Lesson Number: MS.FS.1.1

Mapping My Food

Middle School Food and Agricultural Literacy Curriculum

Precepts

A. Action

A.2. Focus on results

National Standards

CS.01.01.02.c. Assess outcomes to determine success for a task.

ABS.06.02.01.a. Identify the purpose, components and developmental processes of marketing plans.

AS.01.01.02.b. Outline the development of the animal industry and the resulting products, services, and careers.

FPP.01.01.01.a. Discuss the history and describe and explain the components (e.g., processing, distribution, byproducts) of the food products and processing industry.

FPP.02.03.01.a. Explain techniques and procedures for the safe handling of food products.

FPP.04.02.01.a. Identify and describe foods derived from meat, egg, poultry, fish, and dairy products.

NL-ENG.K-12.3 – Evaluation Strategies

NL-ENG.K-12.12 – Applying Languae Skills

NS.5-8.3 – Life Science

NSS-EC.5-8.7 – Markets and Market Prices

Student Learning Objectives

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

Recognize how food product pathways affect consumers.

As a result of this **lesson** the student will…

Construct an animal food product pathway.

Content Outline

Objective 1. Construct animal food product pathway.

I. Animal food product pathways: the path the product takes from the farm to fork. The pathways include four segments: *Production*, *Processing*, *Distribution,* and *Marketing*.

Time:

Instruction time for this lesson: 45 minutes.

Resources

Lee, J., Patrick, A., Vaughn, R., Vaughn-Randel, S., & Murphy, E. (2003). AgriScience Discovery. Danville, IL: Interstate Publishers, Inc. — Morgan, E., Chelewski, R., Lee, J., &Wilson, E. (2000). Agriscience Explorations. Danville, IL: Interstate Publishers, Inc. — National FFA Organization. (2003). LifeKnowledge Precepts and Signs of Success. — Parker, R.O. (1999). Parts of the food industry. Retrieved July 10, 2009. From AgEdNet.com. www.agednet.com.

Tools, Equipment, and Supplies

Music player
Writing surface
Index cards – one per team, 5 teams
Assorted markers
Plain paper – one sheet per student
White/chalk board or flip chart for teacher
Flip chart paper – 5 sheets for students – one per team
MS.FS.1.1.AS.A – one per student
MS.FS.1.1.AS.B – one per teacher
MS.FS.1.1.ASSESS.A – one per student

Key Terms

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

Production

Processing

Distribution

Marketing

A. Animal food products: animal food products come from beef, pork, poultry, and dairy.

1. Beef products come from beef cattle, and products include hamburger, steak, roasts.
2. Pork products come from pigs and include ham, pork chops, bacon, sausage.
3. Poultry products come from any domestic bird raised for food, and the most common include chicken and turkey. Poultry also produces eggs.
4. Dairy products come from dairy cattle and include milk, ice cream, yogurt, cheese.

B. ***Production:*** the type of operation or process involved in manufacturing animal food products

1. Farm: land used to raise animals or grow crops.

2. Ranch: large area of grass or pasture land where animals freely roam and graze.
3. The production process includes animal selection, breeding, and slaughter.
4. Handling of unprocessed products, like raw milk.

C. ***Processing:*** the process of converting the original, raw product into a final product ready for distribution and consumption.

1. Prepared processed foods like deli meat, cheese slices, yogurt, hot dogs, etc.
2. Grading: sorting the product based on quality, like Prime beef, Grade A milk or Grade AA eggs
3. Cleaning: removes unwanted materials from the food products, for example washing eggs
4. Preserving: prevents the food from spoiling before it reaches the consumer and extends its shelf life
5. Portioning: dividing the food products into serving sizes and packaging amounts
6. Packaging: storing the food products in containers, like egg cartons, milk jugs, etc.

D. ***Distribution***: preparing the animal food products to be sold

1. Packaging: types of containers to keep food safe during transportation
2. Storage requirements – the way the particular food product must be stored to stay fresh
3. Shelf-life: the amount of time a food product can remain on the shelf without spoiling

E. ***Marketing***: selling of animal food products to the consumer; connecting the consumer to the product.

1. Retail: the selling of products directly to consumers, such as grocery store chains.
2. Wholesale: buying or selling in large quantities for resale
3. Restaurants: sell prepared foods to consumers.

Interest Approach

Give each student a blank sheet of paper and two markers.

