



Day in the Life: A Farmer

Grade: K-4

Description:

Where does the food we eat come from? Students will learn about agriculture, building an understanding of the roles of farmers, the use of agricultural tools, and the physical characteristics of different regions in the United States. Students will learn how different regions are suitable for different crops and how modern advancements in technology allow farmers to grow, store, and transport a variety of foods to grocery stores at any time of the year.

Preparation for the Excursion

To ensure the most meaningful learning experience for your students, it is recommended that students engage in activities prior to the excursion. The video resources provide students with a context for the virtual excursion. The additional resources and activities offer opportunities for curricular connections and integration within your larger unit of study. The excursion is intended to complement a comprehensive unit.

Video Link:

http://easylink.playstream.com/21_CenturyLearning/occupations/farmer_46.rm

Fun Fast Facts:

(Fun facts taken from the USDA for Kids website:

<http://www.usda.gov/news/usdakids/index.html>)

- There are over 2 million farms in the nation, growing food that feeds the world.
- The average American eats 25 pounds of rich each year.
- Only seven states produce rice. They are California, Arkansas, Florida, Louisiana, Missouri, Mississippi and Texas.
- Potatoes are grown in all 50 states in the U.S., and in about 125 countries throughout the world.
- Farmers have been using lasers for 25 years to level their fields.
- Potato chips are America's favorite snack. We eat 1.2 billion pounds each year.
- The average child will eat 1,500 peanut butter and jelly sandwiches by high school.

Lesson 1

Lesson at a glance:

Challenge Questions:

Where Does Food Come From?

Students learn that most of the food they buy in stores originally comes from farms. Students will sing a song about growing crops on a farm and learn from the lyrics the kinds of things that farmers do and need to grow plants well. They learn about the five steps in our food system and discuss its aspects in the context of a story about tomato farming and distribution.

Lesson Outcomes:

- Understand the physical and human characteristics of places.
- Understand how human actions modify the physical environment.

Materials:

- Oats, Peas, Beans and Barley Song Worksheet
- Steps in the Food System Graphic
- The Story of Miguel's Tomatoes
- From the Farm to Your Home student sheet

Lesson Process:

Step 1

Start the lesson by handing out copies of the lyrics to the Oats, Peas, Beans, and Barley Grow song. Explain the song to the class and read over the lyrics first, making sure students understand the meanings of these words:

- * sows his seed — plants his seed
- * takes his ease — takes his time
- * stands erect — stands up straight
- * hoes the weeds — removes the weeds
- * harvests his seed — cuts and collects his crops

Students will also need to understand what "Repeat First Verse" means and what to do after each chorus, as indicated.

After the read through, have the class stand in a circle and sing the song. Once they have a feel for what the song is and what it means, have the class "do the motions while singing," as directed. For instance, through discussion and modeling, students can learn

to stand erect, stamp their feet, clap their hands, and turn around to view the land as they sing.

When finished singing and doing motions, ask the challenge questions:

Challenge Questions:

- * Where are foods like oats, peas, beans, and barley grown?
- * What do farmers do first with their seeds?
- * What do seeds need to grow?
- * What kinds of things do farmers need to do to grow their crops?

During the discussion, have students take a closer look at the four main actions that the farmer does in the song to grow his crops:

1. First the farmer sows his seed.
2. Next the farmer waters the seed.
3. Next the farmer hoes the weeds.
4. Last the farmer harvests his seed.

Ask students if they know about the kinds of actions farmers (or even gardeners) take when planting, watering, hoeing, or harvesting their crops. Focusing on these fundamental steps in the farming process will better prepare students for learning about the main steps in our food system.

Finally, conduct a brainstorming session in which students come up with foods other than those mentioned in the song that are grown on farms.

Step2

Distribute copies of the Steps in the Food System, from the Feeding Minds Fighting Hunger site www.feedingminds.org . Have students focus on the illustration, hold a think, pair and share session.

