Upper Level Lesson 4: In the Community

Standards:

These lesson tools meet the following Common CORE and PA educational standards.

Economics: (PA Standards) E6.1.9.D, E6.5.9.F

Reading: (PA Standards) R 1.1.8. A, R 1.6.8. A, R 1.8.8. A; **(Common CORE):** CCSS.ELA-LITERACY.RI.6.4, CCSS. ELA-LITERACY.RI.6.10, CCSS.ELA-LITERACY.W.6.1, CCSS.ELA-LITERACY.SL.6.1, CCSS.ELA-LITERACY.L.6.3, CCSS.ELA-LITERACY.L.6.4, CCSS.ELA-LITERACY.RI.7.4, CCSS.ELA-LITERACY.RI.7.10, CCSS.ELA-LITERACY.W.7.1, CCSS.ELA-LITERACY.SL.7.1, CCSS.ELA-LITERACY.L.7.3, CCSS.ELA-LITERACY.L.4, CCSS.ELA-LITERACY.RI.8.4, CCSS.ELA-LITERACY.RI.8.10, CCSS.ELA-LITERACY.W.8.1, CCSS.ELA-LITERACY.SL.8.1, CCSS.ELA-LITERACY.L.8.3, CCSS.ELA-LITERACY.8.4

Math: *(PA Standards)* M7.A.1, M7.A.2, M7.A.3, M7.B.1, M7.D.2, ***Common CORE*** CCSS.MATH.CONTENT. RP.6.3B, CSS.MATH.CONTENT. RP.6.3D, CCSS.MATH.CONTENT. NS.6.3, CCSS.MATH.CONTENT. RP.7.2, CCSS.MATH.CONTENT. RP.7.3, CCSS.MATH.CONTENT. NS.7.1, CCSS.MATH.CONTENT. EE.7.3, CCSS.MATH. CONTENT.

Essential Question:

What costs go into producing a gallon of milk?

Approximate Length:
This lesson has two parts. Teacher can choose to teach one part or both parts of lesson. Lessons and parts can be taught during one large block or divided into periods over 2 - 4 days. Each part should take about 60 - 70 minutes of class time, with these segments:

Segment	Responsible	Segment	Responsible
1) Lesson Overview — 5 min	Teacher	4) Lab Exercise — 20 min*	Students
2) Reading Passage — 10 min	Students	5) Lesson Review — 10 min	Class
3) Classroom Discussion — 10 min	Teacher/Class	6) Lesson Evaluation — 10 min	Teacher

Material List:
To complete the lesson and lab activities, you will need the following items:

- "Discover Dairy… In The Community" Reading Passage (Copy for Each Student)
- "Discover Dairy … In The Community" Lab Handout (Copy for Each Student)
- "Discover Dairy … In The Community" UL Video Motivator (available to download or stream from www.discoverdairy.com or on the Discover Dairy Ipad Application)
- "Discover Dairy … In The Community" transparency or graphics to project
- Projector or White Board to Show Motivating Video and graphics
- For Part I Lab: *(consider grouping students in groups of four and having these materials for each group)*
  - ⇒ 1 empty milk quart sized jug
  - ⇒ Four 16-ounce portions of colored sand (each different color)
  - ⇒ Funnel for jug
  - ⇒ 1/2 and 1/4 cup measuring cups
- For Part II Lab: *(This activity should be completed in groups of eight, with materials prepared for each group)*
  - ⇒ Role playing cards for each group
  - ⇒ 20 $1 dollar bills (in play money) for each group of eight
- Pencil or pen for each student

Activating Strategy:
The activating strategy should take about 10 minutes of classroom time, with four minute video included, to set stage for lesson. Teacher should explain that milk is a staple in the American diet. It is also a staple in our nation's economy. The dairy industry is the largest segment of agriculture, the nation's largest industry. It contributes nearly $52 billion to the U.S. economy each year. Every gallon of milk sold helps to support many jobs across the country – jobs in the food industry, in service industries, and on the farm. This lesson will look at the costs that go into producing a gallon of milk, as well as the role dairy farms play in local communities. ***Show video motivator.***

PART ONE — The Dairy Farmer's Role in the Environment

Essential question:
"What costs go into producing a gallon of milk?"

Key to answering essential question:

- ♦ Explain the different stages of the production channel of milk.
- ♦ Learn about the different jobs created by the dairy industry.
- ♦ Analyze how changing costs in different stages of the process influence the final milk price.

