Lesson Number: MS.AS.3.2

Specialty Animal Production Systems

Middle School Food and Agricultural Literacy Curriculum

Precepts

H. Social Growth

H1. Acknowledge that differences exist among people

National Standards

AS.01.01.01.c. Predict adaptations of animals to production practices and environments.

AS.01.01.02.c. Predict trends and implications of future development of the animal systems industry.

CS.02.02.01.a. Discover the different cultures that exist in one's community.

NL-ENG.K-12.12 – Applying Language Skills

NS.5-8.3 – Life Science

Student Learning Objectives

As a result of this **unit** the students will…

Identify byproducts generated from the animal industry.

As a result of this **lesson**, the students will …

Identify specialty animal production systems as they pertain to the agricultural industry.

Content Outline

A. ***Specialty animal*** – animals raised within agricultural production other than the traditional agricultural animals (cattle, sheep, swine, goats, horses, and poultry)

B. Llama – used for protection of livestock and packing/pulling

1. Among the oldest domestic animals in the world
2. Modified ruminant with a three-compartment stomach
3. Spitting is their way of saying "bug off"
4. Have a communal dung pile
5. Larger than an alpaca

C. Alpaca – used for fiber/hair

1. First imported to the United States in 1984
2. Produces one of the world's finest and most luxurious natural fibers
3. Don't have incisors, horns, hooves or claws
4. Have a communal dung pile
5. Smaller than a llama

Time

Instruction time for this lesson: 45 minutes.

Resources

Alpaca Owners & Breeders Association, Inc. (2009). About alpacas. Retrieved July 19, 2009, from http://www.alpacainfo.com/about/index.asp — American Ostrich Association. (2007). Interesting Facts from the American Ostrich Association. Retrieved July 19, 2009, from http://www.ostriches.org/faq.html — Herren, R. (2000). The science of animal agriculture (2nd ed.). Albany, NY: Delmar Thompson Learning, Inc. — National Agricultural Library, Agricultural Research Service, & U.S. Department of Agriculture. (1997). Raising emus and ostriches. Retrieved July 19, 2009, from http://www.nal.usda.gov/afsic/AFSIC_pubs/srb9706.htm — National FFA Organization. (2003). LifeKnowledge Precepts and Signs of Success. — National FFA Organization. (2009). LifeKnowledge Online. Retrieved July 19, 2009, from http://agedlearning.org — Oklahoma State University. (2009). Breeds of livestock. Retrieved July 19, 2009, from http://www.ansi.okstate.edu/breeds/other/ — The National Bison Association (2009). Current status. Retrieved July 19, 2009, from http://www.bisoncentral.com/index.php?c=63&d=64&a=1017&w=2&r=Y — The Ohio State University Extension. (2008). Llama and alpaca resource handbook. Columbus, OH: The Ohio State University.

Tools, Equipment, and Supplies

Overhead projector/transparencies
Scratch paper – 5 sheets per student
Flip chart paper – 5 sheets, labeled respectively: "llama," "ostrich," "bison," "emu," and "alpaca"
Tape
Notebooks or notebook paper
MS.AS.3.2.TM.A through J– one copy per teacher
Molding clay
MS.AS.3.2.ASSESS.A – one copy per student

Key Terms

The following terms are presented in this lesson and appear in ***bold italics:***

Specialty animal

D. Bison – used for meat

1. Raised in every state of the U.S.
2. Meat found in most natural food stores
3. Teetered on the brink of extinction little more than a century ago
4. At the turn of the last century, fewer than 1,000 bison remained in existence
5. Meat is low in fat, high in protein and iron, and has a great cholesterol profile

E. Ostrich – used for meat

1. Largest living bird in the world
2. Flightless bird
3. Only has two toes, other birds have three or four toes
4. Runs at speeds of up to 40 MPH for sustained times
5. Lives to be 50-75 years old

F. Emu – used for meat

1. Native to Australia
2. Commercial emu farming in the U.S. did not begin until the late 1980s
3. Three forward pointing toes
4. Low fat meat has less sodium than beef, chicken, or turkey
5. Egg shells are used for decorative purposes

Interest Approach

Before students arrive, place **MS.AS.3.2.TM.F**, **MS.AS.3.2.TM.G**, **MS.AS.3.2.TM.H**, **MS.AS.3.2.TM.I**, and **MS.AS.3.2.TM.J** around the room to be used later in the lesson for a Go Get It e-Moment®. Also place flip chart papers with the titles "llama," "ostrich," "bison," "emu," and "alpaca" around the room.