Allow students the freedom to create a map showing how to get from their home to their identified favorite restaurant. If the students ask questions seeking specific guidelines, tell them they can be as creative or as simple as they want to be, as this map is based on their experiences. They can use symbols, lines, or anything else that works for them. There is no right or wrong answer. Give students a two-minute warning before time is up. When they are finished working, have students share their maps and their favorite meals. As they are sharing their favorite meals, ask a student volunteer to make a list on the board or flip chart of the food items they list. Come back to the list of foods after the discussion of the map. Ask students to think about the purpose of a map.

Think about your local favorite restaurant. Now think about the closest location of that restaurant to your home. In your mind, imagine the process you normally go through to get from your home to that restaurant.

Take a brief pause to allow students to think about the topic.

A family member is visiting from out of town and needs directions to the restaurant. Think about the steps you would take to get from your home to your favorite restaurant. When I say DRAW, we will have five minutes to draw a map that will help your relative get from your home to your favorite restaurant. When the map is complete, write your favorite meal from that restaurant somewhere on your map. While you are drawing, we will listen to some music, When the music stops, lay your markers down and looking up to the front of the room. What questions are there? DRAW!

Start the music.

Give students a two-minute warning before their five minutes expires.

Great job working on your maps! Do we have a volunteer to be our scribe and write down the items we list about our favorite meals up here on the board?

Call on a student volunteer to come up and take notes for you.

Thank you. Now, let's have some volunteers share our maps as we discuss our favorite foods.

Call on student volunteers to share.

What purpose does this map you just created serve?

Responses might include: to get to a new place, keep you from getting lost, etc.

Great responses! The purpose of a map is to help us get from point A to point B. Think about your own personal experiences. Where are you trying to go in your life and how do you plan to get there? What is a helpful way to map out a plan for your life to help you reach your final destination? Let's hear some of your thoughts on this.

Students might need assistance with this. Provide guidance to indicate the importance of goals if students are confused. Setting goals is the desired response.

You got it, goal-setting! Setting goals helps us map out our lives to achieve success and happiness. Producers of food have goals, too. Their goals are to make sure your food is safe and nutritious and that it makes it to the final destination, your favorite restaurant. Since we have just learned about the history of agriculture and what agriculture truly is, we are going move forward by mapping the pathways that animal food products like beef, pork, poultry, and/or dairy take to get from the field to your fork. Since we have just discussed our favorite foods, let's discuss the list of foods we created.

Summary of Content and Teaching Strategies

Objective 1. Construct animal food product pathway (pork, beef, poultry, dairy).

Students will be creating posters. The content for this lesson will be provided for students on their description cards, **MS.FS.1.1.AS.B**. To make the description cards, cut out each description labeled Introduction, Production, Processing, Distribution, and Marketing and glue one description to each of the five index cards. Each student should also receive **MS.FS.1.1.AS.A** after the groups are finished preparing their posters.

Split the class into five groups by having students count off 1, 2, 3, 4, 5 where all the students who counted 1 are on a team, the 2's are on a team, and so on. There will be one team for each description card: Introduction, Production, Processing, Distribution, and Marketing.

Each team will need one sheet of flip chart paper, markers, and one description card. Each student will need **MS.FS.1.1.AS.A**. Supplies should be arranged at the front of the room for students to gather once the music starts and they move into their groups. Using the description cards, each team will transfer the information on the card onto the flip chart paper.

This can be done in outline form, using charts or diagrams, or using key phrases. Students can be creative in the way they want to present the information to the rest of the class. Students can also use the class textbooks if they feel they need additional information or examples to enhance their presentations. Students will use **MS.FS.1.1.AS.A** to fill in the missing information during the team presentations.

MS.FS.1.1.AS.A will also count as participation points for the day, so be sure to collect them at the end of the class to check for completion. Remember to give them back to the students. Distribute content outlines when students finish making their posters and are ready to present. The class should have about five minutes to create their posters and two minutes per team to present their segments. Use music while teams create their posters so when the music stops, students will know their time to work is up. The team will identify a speaker when the music stops by pointing fingers at teammates, and the person with the most fingers will be the speaker. The speaker should bring the poster to a corner of the room and hang it on the wall in preparation for the presentation. By the end of this activity, students should have completed content outlines ready for evaluation.

We just identified our favorite meals from our favorite restaurants as we designed our maps. Let's talk about some of those meals and their ingredients.

Discuss the foods listed on the brainstorming sheet and point out the products that are pork, beef, poultry, and/or dairy.

We are going to spend the rest of the class taking a closer look at animal food products like pork, beef, poultry, and dairy by mapping the path these food products might take to get from the farm to your table. All animal-based food products start with ***production*** and go through different forms of ***processing***.