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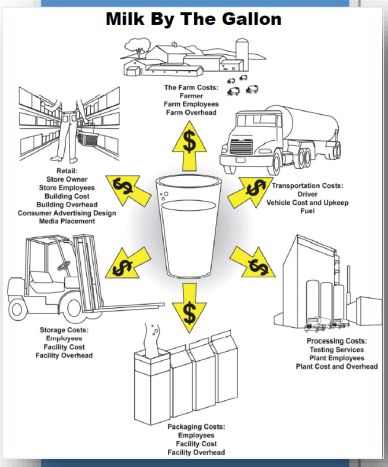
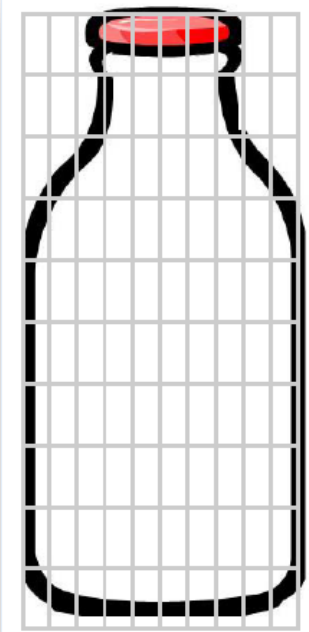
Upper Level Lesson 4: In the Community





Reading Passage: ***(Give students about 10 minutes to read page 1)***
Classroom Discussion: ***(Use transparency to walk through Reading Passage.)***

Explain that, in the United States, we are very fortunate to have one of the cheapest food supplies in the world.

- Ask the students the percentage of disposable income Americans typically spend on food. Why have higher expectations recently been placed on farmers to provide inexpensive sources of high-quality foods? *(11 percent compared to 50 percent in other countries; because the number of people living in poverty is increasing.)*
- What percentage of the food dollar does the farmer receive? What does he use his percentage of the food dollar for? *(About 19 cents or 19-percent; he pays his expenses, including feed and labor)*
- Ask the students what transportation costs are. *(The cost of moving the milk from the farm to the processing plant and to the grocery store. These costs are reflected in the price of milk.)*
- What cost are reflected in the cost of processing? *(The cost related to operating the processing equipment and paying the workers who operate that equipment.)*
- Ask students what other costs are reflected in the price of milk. *(The cost of packaging the milk and storing it.)*
- What costs go into milk price at the retail level? (*Facility and labor costs, as well as the cost to advertise and market the product.)*
- Why would the price of milk be increasing? (*Rising fuel and energy costs, increasing labor costs, and other increasing costs can all drive up the price of milk.)* Why would the price of milk go down? *(Related costs would go down, or demand for the product could decrease.)*

Remind students that milk is one example of a product that has many costs associated with it. Those costs must all be reflected in the price the consumer pays at the grocery store. Each segment of the processing chain plays an important role in ensuring consumers have a safe, abundant and inexpensive supply of high-quality foods (including milk and dairy products).

Lab Exercise:
Teachers should prepare copies of the Community Lab Worksheet. Lab, which can be completed in groups of four, with classroom discussion at the end. Groups should be assigned to either Example 1 or 2.

Materials needed for lab (per group):

- ⇒ *1 empty milk quart sized jug*
- ⇒ *Four 16-ounce portions of colored sand (each different color)*
- ⇒ *Funnel for jug*
- ⇒ *1/2 and 1/4 cup measuring cups*

The teacher should follow the directions of the lab handout to facilitate classroom discussion around the exercise. Explain that the price you pay for milk at the store reflects many costs associated with producing, transporting, processing, packaging and storing the milk. In this lab, students will be looking at how changes in these costs reflect the final price paid for the milk while creating a visual of how costs are reflected in a gallon of milk.

The teacher should facilitate classroom discussion around the exercise. What would happen if there was a drought and the cost the farmer pays for his feed increases? What would happen if fuel cost suddenly decrease? What would *happen if there was suddenly a shortage or abundance of cows in the U.S.? What if the trucks transporting the product switch to ethanol-based gasoline?*

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Upper Level Lesson 4: In the Community

Part I Lesson Review:

Teachers can ask the following questions to evaluate whether students understand the steps that go into
ensuring milk is safe to drink.

1. How much of every dollar we spend on milk does the farmer receive? *19 cents*
2. What are the two largest expenses the farmer pays with that? *Feed and Labor*
3. What are some of the costs that go into the price of milk? *Transportation Costs, Processing Costs, Packaging and Storage Costs.*
4. What are some factors that could change the price of milk? *Any change in labor costs, cost of fuel, a drought or feed shortage for the farm, electricity costs or other cost.*
5. Whose job is it to ensure that consumers have a safe, abundant and inexpensive source of dairy products? *Everyone in the supply chain — from the farm to the store.*

Part I Lesson Evaluation: If desired, teachers can use the **Lesson 4 Part 1** section of the Discover Dairy post-test to evaluate students' ability to grasp lesson concepts. *This test can also be used at unit end.*

PART TWO — Dairy Farming and Our Economy

Essential question:

What role does the dairy farmer play in our economy?

Keys to answering essential question:

- Understand how dairy farmers use natural resources to generate capital resources.
- Identify three to five contributions that dairy farms make to the local community.
- Analyze how changes at the dairy farm impact others in the community.

