

## Appendix A: AFNR Career Cluster Content Standards-**Milk Quality**

	Performance Measurement Levels	Event Activity Addressing Measurement	Related Academic Standards
AS.06.02. Performance Indicator: Implement procedures to ensure that animal products are safe.			Science: F1 and F5
	AS.06.02.01.b. Discuss consumer concerns with animal production practices relative to human health.	written exam	
BS.02.03. Performance Indicator: Demonstrate proper laboratory procedures using biological materials.			Science: A2, A3 and E1
	BS.02.03.02.a. Perform procedures with biological materials according to directions.	CMT, team activity	
FPP.01.01. Performance Indicator: Evaluate the significance and implications of changes and trends in the food products and processing industry.			Science: F1 Language Arts: 7 and 8 Social Studies: 1g and 8c
	FPP.01.01.01.b. Evaluate changes and trends in the food products and processing industry.	written exam	
	FPP.01.01.02.b. Discuss the issues of safety and environmental concerns about foods and food processing (e.g., Genetically Modified Organisms, microorganisms, contamination, irradiation).	written exam, team activity	
FPP.01.02. Performance Indicator: Work effectively with industry organizations, groups and regulatory agencies affecting the food products and processing industry.			Language Arts: 12 Social Studies: 6c and 8f
	FPP.01.02.02.b. Discuss the application of industry standards in the food products and processing industry.	cheese ID, team activity	
FPP.02.03. Performance Indicator: Apply safety and sanitation procedures in the handling, processing and storing of food products.			Science: A2 and F5
	FPP.02.03.01.b. Evaluate food product handling procedures.	problem solving	
	FPP.02.03.02.c. Interpret quality-assurance test results and apply corrective procedures.	team activity	
FPP.04.02. Performance Indicator: Evaluate, grade and classify processed food products.			Science: F1 Language Arts: 8
	FPP.04.02.01.c. Evaluate, grade and classify processed meat, egg, poultry, fish and dairy products.	milk flavors, cheese ID	

CS.01.01. Performance Indicator: Action: Exhibit the skills and competencies needed to achieve a desired result.		Social Studies: 4d and 4h
	CS.01.01.01.c. Work independently and in group settings to accomplish a task.	team activity
	CS.01.01.03.a. Exhibit good planning skills for a specific task or situation.	team activity
	CS.01.01.06.b. Assign project parts equitably amongst team members to achieve a given task.	team activity
CS.01.02. Performance Indicator: Relationships: Build a constituency through listening, coaching, understanding and appreciating others.		Language Arts: 12 Social Studies: 4h
	CS.01.02.02.b. Utilize communication skills to collaborate in a group setting.	team activity
CS.01.04. Performance Indicator: Character: Conduct professional and personal activities based on virtue.		Social Studies: 4c and 4f
	CS.01.04.04.c. Demonstrate respect for others.	team activity
CS.01.05. Performance Indicator: Awareness: Desire purposeful understanding related to professional and personal activities.		Language Arts: 1 Social Studies: 1e, 4e, 10b and 10j
	CS.01.05.01.c. Articulate current issues that are important to the local, state, national and global communities.	team activity
CS.02.02. Performance Indicator: Social Growth: Interact with others in a manner that respects the differences of a diverse and changing society.		Language Arts: 12 Social Studies: 1e
	CS.02.02.02.c. Present oneself appropriately in various settings.	team activity
	CS.02.02.03.b. Exhibit the behaviors needed for developing and maintaining a professional relationship.	team activity
CS.02.04. Performance Indicator: Mental Growth: Demonstrate the effective application of reasoning, thinking and coping skills.		Math: 6C Science: A4 Language Arts: 4 and 8
	CS.02.04.01.c. Demonstrate critical and creative thinking skills while completing a task.	team activity
CS.02.05. Performance Indicator: Emotional Growth: Demonstrate healthy responses to one's feelings.		Social Studies: 4a
	CS.02.05.03.c. Exhibit self- confidence while in the workplace.	team activity

