

Learning Fields Unit and Lesson Plans

UNIT INTRODUCTION

Learning Fields seeks to connect people with agriculture and rural life today. The lessons in this unit will help students to understand how agriculture affects their daily lives. What plants and animals are being raised in Iowa today? How are those plants and animals raised on the farm? What are those plants and animals used for?

Lesson #2: What's that ANIMAL on Iowa's farms?

Main Idea: Students will know the main animals raised on Iowa farms today.

Background:

Where do hamburgers come from? What about pork chops or bacon? Eggs and chicken legs? More and more, children are unable to identify where their food comes from.

Iowa agriculture leads the nation in many areas, especially in the production of animals for food. Iowa agriculture ranks as follows in these areas (according to the 2007 agricultural census through the US Dept. of Agriculture):

- #1 in the nation: Number of hogs produced
- #1 in the nation: Number of eggs laid
- #4 in the nation: Number of sheep and wool produced
- #7 in the nation: Number of cattle and calves
- #9 in the nation: Number of turkeys produced
- #12 in the nation: Milk and dairy products

In addition, Iowa leads the nation in the production of corn and soybeans. These crops have many uses, with the number one use being feeding livestock.

As we look around the countryside, however, we do not see many of these animals. Many of these animals are now being raised in buildings. This is for many reasons, including the fact that the animals can be kept out of the extreme heat in summer and extreme cold in winter.

Students will find out more about the animals raised on farms in Iowa for food and what these animals provide for us.

Objectives: Students will:

1. Be able to name the main livestock groups raised in Iowa today.
2. Describe what those animals provide.

Iowa Core Curriculum Connections:

- 21st Century Skills
 - Use technological resources to develop and refine questions for investigation; to conduct research and complete a project.
 - Work appropriately and productively with others
- Social Studies
 - Understand the effects of needs and wants on individual and group decisions
- Science as Inquiry
 - Use appropriate tools to gather, process, and interpret data.
- Literacy:
 - RI.3.3; RI.4.3; RI.5.3: Describe the relationship between a series of historical events, based on specific information on that text.

Teacher Preparation:

- Review web sites.
- Review lesson. Note places marked with “*Variation.*” Determine if you want to include the variations into the lesson.
- Line up materials. If you include optional activities, you may need more materials.
- Prepare small collaborative learning group assignments.

Materials:

- Computer, internet access, projector, and screen for teacher
 - General web sites needed:
 - Learning Fields from Living History Farms
http://www.lhf.org/en/teachers/learning_fields/
 - Agriculture in the Classroom’s page on state facts:
<http://www.agclassroom.org/kids/stats/iowa.pdf>
 - Iowa Department of Agriculture and Land Stewardship
<http://www.iowaagriculture.gov/>
 - Web resources for specific animals
 - For information on eggs:
 - Facts about Iowa: www.iowaegg.org and specific information on Iowa’s egg history can be found at <http://iowaegg.org/classroom.php>
 - Videos of egg production at the American Egg Board’s web site:
<http://www.aeb.org/egg-industry/egg-industry-evolution>
 - For information on beef cattle: <http://www.iabeef.org/thebeefstory.aspx>

- For a list of specific products made from cattle, visit <http://iabc.cylosoftdemo.com/CMDocs/IowaBC/TheIowaBeefStory.pdf>
- For information on dairy cattle: <http://www.midwestdairy.com/0t3p9/dairy-farming/> (On left side of page, about half way down, is a link that says, “Just for Kids.”)
 - Cattle that produce milk can also be used to produce many of the other products that come from beef cattle- leather, medicine, cosmetics, etc. See the link under beef cattle.
- For information on pigs: www.pork4kids.com and www.iowapork.org
 - Specific list of items that come from a pig (a flyer called “Everything but the oink”) <http://www.iowapork.org/FileLibrary/States/IA/News/EBTOFlyer.pdf>
- For information on sheep: http://www.sheepusa.org/Online_Resources , specifically the “For Kids” section, and a more colorful look at sheep at <http://www.sheep101.info/>
- For information on turkeys:
 - In Iowa: <http://iowaturkey.org/us/farmers/>
 - Nationally: <http://www.eatturkey.com/content/raising-turkeys>
- Computers and internet access for each student
- Graphic Organizers- Crops in Iowa
- White board or flip chart of paper, with markers
- (optional) Car Bingo card from My American Farm <http://www.myamericanfarm.org/activities/CarTripBingo.pdf>
- (optional) paper and pencils for students to record their work
- (optional) Paper and markers for creating drawings

