

## TEACHER'S GUIDE

### AGMAG: ONE COMMUNITY

#### NEBRASKA STATE EDUCATION CONTENT STANDARDS CONNECTION

*Can support standards aligned to Nebraska Language Arts Standards Adopted in 2021*

- LA.4.RI.1** Analyze an individual, event, scientific idea or concept, or steps in a process.
- LA.4.RI.5** Integrate information from multiple informational texts on the same topic in order to demonstrate knowledge of the topic.
- LA.4.RI.6** Identify an author's claim(s) and explain how the author supports the claim in the text.
- LA.4.RI.8** Read and comprehend a wide range of informational texts of appropriate complexity for Grade 4 independently and proficiently.
- LA.4.V.1** Acquire and use grade-level academic vocabulary appropriately.
- LA.4.W.2.a** Use prewriting activities and resources to plan, organize, and draft writing.
- LA.W.2.b.** Adapt writing processes to sustain engagement in short and long-term writing tasks of increasing length and complexity.
- LA.4.W.4** Write opinion pieces that explain a perspective with supporting reasons and/or evidence.
- LA.4.W.6** Locate and summarize relevant evidence from literary and/or informational text sources to answer questions about a topic.
- La.4.SL.1** Prepare for and participate in structured discussions and collaborations about 4th grade topics and texts.
- LA.4.SL.2.b** Convey a perspective with clear reasoning and support.
- LA.4.SL.2.c** Identify the purpose and credibility of information being presented.

*Can support standards aligned to Nebraska Social Studies Standards adopted in 2019*

- SS4.2.3.a** Give examples of human, natural, capital, and entrepreneurial resources used in making goods and services in Nebraska and the United States.
- SS4.2.4.a** Compare Nebraska with different regions and the goods and services each region produces.
- SS4.2.4.b** Discuss how technology has affected the specialization of Nebraska's economy and surrounding states.
- SS4.3.1.c** Determine why things are located where they are in Nebraska.

## AGMAG INTEGRATION IDEAS

### READING CENTER IDEAS AND RESOURCES FOR AGMAG

#### **Sequence of Events**

Students can identify a series of events or steps in a process using the “Sequence of Events” handout. Have students read content and then summarize the process by writing words/sentences or drawing pictures on the handout. Page 2 highlights content that will work well with this handout.

#### **Close Reading**

As students are reading content, have them utilize the “Close Reading” handout. It provides a checklist to approach the readings and then asks students to think about and explain structure/purpose, main idea, evidence and thoughts/opinions. This can be used with any of the pages in *AgMag*.

#### **Making Connections**

The “Making Connections” handout provides a way for students to connect what they are reading to other classes or things in their lives. This is a valuable approach to connecting agriculture topics to a student’s everyday life. This can be used with every page in *AgMag* and could work especially well with pages 3, 4, 5, 6 and 7.

#### **Description**

The “Description” handout encourages students to describe specific facts, ideas and concepts that they are reading and learning about. This can be used with page 2 and other pages in *AgMag*.

#### **Nebraska Interactive map**

The Nebraska Interactive Map is a place for students to learn, explore and discover information. There are maps for geographical, agricultural, economic, environmental and historical data and information. There are even teacher resources on how to utilize the maps and include ready-made activities. Many maps and activities complement *AgMag* and will be highlighted throughout the teacher’s guide. The Nebraska Interactive Map can be used in other parts of your classroom too!

## ONE COMMUNITY - PAGE 1

- Prior to class and distributing AgMag, select a large writing surface: white board, smart board or large piece of paper on wall. (if none available, the activity can be done on the computer and projected)

- Create three columns on surface:

THEN  
1800s

NOW  
2020

FUTURE  
2075

- Have students work collaboratively to describe (write) what life was/is/will be like under each column. Give students 10 minutes to complete. Categories could include:
  - Kinds of jobs
  - Method of travel/transportation
  - Types of houses/homes/buildings
  - Clothes
  - Items used every day
  - Technology
  - Types of communication
  - Food
- When finished, ask students to identify any common themes or methods in all categories.
- Lead discussion to this: agriculture is important to our past, present, and our future. Agriculture provides food, fiber (for clothes) and fuel for us and will continue to do that in the future. It might look and be done differently (like 1800s vs today); however, we will need to feed, clothe, and transport even more people in 2075!