Distribution takes place after processing, and ***marketing*** helps the food end up in the hands of the consumer. In a moment we are going to do a team activity to continue our exploration of this topic

To break into teams we are going to count off from 1 to 5, and all 1's will be a team, all 2's will be a team, and so on.

Count off and group.

Now that we are in our groups, send a representative up to the front of the room to gather supplies.

Supplies: description card, flip chart, markers, and a textbook, optional

When you hear the music play, you will have 20 minutes to use your description card to create an informative poster to teach the rest of the class about your topic, and each team will have two minutes to present. When the music stops, your team should be ready to present. What questions are there? Quick review: when you hear the music, create the poster, when the music stops, be ready to share.

Remember to give them a benchmark at 2 ½ minutes, followed by a one-minute warning. Stop the music when time is up.

Time's up! Now that you have completed your posters, you are about to receive content outlines, and these outlines will be used to gather key information during the presentations by filling in the blanks.

At this point, pass out **MS.FS.1.1.AS.A**.

What questions do you have?

Great. Now select one of your teammates to be the team speaker.

Allow time for students to select.

Grab your poster and find an empty spot on the wall. Remember, as we have just worked cooperatively to create our posters, we are now going to learn about the different steps in the animal product pathways. This means it is time to be intent listeners as we fill in our outlines and respect our classmates.

Have each speaker present their poster in order from step 1 to step 5, starting with Introduction and ending with Marketing. Walk around the room as students are presenting to ensure students are filling in their **MS.FS.1.1.AS.A**. Also, as students are sharing their posters, pay attention to the details to make sure the students are sharing enough information. If you notice that information has been left out, use questioning techniques and cues to encourage the students to share more information.

When the students are finished presenting, conduct a brief review by asking the following questions:

What are the types of animal food products?

Response: Beef, pork, dairy, poultry, eggs, milk, hamburger, etc.

What is the first segment of the animal-food pathway?

Response: Production.

What are some examples of production operations? Can anyone share an example of a responsibility a producer might have?

Response: Selecting livestock, breeding, slaughtering, etc.

What is the second segment?

Response: Processing.

What happens during processing?

The third segment is _____?

Point to the class to signal for them to shout out the answer. Response: Distribution. How are products prepared for distribution?

The last segment is _____?

Point to the class again to signal the students for a response. Response: Marketing.

What exactly is marketing? What are some examples marketing?

Review/Summary

When presentations and review are complete, have students return to their original seats. Once the students are seated, instruct them to find their maps. On the blank side of the map, they will be mapping the animal food pathways using the Cartographer e-Moment® to review the information they learned in the previous objective. In this activity, students will create a map to represent the information they just learned. They can pick one of the animal food products to map or they can map all of them. The idea is to have students map the steps that animal food products take to get from the field to their forks.

Fabulous work with your posters and presentations! When I say MOVE, you will have 15 seconds to move back to your seats for our next activity. Ready, MOVE!

Wait 15 seconds for students to find their seats and get organized.

Great. We just learned all about animal food product pathways. It's time to be artists again.

Use the information we just learned to show the steps of the animal food product pathways from ***production*** to ***marketing***. When I say DRAW, create a new map on the back of the maps we made earlier. You can make any kind of map you prefer, using lines, symbols, or pictures. You will have five minutes to make your new animal product pathway maps. What questions are there? DRAW!

I've seen some excellent maps and we've been on quite an adventure today. We've traveled to our favorite restaurant and we've discovered how the meal we would order found its way there. Notice, however, that the destination was thoughtfully planned, and it took many people to carefully execute a process such as this. Keep this mapping concept in your mind as you make decisions for your life…you are sure to arrive at your destination when you keep the end result in mind.

Application

Extended classroom Activity:

Students should select an animal food product to trace from production to marketing. Through research, a mobile should be developed tracing the four segments from the field to plate. If you have access to computers and Internet, class time can be provided for students to research the particular product to determine the key information about the product, including where it was made, how it is produced, how it is processed, the distribution process, and how the product is marketed. Research can also be completed for homework if students want to go shopping to determine local locations where the product is sold, or by looking through magazines and the newspaper for product advertisements. Upon completion, students can present their mobiles for the class, and the mobiles can be hung around the room. A rubric should be created and used to evaluate the mobiles.

FFA Activity:

Identify five proficiency areas and/or career development events that involve animal food products or correlate with the animal food product pathways.

SAE Activity:

Entrepreneurship Extravaganza - Create your own animal food product and develop the path it will take and where it will end up, the process from field to fork.

