



Don't Touch That Dial: Agriculture's Economic Impact

Middle School Food and Agriculture Literacy Curriculum

Precepts

- D. Character
- D1. Live with integrity.

National Standards

- NL-ENG.K-12.4 – Communication Skills
- NL-ENG.K-12.12 – Applying Language Skills
- NM-NUM.6-8.1 – Understand Numbers, Ways of Representing Numbers, Relationships among Numbers, and Number Systems
- NM-NUM.6-8.3 – Compute Fluently and Make Reasonable Estimates
- NM-MEA.6-8.1 – Understand Measurable Attributes of Objects and the Units, Systems, and Processes of Measurement
- NS.5-8.6 – Science in Personal and Social Perspectives
- NSS-EC.5-8.1 – Productive Resources
- NSS-EC.5-8.6 – Gain from Trade
- NT.K-12.5 – Technology Research Tools

Student Learning Objectives

- As a result of this unit the student will...
- Evaluate how agriculture supports all life.
- As a result of this lesson, the student will ...
- Determine the agricultural economic impact in a local and global setting.

Interest Approach

As students enter, pose to them the following question on the writing surface:

How much would you estimate that YOU personally eat in food (in dollars) in a year?

Have them come up with an estimate number. Next ask a few students to share the numbers they came up with. There will likely be many different answers. After a few share their thoughts, ask them to use the questions on **MS.IAS.2.3.TM.B** to re-estimate. Have them share after using the questions you provided.

Time

Instruction time for this lesson: 45 minutes.

Resources

Food and Farm Facts. American Farm Bureau Federation.
<http://www.fb.org/>
Tools, Equipment, and Supplies
5 Dry Erase Boards
5 Dry Erase Markers (any color)
MS.IAS.2.3.AS.1 – one per teacher (cut out cards before lesson)
MS.IAS.2.3.TM.A – one per teacher
MS.IAS.2.3.Assess.A – one per student
Computers with access to American Farm Bureau's website or hard copies of their Food and Farm Facts book which must be purchased ahead of time

Key Terms

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

Export

Import

Hello class! To get started today, you are going to have a brief competition with yourself! When I say **ESTIMATE**, you have 30 seconds to come up with an estimate of how much you spend on food in a given year. Write this number in your notebooks and be ready to share when time is up. Be sure to keep your number secret until it is time to share. **ESTIMATE!**

Count down last 10 seconds and make sure each student has written a number before you call on students to share. Ask for a few examples and record the numbers on the writing surface. Next reveal **MS.IAS.2.3.TM.B** on an overhead and ask students to re-calculate. Give them one or two minutes.

Thanks for sharing. Let's take a look at the following questions and see if we come up with the same numbers. Use the questions on the overhead to walk through your day. Use your math skills to re-estimate your yearly food costs. You have 90 seconds. Again, be ready to share when time is up.

Allow for sharing again. Ask students to explain the different numbers.



Lesson Number: MS.IAS.2.3

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Who will share their new numbers first? Great! Think about why these numbers changed. What surprised you about how much we spend on food? Is your second number higher or lower than your first estimate? Why?

Allow for responses.

Thanks for all your great work estimating. You have all just begun our investigation of agriculture and its economic impact in our country, state, and community. Despite the large numbers you came up with, we are blessed with an abundant food supply, and we spend less of our income on food than any other industrialized country on the word! That means more money for Ipods, phones, TVs, and games! Today we are going to take closer look on just how this all works! Turn to a partner and tell them, "Feed me!"

Summary of Content and Teaching Strategies

I. How many people does the average U.S. farmer feed?

A. 155

(Note: Several states use their own figures; however, due to a more open market these numbers have not been updated for a while as they are hard to track. Stay clear of using state figures because they are inaccurate.)

II. In Pakistan, people spend 50% of their income on food. In China it is 32%. Japan is 14%.

A. What percentage of their income does the average U.S. consumer spend on food?

1. 10%

III. Agricultural producers in the U.S. produce a lot of food. How many pounds do they produce annually?

A. 2,207,504,580,000 pounds!

IV. Every dollar you spend on food pays several people. It pays the farmer, the processor, the wholesaler and so forth. For each dollar you spend on food, how much of it goes to the farmer?

A. 19 cents

V. In 2008, the U.S. exported \$115.5 billion to other countries. List the five countries that spent more than \$10 billion on U.S. agriculture products.