CS.03.01. Performance Indicator: Communication: Demonstrate oral, written and verbal skills.		Language Arts: 4, 5 and 12
	CS.03.01.03.c. Make effective business presentations.	team activity
CS.03.02. Performance Indicator: Decision Making: Analyze situations and execute and appropriate course of action.		Science: A1 and A5 Social Studies: 1c and 4h
	CS.03.02.01.c. Make decisions for a given situation by applying the decision-making process.	team activity
	CS.03.02.02.c. Use problem-solving skills.	team activity
CS.03.03. Performance Indicator: Flexibility/Adaptability: Describe traits that enable one to be capable and willing to accept change.		Science: A2, A6 and E2 Language Arts: 7 Social Studies: 8a
	CS.03.03.02.c. Evaluate strategies that can be used to manage change within the workplace.	team activity

## Appendix B: Related Academic Standards-**Milk Quality**

National academic standards for mathematics, science, English language arts and social studies related to this event are reported below. The statements are based on information in reports of the respective associations/organizations in the academic areas. Some adjustment of numbering was done to facilitate the process of alignment with the standards that have been developed in the pathways of the Agriculture, Food and Natural Resources (AFNR) Career Cluster.

The approach was to determine the presence of alignment between the content standards, expectations or thematic strands of the four academic areas and the performance indicators of the AFNR Standards. Supporting statements have been included to clarify content of the respective content standards, expectations or thematic strands. The statements were initially developed independently by the respective organizations and, therefore, are not parallel in wording and presentation. Occasionally minor editing was done to adjust the background or stem of a statement but not the statement itself.

### **Mathematics**

6. Standard and Expectations: Problem Solving

6C. Apply and adapt a variety of appropriate strategies to solve problems.

### **Science**

A. Content Standard: Science as an Inquiry

A1. Identify questions and concepts that guide scientific investigation.

A2. Design and conduct scientific investigations.

A3. Use technology and mathematics to improve investigations and communications. A4.

Formulate and revise scientific explanations and models using logic and evidence. A5.

Recognize and analyze alternative explanations and models.

A6. Communicate and defend a scientific argument.

E. Content Standard: Science and Technology

E1. Abilities of technological design.

E2. Understanding about science and technology.

F. Content Standard: Science in Personal and Social Perspectives

F1. Personal and community health.

F5. Natural and human-induced hazards.

## **English Language Arts**

1. Students read a wide range of print and non-print texts to build an understanding of texts, of themselves and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
4. Students adjust their use of spoken, written and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
5. Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
7. Students conduct research on issues and interests by generating ideas and questions and by posing problems. They gather, evaluate and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.
8. Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.
12. Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

## **Social Studies**

### 1. Thematic Strand: Culture

- 1c. apply an understanding of culture and an integrated whole that explains the functions and interactions of language, literature, the arts, traditions, beliefs and values and behavior patterns;
- 1e. demonstrate the value of cultural diversity, as well as cohesion, within and across groups;
- 1g. construct reasoned judgments about specific cultural responses to persistent human issues;

### 4. Thematic Strand: Individual Development and Identity

- 4a. articulate personal connections to time, place and social/cultural systems;
- 4h. work independently and cooperatively within groups and institutions to accomplish goals;
- 4c. describe the ways family, religion, gender, ethnicity, nationality, socioeconomic status and other group and cultural influences contribute to the development of a sense of self;
- 4d. apply concepts, methods and theories about the study of human growth and development, such as physical endowment, learning, motivation, behavior, perception and personality;
- 4e. examine the interactions of ethnic, national or cultural influences in specific situations or events;
- 4f. analyze the role of perceptions, attitudes, values and beliefs in the development of personal identity;

### 6. Thematic Strand: Power, Authority and Governance

- 6c. analyze and explain ideas and mechanisms to meet needs and wants of citizens, regulate territory, manage conflict, establish order and security and balance competing conceptions of a just society;
- 8f. formulate strategies and develop policies for influencing public discussions associated with technology-society issues, such as the greenhouse effect.
- 8c. analyze how science and technology influence the core values, beliefs and attitudes of society, and how the core values, beliefs and attitudes of society shape scientific and technological change;

### 8. Thematic Strand: Science, Technology and Society

- 8a. identify and describe both current and historical examples of the interaction and interdependence of science, technology and society in a variety of cultural settings;

### 10. Thematic Strand: Civic Ideals and Practices

- 10b. identify, analyze, interpret and evaluate sources and examples of citizens' rights and responsibilities;
- 10j. participate in activities to strengthen the "common good," based upon careful evaluation of possible options for citizen action.