Lesson Number: MS.IAS.8.3

Prime Rib Please! – Issues Related to Animal Production

Middle School Food and Agricultural Literacy Curriculum

Precepts

J. Mental Growth

J1. Think critically

J2. Think creatively

J4. Solve problems

National Standards

CS.02.04.01.c. Demonstrate critical and creative thinking skills while completing a task.

CS.02.04.02.c. Implement effective problem solving strategies.

NL-ENG.K-12.4 – Communication Skills

NL-ENG.K-12.12 – Applying Language Skills

NS.5-8.3 – Life Science

NS.5-8.5 – Science and Technology

NS.5-8.6 – Science in Personal and Social Perspectives

NSS-EC.5-8.1 – Productive Resources

Student Learning Objectives

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

Examine the components of Food and Agricultural Literacy: Applying Mathematics and Science Concepts Curriculum

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

Explain consumer, production, and processing issues related to animal science.

Content Outline

Note to Teacher: This lesson closely follows the format of **MS.IAS.8.2** which is focusing on the same issues but in the area of plant science. These lessons are made to be taught exclusively on their own or together as an introductory section on issues on production agriculture. If you have already taught **MS.IAS.8.2**, you can quickly review or omit the production phases and allow the students more time to research their issues. You may just have the students repeat the motions created in **MS.IAS.8.1** for each production phase.

Time

Instruction time for this lesson: 45 minutes.

Resources

Herren, R.V. (2007). *The Science of Agriculture. New York, NY:* Thomson: Delmar Learning.
Herren, R.V. (2007). *The Science of Animal Agriculture. New York, NY:* Thomson: Delmar Learning.

Tools, Equipment and Supplies

Transparencies/Projector
Writing Surface
Articles that address different viewpoints on each of the animal issues listed below
(Internet and computer access if students are to research their own articles)
Large pieces of paper (butcher paper would work best)
Example animal products
Markers
MS.IAS.8.3.TM.A – one per teacher
MS.IAS.8.3.TM.B – one per teacher
MS.IAS.8.3.AS.A – two per student
MS.IAS.8.3.ASSESS.A – one per student

Key Terms

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

Production

Processing

Consumer

Issues

Objective 1. Explain ***consumer, production,*** and ***processing issues*** related to animal science.

I. What are the stages of producing animal products?

- ***Production*** Phase
  - The phase of raising and caring for the animal, which includes nutrition, health, reproduction, and growth.
- ***Processing*** Phase
  - The ***processing*** of animals into products to be used by ***consumers***. This includes the ***processing*** of livestock, packaging of food, and proper storage and shipping.

- ***Consumer*** Phase
  - The phase that starts when the ***consumer*** buys a product and ends at the point that the product is consumed.

- ***Issues*** Related to the Three Phases of Animal ***Production***
  - Animal Waste and Pollution
  - Animal Welfare
  - Diseases and Food Safety

Interest Approach

Prior to class, arrange the desks so there are groups of four to five students. At each group station have a large piece of paper (butcher paper or poster paper) and markers.

As students walk in, have a number of animal products sitting in the front of the classroom. On the board or writing surface, write the question, "What did it take to get these products to the grocery store and our classroom?" Products could include a steak, beef jerky, hamburger, sandwich meat, milk, cheese, leather shoe, or any other animal product.

As you find your seat think about the question on the board that corresponds to the products we have at the front of the class. You'll see stations around the room. Create groups of four to five at each station and wait for further instructions.

So many times we eat our food without ever thinking about where our food came from or the processes that had to happen to get the products to the ***consumer***. When I say CHEESEBURGER your group's task is to choose an item of food and in five minutes map out every step that was required to produce it. For example, the first step for a steak might be the birth of a calf and the last step is placing it on the rack at the store. Think of as many as you can. What questions are there? CHEESEBURGER!

Monitor students as they create this timeline. Some students may need prompts to get their ideas flowing. Answers should include areas of **production, processing**, and consumption. Give students benchmarks to let them know the time that is left.

Prime Rib Please! – Issues Related to Animal Production

Time is up! Great job! Your groups identified many of the major steps of producing, ***processing,*** and consuming animal products. Who will share the steps they came up with in regards to their product?

Allow student groups to share the product they chose and the steps they came up with. You could begin to challenge some of their steps setting the context for the issues/concerns associated with animal production. Allow as many groups to share as time permits. Wrap up the sharing after five to ten minutes.

As you can see there are many important steps involved in creating these products. It is important that each of us know where our food comes from, the processes that are used to produce our food, and the ***issues*** associated with producing this food. If you are informed about your food, you can make better decisions about what you choose to buy or eat!

Today we are going to discuss and research together the ***issues*** associated with producing animal products. We are going to learn more about the three phases of ***production***, which are *production*, ***processing,*** and **consumption**, and we are going to look at different ***issues*** that occur at each stage.

You might look at your lunch differently today! Let's get started!

Summary of Content and Teaching Strategies

Objective 1. *Explain* ***consumer, production,*** *and* ***processing issues*** *related to animal science.*

Utilize **MS.IAS.8.3.TM.A** as an overview of content.

A. What are the stages of producing animal products?

The best place to start is to learn the three major phases of ***production***. Does anyone remember the phases I just mentioned?

Elicit responses from students. Answers should be production, processing, and consumption.

Exactly. ***Production***, ***Processing,*** and **Consumption** are the three phases. Let's create our own definitions for these words. When I say DEFINE, work with your group to create a definition for each of the phases. DEFINE!

Be available for students' feedback. Let them know at four minutes that they have 30 seconds to wrap up their definitions. Write the three words on the board while they are working.

Who will share their definitions first?

Group shares their definitions. Work through each group.

Those were great definitions. Let's combine our ideas into one definition.