Challenge students to bring out their best artistic ability to draw a picture of a llama, ostrich, bison, emu, and an alpaca. Have them draw each one on a separate sheet of scratch paper so that the pictures can be posted around the room. When students have their pictures drawn give them tape to post their artwork by the respective title. This will result in some accurate pictures and some very funny ones.

Welcome to the gallery for ***specialty animals:*** it's a gallery that will display our best artistic abilities. Around the room are five display areas.

Point to the flip charts.

Who will read the titles of these areas?

Pause for student to read.

Thank you for being such a great announcer!

When you hear the word SKETCH, your task is to draw the animals on a separate sheet of scratch paper for each animal for this exhibit. You will draw a picture of a llama, ostrich, bison, alpaca, and an emu. Some of us might not know what the animal looks like, but draw what you think it might look like based on the way the word sounds, for example.

You will have eight minutes to draw these ***specialty animals***. When you've finished your masterpieces, get a piece of tape for each drawing and hang your masterpiece by the appropriate title.

When all animals have been exhibited we will spend some time to learn more about each animal. What questions can I answer? SKETCH.

Circulate around the room to support the students while they draw. Make sure they have enough scratch paper and pass out tape as they complete their drawings. Remind students of the time they have left at four minutes, two minutes, and one minute to complete their drawing and have them posted on the wall.

This is quite the exhibit of ***specialty animals*** around the room! They are all different in how they look, but did you know these are all ostriches? It is similar to people, in that we all look different. It does not make any of us better than each other but rather we are all just different.

The ***specialty animals*** we are going to learn about today are also different. They are not the traditional animals that we often think about in agriculture. It does not make them less important to the agricultural industry but rather different.

They provide value to the agricultural industry just as the diversity of people in our community and world provide value. Today we will spend time learning and developing an appreciation for some of the animals that we do not always think of in the agricultural industry.

Summary of Content and Teaching Strategies

Objective 1. Identify **specialty animal** production systems as they pertain to the agricultural industry.

Begin by using **MS.AS.3.2.TM.A**, **MS.AS.3.2.TM.B**, **MS.AS.3.2.TM.C**, **MS.AS.3.2.TM.D**, and **MS.AS.3.2.TM.E** to show students what the specialty animals really look like. Place the picture of the animal on each flip chart paper so the students can compare their artwork to the actual animal.

Your interpretations of these ***specialty animals*** are great and let's add one more picture to each flip chart paper.

Begin placing pictures on the flip chart papers.

From your seats, take a moment and compare the drawings to the actual picture of the animal. Some may look very similar and others may be a little different.

What are some similar features of these animals?

Elicit student response.

What are some differences in the way these animals look?

Elicit student response.

Not only are you creative, you are very observant!

Use a Go-Get-It e-Moment® to have students find information about each of the specialty animal production systems. The information includes the main use of the animal in the agricultural industry and five facts to expand the students' knowledge. The information can be found on **MS.AS.3.2.TM.F**, **MS.AS.3.2.TM.G**, **MS.AS.3.2.TM.H**, **MS.AS.3.2.TM.I,** and **MS.AS.3.2.TM.J**.

This information should be placed throughout the room for students to move around and record the information in their notebooks.

When I say SEARCH, you are to learn all you can about these ***specialty animals*** in the room. Write down the information you find on five sheets that are somewhere around the room.

These sheets describe the main purpose for the animal in the agricultural industry and provide some interesting facts.

You will have eight minutes to neatly fill your notebooks with this information. What questions can I answer? SEARCH.

Announce the remaining time for the students to keep them on task. Pan the room to ensure they are recording the information as they find it. Answer any questions that students might have as they work around the room.

As students finish have them return to their seats and review the information they have just recorded.

Now that we have returned to our seats, let's share the most interesting piece of information you discovered today.