Reading Passage: *(Give students 10 minutes to read over Page 2 of Reading Passage.)*

Classroom Discussion: *(Use Transparency to walk through Reading Passage)*

Explain that dairy farmers play an important role in our economy. Their job is to take good care of their cows and the environment to produce quality milk for consumers to buy.

- Ask students how farmers use natural resources to benefit the community. *(They use natural resource — air, water, sunlight — to produce capital resources, or goods that can be sold to bring money into the community.)*
- Ask students how the farmer uses the money they receive for their milk. *(The farmer uses the money to support the local community by purchasing supplies, paying employees and paying for services.)*
- How does this help the community? *(By bringing in money to local businesses and jobs to local residents.)*
- Why is the farmer's role in the community unique? *(Because they use natural resources to produce products that they can sell to other communities to bring additional income into the community.)*
- Ask students how many times the money farmers bring into the community exchanges hands. *(Typically 2.5 times. Because of this, each cow supports $13,700 in economic revenue.)*
- Ask students how many cows it takes to support one job. *(Nine cows — with jobs being either at the farm, in transportation, in the service industry, in processing or at the retail level.)*

Essential Question:

What role does the dairy farmer play in our economy?

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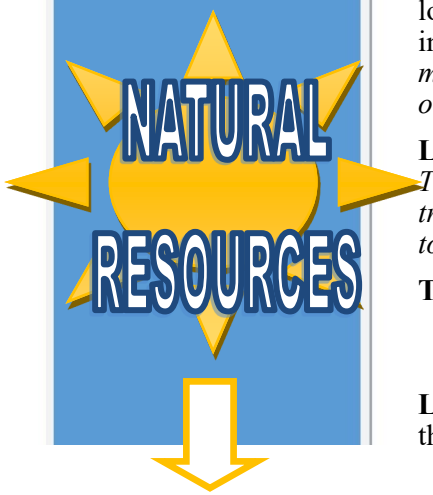

PART TWO — A Dairy Farmer's Role in the Community *(continued)*

Explain to students that dairy farms are one example of a business that supports the local economy through providing economic revenue and jobs. Ask the students how they think a local hardware store or grocery market would compare to a dairy farm in terms of supporting a community. *What about a saw mill or apple orchard? What characteristic do the saw mill, apple orchard and dairy farm have in common that the stores do not possess? In what other ways does the farmer support the local community?*

Lab Exercise:
Teachers should prepare copies of the Dairy in the Community Lab 4.2 Worksheet *to distribute to the class to prepare for this exercise. Students should be divided into groups of 8 to complete this exercise. Teacher should lead class discussion and facilitate exercise.*

The following items are needed for exercise (per group):
- ⇒ Role Playing Cards
- ⇒ Twenty $1 Bills of Paper Money

Lab Explanation: In this activity, students will follow the path of how money moves through a community. The exercise will demonstrate how the multiplier effect turns $1 of come into $2.50 worth of economic revenue. It will also show students how the milk the rmer sells supports many other businesses besides the farm.

ivide the students into groups of eight; hand out the role playing cards, paper money and orksheets; and explain to students that this is an exercise to demonstrate how money oves through a community. Before beginning, explain that each student's role in the ocess is printed on their card, and review each of the eight roles.

ncourage the students to walk through the 12 steps on the worksheet and to record how uch money moved through each person's hands on the worksheet. Once the chart is mplete, ask the students to total all of the dollars exchanged in the process, counting each change as one dollar.

esson Review:

eachers can ask the following questions to evaluate whether students understand the dairy farmer's role in the local community.

1. How is the dairy farmer's role in the local community unique? *They use natural resources — land, air, water, and sunlight — to produce capital resources or goods that can be sold or exchanged for money.*
2. How do farmers use money they receive for selling their products to benefit the local community? *They purchase supplies, pay for services, and provide jobs for employees.*
3. On average, how many times does the money the farmer brings into the local community exchange hands? *2.5 times*
4. How many cows does it take to generate or support job? *Nine cows support one job.*
5. Where would those jobs be located? *On the farm, in local companies and businesses, in transportation, in the processing industry, and at the grocery store.*

Part 2 Lesson Evaluation: If desired, teachers can use the **Lesson 3 Part 2** section of the Discover Dairy post-test to evaluate students' ability to grasp lesson concepts. *This test can also be used at unit end.*

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Upper Level Lesson 4: In the Community

Food for Thought:

Ask students to describe how income from other foods would move through the community. How would it compare to dairy?

Summarizing Lesson:

Remind students that milk is a staple in the American diet. It is also a staple in our nation's economy. The dairy industry is the largest segment of agriculture, the nation's largest industry. It contributes nearly $52 billion to the U.S. economy each year. Every gallon of milk sold helps to support many jobs across the country – jobs in the food industry, in service industries, and on the farm.

