

Careers in Food Science and Meat Inspection Curriculum



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2709 Mondovi Road
Eau Claire, WI 54701 USA

800.830.1416

+1.715.830.2040

www.realityworks.com

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Curriculum Structure

The *Food Science and Meat Evaluation Career Exploration Curriculum* is composed of the following lessons. Approximate lesson times are included.

Lesson	Title	Approximate Time
One	Career in Agriculture, Food and Natural Resources	80-160 minutes
Two	A Food Science Career	70-85 minutes
Three	Career as a Meat Inspector	65-75 minutes
	Total	3.5–5.5 hours

Lesson Structure

Each lesson begins with a Lesson Overview, Lesson Objectives, and a Lesson at a Glance table, which lists the lesson activities, materials required, suggested preparation steps, and approximate class time.

Lesson Sections

The actual lesson follows the overview, which will contain some of the sections described below.

FOCUS

Every lesson begins with a FOCUS activity intended to capture participants' attention. This may be in the form of a small or large class discussion, a game, a review of previous lesson information, or a demonstration. During this activity, participants are introduced to the topic of the lesson.

LEARN

The LEARN activity in each lesson varies in its presentation mode. It may be a slide presentation, group activity, or demonstration.

REVIEW

The majority of lessons end with a REVIEW activity intended to briefly review the lesson's key messages or main points.

Lesson One – Careers in Agriculture, Food, and Natural Resources

Lesson Overview

In this lesson, participants will be introduced to careers relating to food products and processing systems. Participants will research and explore a variety of related careers in the Agriculture, Food, and Natural Resources cluster.

Lesson Objectives

After completing this lesson, participants will be able to:

- Identify several professions in the Food Products and Processing Systems pathway
- Consider if any of the occupations covered in class are appropriate for them to pursue

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Sample Careers in the Food Products and Processing Systems Career Pathway</i> • <i>Food Products and Processing Services Pathway Classification</i>	1. Print/photocopy the <i>Sample Careers in the Food Products and Processing Systems Career Pathway</i> and <i>Food Products and Processing Services Pathway Classification</i> handout (one per participant).	10 minutes
LEARN	• Library and internet resources • <i>Career Exploration Research Summary</i>	1. Print/photocopy the <i>Career Exploration Research Summary</i> handout (one per participant).	30-90 minutes
REVIEW	• Questions for panel (optional)	1. Contact 3-5 professionals in food products and processing systems careers, inviting them to participate in the panel discussion. 2. Set up the room with panel seating in the front with the audience facing the panel.	45-60 minutes

Lesson One – Career Opportunities in Agriculture, Food, and Natural Resources

FOCUS: Defining the Available Career Paths

10 minutes

Purpose:

Participants will learn the variety of occupational areas that fall within the Food Products and Processing Systems pathway classification and how this translates into career opportunities.

Materials:

- *Sample Careers in the Food Products and Processing Systems Career Pathway*
- *Food Products and Processing Systems Career Pathway Classification*

Facilitation Steps:

1. Give each student the list of *Sample Careers in the Food Products and Processing Systems Career Pathway*. Explain that this is a list of occupations that fall within this pathway.
2. Divide the class into small groups. Have each group look at the list of careers and try to classify or categorize like-type of occupations together.
3. Give the small groups the *Food Products and Processing Systems Career Pathway Classification* worksheet and five minutes to come up with some potential classifications of job types within the Food Products and Processing Systems pathway.

Participants should be prepared to discuss why they grouped things as they did.

4. Explain that there is no finite right or wrong way to classify this pathway. They should take notes while you share the following thoughts of the diagnostic services pathway.

- Here are suggested categories that students may have used:
 - Food Processing and Preserving,
 - Packaging
 - Distribution
 - Government Monitoring and Regulation
- To learn more about the job outlook for each of these types of occupational areas you can go to websites like the following:

<https://www.onetonline.org/find/career?c=1&g=Go>

Sample Careers in the Food Products and Processing Systems Career Pathway

Agricultural Sales	Cheese Makers
Agricultural Communications Specialists	Microbiologists
Agricultural Educators	Produce Buyers
Food Scientists	Bacteriologists
Meat Processors-Toxicologists	Food & Drug Inspectors
Biochemists	Bioengineers
Nutritionists-Dieticians	Biochemists
Food Brokers-Food Inspectors	Food & Fiber Engineers
Meat Cutters	Food Processors
Meat Graders	Storage Supervisors
Meat Science Researchers	Fieldman
Food Meal Supervisors	Quality Control Specialists

Food Products and Processing Systems Career Pathway Classification

Category Description	Occupations within the Category
Example: Food processing and preserving	

Lesson One – Career Opportunities in Agriculture, Food, and Natural Resources

LEARN: Research Project

30-90 minutes

Purpose:

The purpose of this activity is to have participants take a closer look at related food products and processing systems career options. Participants will research an occupation of their choice.

