

Lesson Title: Mission APA: Agricultural Pizza Adventure

Career Cluster: Agriculture, Food, and Natural Resources

Essential Knowledge and Skills: Teamwork, Problem Solving, Critical Thinking, and Communication

Career Concepts: Plan of Study, Career Information

Summary: Students will learn about the diversity of this career cluster by creating a new pizza product, product package, and commercial in the form of a skit. They will discuss the scope of the industry and explore the variety of careers through a series of sketches. Finally, students will look at their own school to create a plan of study for themselves.

Course Objectives:

- 1.2 Students will be able to identify compositions of career clusters and the relationship to the career field.
- 1.3 Students will be able to demonstrate an understanding of the relationship between coursework, school activities, community activities, and career clusters.
- 5.1 Students will be able to utilize technology to access career information.
- 5.2 Students will be able to utilize printed material to access career information.

Lesson Objectives:

Students will...

- Develop a new pizza food product and relate it to the agriculture industry.
- Describe the scope of agricultural, food, and natural resources career cluster.
- Describe the agricultural, food, and natural resource pathways.
- Find career information related to this cluster.
- Explore options in their school district to study agriculture, food and natural resource systems.
- Develop a plan of study specific to their school district.

Time: Five class periods

Required Materials: Paper, markers, assorted small boxes or pizza boxes (students can bring these or a local pizzeria may donate personal pizza boxes if asked in advance, pieces of poster board can be used as an alternative), large assorted paper to cover boxes, high school course catalog

Optional Resources: IFT Career Guidance Committee: The Pizza Explorer CD-ROM; Nebraska Department of Agriculture Fact Card, 2005; www.pizzaware.com; www.nebraskacareerconnections.org, course catalog selectors (they can be from previous years), computer lab, copies of activity sheets titled “Career Pathway”, “Plan of Study”, and “Favorite World-Wide Pizza Toppings”, www.mypyramid.gov, citnews.unl.edu/ianrhome/index.shtml, admissions.unl.edu/real_nebraska/, www.foodallergy.org/allergens/index.html, www.nal.usda.gov/fnic/foodcomp/search/, casnr.unl.edu/ProspectiveStudents/AcademicPrograms/

Guest Presenters: N/A

Content and Teaching Strategies:

Anticipatory Set

Have students draw a picture of what they envision to be “the perfect food.” It must contain all food groups, be something a person could eat for an entire meal, and taste good. They may invent the food or draw a picture of a food that already exists. When finished, have students share their drawings with a neighbor. Choose three to present to the class before moving on. Use these talking points:

- Many people consider pizza to be the perfect food. It contains many food groups and is enjoyed by millions every day.
- Explain pizza has been popular in this country for over 100 years—the first American pizzeria was opened in New York in 1905.
- Today Americans eat over 100 acres of pizza every day!

Lesson Components



1. Hold a class discussion using the following talking points:
 - Explain agriculture is more than what most people picture by instinct.
 - Agriculture has moved beyond the “cows, plows, and sows” stereotype and in to new fields including food product research and development. For example, ConAgra, an Omaha-based company spends millions of dollars on product research, development, and marketing for brands like Healthy Choice, Hunts Ketchup, Slim-Jims, and more.
 - Companies like Cargill, the largest privately owned company in the world, produce food ingredients.
 - Over 90% of the food that Americans eat either are made by Cargill or contain a product made by Cargill.
 - Corn syrup is one such common ingredient. These are just a few of the careers related to agriculture. Let the students know they’ll be talking about more careers over the next few days.
 - Use pizza as a metaphor for the diversity of agriculture in your discussions.
2. Challenge students to create a new pizza food product. They can modify the product, but their main task is to identify a target market and market it to that group of people. In small groups, students must do the following:
 - a. Choose a target market.
 - b. Develop a new pizza product.
 - c. Create a name for the product and their company.
 - d. Create new packaging in which to market and sell the product that includes: Brand name and generic name, net weight, nutrition facts, ingredient list, allergen warning, company contact information, and graphics appealing to their chosen target market.
 - e. Create a skit “commercial” that is focused to their target market. While doing this, students must emphasize the diversity of food groups found in pizza. Students should create a storyboard before they begin filming their commercial to show thought about a target market, product placement and advertising guidelines.

The worksheet “Creating Your Own Pizza” can be used as a brainstorming guide. When deciding on a target market, challenge their thoughts of traditional toppings with information found on the “Favorite World-Wide Pizza Toppings” handout.