A. (In order) Canada, Mexico, Japan, China, the European Union

Objective 1. Determine the agricultural economic impact.

After having enough money for food, who likes having extra money to spend? If you do you are in luck, as today's class is agricultural education's version of the Discovery Channel's Cash Cab! Over these last two days we have learned plenty about agriculture's impact on our lives and the diversity within the industry. Today we will discover more about the economic impact of agriculture.

For those of you that are familiar with Cash Cab, we will be playing a little different today. I will ask a series of questions, and you will write down your best answer on your dry erase board.

(Instructor can use paper and pens if white boards not available).

Rather than answering questions for money, we will be answering questions for a topic about money. When you are the individual with the closest answer, you will come forward and draw a card. Hold onto that card; it will come in handy later. Everyone needs only one card, so when you have won a card, you will be available for others to ask questions. By the way, we will be playing in groups of five. I will number each of you off.

Number off students from 1 to 5.

When I say GO, you will get with your groups. Each group needs a dry erase marker and dry erase board. What questions are there? GO.

Read off the following questions to students. When a group is the closest, have them come forward and draw a card.



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Question #1:

How many people does the average U.S. farmer feed?

Answer: 155 (Note: Several states use their own figures; however, due to a more open market these numbers have not been updated for a while as they are hard to track. Stay clear of using state figures because they are inaccurate.)

Question #2:

In Pakistan, people spend 50% of their income on food. In China it is 32%. Japan is 14%. What percentage of their income does the average U.S. consumer spend on food?

Answer: 10%

Question #3:

Agricultural producers in the U.S. produce a lot of food. How many pounds do they produce annually?

Answer: 2,207,504,580,000 pounds!

Question #4:

Every dollar you spend on food pays several people. It pays the farmer, the processor, the wholesaler, and so forth. For each dollar you spend on food, how much of it goes to the farmer?

Answer: 19 cents

Question #5:

In 2008, the U.S. **exported** \$115.5 billion to other countries. List the five countries that spent more than \$10 billion in U.S. agriculture products.

Answer: In order, Canada, Mexico, Japan, China, the European Union

Great job! When I say NOMINATE, select a group member to put up your group's dry erase board and marker. You have 30 seconds to accomplish this. NOMINATE.

Instructor can use markers and paper if white boards are not available.

Use the Go-Get-It and Eye Witness News e-Moments® as a method of having groups teach each other about agriculture's economic impact. Each group will answer the questions on their cards using the materials you provide or the computers and then prepare a segment of a newscast that covers those questions. The teacher will lead the class in the newscast as the head anchor.

Some of you may have watched the news, be it on MTV or the ten o'clock news. Raise your hand if this fits you. All of us have seen some sort of news before. Today, we will create our own newscast. Each group has a series of questions on your cards. When I say AGRICULTURAL ECONOMIC NEWS, you will use those questions to create a two-minute segment of a newscast that I will lead as your head news anchor. Your task for the next 10 minutes is to answer the questions on your cards and use the questions and answers as the foundation for your segment. Every person in your group will participate in the segment, either as an interviewer or an interviewee. You will have how long to work? How long is the segment? Who participates in the segment? Great! AGRICULTURAL ECONOMIC NEWS.

Students will begin working on finding information for the question on their card. Help students find good resources with accurate information. Students should find good information and graphics at American Farm Bureau's website. Count down the time to keep students on task.

Fantastic job, class! Now it is time for our newscast. When I call on your group, stand up from your seats and present your newscast segment!

Welcome to Agricultural Economic News. This is your news anchor _____ live from the _____ Agricultural Education Department. Today we have five news segments on the economic impact of agriculture. We don't have a lot of time, so we will get right to it. Our first group is covering the impact of agriculture in our world. Tell me, how does agriculture impact our world economically?

Student group presents.

Thank you! That will lead us right up to agriculture in our country. What news do you have for us today?

Student group presents.



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Let's not forget about the great state of _____.

How does agriculture impact our state of _____?

Student group presents.

Getting to the more local level is our county. Fresh from an outing at the county fair is this group of correspondents.

Student group presents.

Lastly, we have heard about agriculture's economic impact from the world to our county, but what about our home? How does agriculture impact us at home?

Student group presents.

Well, that wraps up our newscast today! Remember that agriculture impacts everyone and everywhere economically!

Review/Summary

Great job on the newscast group! You all did a terrific job! Think about agriculture's impact on your life as you return to your seats.