Evaluation

MS.FS.1.1.ASSESS.A

Answers to Evaluation

1. E
2. Decide which animals to care for, pay attention to health and welfare of animal, and/or handling products before processing
3. A
4. Packaging, Storage requirements
5. B

Animal Food Product Pathways: Farm to Fork

Name: _____

Directions: Fill in the blank with the correct answer.

1. **Animal food product pathways are the path the product takes from the field to fork. The pathways include four segments:** _____.

2. **Animal food products come from** _____. **Examples of animal food products include:**
   Beef
   Dairy

3. _____ **is the type of operation or process involved in manufacturing animal food products. Examples include:**

   Animal selection, breeding, and slaughter

4. _____ **is the method of converting the original, raw product into a final product ready for distribution and consumption. Methods include:**
   Preserving
   Packaging

5. _____ **involves preparing the animal food products to be sold.**
   Storage requirements

6. _____ **is the selling of animal food products to the consumer; connecting the consumer to the product.**
   Wholesale

1. Animal Food Products Introduction

Animal food products are food products that come from domesticated animals raised for food. These products include beef, pork, poultry, and dairy foods. An example of beef is hamburger, also known as ground beef, and this comes from beef cattle. Pork comes from pigs and a favorite pork product is bacon. Poultry comes from chickens and turkeys, and products also include eggs. Dairy products come from dairy cattle. Can you guess what delicious products come from dairy cattle? Right, ice cream and milk!



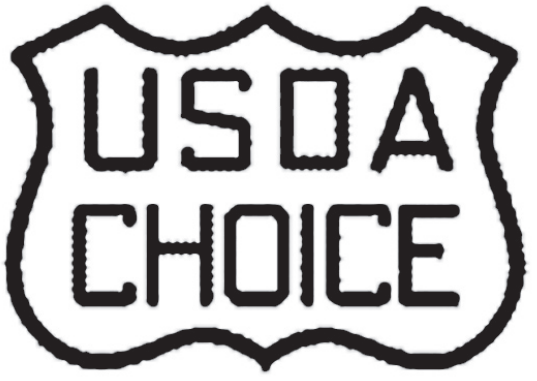
2. Production

Production begins on the farm or ranch, where producers decide what kind of animals they want to raise for food products. Producers pay extra special attention to the health and quality of the animals they breed and raise to ensure a nutritious, safe food supply. When meat animals are ready, they go off to slaughter in preparation for processing. Producers are also responsible for handling the products before they are processed and distributed, which means that raw products like milk, unprocessed meat, and fresh eggs require careful storage and handling to avoid contamination or spoilage during the production process.



3. Processing

The processing stage transforms animal food products from their original state into consumer-ready products. Processing has two purposes: to create processed foods like hot dogs, lunch meat, or yogurt and to prepare food for distribution and sale to the consumer. Animal food products are graded, or ranked for their quality, cleaned, preserved to avoid spoilage, divided into portions, and then packaged. After going through all of the steps of processing, animal food products are ready for the next step, distribution.