- Distribute *AgMag* to each student. Individually or as a class, have students read page 1 and complete the “Did You Know” section. An option is to have students use the Close Reading handout as they read the text.
  - Explain that agriculture joins our local towns/cities, state, nation, and world together in one community. And, that community will continue to create a future and a culture on a global level!
- Complete the “Digging Deeper” question as a class: Think about where you live. What role does agriculture play in your community?
  - Have students make a list of how agriculture impacts your local community.
  - Pose question: How will agriculture change/continue to impact your community in the future?
- Nebraska Interactive Map
  - Use the link to access maps that include information on the following historical and geographical topics that relate to agriculture’s role in Nebraska past and present:
    - Homestead Act
    - Railway System
    - Farmers-Operators
    - Rainfall
    - Soil
  - Research the topics above (if time is available) to learn more about their impact on Nebraska agriculture.

[www.nefbfoundation.org/educators/teacher-resources/interactive-map-project](http://www.nefbfoundation.org/educators/teacher-resources/interactive-map-project)

## TALES OF HISTORY AND IMAGINATION - PAGE 2

- Before reading, ask students to recall significant inventions that have impacted how we live now. Create a list on a writing surface.
  - *Some answers might include electricity, steam engines, gasoline vehicles, vaccines, telephone/cell phones, airplanes, computers, etc.*
- Ask students to identify inventions on their list that connect to agriculture.
  - Explain that agricultural inventions have been important to help farmers produce more and be more efficient. Some of the agricultural inventions have been outgrowths of other inventions (gasoline engines = gasoline tractors, etc.) while others solved a specific problem/challenge in agriculture.

- Have students read about the four inventions highlighted on page 2. Complete the matching activity.  
Answers:  
Barbed wire – 1874  
Gasoline tractors – 1892  
Steel plow – 1837  
GPS technology – 1990s
- Lead class discussion on why these inventions were significant for agriculture.
- Have class complete the “There’s More!” section at bottom of page 2.
  - In small groups, or individually, assign the four inventions listed (cotton gin, thresher machine, grain reaper, rubber tires) to students. Students should research information about their assigned invention.
  - Have students use the Description handout to capture what they learn:
    - In middle section, write name of invention.
    - In the four boxes record the following:  
**What** it did for agriculture  
**When** it was invented  
**Who** was involved  
**One** interesting fact
  - Have students share their report with the entire class.
  - One additional activity could include having students find a picture of their invention, print, cut it out, and post it along with their report on wall space in classroom or hallway.
- Alternative Activity: have students use the *Sequence of Events* handout as they read about each invention. Place the inventions in each box (in correct order) and write a one sentence summary. In the “Finally” section, have students write how all four impacted agriculture.

## IMPACT OF SCIENCE AND INVENTIONS - PAGE 3

- Review the reports that students did on inventions—ask them to share who were the inventors.
  - Share that throughout history, and even happening today, the **people** involved in agriculture make an impact by being creative and inventing new and different ways to do things.

- Have students read the profiles about George Washington Carver and Temple Grandin.
  - Students should underline or highlight facts about each person.
  - Have students share what they learned with a partner or small group.
- Next, review the ideas shared from the class “Then-Now-Future” activity (page 1) under the “Future” Column.
  - Thinking about what life will be like in 2075, what are things agriculture will need to do and provide to feed the world?
  - Explain that each person in class is now taking on the role of “inventor” (create something new) or “innovator” (creatively make something better or more efficient) for agriculture.
  - In the “Future” section on page 3, have students fill in their name and think about an area where they could make an impact as an inventor or innovator. (i.e. technology, environment, plants, animals, science, etc.)
  - Write down two agricultural ideas (invention or innovation) that could make an impact in that area.
  - Another option: have students draw a picture of their ideas and inventions. Post those on a wall surface and have an “Inventor’s Gallery.” Students travel to each poster/picture and the “inventor” explains their invention/creation and describes the impact it can have.
- Have students work in pairs or small groups and learn more about the additional scientists and inventors listed at the bottom of page 3. (Option: add more names to the list) Students write a 2-3 paragraph “biography” of the individual which could include:
  - Facts about the individual.
  - Description of the invention the individual is best known for creating.
  - The ways that invention impacted/changed agriculture.
  - Add these profiles to the “Inventor’s Gallery” and have students share their findings!
- Nebraska Interactive Map
  - Use the link to access a map under “History” called Famous Nebraskans. Read the list and identify individuals who were connected to Nebraska agriculture.