- * What do you see in the picture?
- * What is going on? Who are these people?
- * What are the different men doing?
- * What kinds of things do you think are being grown?
- * What is the man doing on the field at the bottom of the picture?
- * Is weather important to farmers? Why or why not?
- * Besides farmers, what other kinds of workers help to bring food to our homes?
- * Where does food usually go after it leaves a farm?
- * How does food usually get to factories or supermarkets?

When finished, take time to read over and elaborate on the five steps involved in our food system—which begins with the food producer's efforts to grow crops or take care of animals, and ends with the final preparation of the store-bought fruits, vegetables, grains, dairy, or meat products we prepare and consume at home.

Step 3

Next, read **The Story of Miguel's Tomatoes**. The purpose of this story is to illustrate the five food-system steps that Miguel's tomatoes undergo from the farm to people's homes. Pass out copies of the From the Farm to Your Home student sheet and read over the directions to help students understand that they will be required to draw scenes from Miguel's story that are part of the five steps of the food system.

Begin by carefully reading over the first section of the story, The Tomatoes Grow in the Fields, because it describes how tomatoes are grown.

Section 1: The Tomatoes Grow in the Fields

- * What did Miguel have to do to prepare his fields before planting?
- * What kinds of things do plants need to grow well?
- * How did Miguel know when to pick the tomatoes?
- * How did Miguel and his wife pick, store, and transport the tomatoes?

After the discussion, provide guidance as students draw scenes from the story on their student sheets that depict Steps 1–3.

After covering the first section and completing their illustrations for Steps 1–3, read over the last four sections of Miguel's story with students, taking breaks in between to address discussion questions like the ones below. Students should complete the illustrations for Steps 4–7 on their own.

Section 2: The Tomatoes Go to the Village Market

- * What did Miguel do with the tomatoes at the village market?
- * What did Pedro do with the tomatoes? How did he transport them?

Section 3: The Tomatoes Go to the Big City

- * Where in the city did Pedro transport the boxes of tomatoes?
- * Why were the tomatoes stored in a cool, dark room at the supermarket?

Section 4: The Tomatoes Go to the Food Processing Factory

- * What happened to the tomatoes at the food processing factory?
- * What was the job of the sorters at the factory?

Section 5: The Tomatoes Go Home

- * What happened to the tomatoes after they were canned?
- * Would Miguel and Ana ever buy canned tomatoes at a store?
- * What kinds of meals does your family make with canned tomatoes?

Assessment:

When finished, have students present their illustrations to the class and explain how their pictures depict the steps Miguel's tomatoes took from the farm to people's tables. The students should be able to explain the progression of food from beginning to end in correct sequence, either with illustrations (K-1) or sentences (2-4)

Extension/Independent Activity:**Peanuts into Peanut Butter**

As a way for students to step back a bit from what they have learned and better conceptualize the food-to-table process, encourage them to think about some common foods in their homes and discuss what kind of processing they went through to get there.

Students should make the connection, when possible, back to the crops. For example, have them consider the peanut butter and jelly sandwich. Have them consider and discuss the possible process that peanuts undergo to become peanut butter (or that berries take to become jelly). This kind of fun and practical pondering will help to reinforce what they have already learned, and allow them to make the crop connection with everyday foods that are real to them. Other simplified examples may include:

- * Oatmeal — oats
- * Tater Tots — potatoes
- * Ice Cream — milk, sugar cane
- * Hot chocolate — cocoa beans
- * Coffee — coffee beans

Oats, Peas, Beans and Barley Grow



Oats, peas, beans and barley grow, Oats, peas, beans and barley grow, Can



you or I or any one knows Why oats, peas, beans and barley grow?

(do motions while singing)

Oats, peas beans and barley grow,
Oats, peas, beans and barley grow,
Can you or I or anyone know
Why oats, peas, beans and barley grow?

First the farmer sows his seed,
Stands erect and takes his ease,
Stamps his foot and claps his hands,
And turns to view his lands.

