



Breaking Away from the Frenzy

Middle School Food and Agricultural Literacy Curriculum

Precepts

- J. Mental Growth
- J1. Think Critically
- J6. Persuade Others

National Standards

- CS.09.01.01.c. Describe the impacts of AFNR decisions on global markets and environmental health.
- AS.03.01.05.b. Explain the health risk of zoonotic diseases to humans and their historical significance and future implications.
- FPP.01.01.02.c. Determine appropriate industry response to consumer concerns to assure a safe and wholesome food supply.
- NL-ENG.K-12.4 – Communication Skills
- NL-ENG.K-12.12 – Applying Language Skills
- NSS-EC.5-8.7 – Markets and Market Prices

Student Learning Objectives

- As a result of this **unit** the students will...
- Discuss the economic impacts of agriculture.
- As a result of this **lesson** the students will...
- Discuss the economic impact of a disease outbreak or product recall on the agricultural industry.

Content Outline

- I. **Discuss the economic impact of a disease outbreak or product recall on the agricultural industry.**
 - A. Disease: a harmful deviation from the normal structural or functional state of an organism.
 - B. Outbreak: A sudden increase.
 - C. Create class definition of disease outbreak.
 - D. Brainstorm list of historical and recent disease outbreaks.
 - 1. Black Plague
 - 2. The Bird Flu
 - 3. Mad Cow Disease

Time

Instruction time for this lesson: 45 minutes.

Resources

disease. (n.d.). Dictionary.com Unabridged (v 1.1). Retrieved August 24, 2009, from Dictionary.com website: <http://dictionary.reference.com/browse/disease> — outbreak. (n.d.). Dictionary.com Unabridged (v 1.1). Retrieved August 24, 2009, from Dictionary.com website: <http://dictionary.reference.com/browse/outbreak> — recall. (n.d.). Dictionary.com Unabridged (v 1.1). Retrieved August 24, 2009, from Dictionary.com website: <http://dictionary.reference.com/browse/recall> — Vanco, S. (2009, March 11). Testimony given at House Committee on Small Business Subcommittee on Regulations and Health Care, Washington DC.

Tools, Equipment, and Supplies

Writing surface
Overhead projector/transparencies
MS.AI.2.4.TM.A – one per teacher
MS.AI.2.4.TM.B – one per teacher
MS.AI.2.4.TM.C – one per teacher
MS.AI.2.4.ASSESS.A – one per student

Key Terms

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

Disease

Outbreak

Recall

- 4. Swine Flu (H1N1)
- E. Recall: to call back; summon to return.
 - 1. Peanut butter
 - 2. Spinach
 - 3. Dog food
 - 4. Toys made in China with lead paint
 - 5. Baby car seats
- F. Economic Impact of Disease Outbreaks or Product Recalls
 - 1. Media frenzy
 - 2. Huge economic losses
 - 3. Loss of consumer confidence
 - 4. Increased restrictions
 - 5. Discuss economic impact



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Interest Approach

Before students enter the classroom, write www.dhmo.org on the writing surface. Students will read about the dangers of dihydrogen monoxide (dhmo) and develop conclusions as to its uses. If students do not have access to computers, print off the dangers and the uses of dhmo or project them onto a screen. Give students three minutes to explore the website, capture their top five concerns of dhmo, and be prepared to share. If you are using a computer lab, students will travel to a computer instead of getting a laptop.

Welcome back to Ag Explorations; it's great to see all of you today. When I say GO, you will have 90 seconds to find a partner and identify who is older. If you are the oldest you are responsible for getting a computer – do not open it until instructed to do so. The youngest will secure a writing utensil and paper. What questions are there? Who gets the computer? What does the youngest person do? GO!

Thank you for your quick work. You will have three minutes to explore the website www.dhmo.org, identify your top five concerns, and capture them on your paper. Be prepared to share your answers. Questions? You may open your computers and begin.

As students are working, remind them the goal is to identify their five biggest concerns.

If you are providing printed information for your students:

Welcome back to Ag Explorations; it's great to see all of you today. When I say GO, you will have 90 seconds to find a partner and identify who is older. If you are the oldest, you are responsible for getting this packet of information from me, and the youngest will secure a writing utensil and paper. What questions are there? Who gets the information? What does the youngest person do? GO!

Thank you for your quick work. You will have three minutes to explore the information, identify your top five concerns, and capture them on your paper. Be prepared to share your answers. Questions?

Who will be the first group to share your concerns?

Allow two or three groups to share. Answers will vary, but could include it kills people, contributes to acid rain, etc.

What do you think about dhmo? Are there any positive attributes? Do you think it should be banned? Why or why not? What is dhmo?

Answers will vary but allow all those who want to share the opportunity.

Next, use this opportunity to share the importance of prefixes/suffixes and root words. Check with your English department to see what prefixes/suffixes are tested on your state assessments.

Let's take a look at the words dihydrogen monoxide. What do these words mean? How can we begin to break them down and determine what this chemical element is? Start with the prefix di, what does this mean? Now that we know we have two hydrogen molecules, what does mono mean? And oxide? Correct. What element is made of two molecules of hydrogen and one molecule of oxygen?

Write H₂O on writing surface. Students will recognize this as water.

That is correct; just a few moments ago some of you wanted to ban water. Can we live without water? What can we learn from this?

As students share, hopefully they will mention that you can't trust everything. If not, guide the discussion that direction.

In a few moments, we're going to take this concept of not trusting everything we hear and apply it to the agricultural industry. Continue to be active learners and think about how this relates to your personal life.