Note to teacher: Allow students to start and work on their projects the first day. Allow time each following day during this unit to work on their pizza boxes and plan their skit. Tie related information from each day back to the metaphor of pizza and the pizza activity. At the end of the agricultural, food, and natural resources lessons, have students present their product boxes and perform their skits. Information on nutritional value can be found at:

www.nal.usda.gov/fnic/foodcomp/search/. Information on popular food allergens can be found at www.foodallergy.org/allergens/index.html.



3. Describe the scope of the agriculture, food, and natural resources career cluster. Discuss with students how agriculture is the foundation of society. Before agriculture, humans existed as hunters and gatherers. Until plants and animals were domesticated, humans did not live in permanent homes and had to constantly travel to look for new food sources. Use these talking points:

- Land that is farmed can produce sixty to one hundred times more food than land that is used for hunting and gathering.
- Domestication is the taming and breeding of animals for food.
- Domestication is also the planting and harvesting of plants for food.
- People who move to hunt and gather food are nomads.
- Nomads did not live in permanent structures.
- Society started because agriculture allowed people to settle down.
- Once people could settle down and did not have to spend their time hunting for food, they started other industries and professions.

4. Transition the students into a discussion about the state of modern agriculture by giving them four minutes using paper and markers to draw a picture that shows modern agriculture. Have them share with a neighbor. From the pair, have them choose one to share with the class. The student’s drawing from each pair whose drawing was not chosen must describe it to the class. Talk in general terms about what is currently accurate and what is inaccurate about their drawings. Follow-up with a picture of modern agriculture:



- Today agriculture is still an essential industry, especially in Nebraska.
- Over \$10 billion is made from agriculture in Nebraska each year (2003).
- 21% of all jobs in Nebraska are farm-related, even more are employed by supporting industries that market and merchandise the products.
- Nebraska has over 48,000 farms and ranches.
- Nebraska is a leading producer of ethanol, a gasoline substitute/additive made from corn.
- One American farmer produces enough food to feed 129 other people.
- Nebraska is the #1 processor of all livestock (2004).
- Nebraska is a leading producer of sugar beets.
- Nebraska is #3 producer of corn (Iowa is #1).



5. Explain Nebraska is unique and lucky to have so many natural resources. Poll the class to see where their interests lie in relation to natural resources:
How many of them like to:

- Go fishing?
- Go biking?
- Go hunting?
- Go boating?
- Go hiking?
- Go camping?



6. Explain that besides recreation, our natural resources provide our state with the ability to sustain a variety of industries. Use these talking points and emphasize the uniqueness of the facts:

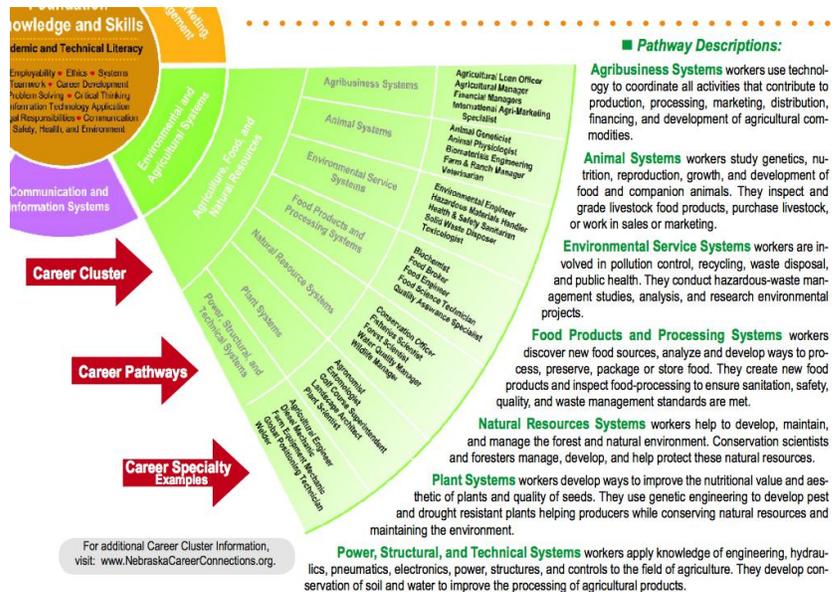
- Nebraska’s farms and ranches utilize 45.9 million acres of land (93% of the state’s total land area).
- Nebraska has aquifers below it. If poured over the surface of the entire state, the water would be over 35 feet deep. This water is used for irrigation of crops.
- Nearly 24,000 miles of rivers and streams flow through Nebraska.
- There are nearly 22 million acres of range and pastureland in Nebraska, half of which are in the Sandhills.