(Repeat First Verse)

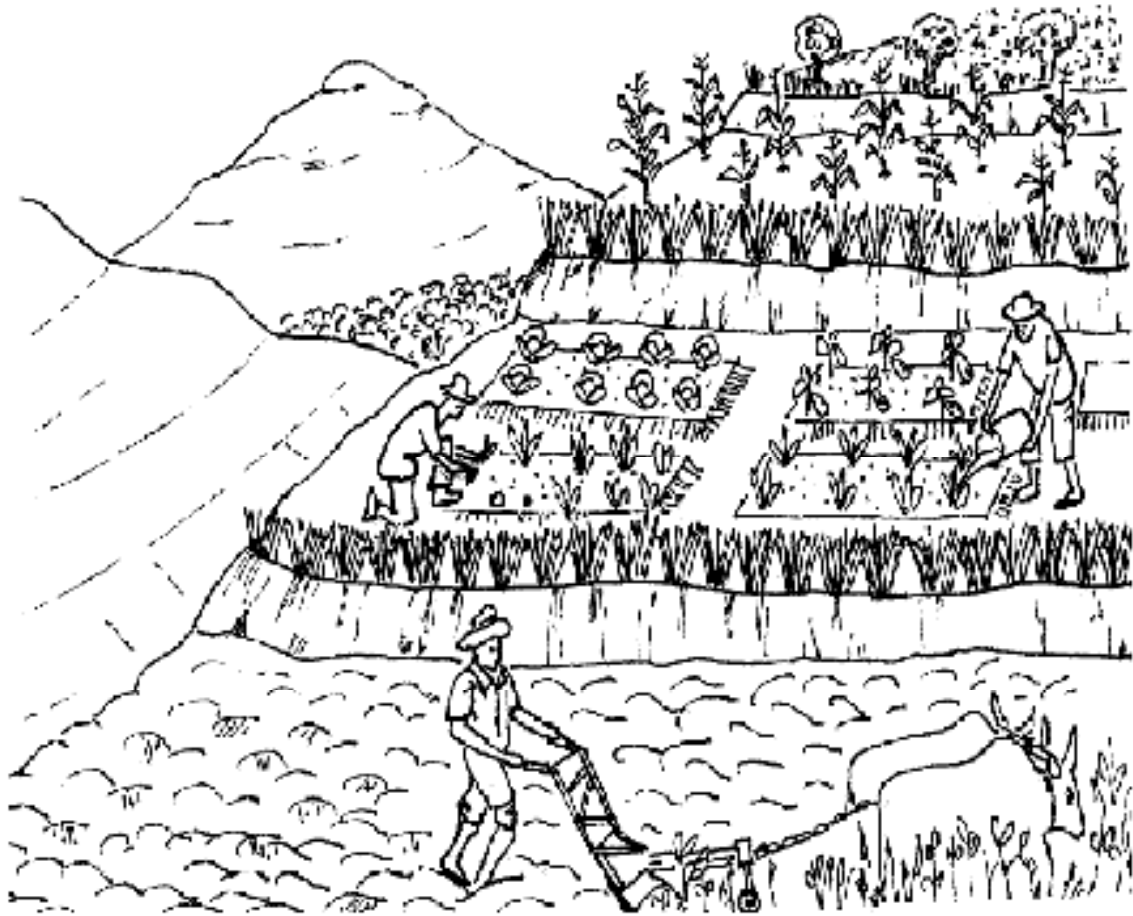
Next the farmer waters the seed,
Stands erect and takes his ease,
Stamps his food and claps his hands,
And turns around to view his lands.

(Repeat First Verse)

Next the farmer hoes the weeds,
Stands erect and takes his ease,
Stamps his foot and claps his hands
And turns around to view his land.

(Repeat First Verse)

Last the farmer harvests his seed,
Stands erect and takes his ease,
Stamps his foot and claps his hands
And turns around to view his land.



