agMAG
CONNECTING YOU TO NEBRASKA AGRICULTURE
Issue 1

TEACHER'S GUIDE

AG MAG: AT SCHOOL WITH AGRICULTURE

NEBRASKA 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.V.1	Acquire and use grade-level academic vocabulary appropriately.
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

SS.4.2.3.a	Give examples of human, natural, capital, and entrepreneurial resources used in making goods and services in Nebraska and the United States.
SS.4.2.4.b	Discuss how technology has affected the specialization of Nebraska's economy and surrounding states.

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Issue 1

AG MAG INTEGRATION IDEAS

AT SCHOOL WITH AGRICULTURE–PAGE 1

1. Agriculture is everywhere! What are some of the items in our classroom you listed that come from plants or animals?
   - *Have students share their lists. Help them make the connection to agriculture, e.g. paper is from trees, crayons from soybeans.*

2. Why is it important for all of us to know about agriculture?
   - *We all depend on agriculture for food, clothing, and shelter. It's important to understand how agriculture meets our daily needs. Then, we will be better able to make decisions now and when you are adults about how we use land, preserve natural resources, and have a safe food supply.*

3. Check out this activity: Agriculture is Everywhere
   - *Identify things we eat and products we use in our everyday lives and how they are connected to agriculture.*

AGRICULTURE: THE BIG PICTURE - PAGE 2

1. What have you eaten, worn, or used today that came from a plant or animal?
   - *Students share examples.*

2. How do these products get to us so we can use them?
   - *They are grown/produced, processed, and transported to stores. There are many jobs and careers that are involved in getting products ready for us to use.*

Answers to Fill in the Blank:

PRODUCTION	*gardener*
DISTRIBUTION	*florist*
PRODUCTION	*greenhouse manager*
PROCESSING	*food safety inspector*
PROCESSING	*meat scientist*
PRODUCTION	*soil scientist*
PRODUCTION	*veterinarian*
DISTRIBUTION	*restaurant owner*
PRODUCTION	*seed grower*
PROCESSING	*butcher*
PRODUCTION	*rancher*
DISTRIBUTION	*grocer*

3. After students fill in the career blanks with **Production**, **Processing**, and **Distribution**, discuss some of the careers that are unfamiliar to them. Help students to see that each category includes many different and some overlapping roles.

4. Digging Deeper
   - Research a career in agriculture. Choose one from the list above or even one you don't know about. Write two to three paragraphs about the career. Include:
     - Job responsibilities and/or duties.
     - Education needed.
     - Why that job is important for agriculture.
   - Share the information in a large classroom discussion or in small groups.
   - Researching careers could be an individual activity or done as a class/small groups.
   - Resources for career research:
     - ***www.agriculture.purdue.edu/usda/careers***
     - ***www.agcareers.com/career-profiles/***
     - ***www.environmentalscience.org/careers/agriculture-and-forestry***

5. My Little Ag Me: My American Farm App
   - Jump into agriculture careers! Step into the world of agriculture careers as you try on the clothes, pick up the tools, and visit the places where the men and women of American agriculture work. Download the My American Farm app on your Apple or Android device or visit ***www.myamericanfarm.org***.

NEBRASKA: A LEADER IN AGRICULTURE TECHNOLOGY- PAGE 3

1. What are some ways you think technology is used in agriculture?
   - *Some examples include: computers and iPads for data and recordkeeping, apps that control water/irrigation application, and autosteer on a tractor.*

2. Have students read the information about Quantified AG and create a summary—written or verbal—to share with the class or a small group.

3. Discuss/research as a class other ways technology is used and applied in agriculture.
   - *Examples: autosteer, GPS, drones.*

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Issue 1

LET'S LEARN ABOUT CORN - PAGES 4 AND 5

Answers to History of Corn:

1. Corn has been a part of Nebraska's history for **1,000** years.
2. Native Americans in Nebraska grew lots of corn in areas rich with **rivers** and streams.
3. By the early 1700's, Native Americans raised corn crops yielding **30** bushels per acre.
4. Corn was raised to grind for **meal**, to be eaten raw, and to be popped.With the opening of the Nebraska territory in 1854, Euro-American farmers learned **eastern and southern** Nebraska was good corn country.
5. In the 1880's, corn farmers produced more corn by fewer people and there was a need for **value-added** products.
6. Because corn proved an excellent animal feed (especially for beef cattle), by the 1880's Nebraska was a leader in **livestock** feeding.
7. As early as 1910, people looked to corn to serve as a motor fuel, called **ethonol**.