Information learned from the research will be shared with the group via a brief presentation.

Materials:

- Library and internet resources
- *Career Exploration Research Summary*

Facilitation Steps:

1. Have students choose one of the careers to explore further. Give students the *Career Exploration Research Summary* worksheet. Tell them that they can use the internet or other sources in the library for their research. Here are a few helpful websites:
 - www.bls.gov
 - <http://www.bls.gov/ooh/>
 - www.careerinfonet.org
2. Give students one or two class periods to complete their research. You can also assign this as homework. Students should prepare a five-minute presentation about this career including the information on the summary sheet.
3. Have each student present their chosen career to the group.
4. Here is a suggested grading rubric for the class presentation:
 - 30 points – Completed all information on the *Career Exploration Research Summary*
 - 20 points – Prepared for the presentation
 - 20 points – Presentation content was clear, concise, and gave a good understanding of the chosen career
 - 20 points – Demonstrated the ability to think critically, taking information from other sources to create something new
 - 10 points – Demonstrated time management skills by delivering a well-planned, five-minute presentation

Name: _____ Date: _____

Career Exploration Research Summary

Identify and research one career in the Food Products and Processing Systems Pathway. Complete this worksheet for your career choice. Possible sources for information include your school library, public library, Bureau of Labor Statistics website, Occupational Outlook Handbook website, and other career-related websites on the internet.

Career name: _____

Degree or licenses required: _____

Length of time to complete training or earn degrees: _____

Average starting salary: _____

Job outlook: _____

Short job description:

Skills a person should have to be successful in this career:

Sources used for this project:

Lesson One – Career Opportunities in Agriculture, Food, and Natural Resources

REVIEW: Career Panel Discussion

45-60 minutes

Purpose:

To hear from food products and processing systems professionals who work in a variety of careers that fall within the diagnostic services pathway.

Materials:

- Panel of 3-5 local professionals who are food scientists, meat graders, quality control specialists, food processors, and similar occupations

Facilitation Steps:

1. Contact local food products and processing systems professionals and invite them to attend a panel discussion in your class. Food scientists, meat graders, quality control specialists, food processors, and similar occupations would be great resources for students to have access to.

Also, local professionals from a variety of different types of related businesses would provide additional and interesting perspectives.

2. The day of the panel discussion, set up your space so that there is a table with seating for all panel members at the front of the room. If sound is an issue, have a microphone available.
3. Invite participants in the audience to ask questions to panel members. Remind participants ahead of time to keep questions relevant to work. You may ask participants to submit questions in advance if desired.

Lesson Two – A Food Science Career

Lesson Overview

Food scientists and technologists use a variety of methods to study the content of food. They use the information that they find to develop new food products or improve the value, production, packaging, and selection of existing food products. Aside from being involved in food production, a food scientist's career may also involve regulatory responsibilities. They may evaluate methods used in food production facilities to make sure that food safety standards are met, and enforce regulations when necessary. Students will participate in a variety of activities to better understand what a food science career looks like.

Lesson Objectives

After completing this lesson, participants will be able to:

- Define what a food scientist is
- Describe what a food science professional does on a typical workday
- Discuss the impact of food science on our lives

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• Food science career videos • <i>Occupation Profile – Food Science Careers</i> • Internet access	1. Print/photocopy the <i>Occupation Profile – Food Science Careers</i> worksheet (one per participant).	15 - 20 minutes
LEARN	• <i>A Day in the Life of a Food Scientist</i> • Markers	1. Print/photocopy the <i>A Day in the Life of a Food Scientist</i> worksheet (one per participant).	45 minutes
REVIEW	• <i>Why Do They Matter?</i>	1. Print/photocopy the <i>Why Do They Matter?</i> Worksheet (one per participant).	10 - 20 minutes

Lesson Two – A Food Science Career

FOCUS: Occupation Profile

15-20 minutes

Purpose:

Food scientists enter a range of careers within the food industry or government throughout the US and around the world. Let's explore what's possible.