Steps in the Food System

- 1. Getting Ready to Grow Food**
- 2. Growing the Food**
- 3. Moving Food from the Field**
- 4. Processing, Selling or Storing the Food**
- 5. Preparing and Eating the Food**

The Story of Miguel's Tomatoes

The Tomatoes Grow in the Fields



The sun was shining on the field beside a small wooden house. The earth was damp with rain and rich with manure from the animals. Miguel pushed his new plow slowly back and forth across the field, making long rows that looked like tiny mountains in the dark-brown soil. Satisfied that his little mountain rows were neat and straight, he gently planted small green tomato shoots that he had raised from seeds. Many days and nights went by. Rain came and went, and the plants grew tall and thick with leaves. Miguel walked up and down the

rows, caring for the plants and adding more droppings from the animals to give nutrients to the soil. One day Miguel saw small yellow flowers peeking through the green leaves. Soon there were so many flowers that they looked like stars in the sky. And then, under each star-like flower, a tiny, round, green tomato appeared, as if by magic. The tomatoes grew and grew, and changed colors as the days went by. One by one, each tomato turned from dark green, to yellow and then to orange-red. When a tomato became large and red, Miguel knew it would be soft and juicy and ready to eat. He went up and down the rows and picked the tomatoes that were red and ready for his family to eat that day. Miguel brought a small bowl filled with tomatoes into his house. Ana, his wife, was happy to see how large and red the tomatoes were and knew they would taste sweet and good. She washed the tomatoes carefully to remove the dirt, and cut them into small pieces to make a sauce for their dinner that evening.

After many days the field was colored with bright red tomatoes on the green plants as they stood in long, neat rows. Now many tomatoes were ready to be picked. Ana could not use all of the ripe tomatoes for dinner that night. Early the next morning Miguel and Ana came into the field carrying large flat boxes. They slowly went up and down the rows of tomato plants, gently picking the tomatoes and packing them into the boxes. Miguel and Ana loaded the boxes of ripe tomatoes into their rickety cart. Saying goodbye to Ana, Miguel slowly pushed the cart down the dusty path to the village market.

The Tomatoes go to the Village Market

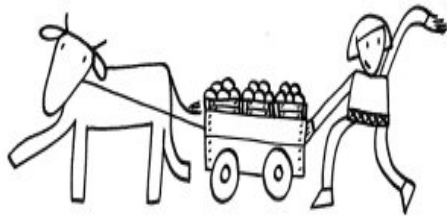
The market square was busy with people unloading goods to sell. Clothing and jewelry, belts and shoes, as well as cakes and breads made early that morning, were spread out for display on tables and blankets under brightly colored umbrellas. Eggs, meat and cheeses were being kept cool under wet cloths, and fruits and vegetables were carefully stacked into high piles. Some people, including Miguel, unloaded their boxes to one side of the market square. Here they waited for the people who came in trucks to buy foods and other items from the village and take them to the big cities.



Miguel stood by his boxes of tomatoes and watched as an old battered truck rumbled nosily into the little market square and sputtered to a stop. Pedro waved to the villagers in the market as he jumped out of the truck and slammed the door with a noisy bang. Pedro was happy to see many people in the market with boxes piled high with fresh, ripe fruits and vegetables. Pedro and Miguel talked about the price and quality of Miguel's tomatoes. When they agreed on a price Pedro agreed to buy all of Miguel's tomatoes. Miguel then helped Pedro load the boxes of tomatoes into the truck. Pedro visited other people in the market and bought many more fruits and vegetables. Soon the back of the old truck was crowded with fresh fruits and vegetables raised in the village gardens. Pedro knew it was time to start the long journey back to the city. He was satisfied that he would make a profit on the resale of the foods he had just purchased in Miguel's village. Pedro climbed into his truck, carefully started the engine, and slowly pulled out of the market square, with a friendly wave to Miguel, who was pushing his cart back to his little house.