Summarize concepts identified in labs:

- Milk is one example of a product that has many costs associated with it. Those costs must all be reflected in the price the consumer pays at the grocery store. ***Each segment of the processing chain plays an important role in ensuring consumers have a safe, abundant and inexpensive supply of high-quality foods.***

- Explain to students that dairy farms are one example of a business that supports the local economy through providing economic revenue and jobs. ***A dairy farmer's job is to take good care of their cows and the environment to produce quality milk for consumers to buy.***

ʼaluation:

est comprehension of lesson content, use the "***Discover Dairy Upper Level Post As-...nent"*** available online at www.discoverdairy.com or in the IPad application. For a writing assessment, have the students research an article on the Internet that discusses sources of energy that come from a farm.

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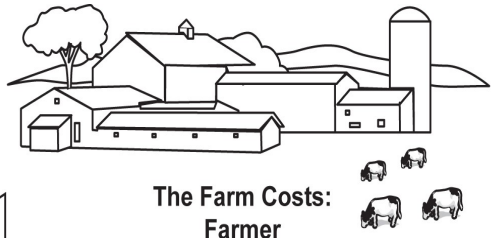
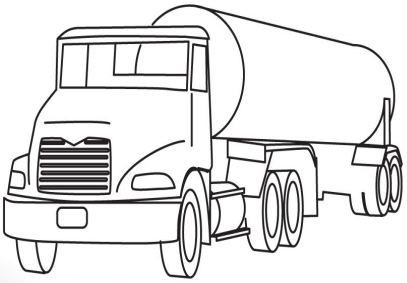
Milk Costs By the Gallon

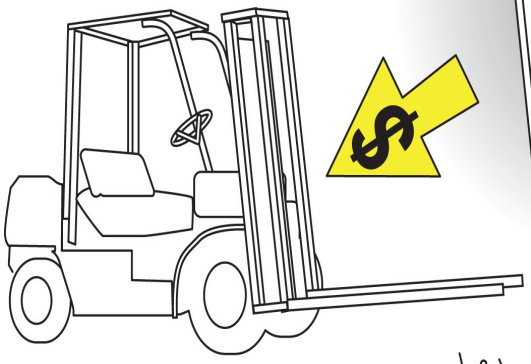


The Farm Costs:
Farmer
Farm Employees
Farm Overhead

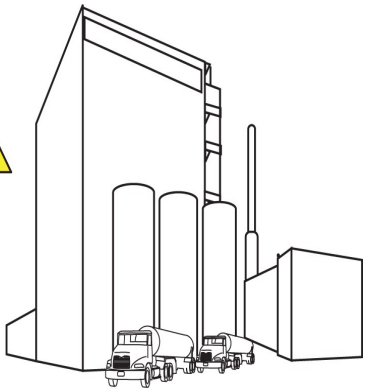
Retail:
Store Owner
Store Employees
Building Cost
Building Overhead
Consumer Advertising Design
Media Placement



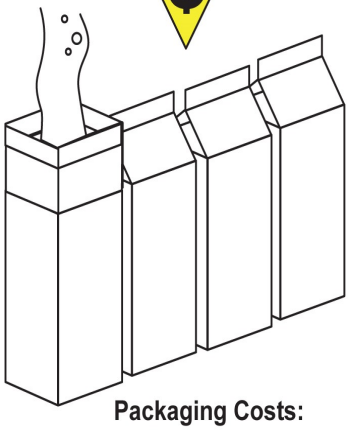
Transportation Costs:
Driver
Vehicle Cost and Upkeep
Fuel



Storage Costs:
Employees
Facility Cost
Facility Overhead



Processing Costs:
Testing Services
Plant Employees
Plant Cost and Overhead



Packaging Costs:
Employees
Facility Cost
Facility Overhead

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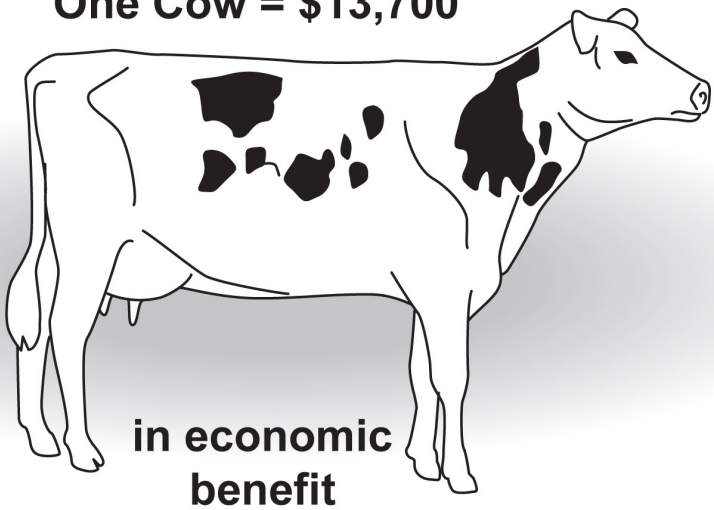
Dairy Farmer's Role in Community

