and purposes.

Standard 4.2.5 Demonstrate the use of self-generated questions, note taking, and summarizing while learning.

By the end of eighth grade, students will:

Standard 8.1.2 Identify, locate, and use multiple resources to access information on an assigned or self-selected topic.

Standard 8.1.6 Identify similarities and differences across a variety of eighth grade reading selections.

Standard 8.1.7 Demonstrate the ability to analyze literary works, nonfiction, films, or media.

Standard 8.2.4 Demonstrate the use of multiple forms to write for different audiences and purposes.

Standard 8.2.5 Demonstrate the ability to use self-generated questions, note taking, summarizing and outlining while learning.

Nebraska State SCIENCE Standards

By the end of fourth grade, students will:

Standard 4.1.2 Develop an understanding of evidence, models, and explanation.

Standard 4.2.1 Develop the abilities needed to do scientific inquiry.

Standard 4.6.2 Develop an understanding of science and technology.

By the end of eighth grade, students will:

Standard 8.4.4 Develop an understanding of populations and ecosystems.

Standard 8.7.2 Develop an understanding of relationships among populations, resources, and environments.

Resources & Materials:

Computer with Internet access. Students can work alone or in teams depending on computer and Internet availability. Students will need paper, a pen or pencil, and drawing utensils.

1. Nebraska Studies website
<http://www.nebraskastudies.org>
2. USDA Agriculture in the Classroom Resources
<http://www.agclassroom.org>
3. History of U.S. Corn Production, W.E. Larson & V.B. Cardwell, University of Minnesota
<http://www.mindfully.org/Farm/US-Corn-Production1999.htm>
4. Wessels Living History Farms
<http://www.livinghistoryfarm.org>
5. Camp Silos, From Native Prairie to Present, Our Agricultural Heritage
<http://www.campsilos.org>
The Story of Corn
<http://www.campsilos.org/mod3/students/index.shtml>
Teachers Resources
<http://www.campsilos.org/mod3/teachers/index.shtml>
6. Iowa State Corn Production Image Gallery
http://www.agronext.iastate.edu/corn/gallery/homepage.php?catid=17&cru_mblimit=
7. USDA Youth Resources
http://www.usda.gov/wps/portal/!ut/p/ s.7 0 A/7 0 10B?navid=YOUTH_RE_SOURCES&parentnav=EDUCATION_OUTREACH&navtype=RT
8. Agriculture is Fun website:
http://www.nal.usda.gov/outreach/ag_is_fun.htm
9. The Nebraska Corn Growers Association
<http://www.necga.org>

Introduction:

Do you think Nebraska is called the Cornhusker State because of University of Nebraska Football? Think again! Nebraska is called the Cornhusker State for an entirely different reason. Let's find out what this reason is.

The Process**Step 1**

Within Nebraska Studies (<http://www.nebraskastudies.org>), have students click on 1975-1999, and then click on *Farm Crisis 1977 Strike*. Students should read the first page of the following two sections to find answers to the following questions:

Crisis in Agriculture http://www.nebraskastudies.org/1000/stories/1001_0100.html
Alternative Markets http://www.nebraskastudies.org/1000/stories/1001_0130.html

- a. In 1935, how many farms were there in the *United States*?
- b. In 1934, how many farms were there in *Nebraska*?
- c. In 1935, how big was the average farm in Nebraska?
- d. In 1940, how many people did one farmer feed?

Step 2

In the upper left corner of Nebraska Studies, have students type in "corn" in the Search box and then click on Primary Source. Of the over 200 responses they will find, have them select 3 to 5 photographs showing an aspect of corn production from 1920-1940. Have students complete use the *Photograph Analysis Worksheet* in the Resources Section at the end of this document. Have them make note of their discoveries that are different from corn production now.

Step 3

Have students open the website, USDA Agriculture in the Classroom Resources (<http://www.agclassroom.org>) and find the *State Agriculture Profile* for Nebraska. This will be a print-friendly, one-page document. Have students use this page to answers these questions:

- a. In 2000, how many farms were there in Nebraska? Compare the answer you find with data that you discovered in Step 1.
- b. How many acres of land are farmed in Nebraska? How many of these areas are used to grow corn?
- c. What is Nebraska's number one crop in terms of acres? In terms of bushels produced? In terms of value of cash receipts?
- d. How much of Nebraska's corn crop is exported?
- e. What industry uses most of Nebraska's corn crop?

The Ag Classroom website will also supply county-by-county data about agriculture in Nebraska, based on the 1997 census. Use the *Need More Details* button.