Using student feedback, write a definition on the board for each of the phases.

Now that we know what the three phases are, go back to your chart and separate the steps you wrote down into the three phases. You have two minutes so stay focused.

Move to each group and provide feedback on their choices.

Because of your quick work, we now understand the three phases of ***production*** and what happens within each phase. Next, we will begin to explore some of the basic ***issues*** or concerns that are common in each phase.

B. Issues Related to the Three Phases of Animal Production

Utilize MS.IAS.8.3.TM.B as an overview of content.

Transition: We see things in the news all the time about animal ***production***, but can you believe everything that you hear or see? Absolutely not – every time we read or hear something, we have to think about all the different points of view on that **issue**. Let's give that a try.

At this point in the lesson, students will analyze a number of articles and report back in terms of what the issue is really about and the various points of view. You can do this by either having articles pre-selected and printed off, projecting specific articles onto a smart board or projection screen, or have students do their own research on the Internet.

The point is for students to explore the real issues that arise and then critically evaluate and learn about the three major issues listed. For this lesson plan, the printed off articles will be the method used.

Students remain in their three original groups.

What do you think the ***issues*** in animal agriculture are?

Allow students to respond. Collect answers on a writing surface.

You are right. Those ***issues*** can be summed up in the three main ***issues*** we will look at today:

Animal Welfare

Animal Diseases and Food Safety

Animal Waste and Pollution

Hand out articles that you have pre-selected and printed off in relation to these topics. Try to find two articles for each topic posing different viewpoints.

Each group has been given two articles dealing with one of the three ***issues***. Your task is to read the articles, take notes on the ***Issues*** Review Sheet (***MS.IAS.8.3.AS.A***), and be prepared to share with the group in less than five minutes the various viewpoints of the issue your group has. You have 10 minutes to read and assess the articles. What questions are there? Get started!

Monitor student progress. Answer any student questions around the articles and provide time benchmarks to keep the students on track.

Give the students a one-minute reminder.

Great Job! Let's discuss the ***issues***. As a hint, you will need to form an opinion on each issue at the end of class so make sure you are listening and thinking about the ***issues***. Which group will share their issue and the different opinions on that issue?

Choose one group.

Just a reminder you have only five minutes to share.

Allow all three groups to present.

You all did an excellent job summarizing the issues. As you can see, many people have different opinions about these three important issues.

Having different opinions is OK, but it is important that your opinion is based on facts and is an educated opinion – not just an opinion based on what you hear.

Review/Summary

Hopefully today you have formed some educated opinions of your own! What if the local news station showed up right now to interview you? What would you say? Let's give it a try!

Eye Witness News e-Moment®:

The teacher plays the role of the news anchor. Each student must assume the character of a citizen being interviewed on the local news. The questions are centered on production agriculture.

Good evening, folks! We are here at the animal production conference and are trying to get to the bottom of the key issues of producing food from animals. Let's start with you, Sir/Ma'am.

Choose a student. Continue interviewing students until all the questions have been answered. Make it fun by adjusting to the answers and asking students to respond to each other's responses. Start with the following three questions.

Is it really safe to eat meat products in today's grocery stores?

Are animals treated properly? Are they happy?

What do you think about how producing animals affects the environment?

Thanks to all the experts! Signing off.

Before we leave, turn to someone near you, give him or her a high five, and tell them, "You know what you're talking about!" Today we have looked at the three major ***issues*** associated with raising livestock. You can now be an educated ***consumer*** and producer of animals!

Application

Extended classroom activity:

This lesson (along with lesson MS. IAS.8.2) can be extended by designing a structured controversy. This would include students conducting research on the three issues and preparing an argument for a debate.

Students must also be able to debate the opposing view. The flow of the debate would be as follows:

- Side 1 presents their opening statement
- Side 2 presents their opening statement
- Side 2 asks questions to Side 1
- Side 1 asks questions to Side 2
- Both teams switch their side and give closing statements debate for the opposing team.

FFA activity:

This lesson plan closely ties to the Agricultural Issues contest. At this point, teachers can take a few minutes to explain what the contest is, how it relates to the lesson, show a video of a previous team that competed, have chapter members who have done the contest present to the class, or even let them choose an issue and develop a presentation.

SAE activity:

Any students who have an SAE in animal agriculture could serve as "experts" and provide their opinions on real life issues that they have faced. Guest speakers who are involved in animal agriculture could discuss the issues and careers in the industry.

Evaluation

To evaluate students' understanding you have the option of collecting the issue review sheet or utilizing **MS.IAS.8.3.Assess.A.**

Answers to Evaluation

For **MS.IAS.8.3.ASSESS.A** use the following answers:

- Answers vary depending on the student's opinion. Look for elements that are relevant to the discussions that occurred during the lesson.
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Three Stages of Animal Production

Production Phase

- **The phase of raising and caring for the animal, which includes nutrition, health, reproduction, and growth.**

Processing Phase

- **The processing of animals into products to be used by consumers. This includes the processing of livestock, packaging of food, and proper storage and shipping.**

Consumer Phase

- **The phase that starts when the consumer buys a product and ends at the point that the product is consumed.**

Issues Related to the Three Phases of Animal Production

Animal Waste and Pollution

Animal Welfare

Diseases and Food Safety

Issues Review Sheet

Article Name:

_____

Who wrote the article? How does that affect what he/she had to say?

_____

_____

_____

Overview: What are the main points in the article?

_____

_____

_____

What do you agree with?

_____

_____

_____

What do you disagree with?

_____

_____

_____

Name: _____

1. **What is your educated opinion about the effect of animal agriculture on the environment?**

_____

_____

_____

2. **What is your educated opinion on how production animals are treated?**

_____

_____

_____

3. **What is your educated opinion on the safety of food that comes from animals?**

_____

_____

_____