While Miguel was at the market, Ana picked more ripe tomatoes to be made into sauce. She carefully cleaned the jars with hot water and prepared the tomatoes for the sauce. When Miguel returned from the market, Ana had many beautiful red jars of tomato sauce to be eaten long after the summer sun was gone and their fields were covered with white snow. Ana was pleased that Miguel was able to sell all of their tomatoes. She knew that they would now have money to purchase other foods and supplies they need for the family. After the long day, Miguel and Ana were tired and hungry and were glad to sit down to their evening meal of foods they raised in their garden, including sauce made from their bright red tomatoes.

The Tomatoes go to the Big City



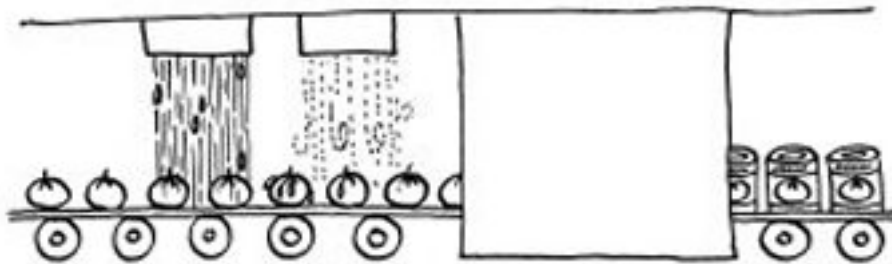
While Miguel and Ana were having their dinner, Miguel's tomatoes continued their long journey to the big city. Carefully packed in their boxes, the fresh red tomatoes rumbled along dusty roads, over wooden bridges and through small towns. Many people in the city do not grow their own foods. They must buy everything they need from the great new downtown supermarket, or the market stalls that have been located along the city walls for as long as anyone can remember. For many years, Pedro has gone into villages in the countryside to buy vegetables to sell in the city. He sells his fresh vegetables to the produce manager at the new supermarket, to the people who have market stalls and to the food processing factories on the outside of the city walls.

Pedro's truck came slowly to a stop at the loading dock of the new supermarket. The man from the supermarket was happy to see Miguel's fresh red tomatoes and the other vegetables in Pedro's big truck. Pedro unloaded several boxes of Miguel's tomatoes and other fresh vegetables and fruits and stacked them in a cool dark room filled with other boxes of tomatoes and vegetables. The heavy wooden door slammed shut and the room became dark and quiet. In the morning, workers from the supermarket would stack the tomatoes high in the shiny cool display cases under bright lights in the great supermarket. Busy city people would put the plump red tomatoes into plastic bags and carry them home for dinner.

The Tomatoes go to the Food Processing Factory

The rest of Miguel's tomatoes continued their journey through the crowded city streets. All around Pedro's truck, horns were honking and traffic was rushing as a police officer directed Pedro on to the highway leading to the factory district outside the centre of the city. Pedro's truck rolled up to the loading dock of the food processing factory just as the sun was going down behind the city.

At the factory, strong men carried the boxes of tomatoes from Pedro's truck into the warehouse, talking and laughing as they worked. Long rows of boxes filled with tomatoes and other vegetables were crowded against each other, waiting to enter the factory to be turned into canned food. Boxes of tomatoes were emptied onto the conveyor belt that chugged its way through the factory to each of the processing steps. Miguel's tomatoes were now mixed up with tomatoes from all parts of the countryside. The conveyor belt slowly carried the shiny red tomatoes past the sorters. The sorters examined the tomatoes as they flowed by, looking like a flowing red river of tomatoes.



Their hands, wearing plastic gloves, could be seen darting out quickly to remove any tomatoes that were damaged. The tomatoes slowly chugged to the next station, where they were squirted with hot water and tumbled to remove their skins. Next they were dropped into a large tub where they were cooked and spices and salt were added. Miguel's tomatoes were now bubbling in the large tub with all the other tomatoes, smooth and plump in the spicy red juice. They continued their journey to the canning area where they were dropped with a splash and a plop into rows and rows of shiny round cans. With a noisy bang, the cans were sealed. A bright red label with the picture of a tomato was glued on to each can. Workers quickly snatched up the cans and put them into strong brown cardboard boxes.