Pause as students return to seats.

Agriculture impacts us in several ways. Think to yourself, If corn prices doubled in the next year and your family eats corn tortillas daily, what would that do to your food budget? Pause for student reflection. Turn to your neighbor and share with them your thoughts.

Pause for student share.

Who will be the first to share their neighbor's thought?

Pause for student answers.

As *insert student name*, stated, that would increase their food budget. That dollar follows and trails our agricultural commodities from seed to stomach.

The thought of agriculture being domino effect is not too much different from our lives. Be honest, raise your hand if you ever told a lie that got out of hand and you had to tell another lie to cover it up? *Wait for student response*. Wouldn't it have been easier if you would have just told the truth in the beginning?

Wait for student response.

Why do we lie?

Wait for student responses.

Who will share an example of how a lie got them into trouble?

Allow for student volunteer.

What did you learn? In middle school you are getting involved in several different things. One shouldn't try to get out of one obligation with a fabricated lie. That doesn't get anyone anywhere. Try to live an honest life. Just like the dollar follows a commodity from seed to stomach, your lie might follow you forever. Thanks for all your hard work today.



Lesson Number: MS.IAS.2.3

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Application

Extended classroom activity:

Create an extension of your newscast with a podcast that you can post on YouTube or the school's website.

FFA activity:

Design a logo that represents agriculture's economic impact and have it placed on paper grocery bags to give to local grocery stores during Food Checkout Day or National Agriculture Week.

SAE activity:

Have students select an area of agriculture and create a brochure over what factors impacts that area of the industry economically.

Evaluation

MS.IAS.2.3.Assess.A (Instructor will need to add local and state content for questions 4 and 5.)

Answers to Evaluation

- 1) A, Brazil
- 2) B, 10%
- 3) D, Over \$90 billion
- 4) Answers vary, depending upon state
- 5) Answers vary, depending upon county



Cash Cab Game Cards

Agriculture in Your World

- What are the top 10 countries that the U.S. **exports** agricultural products to?
- What are the top 10 countries that the U.S. **imports** agricultural products from?
- How many of these countries are similar?
- If there are a large number of similar countries, how does that affect our agricultural trade?

Agriculture in Your Country

- How many people are employed by agriculture in the U.S.?
- How large is the USDA budget and how does the USDA spend that money?
- How much money do people spend on meat and other food items?
- If you were to spend \$1 on an item of food, how much of that pays for the farmer, wholesaler, retailer, etc?

Agriculture in Your State

- What are the top five commodities produced in your state and how do they rank in the U.S.?
- What food and meat products are popular in your state?
- What similarity is there between the types of commodities produced and the popular food products in your state? Why are they similar?

Agriculture in Your County

- What are the top five commodities produced in your county and how do they rank in your state?
- What areas of your county produce more agricultural commodities?
- Name at least 10 agribusinesses in your county.
- What is the Cooperative Extension Service and how does it serve your county?

Agriculture in Your Home

- How much of their income does the average U.S. citizen spend on food?
- What agricultural products, other than food, does your family use at home?
- Of the individuals in your group, how many parents work in the agricultural industry? How many parents have careers that are connected to agriculture?



Evaluation

Name _____

- 1) Which is not a chief importer of U.S. agricultural goods?
 - a. Brazil
 - b. Canada
 - c. European Union
 - d. Japan
 - e. Mexico

- 2) What percentage of the average U.S. disposable income is spent on food?
 - a. 5%
 - b. 10%
 - c. 20%
 - d. 25%

- 3) How big is the USDA's federal budget?
 - a. Under \$500 million
 - b. Under \$5 billion
 - c. Under \$50 billion
 - d. Over \$90 billion

- 4) Short Answer: What is your state's top commodity?

- 5) Short Answer: What is your county's top commodity?



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If you had to estimate how much you spend on food in a given day, what would it be? Use these steps to help you be more precise!

1. List what you ate for breakfast yesterday (for example, I had bacon, eggs, orange juice, and coffee)
2. Great! Next estimate a total cost for these items. (for my breakfast, I would estimate about \$4.00)
3. Now do steps 1 and 2 for lunch and dinner.
4. Fantastic! Now add the dollar amount or cost of any drinks or snacks you had during the day.
5. OK, now add these totals together for the day. What did you come up with?
6. OK, the last step, multiply this number times the number of days in a year (365). What do you get now? How does this number compare to your original estimate?