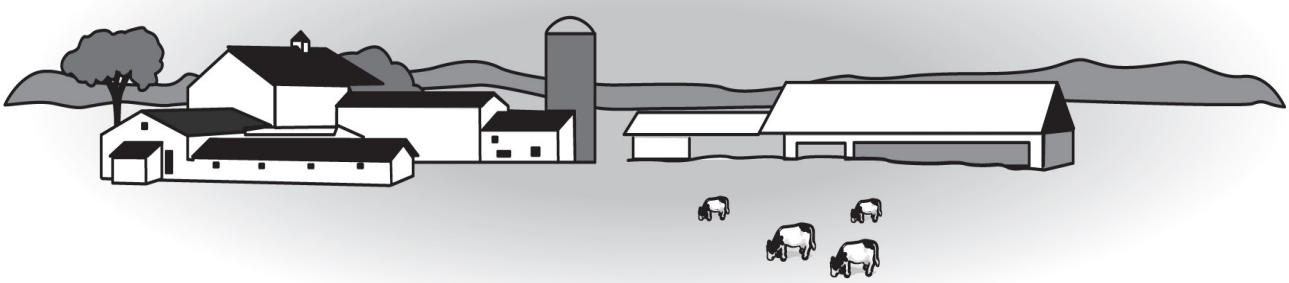
NATURAL RESOURCES → CAPITAL RESOURCES → MONEY FOR COMMUNITY

One Cow = $13,700



in economic benefit to the local community

One Farm = 75 Cows



Over $1,000,000 in economic benefit to the local community

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Lab 4.1: Milk Costs By the Gallon

The price you pay for milk at the store reflects many costs associated with producing, transporting, processing, packaging and storing the milk, from the cow on the farm to the grocery store shelf. In this lab, students will be looking at how changes in these costs reflect the final price paid for the milk while creating a visual of how costs are reflected in a gallon of milk.

Needed Materials:

⇒ *1 empty milk quart jug*
⇒ *Four (4) 16-ounce portions of colored sand (at least two different colors)*
⇒ *Funnel for jug*
⇒ *1/2 and 1/4 cup measuring cups*

Students should divide into groups of 4, and each group should be assigned to follow the directions for either Example 1 or Example 2. Find out which example you are to follow before beginning the experiment. The steps for Example 1 are below, and the steps for Example 2 are on page 2.

Example 1

Cost	Dollar Value	Corresponding Measurement	Percentage of Total Costs
Farm Costs	$0.375	3/4 cup	18.75%
Transportation Costs	$0.250	1/2 cup	12.50%
Processing Costs	$0.500	1 cup	25.00%
Packaging Costs	$0.125	1/4 cup	6.25%
Storage Costs	$0.125	1/4 cup	6.25%
Retail Costs	$0.625	1 1/4 cup	31.25%
Total Cost	$2.00	4 cups	100%

Step 1: In this exercise, sand will represent the costs associated with the price of milk. Each 1/4 cup of sand represents 12.5-cents. Translate the dollar values above to determine the measurement of sand that should represent each of the following costs associated with producing a gallon of milk.

Step 2: Now add the costs together and the measurements together to get the totals for each. Determine the percentage for each category.

Step 3: Now take the corresponding measurements to "create" the price of milk. Alternate the colors of the sand to represent each cost, and fill the milk jug up with the representative amount of sand for each cost, starting with farm costs and building up to retail costs.

Step 4: Use the graphic on the back of this page to draw a chart reflecting the different costs that go into the price of milk. Label the graph appropriately with the percentage listed for each cost.

Step 5: Compare your jug to one from Example 2 and write down reasons why your milk jug may appear differently than the other. What could have happened to create the difference?

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Lab 4.1: Milk Costs By the Gallon

Example 2

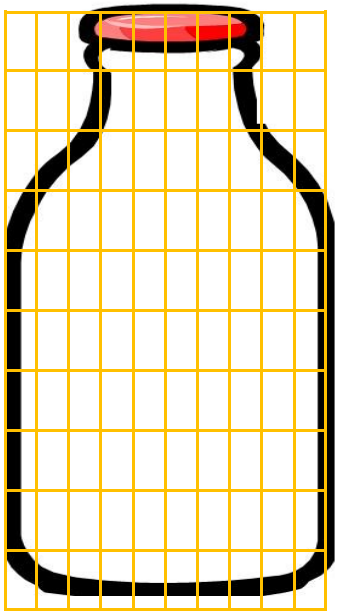
Step 1: In this exercise, sand will represent the costs associated with the price of milk. Each 1/4 cup of sand represents 12.5 cents. Translate the dollar values below to determine the measurement of sand that should represent each of the following costs associated with producing a gallon of milk.
Step 2: Now add the costs together and the measurements together to get the totals for each. Determine the percentage for each category.