The Tomatoes go Home

Miguel's tomatoes, deep inside the round cans, packed into cardboard boxes, were piled on to an electric cart that took them to the big warehouse to be stored until they were sold. Miguel's tomatoes could spend many months waiting in the warehouse until they were ordered. They could be ordered by someone in the city, or they could travel around the world to a distant place, perhaps even a place where tomatoes have never grown. They could travel in a truck, a train, an airplane or a boat. They may be purchased and used for dinner at a hospital, a school, a restaurant or by a family.

It is even possible that one day Miguel and Ana will go to the grocery store in their small village and buy a can of cooked tomatoes when their own supply of sauce made by Ana is gone.



They will sit down to dinner with the canned tomatoes in a sauce. And Miguel will say these tomatoes are delicious, Ana, but not as good as ours. And Ana will reply, yes, not as good as ours, but they are very, very good indeed. And they will not know that their tomatoes have come back home.

Lesson 2

Lesson at a glance:

Agriculture plays a major part in our lives: from what we wear, to what we use in our classes, and even to what we do after school. We may not always think of agricultural products as the physical source of the items or things we use everyday. However, most daily essentials can be traced back to an agricultural source.

Production agriculture, or farming, is what most students think of when they hear the word “agriculture.” This is the actual production or growing of raw commodities. People who raise and harvest crops and livestock for consumption or purchases are typically categorized as farmers and ranchers. It doesn’t stop there. Production agriculture also includes a variety of specialties, such as fish, timber, fur-bearing animals, trees, shrubs, flowers, herbs and much more. Most of the products we use everyday come from agriculture. The sheets we sleep on and the pajamas we wear are made from cotton, just like Q-tips for your ears. The feathers in pillows may come from chickens or ducks. The cereal and milk we eat for breakfast; the pencils, crayons, and paper that we use at school; and the baseballs, bats and gloves we use after school all originate from raw agricultural products. We know that our food comes from agriculture, but we are surrounded by and reliant upon many agricultural products the whole day through.

Lesson Outcomes:

- Students will identify the original agricultural sources of basic everyday products produced around the United States.
- Students will identify food and fiber products outside traditional farming circles.
- Students will have the opportunity to make real life connections to agriculture.
- Students will categorize sources of basic agricultural products.

Materials

- Vocabulary Words
- Activity Sheets A (overhead) , B, & C
- Colored pencils or crayons
- Student personal dictionary handout

Books to Introduce agriculture: Follow the link for a list of children’s books on agriculture and farming. www.cerp.cornell.edu

Vocabulary Words

- **agriculture** – farming; the science, art and business of cultivating the soil, producing crops and raising livestock useful to people.
- **cotton** – the soft, white seed hairs, which fill the seed pod of the cotton plant.
- **crops** – agricultural products, growing, harvested, or collected; for example, wheat, cotton, fruit, honey.
- **dairy cows** – cows raised mainly for the production of milk for dairy products.
- **farmer** – a person who earns a living by farming, especially one who manages or operates a farm.
- **forestry** – the science of systematic forest management for the production of timber, conservation, recreation, and wildlife.
- **flowers** – plants cultivated for their blossoms; flowering plants.
- **horticulture** – the art or science of growing flowers, fruit, vegetables, trees or shrubs.
- **livestock** – domestic animals kept for use on a farm or raised for sale and profit.
- **rancher** – a person living and working on a large farm raising livestock in large numbers.
- **timber** – trees or forests collectively; wood suitable for building whether cut or still in the form of trees.
- **wheat** – any of several cereal grasses having dense erect spikes containing grains which thresh free of chaff.

