

Lesson Created in Partnership with



Title: Navigating Ag Resources in Nebraska

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Author	Josh Hinrichs
Reviewed by	Amy Long
Grade Level	4
Class Period(s)	2

Nebraska Social Studies Standards

Globalization SS 4.2.12

Students will recognize & explain specialization & why different regions produce different goods & services.

- a. Compare Nebraska with different regions & the goods & services each region produces (e.g., beef, wheat, telemarketing, cotton, coal).
- b. Discuss how technology has affected the specialization of Nebraska's economy & surrounding states.

Nebraska Science Standard

Nebraska Language Arts Standards

Nebraska Fine and Performing Art Standards



OVERVIEW

The lesson plan features:

1. **Refresh** - Take a few minutes to review with students the following about resources:
 - i. Types of Resources (land, labor, & capital)
 1. Special emphasis to be placed on land & capital for this lesson.
 - ii. Renewable v. Non-Renewable Resources
 1. Which category would Nebraska's agricultural land resources be qualified as?
2. **Engage** - Analyzation of the "Student Atlas of Nebraska"
3. **Reflect** - Take time to have students share as a class what they have learned through this lesson.
4. **Evaluate** - Students respond to brief writing prompts to demonstrate what they have learned

Big Idea or Theme

Agriculture is the top industry in Nebraska, thus it is important for students to gain an understanding as to what resources have helped to shape that industry in our state from pre-statehood to present.

Essential Question(s):

1. What agricultural goods is Nebraska most famous for producing?
2. Where are those goods best produced in our state?
3. What determines where in our state each of those goods are produced?

PURPOSE/RATIONALE

By studying this lesson, students will have a better understanding of...

- what agricultural goods Nebraska produces
- what resources we utilize to produce those goods
- how history and innovation have played into production

KEY CONCEPTS/VOCABULARY

Natural Resources

Capital Resources

Human Resources

Renewable Resources

Nonrenewable Resources

MATERIALS

- "Student Atlas of Nebraska" (by Dr. Randy Bertolas of Wayne State College)
- "Nebraska Resources: Speed Dating Map Match" activity packet
- "Nebraska Resource Evaluation" handout

OBJECTIVES

The student will know:

1. Which resources play/have played an important part in Nebraska's agriculture industry
2. Where those resources are most plentiful in our state
3. Which goods are produced most effectively in those parts of the state

PROCEDURES

DAY 1 ---

1. **REFRESH**
 - a. Have a discussion with the class to review the types of resources we find in our world.
 - i. Start by writing the terms "land", "labor", and "capital" horizontally on the board.



- ii. Direct students to share with a table partner what they remember about each of the types of resources. Have them think of a definition for each.
- iii. Ask for volunteers to share the definitions they created & write them on the board below each term.
- iv. Go around the room to each student and have them give you one example of any of the three resources. List the examples they give below the appropriate resource. Discuss as necessary if students place them in the wrong resource category.
- v. Explain to the students that today's activity will focus on natural and capital resources
- b. Next to or under natural resources write the two terms "renewable" and "nonrenewable"
 - i. Have students discuss with their table partners the difference between these two words in regards to natural resources.
 - ii. Ask for a volunteer to share what they discussed with their partner.
 - iii. Quick Questions:
 - 1. Ask students what they think are the two biggest renewable resources for agriculture in our state (land and water)?
 - 2. Ask students if they think these resources change in different parts of our state?

2. ENGAGE

- a. Explain to the students that today they will be working with various partners to analyze how the two nonrenewable natural resources we just discussed are utilized in Nebraska by our agriculture industry. Tell them they will also be looking briefly at a couple important capital resources in our state as well.
- b. Pass out a "Student Atlas of Nebraska" booklet and a "Nebraska Resources Speed Dating Map Match" activity packet.
- c. Activity Set-Up & Directions:
 - i. Clear a space in your room so students can work on the floor with their partner.
 - ii. Divide the class into two groups and have group one make a circle facing out and group two make a circle around group one facing in. Each student should line up with another student from the opposite group.
 - iii. Explain to the students that the student they are facing will be their partner for the first section of this packet. For each section of the packet they will rotate to a new partner, until they have completed the full packet.
 - iv. Go over the directions in the packet for the first section and set the students to work.
 - 1. **Consider giving students a time limit (10 minutes) to complete each section.**
 - v. When all students are done with section one have the students stand and face each other again. Have the students in the outside circle move one person to their right
 - vi. Go over the directions for the next section and set the students to work.
 - vii. Repeat steps v & vi for Section 3
 - 1. **Depending on length of discussion in REFRESH and how long students take to work in each section you may have to continue this on DAY 2**
 - viii. Repeat step v one last time. With this last partner have them compare the information they each found working with their previous partners and discuss any differences that they see between their two papers. They could make changes if they choose to after they discuss.