Cost	Dollar Value	Corresponding Measurement	Percentage of Total Costs
Farm Costs	$0.375 cents	3/4 cup	15.79%
Transportation Costs	$0.500 cents	1 cup	21.05%
Processing Costs	$0.500 cents	1 cup	21.05%
Packaging Costs	$0.125 cents	1/4 cup	5.26%
Storage Costs	$0.250 cents	1/2 cup	10.53%
Retail Costs	$0.625 cents	1 1/4 cup	26.32%
Total Cost	$2.00	4 3/4 cup	100.00%

Step 3: Now take the corresponding measurements to "create" the price of milk. Alternate the colors of the sand to represent each cost, and fill the milk jug up with the representative amount of sand for each cost, starting with farm costs and building up to retail costs.

Step 3: Use the graphic below to draw a chart reflecting the different costs that go into the price of milk. Label the graph appropriately with the percentage listed for each cost.

Step 4: Compare your jug to one from Example 1 and write down reasons why your milk jug may appear differently than the other. What could have happened to create the difference?



The Cost of A Gallon of Milk

Use the milk bottle to chart what percent of the total cost is represented in each category (farm, transportation, etc.) and label each category. HINT: there are 100 blocks in the grid. Compare your bottle to the other example. What could have caused them to be different?

Difference: _____

What could have caused the difference:

_____

_____

_____

_____

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Lab 4.2: The Farmer's Role in the Community

Name: _____

In this activity, students will explore how money moves through a community. On average, **American farmers receive about 19 cents of every dollar the consumer spends on food.** The following role-playing scenario will demonstrate how the money moves through the economy and the local community.

What you will need: *Role playing cards for each group*

20 $1 dollar bills (in play money) for each group of eight

Walk through the steps below and record how much money moved through each person's hands on the "Money Exchanged Throughout a Community" chart found on page 2 of this worksheet. Once the chart is complete, total all of the dollars exchanged in the process, counting each exchange as one dollar.

STEPS:

Step 1: Students should divide into groups of eight and assign a role to each person in group.

Step 2: Teacher should give the farmer the gallon milk jug, and give 20 $1 bills to the consumer.

Step 3: The farmer hands the milk to the processor.

Step 4: The processor gives the milk to the grocery store owner.

Step 5: The grocery store owner gives the milk to the consumer.

Step 6: The consumer gives the 20 $1 bills to the grocery store owner.

Step 7: The grocery store owner keeps $7 and gives the rest to the processor.

Step 8: The processor keeps $7 and gives the rest to the farmer.

Step 9: The farmer, processor and grocery store owner each give the employee $1.

Step 10: The farmer, processor and grocery store owner each give the supplier $1.

Step 11: The farmer, processor and grocery store owner each give the service provider $1.

Step 12: The employee, supplier and service provider each give the tax collector $1.

Step 13: The farmer, processor and grocery store owner each give the tax collector $1.

Recording Information:

Record how much money moved through each person's hands on the bar chart found on the back of this page. Once the chart is complete, total all of the dollars exchanged in the process, counting each exchange as one dollar. If you total all of the dollars exchanged in the process, it equals $54 in economic activity generated by that $20.

Review:

Complete the questions below the chart on page 2 of this lab to summarize the exercise.

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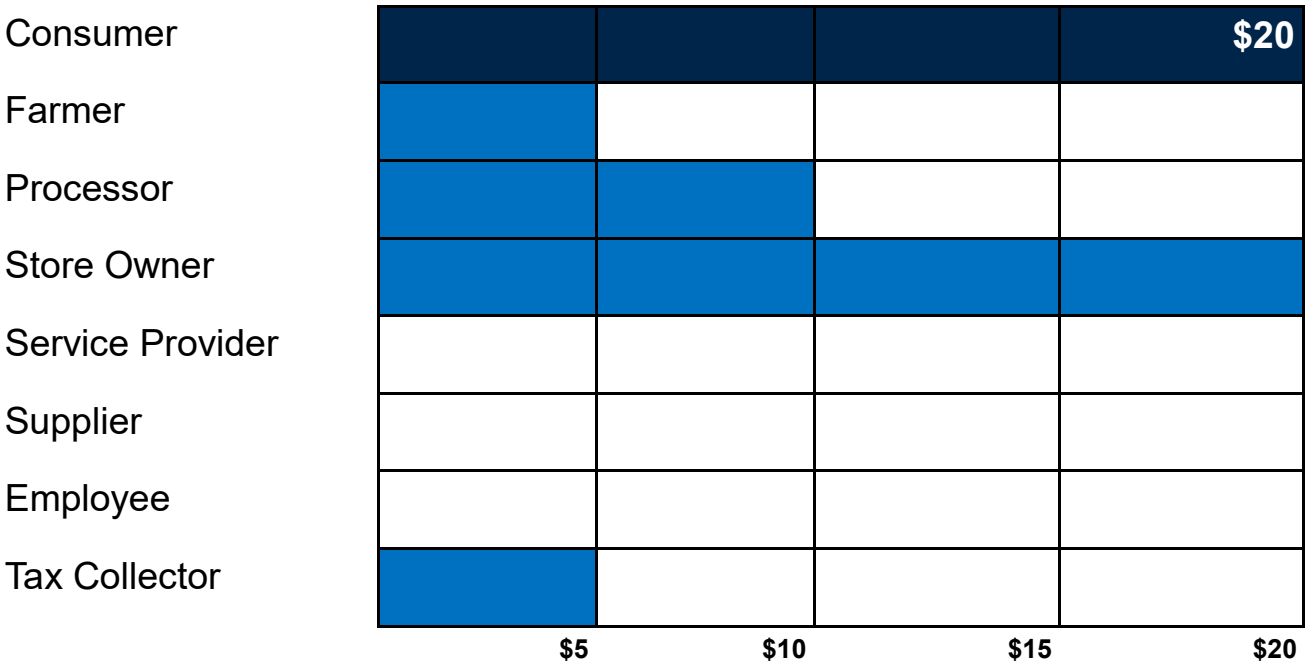
Lab 4.2: The Farmer's Role in the Community