Lesson Process:

Step 1

Discuss background information about agriculture. Go over vocabulary words, have students write the definition, draw a picture and rewrite the definition in their own words on their personal dictionary sheets. (You can divide the words up into groups for students, or have them complete the words as an ongoing process throughout the lessons)

Display Activity sheet 1 on an overhead. As a class, match the product with its agriculture source.

Challenge Questions:

- What other products come from agriculture?
- What products come from horticulture, livestock, dairy or crops?

Have the students work in pairs to sort the products under the four headings on Student Sheet B. Allow the students to make a poster illustrating the four different agriculture sources and the products they create. Extension: have the students write an expository essay on each industry.

Step 2:

Most states produce their own milk, eggs, fruits, vegetables, and grains. Some states produce so much of a particular crop or animal that they have become famous for their particular products

- Where in the United States does your food come from?
- Where does your lunch come from?

Handout student sheet C. Color each circle on the legend with a different color, then color a small circle on the map to match the products of the most productive states in the United States. **Mark each agricultural product with a different color.** Many states will have more than one colored circle.

- Why are these products produced in these locations?

Assessment: Students should be able to correctly identify the various farming industries and the products they produce. Students will be able to use a map, correctly identify all 50 states and apply their knowledge of agriculture to complete the map with an appropriate key.

Extension:

Have the students chart data using the map. This can be done in small groups or as a class. Chart the data in a bar graph by the number of crops each state produces.

References:

www.agclassroom.org Agriculture in the Classroom is a grassroots program coordinated by the United States Department of Agriculture. Its goal is to help students gain a greater awareness of the role of agriculture in the economy and society, so that they may become citizens who support wise agricultural policies.

www.feedingminds.org Feeding Minds Fighting Hunger is designed to help equip and encourage teachers, students and young people all over the world to actively participate in creating a world free from hunger.

www.sciencenetlinks.org Providing resources for K-12 science educators, Science NetLinks is a standards-based guide for students and teachers.

Web resources:

www.ext.vt.edu/resources/4h/virtualfarm/main.html The 4-H Virtual Farm takes you on a tour of a very important industry. Find out why farming is part of your life even if you have never visited a real farm.

www.usda.gov United States Department of Agriculture The USDA is responsible for the safety of meat, poultry, and egg products. USDA is a research leader in everything from human nutrition to new crop technologies that allow us to grow more food and fiber using less water and pesticides. The site contains information on farming and food consumption for every state.

Activity Sheet A

Match the agriculture source on the left with the product or products it creates on the left



Timber



Dairy Cow



Cotton



Flower



Wheat

cheese

blue jeans

paper

spaghetti

perfume

ice cream

pencils

tortillas

shirts

potpourri

houses

yogurt

cereal

Answer Key:
Activity Sheet A

- timber – paper, pencils, potpourri, houses
- dairy cow – cheese, ice cream, yogurt
- cotton – blue jeans, paper, shirts
- flower – perfume, potpourri
- wheat – spaghetti, tortillas, cereal

LESSON 1 ACTIVITY SHEETS

From the Farm To Your Home Student Sheet

Draw pictures and/or write sentences describing the journey of Miguel's' Tomatoes.



STEP 1: Getting Ready to Grow Food

STEP 2: Growing Food

STEP 3: Moving the food from the field

From the Farm To Your Home Student Sheet

STEP 4: Processing the Food

STEP 5: Selling the Food

STEP 6: Storing the Food

STEP 7: Preparing and Eating the Food

Name _____

Activity Sheet B

Agriculture in Your Life

Sort the words into the appropriate category. Make a poster illustrating the four different type of farming and the products they create.

Place the vocabulary words in alphabetic order under the appropriate topic.