DAY 2 ---

3. REFLECT

- a. Have the students take out their packets from yesterday and lead a discussion with them over what they learned about Nebraska's resources and how they play a role in what is produced in Nebraska.

4. EVALUATE



- a. Give each student the “Nebraska Resources Evaluation” handout and have them write on each of the prompts.

ASSESSMENT

Both the “Nebraska Resources Speed Dating” packet and the “Nebraska Resources Evaluation” handout can be used to assess each student. The handout being the more direct, individual assessment of the two.

SOURCES

“Student Atlas of Nebraska” by Dr. Randy Bertolas of Wayne State College

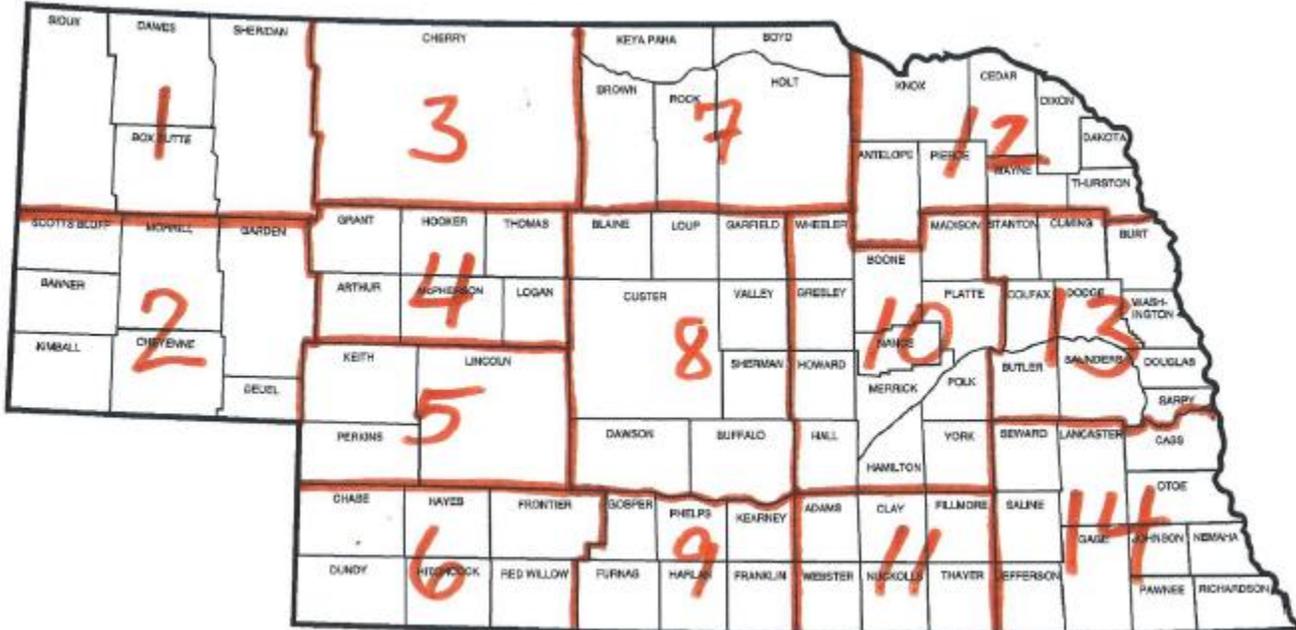


Name _____ Date _____

Nebraska Resources Speed Dating Map Match

DIRECTIONS

You and your partner(s) will be using your copies of the "Student Atlas of Nebraska" (the Atlas) to complete this packet (follow your teacher's instructions for selecting your partner for each section). Use the map of Nebraska below to help you answer the questions in each section.