Summary of Content and Teaching Strategies

Objective 1. Discuss the economic impact of a disease outbreak or product recall on the agricultural industry.

Refer to **MS.AI.2.4.TM.A** for students to put key points into their notes. Go over definitions for disease and outbreak as a class. Then ask students to turn to their neighbor, create a definition of a disease outbreak, and capture this on a writing surface.



Lesson Number: MS.AI.2.4

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In order for us to discuss the economic impact of a disease outbreak, we must first understand what exactly that means. Please write these definitions in your notes. Now that we have those two words defined, turn to your neighbor and create a definition of the term "disease outbreak." You have 30 seconds to create your definition and be prepared to share your thoughts with the class.

After a couple of groups have shared their definition, create a class definition, write this on a writing surface, and instruct students to also write it in their notes. When they have written the definition, ask them to begin brainstorming all the disease outbreaks they can think of. Challenge them to think of historical outbreaks as well as recent outbreaks.

When you are finished writing the definition, begin to think of **disease outbreaks** you are aware of. Challenge yourself to not only think of current/recent **outbreaks**, but think of historical **outbreaks** as well. Use the help of your neighbor and determine one **outbreak** you wish to share with the group. After selecting the **outbreak** of your choice, one of you will come to the front and write your selection on the writing surface. When you come to the front to write, be sure not to disturb other groups as they work. And don't forget, the rule of no repeats is in effect!

Briefly discuss the diseases listed. If students need to be prompted, you can mention The Black Plague, Bird Flu, Mad Cow Disease, Swine Flu (H1N1), etc. Ask students what happens when there is an outbreak of the swine flu or something similar. Give students an opportunity to share what they think may happen to the economy or to the level of consumer confidence when the term "Swine" flu is used as opposed to H1N1. Share with students the benefits of being an educated consumer.

Thank you for the great responses we have listed. Let's take a look more specifically at the Swine Flu or H1N1. How many of you were scared to eat pork when you heard about the swine flu? Did any of your families stop eating pork? How do you think this affected people that raise swine?

Use **MS.AI.2.4.TM.B** to show the definition of recall.

Now let's compare the impact of a **disease outbreak** to that of a product **recall**. Write this definition of **recall** in your notes. Who will share an example of a recent product **recall**? It could be a food or non-food item.

Allow students to share. Possible answers include: peanut butter, spinach, dog food, toys made in China with lead in paint, baby car seats, specific car parts, etc.

What are some reasons that a product might be **recalled**? How would a product **recall** and a **disease outbreak** be similar? Turn to your neighbor and share your thoughts.

Students share responses with class. Show **MS.AI.2.4.TM.C** with the economic impacts of disease outbreaks or product recalls. Students will write these in their notes.

Pretend to get an e-mail or phone call saying that there has been an outbreak of the disease of your choice or a huge product recall. Students will use the Eye Witness e-Moment® to review the impact these items can have. Students will have a partner and will take turns being the interviewer and interviewee. Pair students together by using a method of your choice.

When I say START, you will have five seconds to find a new partner and determine which partner is the oldest. START!

Allow the students to identify the oldest partner.

In a few moments, you will be conducting a live interview with your partner about the recent **outbreak** of H1N1. For the first round of interviews, the oldest partner will be the eyewitness and the youngest partner will be the reporter.

Reporters, when I say EYE WITNESS REPORT, you will begin your interview by sharing your name and current location. Then ask the name of your eyewitness. Follow that with the questions about what this **outbreak** can lead to.

Eye witnesses, your role is to respond to the reporter's questions with as much information as you have.

After the partners have completed their first interview, have them switch roles and begin the interview process again. Following the second round of interviews, bring the class back together.

Congratulate them on their excellent reporting.



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Review/Summary

Think back to DHMO. Just like we assumed that the product was very harmful and some of us even wanted to ban it, there are two sides to every story. We can't believe everything we hear. It is up to us to get the facts and to be sure we are able to make informed decisions on our own. After all, life without water really wouldn't be any life at all. On a piece of paper, write three sentences reflecting on what you have learned in class today.

After students have written their reflection, have them share their thoughts with a partner, then select volunteers to share their thoughts with the class.

When I say REFLECT, you have two minutes to write three sentences about what you have learned from each other today in your notes. REFLECT!

Who would like to share with the class what you have learned?

Application

Extended classroom activity:

Have students brainstorm a product they use each week (milk, ground beef, chicken etc.). Each student will determine how much money his or her household spends per week and per year on that product. Multiply their yearly spending by the number of students in the class to illustrate the economic impact if a family loses trust in the U.S. food supply.

FFA activity:

Tour a dairy farm to see the safety precautions dairy farmers take to ensure a safe milk supply.

SAE activity:

Conduct an experiment showing the importance of hand washing.

Evaluation

MS.AI.2.4.ASSESS.A.

Answers to Evaluation

1. C
2. A
3. B



Disease: a harmful deviation from the normal structural or functional state of an organism.

Outbreak: a sudden increase.



Recall: to call back; summon to return.



Economic Impact of Disease Outbreaks or Product Recalls

- Media frenzy
- Huge economic losses
- Loss of consumer confidence
- Increased restrictions



Name _____

Directions: Read each term and match it to the correct definition. Write the letter in the blank.

1. _____ Disease

A. A sudden increase

2. _____ Outbreak

B. To call back; summon to return

C. A harmful deviation from the normal structural or functional state of an organism.

3. _____ Recall