Crops

Livestock

Horticulture

Dairy

Vocabulary Words

beef cattle

cotton

sour cream

sheep

turf grass

corn

vegetables

cheese

dairy cattle

wheat

soybeans

ice cream

poultry

flowers

yogurt

apples

butter

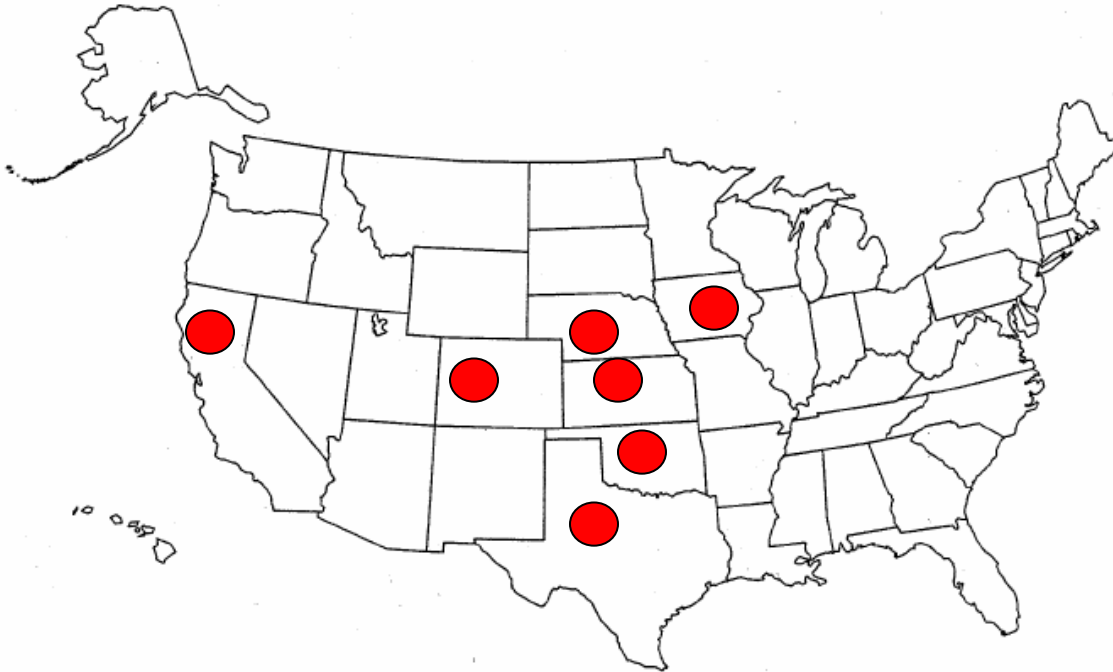
swine

rice

trees

Activity Sheet C:

Directions: Color the dots on the legend, each a different color. Find the states on the map that correspond with each product and color the products dot into that state. (Note: do not color the whole state, as a state may have more than 1 product.) The first one has been done for you.



Legend

- Beef: Texas, Nebraska, Kansas, Colorado, Iowa, Oklahoma, and California.
- Chickens: Arkansas, Georgia, Alabama, North Carolina, Mississippi, and Texas.
- Corn: Illinois, Iowa, Nebraska, Indiana, Minnesota, and Ohio.
- Dairy Products: Wisconsin, California, New York, Pennsylvania, Minnesota, and New England.
- Eggs: California, Georgia, Arkansas, Indiana, Pennsylvania, and Texas.
- Fruit & Vegetables: California, Florida, Arizona, Washington, New York, Georgia.
- Pork: Iowa, Illinois, Minnesota, Nebraska, Indiana, North Carolina, and Missouri.
- Soybeans, major oil crop used in salad dressings and mayonnaise: Illinois, Iowa, Nebraska, Indiana, Minnesota, and Ohio.
- Potatoes: Idaho, Washington, California, North Dakota, Maine, and Wisconsin.
- Tomatoes: Florida, California, Virginia, Ohio, Georgia, and Michigan.
- Wheat: North Carolina, Kansas, Montana, Oklahoma, Washington, and Minnesota

Student Personal Dictionary page (reproduce as many copies as needed, or bind together to make a book for each student)

Word: _____
Teacher Definition: _____

Picture:

My personal definition: _____

Word: _____
Teacher Definition: _____

Picture:

My personal definition: _____