SECTION 1: Precipitation & Past Production

Partner's Name: _____

The "Inner Circle" partner should open the Atlas to page 9 and the "Outer Circle" partner to page 11. Use these pages to answer the questions in this section.

1. List the numbered areas of Nebraska that receive 21 inches of rain or more in a year. (Hint: only list areas that completely covered by 21" or more of rain each year).

2. Which two numbered areas on the map have the greatest number of rivers? _____

"Outer Circle" partner, turn to page 17.

3. Which of the American Indian Tribes were considered to be "farming cultures" and in which numbered areas of the state did each live in?



4. Which of the American Indian Tribes were considered “nomadic horse cultures” and in which numbered areas of the state did each live in?

5. Compare the maps you and your partner have open. Why do you think the American Indian Tribes you listed in question 3 were farmers and the other tribes listed in question 4 were more nomadic?

Change Partners for Section 2

SECTION 2: Landforms & Today’s Production

Partner’s Name: _____

The “Inner Circle” partner should open the Atlas to page 30 and the “Outer Circle” partner to page 11. Use these pages to answer the questions for this section.

6. In which numbered area would you find the “Sand Hills”? _____
7. In which numbered area(s) of the state is corn production the lowest? _____

“Outer Circle partner turn to pages 35 & 36.

8. In which numbered area(s) of the state is soybean production the lowest? _____
9. In which numbered area(s) of the state is wheat production the lowest? _____

10. Looking at yours answers for questions 7-9, what do you see that corn, soybeans, and wheat all have in common?

11. Why do you think corn, soybeans, and wheat have that in common? (Hint: refer to your answers for questions 1 & 6. You could also read page 31 for additional information on the Sand Hills)

Change Partners for Section 3



SECTION 3: Impact of Natural & Capital Goods

Partner's Name: _____

The "Inner Circle" partner should open the Atlas to page 13 and the "Outer Circle" partner to page 34. Use these pages to answer the questions for this section.

12. Which numbered areas of the state have at least 2 counties with corn production of "more than 30 million bushels"?

13. Comparing the two maps, what capital AND natural resources do you believe play a role in so much corn being grown in the numbered areas you listed above?

"Outer Circle partner turn to pages 35 & 36.

14. Looking at the map for soybeans, do you think farmers raising this crop rely more on the capital resource of wells to bring water to their fields from the aquifer or on the natural resource of water from rain? Explain your answer. (Hint: use the map on page 9 to help you compare between the two water options)

15. Looking at the map for wheat, which numbered areas have at least one county that produces "more than 2 million bushels"?

"Inner Circle" partner should still be on page 13. "Outer Circle" partner **turn to** page 9.

16. Compare the numbered areas you wrote down in question 15 to the maps on these two pages. Do you think wheat requires as much of the natural resource of water as corn? Explain your answer.

"Inner Circle" partner turn to page 24. "Outer Circle" partner turn to page 43.

17. Compare the two maps. What two resources (one natural and one capital) are related to where cities and villages in Nebraska are located?

18. Why are those two resources so important in determining where people started cities and villages?



Name _____ Date _____

Nebraska Resources Evaluation

DIRECTIONS

Answer the following questions on your own about the discussion and activity we did yesterday.

1. What are natural resources?

2. Name two natural resources important to Nebraska's farmers.

3. What are the three most important crops that we grow in Nebraska that are ALSO examples of natural resources?

4. What is the difference between a renewable resource and a nonrenewable resource?

5. What are capital resources?

6. Name two capital resources important to Nebraska.

BONUS QUESTION #1 - Besides the two capital resources we named yesterday, can you think of any other capital resources that farmers would need to grow their crops?

BONUS QUESTION #2 - Which of the crops discussed yesterday are grown in the county you live in?



KEY

Nebraska Resources Speed Dating Map Match



SECTION 1: Precipitation & Past Production

1. List the numbered areas of Nebraska that receive 21 inches of rain or more in a year. (Hint: only list areas that completely covered by 21" or more of rain each year). **7-14**
2. Which numbered area on the map has the greatest number of rivers? **8**

"Outer Circle" partner, turn to page 17.