Teaching to the objectives:

Introduction to the lesson

Step 1: Introduce agriculture through “think-pair-share.”

- Have a picture of a meal on the screen. Have students write down what foods they see in the picture and whether that food comes from a plant or an animal. Give them 3-4 minutes to think and write down their answers.
- Then, have the students share with their elbow partner to compare lists.
- After about 3-4 minutes, have specific students share what they think. Record answers on a white board.
 - *Variation:* The day before this lesson, tell students to keep track of what they eat when they go home because they will need to know that when they come back to school the next day. Then, instead of having a picture of a meal on the screen, have students write down what they ate, share with their neighbor, and report out.

Step 2: Where does food come from

- Ask students to define agriculture/farming. Record answers on a white board.
- Define agriculture with the students. Agriculture is raising plants and animals for food (like raising sweet corn and chickens for us to eat), fiber (like cotton in our clothes), and fuel (like the biodiesel in their school bus).
- Lead a discussion on where the animals that give us food are raised. Ask the students if they have been to a farm and/or seen animals in fields when they go on car rides.
- Ask students who grows these crops and raises these animals. Explain that farming is an occupation, just like teaching or fire fighter or plumber or office worker or sales person at a store.
- Ask students if they know what animals are raised on farms in Iowa today. Iowa leads the nation in many areas when it comes to raising animals for food. See the list at the introduction.

Body of the lesson- Part 1: What animals are raised on farms

Step 3: Introduce how to find answers for questions

- Ask the students how they could find out about what animals are raised in Iowa.
- Have them list places to look for information, such as: books, asking people, museums, web sites, etc. Discuss the pros and cons of each type of resource.

Step 4: *Learning Fields* and finding the research you need via web quests

- Pull up the *Learning Fields* web exhibit from Living History Farms. Explain that this is one source of information about what crops and animals are raised on farms in Iowa, both now and in the past. Show them the major sections and how to navigate.
- Explore as a class the section on "Livestock." Show them the pictures of the animals over time.
- Explain that there are other web sites that can provide information about what animals are raised on farms in Iowa, and what these animals give us. Explain that they will be looking at the five animals that are most common on Iowa farms: cows, chickens, sheep, pigs, and turkeys.
- Explain that students will be working in small groups to find the answers to questions about how animals are raised, what they eat, and what they give us. Then pass out the "Graphic Organizer- Animals," and carefully explain how they will complete it in small groups by using the web exhibit.
 - You will need **SIX** groups, even though there are only five animals. "Cows" are broken into two categories- beef cows and dairy cows.
 - *Variation:* "Chicken" can also be divided into two areas: layers (chickens used to lay eggs) and broilers (chicken raised for meat). Iowa ranks #1 in egg production (layers) but 37th in broilers. You could have one student group research how chickens are raised for meat, and what makes that different from chickens that are raised for laying eggs.
- Break students into **SIX** small groups. (18 students means 3 students in a group; 24 means 4 students in a group, etc.)

- Designate one person to be the searcher, one the recorder (who writes down the answers they find), and one the reporter (who will explain the answers to the class).
- If you have 4th person in a group, they can create a drawing that shows that animal, what it eats, and where it lives.
- They can rotate jobs if they would like, and if you think it would engage them in different ways.