[www.nefbfoundation.org/educators/teacher-resources/interactive-map-project](http://www.nefbfoundation.org/educators/teacher-resources/interactive-map-project)

Another map to explore is Lewis & Clark. Although not agricultural inventors, they were explorers and without their travels, Nebraska agriculture wouldn't be where it is today. Use the provided Teacher's Guide (with student and teacher worksheet):

[www.nefbmap.org/resources.php](http://www.nefbmap.org/resources.php)

- Additional activity: read "Farmer George Plants a Nation" by Peggy Thomas
  - This agriculturally accurate book tells the story of George Washington. Besides being a general and the first president of the United States, Washington was also a farmer who enjoyed experimenting with seeds, tools, and fertilizers. He also tinkered with plows, designed a sixteen-sided barn, and plotted the location of each new tree he planted. In this book, the reader will learn how George created a self-sufficient farm at Mount Vernon in Virginia.

A complete Literature Guide with activities and lesson plan is available to download at this link:

[www.nefbfoundation.org/educators/teacher-resources/literature-guides](http://www.nefbfoundation.org/educators/teacher-resources/literature-guides)

## HOMEGROWN IN NEBRASKA - PAGES 4 & 5

- Before reading these pages, have students think about the last time they were in a grocery store. Have them describe and share what they saw in the aisles.
- Ask students: "Where does all the food in the store originate?" Answer—farms and ranches!
- Have students read pages 4 & 5 and complete the questions.
- Next, have students work in pairs or small groups.
  - On a blank piece of paper, have students draw a shopping cart in the middle of the paper. Leave space around the outside of the cart.
  - "Travel" back through the grocery store together. As partners (or a small group) decide on ONE food item to put in their cart from each section of the store on pages 4 & 5.
  - Draw a picture of the item in or near the grocery cart, leaving space to add information about each item.
  - Students use provided resources to find out more about each food item in their cart:
    - Describe **where** food is grown (or where the main ingredient is grown) in Nebraska.



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- Share **how much** is produced (i.e. if item is corn flakes, research corn and find out how many bushels of corn are produced in Nebraska).
- Resources  
Nebraska Interactive Map:  
[www.nefbfoundation.org/educators/teacher-resources/interactive-map-project](http://www.nefbfoundation.org/educators/teacher-resources/interactive-map-project)  
General agriculture information: [nda.nebraska.gov](http://nda.nebraska.gov)  
Corn: [nebraskacorn.org](http://nebraskacorn.org)  
Soybeans: [nebraskacorn.org](http://nebraskacorn.org)  
Beef: [www.nebeef.org](http://www.nebeef.org)  
Wheat: [nebraskawheat.com](http://nebraskawheat.com)  
Pork: [www.nepork.org](http://www.nepork.org)  
Poultry: [www.nepoultry.org](http://www.nepoultry.org)  
Dry beans: [www.beangrower.com/index.html](http://www.beangrower.com/index.html)

- Have students present their grocery cart report to the entire class.
- Alternative Activity: Have students read all the content on pages 4 & 5 and use the Making Connections handout. Students work independently and identify connections to their own lives as they read and “shop” through the sections in the grocery store.
- Additional activity: visit a grocery store
  - If possible, take a class trip to a grocery store.
  - Identify items in each section and where they originate from in agriculture.
  - Downloadable resources to use for grocery store trip are available at:  
[www.nourishinteractive.com/nutrition-education-printables/category/90-kids-grocery-shopping-healthy-foods](http://www.nourishinteractive.com/nutrition-education-printables/category/90-kids-grocery-shopping-healthy-foods)

## AGRICULTURE NEEDS YOU - PAGE 6

- Prior to reading page 6, pose question to class: “What careers are available in agriculture?”
  - Have class share responses and capture on writing surface.
  - As a class, look at the list and ask students what they know or predict about each career, what responsibilities they complete each day, and education needed.
  - Explain that there are HUNDREDS of careers that are connected to agriculture and each one has different levels of responsibilities, locations, and education.