3. Which of the American Indian Tribes were considered to be "farming cultures" and in which numbered areas of the state did each live in?
Ponca (7) Pawnee (8-11)
Omaha (10, 12, & 13) Otoe-Missouria (11 & 14)
4. Which of the American Indian Tribes were considered "nomadic horse cultures" and in which numbered areas of the state did each live in?
Lakota (1 & 3) Cheyenne (2 & 4) Arapaho (5 & 6)
5. Compare the maps you and your partner have open. Why do you think the American Indian Tribes you listed in question 3 were farmers and the other tribes listed in question 4 were more nomadic?
The American Indian Tribes that were part of the "farming cultures" lived in the part of the state that had more rain precipitation.

SECTION 2: Landforms & Today's Production

6. In which numbered area would you find the "Sand Hills"? **1-5, 7, 8, 10, & 12**
7. In which numbered area(s) of the state is corn production the lowest? **1-4**
8. In which numbered area(s) of the state is soybean production the lowest? **1-4 & 6**
9. In which numbered area(s) of the state is wheat production the lowest? **3 & 4**



10. Looking at your answers for questions 7-9, what do you see that corn, soybeans, and wheat all have in common? **None of the crops grew very well in areas 3 & 4**

11. Why do you think corn, soybeans, and wheat have that in common? (Hint: refer to your answers for questions 1 & 6. You could also read page 31 for additional information on the Sand Hills)

Because areas 3 & 4 are part of the Sand Hills area which does not have the best soil for growing crops AND it does not get a lot of rain.

SECTION 3: Impact of Natural & Capital Goods

12. Which numbered areas of the state have at least 2 counties with corn production of “more than 30 million bushels”? **8-13**

13. Comparing the two maps, what capital AND natural resources do you believe play a role in so much corn being grown in the numbered areas you listed above?

Water wells (capital goods) are used to bring water (natural good) from the Ogallala Aquifer to the surface to irrigate crops.

14. Looking at the map for soybeans, do you think farmers raising this crop rely more on the capital resource of wells to bring water to their fields from the aquifer or on the natural resource of water from rain? Explain your answer. (Hint: use the map on page 9 to help you compare between the two water options)

Rain. Soybeans are grown in the Eastern part of the state where rain precipitation is higher. Also, in counties where the aquifer is not present on the Eastern side, they still have substantial soybean production.

15. Looking at the map for wheat, which numbered areas have at least one county that produces “more than 2 million bushels”? **1, 2, 5, 6, & 9**

16. Compare the numbered areas you wrote down in question 15 to the maps on these two pages. Do you think wheat requires as much of the natural resource of water as corn? Explain your answer.

No, because these parts of the state do not get as much rain and there are not a high number of wells in that area either.

17. Compare the two maps. What two resources (one natural and one capital) are related to where cities and villages in Nebraska are located? **Railroads & Rivers**

18. Why are those two resources so important in determining where people started cities and villages?

Railroads & rivers were a way for people to travel and ship goods from one point to another.



KEY

Nebraska Resources Evaluation

DIRECTIONS

Answer the following questions on your own about the discussion and activity we did yesterday.

1. What are natural resources?
Natural resources are resources used in the production of goods/services that can be found in nature.
2. Name two natural resources important to Nebraska's farmers. **Land & Water**
3. What are the three most important crops that we grow in Nebraska that are ALSO examples of natural resources? **Corn, Soybeans, & Wheat**
4. What is the difference between a renewable resource and a nonrenewable resource?
Renewable resources are replenished constantly by nature.
Nonrenewable resources are not replenished by nature. There is a fixed amount of them available in nature.
5. What are capital resources?
Natural resources are resources used in the production of goods/services that can be found in nature.
6. Name two capital resources important to Nebraska.
Railroads & Water Wells

BONUS QUESTION #1 - Besides the two capital resources we named yesterday, can you think of any other capital resources that farmers would need to grow their crops?

Answers will vary, but examples include: Tractors, Combines, Irrigation Pipe, etc.

BONUS QUESTION #2 - Which of the crops discussed yesterday are grown in the county you live in?

Answers will vary, see the map in the Atlas for your correct answers