Money Exchanged Throughout a Community

Shade in the bar chart below to indicate how much money each person receives in the process. The "Consumer" bar is shaded in as an example.



SUMMARY QUESTIONS:

1. How many different people received a share of the original $20? _____
2. How much total money moved through the community if you add up all of the dollars? _____
3. How much money does the farmer have left after he pays everyone? _____
4. How much does the processor have left? _____
5. Who ends up with the most money? _____
6. Who ends up with the least amount of money? _____
7. How do you think this situation compares to real world scenarios? _____

_____

_____

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Lab 4.2: The Farmer's Role in the Community

FARMER

The farmer produces the milk to start the cycle and brings money back into the community.

Amount of Money Received:

_____

PROCESSOR

The processor takes the milk and makes a product out of it that people want to buy, increasing the dollar value of the milk.

Amount of Money Received:

_____

GROCERY STORE OWNER

The grocery store owner markets the product where people want to buy it, increasing the value of the product.

Amount of Money Received:

_____

CONSUMER

The consumer puts the money into the cycle by paying for the product made from the milk.

Amount of Money Received:

_____

SERVICE PROVIDER

The service provider provides a service for those making the product. For example, this could be a veterinarian on the farm or an engineer at the processing plant.

Amount of Money Received:

_____

SUPPLIER

The supplier provides goods to help make the product. On the farm, this could be the feed. At the plant, it could be product-wrapping material.

Amount of Money Received:

_____

EMPLOYEE

The employee helps the work get done and is vital to keeping the process moving.

Amount of Money Received:

_____

TAX COLLECTOR

The tax collector uses tax dollars to help the community do things like build new roads and make other improvements.

Amount of Money Received:

_____

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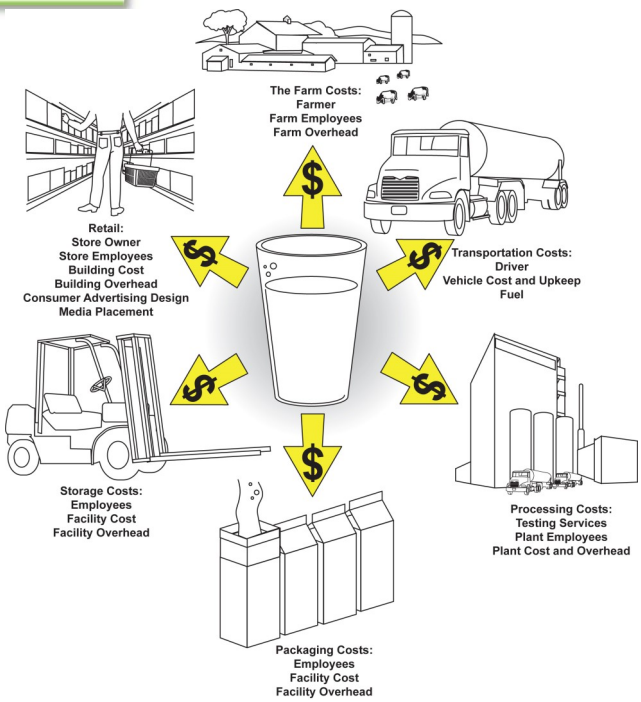
Discover Dairy... in the Comunity Reading Passage



Milk is a staple in the American diet. It is also a staple in our nation's economy. The dairy industry is the largest segment of agriculture, the nation's largest industry. It contributes nearly $52 billion to the U.S. economy each year. Every gallon of milk sold helps to support many jobs across the country — jobs in the food industry, in service and support industries, and on the farm.

Milk by the Gallon

What costs go into producing a gallon of milk?

In the United States, we are fortunate to have one of the cheapest food supplies in the world. Americans typically spend about 11-percent of their disposable income on food, while residents of other countries can spend 50 percent or more.