- Have students read page 6 and complete the activity under “Where Do I Start?”
- Complete “Career Match” activity to learn about some additional careers. (Career Match cards are at the end of teacher’s guide)
  - Prior to class, cut out the cards—enough for one set per small group of 3-4 students. (or have students work individually and have one set per student).
  - Explain to students they will be working in small groups and receive a set of cards. Their task is to read all the cards and match the career title to the description. Lay them all out on a desk/work space. Complete in four minutes.
  - Have each student in the small group decide which career they are most interested in. (multiple students can use the same career!)
  - Look at the words they circled under the “Where Do I Start” section. Predict if these words are also applicable to this selected career.
  - On a blank piece of paper, have students write a paragraph describing why they chose this career. Include specific reasons why they selected that career. If time allows, have students research articles or information on-line that provide more details about that career.
  - Have students share their work within small groups or with the entire class.
- After reading the “Be Prepared for Your Career” section, have students predict what level of education each of the careers in the Career Match activity requires.
 

- Agricultural Aviator	Training/Certification
- Agricultural Education Teacher	Bachelor’s Degree
- Crop Scientist	Bachelor’s Degree (and some higher levels may require Doctorate!)
- Agricultural Photographer	Training/Certification or Bachelor’s Degree (for those involved in specific Journalism careers)
- Animal Nutritionist	Bachelor’s Degree
- Greenhouse Manager	Bachelor’s Degree
- Meat Scientist	Doctorate Degree
- Forester	Bachelor’s Degree
- Animal Behaviorist	Doctorate Degree
- Swine Producer	Training/Certification (also may have Bachelor’s Degree)

## CAREER TREK - PAGE 7

- Prior to reading page 7, explain to students they will be meeting real Nebraskans who are involved in agricultural careers.
- Have students read page 7 independently. Have each student select three of the career profiles and have them complete the Making Connections handout.
  - Examples of connections they make could be that they know someone in a similar job; they are interested in that specific career; they enjoy doing something similar to that person, etc. Students should select one of the “stem” statements to complete their assignment.
  - Have students share their Making Connections with a partner or small group.
- Additional Career Resources—the following sites/resources provide career activities, information, videos, and profiles that can be used with both page 6 and 7 of *AgMag*.
  - Careers in Agriculture Resources (American Farm Bureau Foundation for Agriculture):  
[www.agfoundation.org/news/careers-in-agriculture-resources](http://www.agfoundation.org/news/careers-in-agriculture-resources)
  - Iowa Agriculture Literacy Foundation:  
[iowaagliteracy.wordpress.com/2018/07/05/8-ways-to-spark-students-interest-in-agriculture-careers](http://iowaagliteracy.wordpress.com/2018/07/05/8-ways-to-spark-students-interest-in-agriculture-careers)
  - Ag Explorer (National FFA and Discovery Education). This website is geared more toward middle and high school students; however there is some great information to use in elementary classrooms and there are career videos to show students. This is also a valuable site to provide background information for teachers.  
[agexplorer.com](http://agexplorer.com)

## SOYBEANS SHAPE THE WORLD - PAGE 8

- Prior to reading text, have a review discussion with students about how agriculture is connected to our history, our world, and our culture (most information from page 1).
  - Highlight how products we grow in Nebraska provide food and fuel for the nation and the world—it connects us across the globe.
  - Nebraska soybeans are one of the products that connect our state throughout the world.
- Have students read page 8 and complete the questions.

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- When completed, use the Interactive Map and complete one (or all three) activities to learn more about soybeans grown in Nebraska and in the United States. Each activity includes student worksheets and a teacher's guide to use with the map.
  - Soybeans Through the Years
  - Regional Soybean Production
  - Railways, Seaports, and Soybean Production
  - Link: [www.nefbmap.org/resources.php](http://www.nefbmap.org/resources.php)
- More information and resources about Nebraska Soybeans can be found here: [nebraskasoybeans.org](http://nebraskasoybeans.org)

Nebraska Agriculture in the Classroom is a program of the Nebraska Farm Bureau Foundation whose mission is to engage youth, educators, and the general public to promote an understanding of the vital importance of agriculture in the lives of all Nebraskans. To learn more or access an electronic version of this publication, visit us at [www.nefbfoundation.org](http://www.nefbfoundation.org) or contact the Nebraska Farm Bureau Foundation.