Step 5: Collaborative Work

- Give the students about 10 minutes to look through the web site.
 - As they look, they should try to find out the answers to these questions:
 - What does their animal eat for food?
 - What kind of building do they live in? Or do they live outside?
 - What must a farmer do to take care of the animal?
 - ASSESSMENT:
 - As the small groups work, wander the room, observing progress, answering questions and lending a hand as appropriate.

Step 6: Reporting

- After the time is up, have the reporters from each group summarize their report. This could be done by having a copy of the organizer on the white board, and the reporter from each group comes up and fills it in with their answers.
 - ASSESSMENT:
 - Collect the groups' answers after they are done with their report.
- Summarize the students' work by reviewing their answers and asking them to look for any similarities. They should notice that
 - Most of these animals been raised on farms in Iowa for a very long time
 - These animals have looked different at different times in history.
 - The main animals in Iowa today are the same as they have always been: chickens, cows, pigs, sheep, and turkeys.

Body of the lesson- Part 2: What animals give us (could be done at a second class period)

Step 7: How do we find out what comes from animals?

- After the group reports have been summarized, review that many of the items we eat every day could very easily have been grown on a farm in Iowa. Ask students if they see animals in the fields as they drive around. Many will say that they do not see animals in the fields. Explore with them the reasons why they may not see animals from their car. Some reasons may be:
 - Different animals are raised in different parts of Iowa.
 - It's cold, so the animals may be inside.
 - Students don't go down country roads very often, so they may not see animals.
- Go over the definition of a "product" and a "by product."

- A PRODUCT is something that comes directly from the animal.
- A BY PRODUCT is a secondary product that comes from an animal. Something must be done to the product before it can be used. Example: Leather comes from the skin of an animal, but it must be tanned before it can be used. Tanning is a process that softens the animal skin.
- Explain that they are going to continue to find out more about the animals raised in Iowa, specifically what these animals give us. Refer to the graphic organizer – “Animals and what they give us.”

Step 8: Research in small groups- web quest part 2

- Have the groups go back to the web sites to complete their search for what products come from the various animals they are researching. Each group is again given just one animal to research (chickens/egg; cows- beef; cows- dairy; pigs; sheep; turkeys). They use the web sites listed to research the items that come from these animals.
- Give the students about 10 minutes to find out the answers to their questions.
 - ASSESSMENT:
 - As groups are working, move around the room, checking for any difficulties and observing how groups are working together. You may have to offer advise occasionally.

Step 9: Reporting

- After the time is up, have the students report their findings. Record on the white board.
- Review the list with the students. Is there any item that is unfamiliar? Are the students surprised by any items?
 - ASSESSMENT:
 - Collect each group’s graphic organizer.

WRAP UP- Concluding the lesson

Step 10: Review Relevant Concepts

- Review the latest facts about the ANIMALS raised on Iowa farms from the Agriculture in the Classroom web site: <http://www.agclassroom.org/kids/stats/iowa.pdf>
 - ASSESSMENT:
 - Popcorn share: Students answer a question, by popping up one after the other with an answer. The question: what was the one thing that they learned as a result of this activity?

Step 11: Extension and challenge

- Ask the students, when they go home, to take note of what items they have in their house that come from animals. They should be sure to read the labels on their food, and ask their parents for information about things that might contain animal by-products, like furniture and carpet.

- CAR TRIP BINGO: Explain to students that, the next time they go on a trip in the car, they could play CAR TRIP BINGO. As they are in the car, they will need to watch out the window and find the items on the Bingo card.
 - Review the items on the Bingo card to make sure they know what each item is. This activity is especially good if they will going someplace by car over a school break.
 - Bingo card available from *My American Farm* at this link:
<http://www.myamericanfarm.org/activities/CarTripBingo.pdf>

NOTES:

What did I like about this lesson? What would I change? What should I remember next time?