Still, as the number of people living below the poverty level in this country increases, higher expectations are being placed on the agriculture industry to continue to provide an inexpensive supply of safe, high quality foods.

On average, American farmers receive about 19-percent, or 19 cents, from every dollar consumers spend on food. They use that 19 cents to purchase feed for their animals and see for their crops, to pay employees and service providers, cover the mortgage, insurance and taxes, and to pay for buildings, equipment, and repairs on the farm.

Feed is the largest expense on a dairy farm, accounting for as much as 60-percent of the farmer's costs. The cost of labor — or what they pay themselves and their employees to work on the farm — is also a significant part of the farmer's budget.

The milk is hauled from the farm in a tanker truck and delivered to a nearby plant to be made into milk, cheese and other dairy products. The cost to transport milk from the farm to the plant is also reflected in the price we pay at the store. As fuel prices have increased over the past several years, this cost has increased.

Once at the plant, the milk must be pasteurized and processed into dairy products or bottled into fluid milk. Although much of the processing is automated, workers are needed to operate the equipment that takes the milk through processing. The cost to operate these processing plants and to pay workers is also included in the store price.

After the milk is processed and dairy products are made, they must be packaged and stored in refrigerated facilities until they are shipped to a grocery store or retail outlet. There are costs associated with the packaging, storage and additional transportation that are all reflected in the final price of milk.

Once at the retail level, the store sets the final price of the milk and dairy products sold to consumers. The store's price covers what they paid for the product and other costs associated with their store. Store labor and facility costs are reflected in the price, as well as advertising and marketing costs.

The consumer price of milk and dairy products changes frequently to reflect increasing costs on the farm, in transportation, at the processing plant, and at the store. Each segment of the processing channel plays an important role in providing an abundant supply of safe, high quality dairy products for consumers. The U.S. food supply is one of the safest, most inexpensive in the world.

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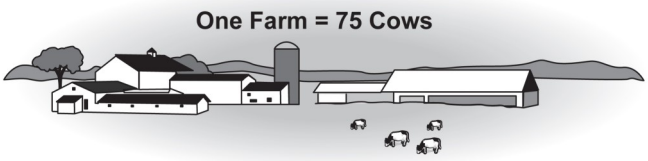
Discover Dairy... in the Environment Reading Passage

Dairy Farming & The Community



Over $1,000,000 in economic benefit to the local community

What role does the dairy farmer play in the economy?

Dairy farmers play an important role in our economy. Their job is to take good care of their cows and the environment to produce quality dairy products for consumers to buy. Farmers use natural resources, like the land to grow their crops, water for their cows to drink, and sunlight, to produce capital resources — goods they can sell to bring money back to their farms and the local community.

A farmer uses the money he receives from the milk he sells to support the local community. He uses it to purchase supplies, like feed and seed, pay his employees and service providers, like the veterinarian, and make investments in his dairy farm through building repairs, maintenance and upkeep. This money fuels the local community by bringing income into local businesses and jobs to local residents.

The farmer's role in a community is unique because he or she starts with natural resources — like air, water, land and sunshine — to produce a product that he can sell for money. They bring additional money into a community by selling that product outside the community and using the money they receive to pay for goods from local suppliers.

For instance, a dairy farmer in Lancaster County, Pennsylvania, may sell his milk to a grocery store in Philadelphia. The grocery store pays him money that he brings back to Lancaster County, where he purchases his feed and other supplies.

The money the farmer brings into a community typically changes hands 2.5 times, generating more income for the economy.

On average, every one cow on a dairy farm brings into the local community about $13,700 annually in economic revenue. An average size dairy farm, with about 75 cows, generates more than $1 million in economic revenue for a community each year.

Every nine cows on a dairy farm supports one job somewhere in the food and supporting industries – either on the farm, in transportation, at the processing plant or at the retail level.

Food scientists, truck drivers, marketing agents and regulatory inspectors are all positions supported by the dairy farm and those nine cows. In total, the dairy industry supports more than 45,000 jobs in Pennsylvania alone. Across the country, the dairy industry supports more than 1 million jobs.

Lesson Vocabulary Definitions:

- **Disposable Income —** The amount of income left over after taxes have been paid, available for savings or spending.
- **Consumer —** Any individual who uses goods and services generated by the economy.
- **Economy —** The system of production, exchange, distribution and consumption of goods and services within a county, region or area.
- **Labor** — Work of any kinds.
- **Revenue** — Income received from normal business practices, such as the sale of goods or services.
- **Natural Resources —** Economically referred to as land or raw materials, occurring naturally within the environment relatively undisturbed by mankind.
- **Capital Resources —** Any good that is used in the production of other goods.
- **Processing —** Describes the act of taking something through an established and usually routine set of procedures to convert it from one form to another.
- **Transportation —** The movement of people and goods from one location to another.
- **Service Industry** — An industry in part of the economy that provides services rather than tangible objects.

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