1. Tap into students' prior knowledge to lead a discussion about what was happening in Nebraska history during the 1800's.
   - After looking at Nebraska history, what are connections to Nebraska agriculture today?
2. Bring food products to class or have students bring food products. Have students read the labels and look for any corn-based products in the ingredients.
   - Request a ***Corn A to Z Poster*** to see many products from corn.
   - Corn Product Ideas
     - Toothpaste
     - Pizza Crust
     - Sunscreen
     - Tums
     - Pop
     - Corn Chips
3. Give students an out-of-class assignment to create a list of all the items in their home that have corn or corn by-products. Have students share lists with class.
4. Have students copy the Acrostic Poem About Corn on a piece of card stock/construction paper or onto digital format. Students can create illustrations to accompany the poem and share with the class.
5. Check out ***Corn Calculations*** to test mathematical skills
   - Learn how to calculate the number of kernels on an ear, bushels per acre, and gather data to calculate minimum, maximum, mode, median, and range.
6. For more information and resources about Nebraska corn, visit ***Nebraska Corn Board***.

agMAG
CONNECTING YOU TO NEBRASKA AGRICULTURE
Issue 1

WHAT'S FOR LUNCH? - PAGE 6

1. Answers to Lunch Menu
   - **Chicken Nuggets:**
     - Chicken: Meat – Protein
   - **Smashed Potatoes:**
     - Vegetable
   - **Carrots, Lettuce, and Tomatoes:**
     - Vegetable & Fruit
   - **Fresh Peaches:**
     - Fruit
   - **Milk:**
     - Dairy
2. As a class (or as small groups), look at the school's weekly lunch menu. Have students identify connections to agriculture and if the food is a fruit, vegetable, protein, grain, or dairy.
3. Lead a discussion on the importance of healthy food choices.
4. As a class, visit ***www.myplate.gov*** and do some of the activities to gather more information about healthy food choices.
5. Answers to Check Your Menu!

Drink:	✓ Water or Milk
Main Entrée:	✓ Chicken Wrap with Vegetables
Side:	✓ Raw Vegetables
Dessert:	✓ Fresh Strawberries

HEALTHY PARTNERSHIPS: SCHOOLS, FOOD, AND YOU! - PAGE 7

1. If your school has a garden project, arrange for a tour of a garden or greenhouse where vegetables and plants are grown.
   - Have students ask about how produce is grown and gets to the cafeteria.
2. Arrange a tour of your school's cafeteria and/or invite a school cook to address the class.
   - Have students ask questions and learn about how the school decides on healthy food choices that are offered and any local food that is used.

3. As a class, conduct additional research on tower gardens and other unique methods of raising vegetables and plants. (i.e. hydroponics, aeroponics, etc.)

4. Lead a discussion on why it is good for fresh local produce to be served for school lunches.
   - Connect to recommendations given by ***www.myplate.gov***.

5. Finders Keepers: My American Farm App
   - Get ready to show your speed! MyPlate is a guide to help us make nutritious food choices. It looks like a plate, and helps remind us to eat the right amount from each food group. In each game level, you will be asked to pick items from each food group.
     You'll also discover some great physical exercise ideas.
   - Download and play the My American Farm App on your Apple or Android device or visit ***www.myamericanfarm.org***.

6. Learn more about Nebraska's Farmers and Ranchers that provide for a healthy diet using ***Nebraska's MyPlate Poster***.

FOOD AND FUEL - PAGE 8

1. Soybeans provide food, fuel, and fiber. Why is it beneficial for one plant to produce more than one product?
   - *The soybean is given a purpose by providing many benefits to the farmer and the consumer. It can be used for animal feed, human food, and fuel for our vehicles.*
   - *Look at the **Soybean A to Z** poster to find more soybean uses.*

2. Soybeans are used to create soy biodiesel. It is clean-burning, renewable, and environmentally friendly. Compare and contrast the use of soy biodiesel and petroleum-based fuels that are made from oil.

3. For more information about Nebraska soybeans visit ***Nebraska Soybean Checkoff***.

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** or contact the Nebraska Farm Bureau Foundation.
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