Step 4

Have students read and take notes on the article, *History of U.S. Corn Production*, to answer these questions:

(<http://www.mindfully.org/Farm/US-Corn-Production1999.htm>)

- a. What is the United States' largest crop? What other countries are large producers of this crop as well?
- b. What are five ways that changes in corn production techniques after World War II have resulted in higher corn yields?

*Remember, students will be reading for ideas and then summarizing. These 5 changes in how corn is produced will be used to complete Step 5.

Note to Teachers:

Five changes in corn production techniques from are:

1. Use of fertilizer
2. Increased plant population
3. Decreased row width
4. Earlier planting dates
5. Use of hybrid seeds

Students may find other ideas in the information that will work just as well. The Living History Farm site supports the history of these topics very well.

Step 5

On the homepage of the Nebraska Studies website, have students click on the *Living History Farms* button (<http://www.livinghistoryfarm.org>). Have them open the *Farming in the 1920s* section and then use the *Machines*, *Farm Life*, and *Crops* buttons to discover anecdotal information about the history of the 5 changes in corn production.

Step 6

Have students open Camp Silo's Story of Corn website to answer the following questions: (<http://www.campsilos.org/mod3/students/index.shtml>).

- a. How much of the world's total corn supply does the United States produce? What other countries in the world also produce corn?
- b. What are the top six corn producing states in the United States? Where does Nebraska rank among them?

Step 7

Have students open the Iowa State Corn Production Image Gallery:

<http://www.agronext.iastate.edu/corn/gallery/homepage.php?catid=17&crumblimit=>

Have students select the illustration or illustrations they think best show the parts of a corn plant and then draw their own versions, using the website as a guide.

Step 8

Open the Camp Silos website and pull out activities for your students from Teachers Resources (<http://www.campsilos.org/mod3/teachers/index.shtml>). These interactive activities have their own evaluations, which are fun and educational at the same time! Have students on the look out for data that fits with what they have already learned. Be sure to have students take the Corny Quiz.

Learning Advice:

The websites used in this lesson are of various degrees of difficulty. Students will need to have some basic familiarity with using the Internet, but will not need any advanced Internet skills. Students will need to "read for information" to answer the lesson questions, so they should be able to take notes while they are at the computer. Encourage the students to move beyond the basic questions that are asked. If students are members of farming families, they will have access to more personal information about changes in corn production over the years than students who are not part of farming families. For students without access to family farms, teachers could buy ears of corn for use in squirrel feeders that are sold at hardware stores. Having the chance to observe actual ears of corn adds interest to this study. Completing this

lesson during "sweet corn season" would make it possible to find ears of sweet corn in urban grocery stores.

Conclusion:

Corn is the largest crop in the United States. As uses for corn become more numerous (including the use of ethanol, a corn product), everyone needs to have an understanding of how corn is grown and why corn is a vital commodity.

Assessment

Each student (or team of students) will construct a summary display showing the information s/he has learned. This display should include diagram(s) of corn plants, statistics about Nebraska, United States, and world corn production, and compare-and-contrast statements about changes in corn production since the 1920s. Students should be prepared to explain their displays to the class and/or guests of the class. Grandparents and business people from the community would especially enjoy hearing what the students have learned about history of the importance of corn to the state of Nebraska, the United States, and the world.

1975 – 1999

CRISIS IN AGRICULTURE

RESOURCES

	PAGE
Photograph Analysis Worksheet	12

Nebraska Department of Education Academic Standards

<http://www.nde.state.ne.us/ndestandards/AcademicStandards.htm>

Nebraska Department of Education Social Studies and History Standards

<http://www.nde.state.ne.us/SS/DOCUMENTS/TheHistory-SocialStudiesStandardsPDF.pdf>

National Archives

<http://www.archives.gov/index.html>

Library of Congress Learning Page Lesson Plans

<http://memory.loc.gov/ammem/ndlpedu/lessons/index.html>

Six Trait Writing: Ideas, Organization, Voice, Sentence Fluency, Word Choice, and Conventions.

<http://www.edina.k12.mn.us/concord/teacherlinks/sixtraits/sixtraits.html>

RESOURCES**RESOURCES****National Archives
Photograph Analysis Worksheet****Step 1. Observation**

A. Study the photograph for 2 minutes. Form an overall impression of the photograph and then examine individual items. Next, divide the photo into quadrants and study each section to see what new details become visible.

B. Use the chart below to list people, objects, and activities in the photograph.

PEOPLEOBJECTSACTIVITIES

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Step 2. Inference

Based on what you have observed above, list three things you might infer from this photograph.

Step 3. Questions

A. What questions does this photograph raise in your mind?

B. Where could you find answers to them?