7. Describe the agricultural, food, and natural resource pathways.

Assign students to groups for each of the seven pathways in the model below. It will work best with at least two students per group. Hand out a “Career Pathway” activity sheet to each student.

- Agribusiness Systems
- Animal Systems
- Environmental Service Systems
- Food Products and Processing Systems
- Natural Resource Systems
- Plant Systems
- Power, Structural, and Technical Systems

Students will act as if they were individuals in that career area. Each group should act out at least four positions. Give students time to plan their sketches. Be sure not to let students misrepresent careers. Challenge them to break stereotypes and show what they think modern professionals in their assigned field do.



For additional Career Cluster Information, visit: www.NebraskaCareerConnections.org.



In order to prepare, allow students to use the internet to do brief research on careers. Ask them to navigate to www.NebraskaCareerConnections.org and other relevant websites.

Have students give their career sketches. Students in the audience should take hieroglyphic notes (write the career title, and then must draw a picture of each demonstrated career). Celebrate each performance and clarify details.

8. Explore options in their school district to study agriculture, food and natural resource systems. Divide students into seven groups and assign them a pathway from the previous lesson component. Based on what they learned, they should do the following:
 - Create a list five to seven of careers in their given pathway.
 - Create a list of classes they would recommend in middle school and high school for students interested in each career (utilize local district course catalog).

After students create their lists, have each group share. Draw connections between ideas and make suggestions.

9. Develop a plan of study specific to their school district. Have students choose a career in agriculture, food, or natural resources they are most interested in. It may not be his or her first choice out of all careers clusters, but each student **MUST** choose one.

Demonstrate what a plan of study may look like. A sample plan of study can be found as a visual from www.NebraskaCareerConnections.org. Give the example of a landscape architect who will need elements in geometry, environmental science, landscape design, and art.

Using the “Plan of Study” activity sheet, have each student create an individual plan of study by listing classes in middle school and high school that would be useful to take on a yearly basis (freshman, sophomore, junior, senior, etc.). Students may use ideas from the previous lesson component and assess based on completeness.

Lesson Closure

Have students present their pizza commercial skit and “sell” their pizza to the class. You may want to celebrate by bringing in pizza for the class. Review relevant information about the diversity of pizza and the diversity of agriculture, food, and natural resources.

Essential Knowledge and Skills Connection

The components of this lesson emphasize **teamwork, problem solving, critical thinking, and communication**. Choose one of the following activities to help students connect the lesson with their own development of EKS:

- Write a journal entry, reflecting on one of the EKS used in this lesson. Students could choose a strength or weakness they wish to improve or enhance.
- Students complete a graphic organizer (see Supporting Documents—Teacher Resources) to emphasize EKS used in this lesson connected to home, school, and work.
- Have students use the model to identify EKS used during the activity.

Formative Assessment:

Grade students’ pizza boxes, commercial skits, and plans of study.

Career Pathway

Name: _____

Use this worksheet to start on your new acting career. Choose at least four careers in the pathway your teacher has assigned you. You and your group must create a mini-sketch of what a professional in that career would look like, act like, and do on a regular basis.

You may use the computer as your teacher allows you to access some appropriate websites to gain more information.

Represent your career pathway to the best of your ability. Break down stereotypes; don't reinforce them!

Be bold, creative, and have fun!

Knowledge and Skills
Academic and Technical Literacy
 Employability • Ethics • Systems
 Teamwork • Career Development
 Problem Solving • Critical Thinking
 Information Technology Application
 Personal Responsibilities • Communication
 Safety, Health, and Environment.

Communication and Information Systems

Environmental and Agricultural Systems

Agriculture, Food, and Natural Resources

Agribusiness Systems

Animal Systems

Environmental Service Systems

Food Products and Processing Systems

Natural Resource Systems

Plant Systems

Power, Structural, and Technical Systems

Career Cluster

Career Pathways

Career Specialty Examples

■ Pathway Descriptions:

Agribusiness Systems workers use technology to coordinate all activities that contribute to production, processing, marketing, distribution, financing, and development of agricultural commodities.

Animal Systems workers study genetics, nutrition, reproduction, growth, and development of food and companion animals. They inspect and grade livestock food products, purchase livestock, or work in sales or marketing.

Environmental Service Systems workers are involved in pollution control, recycling, waste disposal, and public health. They conduct hazardous-waste management studies, analysis, and research environmental projects.

Food Products and Processing Systems workers discover new food sources, analyze and develop ways to process, preserve, package or store food. They create new food products and inspect food-processing to ensure sanitation, safety, quality, and waste management standards are met.

Natural Resources Systems workers help to develop, maintain, and manage the forest and natural environment. Conservation scientists and foresters manage, develop, and help protect these natural resources.