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Special thanks to these organizations for their continuous support: **Nebraska Corn Board, Nebraska Beef Council, and Nebraska Soybean Checkoff.**

# SEQUENCE OF EVENTS

ARTICLE: \_\_\_\_\_

FIRST

SECOND

THEN

NEXT

FINALLY

# CLOSE READING

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

ARTICLE TITLE: \_\_\_\_\_

## Checklist

### READING NO. 1

- Think about what the article is mostly about.
- Share your thoughts and ideas about the article with a classmate.

### READING NO. 2

- Highlight the headings.
- Underline the topic sentences.
- Circle important words.
- Put a star next to any important ideas.

### READING NO. 3

While reading, determine and record the following:

- What is the structure or purpose of the text?
- What is the main idea?
- What evidence supports the main idea?
- What are your own thoughts and opinions about this article?

WHAT IS THE STRUCTURE OR PURPOSE OF THE TEXT?

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WHAT IS THE MAIN IDEA OF THIS ARTICLE?

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WHAT EVIDENCE SUPPORTS THE MAIN IDEA?

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WHAT ARE YOUR OWN THOUGHTS AND OPINIONS?

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# MAKING CONNECTIONS

ARTICLE: \_\_\_\_\_

When making connections, first state what the text says, then state your connection. You may use the following to write your connections:

THIS REMINDS ME OF... THIS MADE ME THINK OF... THIS IS SIMILAR TO \_\_\_ BECAUSE...

I CAN RELATE TO \_\_\_ BECAUSE...

I UNDERSTAND \_\_\_ BECAUSE...

<p>THE TEXT STATED...</p> <hr/> <hr/> <hr/> <hr/>	<p>MY CONNECTION:</p> <hr/> <hr/> <hr/> <hr/>
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<p>THE TEXT STATED...</p> <hr/> <hr/> <hr/> <hr/>	<p>MY CONNECTION:</p> <hr/> <hr/> <hr/> <hr/>
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<p>THE TEXT STATED...</p> <hr/> <hr/> <hr/> <hr/>	<p>MY CONNECTION:</p> <hr/> <hr/> <hr/> <hr/>
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# DESCRIPTION

WHAT'S BEING DESCRIBED?

DETAIL:

DETAIL:

DETAIL:

DETAIL:



**Career Match Cards (for use with page 6)** *Print and cut—one set for each pair/small group.*

Agricultural Aviator

Agricultural Education Teacher

Crop Scientist

Agricultural Photographer

Agricultural Nutritionist

Greenhouse Manager

Meat Scientist

Forester

Animal Behaviorist

Swine Producer

**Career Match Cards (for use with page 6)** *Print and cut—one set for each pair/small group.*

A. I work for one of the world's leading suppliers of plant genetics. I study crops like corn and soybeans, so we can help farmers grow better crops for consumers.

B. I study what animals eat, and figure out what and how much they need to eat and stay healthy.

C. I harvest trees so that you can have access to products made from wood (like paper and pencils.) I manage the environment by planting new trees and protecting soil, water, and air.

D. Crop dusting is one of the most common parts of my job. I work hard to keep plants healthy by preventing pests and diseases.

E. I make sure the food you eat is healthy, safe, and tasty. I also have fun coming up with new food products and ways to eat food!

F. I study how animals behave and how they interact with others. I might work at a University or research facility.

G. I raise healthy pigs which provide you with a nutritious and lean source of protein—pork!

H. I work in a school to teach students about agriculture. My students may become farmers, mechanics, researchers, or simply informed consumers!

I. I am in charge of buildings that are used to grow plants, including: flowers, vegetables, fruits and even some trees.

J. I am involved in agriculture through my creative art. My work may be used in magazines, newspapers, books, journals, advertisements, and websites.

## Career Match Answers

Agricultural Aviator	D
Agricultural Education Teacher	H
Crop Scientist	A
Agricultural Photographer	J
Animal Nutritionist	B
Greenhouse Manager	I
Meat Scientist	E
Forester	C
Animal Behaviorist	F
Swine Producer	G

*Adapted from Illinois Ag in The Classroom Career Match.*