4. Distribution

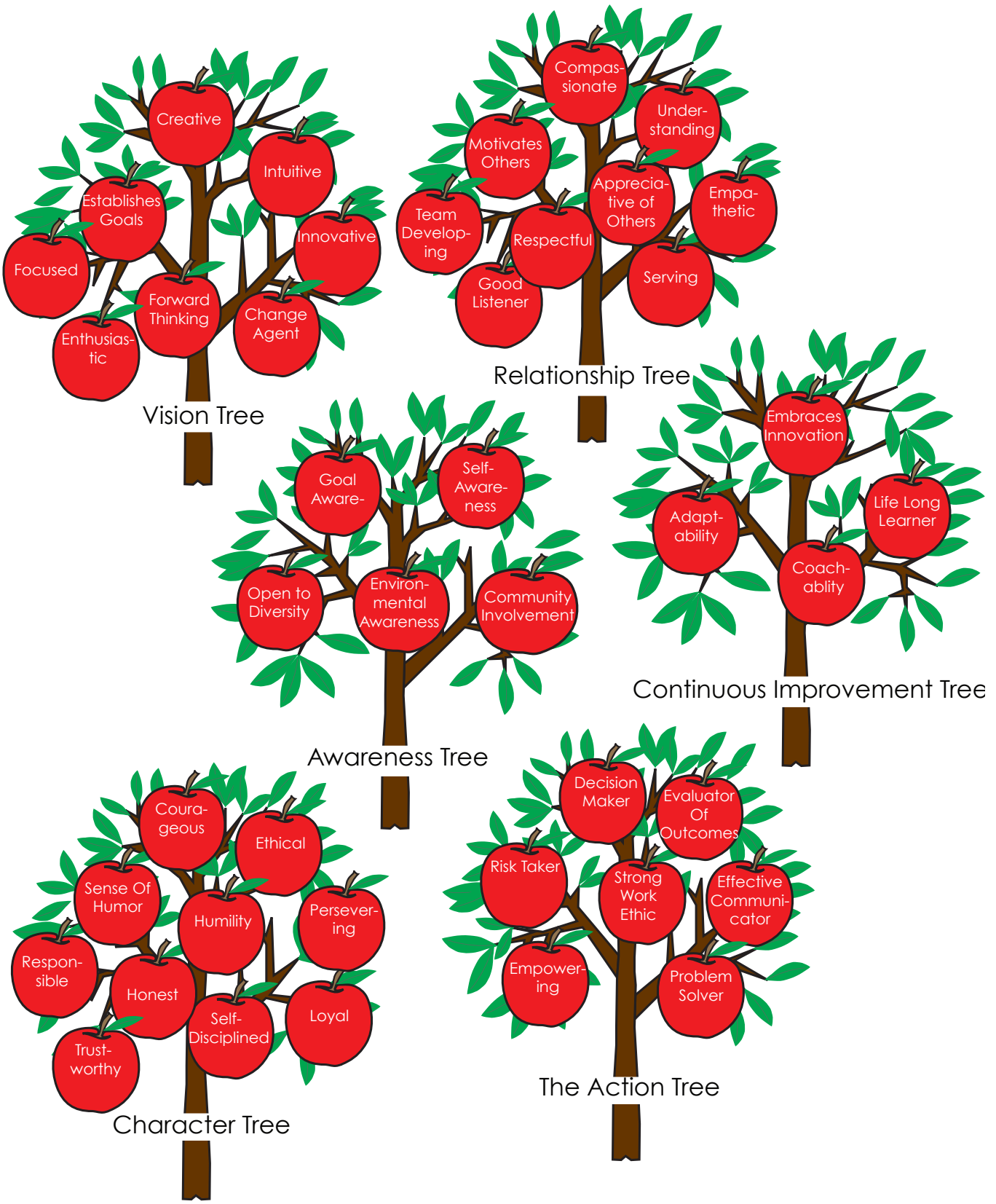
Distribution is the process of preparing animal food products to be sold. This process involves packaging to protect the products during transportation, proper storage of the products before, during, and after distribution, as well as identifying the shelf-life of the products, as the amount of time a product can be stored or sit on the shelf is critical. Animal food products must be packaged and stored properly in order for a fresh, safe product to meet the consumer.



5. Marketing

The last stop on the path to your plate is marketing. Marketing is the process of selling animal food products. Animal food products can be sold through wholesale markets which serve as the "man in the middle" by selling products to retail markets, including grocery stores, and restaurants, which sell prepared foods. Marketing connects consumers to their food.




Creative
Intuitive
Establishes Goals
Innovative
Focused
Forward Thinking
Change Agent
Enthusias-tic
Vision Tree
Compas-sionate
Under-standing
Motivates Others
Appreciative of Others
Empa-thetic
Team Develop-ing
Respectful
Good Listener
Serving
Relationship Tree
Goal Aware-
Self-Aware-ness
Open to Diversity
Environ-mental Awareness
Community Involvement
Awareness Tree
Embraces Innovation
Life Long Learner
Adapt-ability
Coach-ablity
Continuous Improvement Tree
Coura-geous
Ethical
Sense Of Humor
Humility
Persever-ing
Respon-sible
Honest
Self-Disciplined
Loyal
Trust-worthy
Character Tree
Decision Maker
Evaluator Of Outcomes
Risk Taker
Strong Work Ethic
Effective Communi-cator
Empower-ing
Problem Solver
The Action Tree

Name_____

Directions: Read each statement and decide which response is appropriate by circling the correct letter that corresponds with the selected response, or by writing the response in the space provided.

1. **Animal food products are edible products that come from:**
   A. Beef Cattle
   B. Swine (pigs)
   C. Poultry
   D. Dairy Cattle
   E. All of the above

2. **List two responsibilities that producers have for preparing animals.**
   A. _____
   B. _____

3. **The process of converting raw products into consumer-ready products is called processing.**
   A. True
   B. False

4. **List two of the three factors that impact the distribution of animal food products that were identified in class.**
   A. _____
   B. _____

5. _____ **is the process of selling animal food products to wholesalers, retailers, restaurants, and consumers.**
   A. Manufacturing
   B. Marketing
   C. Trade
   D. Promoting