Materials:

- Food science career videos
- *Occupation Profile – Food Science Careers*

Facilitation Steps:

1. Share these statistics with the participants:
According to the U.S. Bureau of Labor Statistics (BLS), employment opportunities for food scientists and technologists are expected to increase by 7% from 2020-2030, which is slightly slower-than-average compared to all occupations. This fast-as-average growth could be due to the need for increased food quantity and quality for an expanding population, as well as more public awareness about healthy eating habits. Advancing biotechnology and new food products may also contribute to the demand for food scientists.
2. Distribute the *Occupation Profile* worksheet. Participants should research the information on their own and complete the sheet.
3. Play the food science career videos. Here are a few to choose from.

[What's food science? - YouTube](#)

[Is a Food Science Degree Worth It? - YouTube](#)

[6 jobs you can do with a food science degree - YouTube](#)

4. After participants complete the *Occupation Profile* worksheet, have them share their answers. Explain to participants that they will use their *Occupation Profile* worksheet in the LEARN portion of the lesson.

Occupation Profile

Food Science Careers

Job Title: Food Science Career
Job Outlook:
Typical Duties:
Salary:

Required Education:

Lesson Two – A Food Science Career

LEARN: A Day in the Life of...

45 minutes

Purpose:

The purpose of this activity is to have participants better understand what a typical day is like for a food science professional.

Materials:

- *A Day in the Life of a Food Science Professional*
- Markers

Facilitation Steps:

1. To help students understand what a typical day on the job is like working as in food science and share one or more of the following day in the life videos:

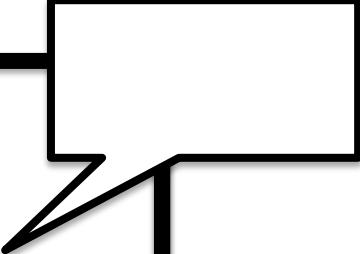
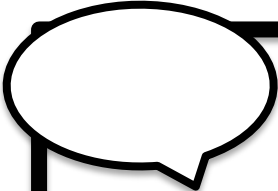
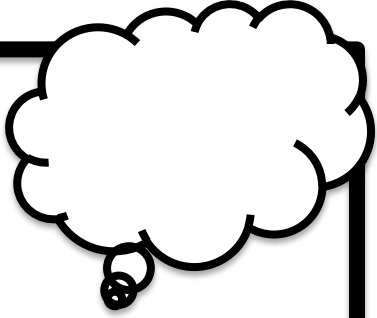
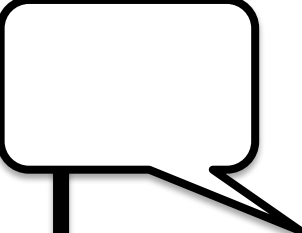
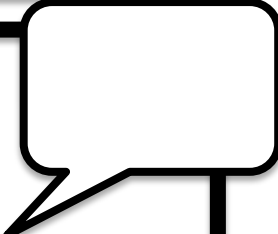
[A day in the life of a Food Technologist - YouTube](#)

[On My Way: A Day in the Life of a Food Technologist - YouTube](#)

[Occupational Video - Food Scientist - YouTube](#)

2. Distribute the *A Day in the Life of Food Science Professional* worksheet.
3. Have participants use their completed *Occupation Outlook* worksheets to create a comic strip that typifies a day in the life of an food science professional.
4. Have participants create their comic strip using the *A Day in the Life of a Food Science Professional* worksheet. Alternatively, they may create a comic strip layout on plain paper if desired.
5. Have participants share their finished comic strips aloud. Then have them post their comic strips in a public place in the room.

A Day in the Life of a Food Science Professional

Lesson Two: A Food Science Career

REVIEW: Reflection

10-20 minutes

Purpose:

Participants will reflect on a food science career.

Materials:

- *Why Do They Matter?*

Facilitation Steps:

1. Explain to participants that they are going to reflect on their learning throughout this lesson.
2. Distribute the *Why Do They Matter?* worksheet. Discuss the instructions and allow participants to ask any questions.
3. Allow participants to complete the worksheet.
4. Take time to review the participants' answers. Allow participants to share what they learned about a career in food science.

Why Do They Matter?