Plant Systems workers develop ways to improve the nutritional value and aesthetic of plants and quality of seeds. They use genetic engineering to develop pest and drought resistant plants helping producers while conserving natural resources and maintaining the environment.

Power, Structural, and Technical Systems workers apply knowledge of engineering, hydraulics, pneumatics, electronics, power, structures, and controls to the field of agriculture. They develop conservation of soil and water to improve the processing of agricultural products.

For additional Career Cluster Information, visit: www.NebraskaCareerConnections.org.

Plan of Study

Name: _____

Agriculture, Food, and Natural Resource Career: _____

Your plan of study can include typical agricultural classes if offered in your school. However, think beyond the most obvious classes. What other classes would help a student interested in the career you selected?

Use your school's course catalog to identify classes that can help you be successful in this career.

Subject	Middle School	9 th Grade	10 th Grade	11 th Grade	12 th Grade
English					
Math					
Science					
Social Studies					
Career Education Courses					
Additional Requirements or Electives					

Favorite World-Wide Pizza Toppings

Favorite World-Wide Pizza Toppings (from www.pizzaware.com)

Around the world, pizza toppings vary greatly; reflecting regional tastes, indigenous foods and cultural preferences.

United States- Pepperoni is the most popular by far with at least 36% of all pizza orders.

Venezuela- The most popular toppings are pepperoni, vegetarian and anchovies. (Source: Inés Peña Madriz, Chodom Arte Culinario)

India- Some of the more popular international toppings in India are pickled ginger, minced mutton and "paneer," (a form of cottage cheese), which looks quite like tofu but is obviously a dairy product. Tandoori chicken and chicken "tikka" are also increasingly popular toppings in India. (Source: Shiv Sharan Singh, New Delhi, India)

Japan- Mayo Jaga (mayonnaise, potato and bacon), and, eel and squid are favorites in Japan.

Brazil- Brazilians favor green peas on top of their pizzas.

Russia- In Russia, they serve pizza covered with "mockba," a combination of sardines, tuna, mackerel, salmon and onions. Red herring is also a topping of choice.

France- In France, a popular pizza combo is called the Flambé, with bacon, onion and fresh cream. (Source: Domino's.)

Pakistan- In Pakistan, curry is a big seller.

Australia- Australians enjoy shrimp and pineapple, as well as barbeque toppings on their pies.

Costa Rica- Costa Ricans favor coconut on their pizzas. (Source: Numero Uno Pizzeria.)

Iceland- Vegetables for pizza toppings in Iceland are grown in greenhouses because of the lava terrain there. (Source: Domino's.)

Netherlands- In the Netherlands, the "Double Dutch" is a favorite pizza recipe; double cheese, double onions and double beef. (Source: Domino's.)

Saudi Arabia- In Saudi Arabia, all meat toppings must be 100% beef. Pork products are not consumed in the country. (Source: Domino's.)

Creating Your Own Pizza

Group Member Names: _____

Use this worksheet to brainstorm ideas for creating your group's pizza box.

Target Market: _____

Pizza Ingredients: _____

Company Name: _____

Product Name: _____

Nutrition Facts: _____

Allergen Warning: _____

Company Contact Information: _____

Rubric for Creating Your Own Pizza

Name: _____

	Beginning	Proficient	Advanced
Target Audience	Target audience was not addressed or has little to no fit to the pizza product.	Target audience fits pizza product at a surface level but shows little detailed thought about the audience.	Target audience fits the pizza product and detailed thought was put into the pizza ingredients in relation to the target audience.
Nutritional Information	Nutritional information is not provided or inaccurate.	Nutritional information is provided but the majority of the information is inaccurate.	Nutritional information is provided and accurate.
Required Information	3 or fewer of the following are present: <ul style="list-style-type: none"> • Product Name • Company Name • Net Weight • Ingredient List • Allergen Warning • Company Contact Information 	At Least 4 of the following are present: <ul style="list-style-type: none"> • Product Name • Company Name • Net Weight • Ingredient List • Allergen Warning • Company Contact Information 	All of the following required information is present: <ul style="list-style-type: none"> • Product Name • Company Name • Net Weight • Ingredient List • Allergen Warning • Company Contact Information
Graphics	The poster is distractingly messy or very poorly designed. It is not attractive.	The poster is acceptably attractive though it may be a bit messy.	The poster is exceptionally attractive in terms of design, layout, and neatness.
Commercial	Delivery not smooth and audience attention lost.	Delivery not smooth, but able to hold audience attention most of the time.	Interesting, well-rehearsed with smooth delivery that holds audience attention.