Review/Summary

Kudos to everyone for putting together a top-notch gallery of ***specialty animals***. You now have more knowledge and a greater appreciation for some animals that are not the traditional animals discussed in production agriculture. As a knowledgeable individual you now realize what role these animals play in agriculture.

Application

Extended classroom activity:

Find samples of bison, ostrich, and/or emu meat and have students compare and contrast the look, texture, and taste of these meats to beef, pork, lamb, and/or chicken. Find samples of llama and/or alpaca hair and have students compare and contrast the look, feel, and texture to sheep wool and/or goat mohair.

FFA activity:

Have students develop an informative speech that describes a specific specialty animal, history of the animal, uses for the animal, and care of the animal.

SAE activity:

Have students interview a person in the specialty animal industry. Talk with them about the opportunities that are available in the specialty animal industry and what it takes to get started in the industry.

Evaluation

MS.AS.3.2.ASSESS.A.

Answers to Evaluation

1. Protection of livestock or packing/pulling
2. Any two of the following are correct:
   a. Among the oldest domestic animals in the world
   b. Modified ruminant with a three-compartment stomach
   c. Spitting is their way of saying "bug off"
   d. Have a communal dung pile
   e. Larger than an alpaca
3. Fiber/Hair
4. Any two of the following are correct:
   a. First imported to the United States in 1984
   b. Produces one of the world's finest and most luxurious natural fibers
   c. Don't have incisors, horns, hooves, or claws
   d. Have a communal dung pile
   e. Smaller than a llama
5. Meat
6. Any two of the following are correct:
   a. Raised in every state of the U.S.
   b. Meat found in most natural food stores
   c. Teetered on the brink of extinction little more than a century ago
   d. At the turn of the last century, fewer than 1,000 bison remained in existence
   e. Meat is low in fat, high in protein and iron, and has a great cholesterol profile
7. Meat
8. Any two of the following are correct:
   a. Largest living bird in the world
   b. Flightless bird
   c. Only has two toes, other birds have three or four toes
   d. Runs at speeds of up to 40 MPH for sustained times
   e. Lives to be –50-75 years old
9. Meat
10. Any two of the following are correct:
    a. Native to Australia
    b. Commercial emu farming in the U.S. did not begin until the late 1980s
    c. Three forward pointing toes
    d. Low fat meat has less sodium than beef, chicken, or turkey
    e. Egg shells are used for decorative purposes

Llama – used for protection of livestock and packing/pulling

A. Among the oldest domestic animals in the world

B. Modified ruminant with a three-compartment stomach

C. Spitting is their way of saying "bug off"

D. Have a communal dung pile

E. Larger than an alpaca

Alpaca – used for fiber/hair

A. First imported to the United States in 1984

B. Produces one of the world's finest and most luxurious natural fibers

C. Don't have incisors, horns, hooves, or claws

D. Have a communal dung pile

E. Smaller than a llama

Bison – used for meat

A. **Raised in every state of the U.S.**

B. **Meat found in most natural food stores**

C. **Teetered on the brink of extinction little more than a century ago**

D. **At the turn of the last century, fewer than 1,000 bison remained in existence**

E. **Meat is low in fat, high in protein and iron, and has a great cholesterol profile**

Ostrich – used for meat

A. Largest living bird in the world

B. Flightless bird

C. Only has two toes, other birds have three or four toes

D. Runs at speeds of up to 40 MPH for sustained times

E. Lives to be 50-75 years old

Emu – used for meat

A. Native to Australia

B. Commercial emu farming in the U.S. did not begin until the late 1980s

C. Three forward pointing toes

D. Low fat meat has less sodium than beef, chicken, or turkey

E. Egg shells are used for decorative purposes

Name: _____

Directions: Answer each question in complete sentences.

1. **Llamas are used for _____.**

2. **What are two characteristics of llamas discussed in class?**

3. **Alpacas are used for _____.**

4. **What are two characteristics of alpacas discussed in class?**

5. **Bison are used for _____.**

6. **What are two characteristics of bison discussed in class?**

7. **Ostriches are used for _____.**

8. **What are two characteristics of ostriches discussed in class?**

9. **Emus are used for _____.**

10. **What are two characteristics of emus discussed in class?**

_____

_____