Directions: In the space provided, write at least five sentences about the benefits or impact that food scientists have on society.

Lesson Three – A Career as a Meat Inspector

Lesson Overview

Prior to slaughter, food inspectors visually examine animals to ensure that they do not have visible signs of illness or infections or display behavioral abnormalities that may indicate disease. Inspectors hold any animals that show signs of disease for examination by a veterinary medical officer. This lesson will expose students to this very important and rewarding career choice.

Lesson Objectives

After completing this lesson, participants will be able to:

- Compare and contrast the roles and requirements of meat inspectors
- Understand the typical job duties performed by a meat inspector
- Discuss the requirements needed to become a meat inspector

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Compare and Contrast</i> • Internet access	1. Print/photocopy the <i>Compare and Contrast</i> worksheet (one per participant).	10-15 minutes
LEARN	• <i>Job Search 101</i> • Internet access	1. Print/photocopy the <i>Job Search 101</i> worksheet (one per participant). 2. Create a sample copy of the <i>Job Search 101</i> worksheet to model with participants.	45 minutes
REVIEW	• <i>Training 101</i> • Internet access	1. Print/photocopy the <i>Training 101</i> worksheet (one per participant).	10-15 minutes

Lesson Three – A Career as a Meat Inspector

FOCUS: Compare and Contrast

10-15 minutes

Purpose:

Meat inspectors play an important role in consumer safety. They ensure that the meat used in our home-cooked or restaurant-purchased meals is healthy and illness-free prior to consumption.

This activity will explore the similarities and differences between meat inspectors and food inspectors in general.

Materials:

- *Compare and Contrast*
- Internet access

Facilitation Steps:

1. Share these statistics with the participants:
Between 2018 and 2028, the career is expected to grow -18% and produce -100,900 job opportunities across the U.S.

The job outlook for food safety inspectors is good, with an expected increase in jobs for agricultural and food science technicians of 8% between 2020 and 2030, according to the BLS.

Due to the expected increase in population size, more food safety inspectors will be needed. In addition, increased emphasis on healthy diets and living conditions means more food science technicians will be required to ensure foods are safe for consumption.

2. Distribute the *Compare and Contrast* worksheet. Instruct them to research more information about each profession and record similarities and differences on the chart.
3. After participants complete the *Compare and Contrast* worksheet, discuss their answers.

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Lesson Three – A Career as a Meat Inspector

LEARN: Job Search 101

45 minutes

Purpose:

This activity aims to have participants better understand what skills are needed to become a good meat inspector.

Materials:

- *Job Search 101*
- Internet access

Facilitation Steps:

1. Share one or more videos about being a meat inspector so that students understand what the job is like.

Here are a few suggested videos:

[Meat Inspection - YouTube](#)

[Agricultural Inspector Career Video - YouTube](#)

[Meat Inspector Career Scope in Australia | Work Hours | Salary | Gender Preference - YouTube](#)

2. Explain to participants that they are going to complete the *Job Search 101* worksheet.
3. Encourage participants to use internet access to look for a job advertisement a meat inspector. They should include a list of reasons they would be good candidates for the position.

Alternatively, they could also list some reasons why they would be bad candidates for the job.
4. You may want to complete one example of the *Job Search 101* worksheet as a personal example to share with participants.
5. After completing the worksheet, divide participants into groups of three or four. Have them discuss whether they would be well suited for this career or not.
6. Bring the entire group back together to share their responses.

Job Search 101

Directions: Look online to find a job description for a meat inspector. Copy the advertisement into the space provided. Then list as many reasons as you can think of that make you a good candidate for the position. Alternatively, list any reasons you can think of that make you a poor candidate for the position.

Job Title/Advertisement:	I would be a good fit for this job because:
	I would be a poor fit for this job because:

Lesson Three – A Career as a Meat Inspector

REVIEW: Reflection

10-15 minutes

Purpose:

Participants will reflect on what is required to become a meat inspector.

Materials:

- *Training 101*
- Internet access

Facilitation Steps:

1. Distribute the *Training 101* worksheet.
2. Have participants research the required info for this position.
3. Allow participants to reflect on this career choice. Ask them to think about the impact these professionals have.

Training 101

Directions: Review the the job requirements needed to become a meat inspector.

Educational and Training Requirements:

Typical Job Duties:

Specific Skills Needed:

Approximate Salary: