

## Correlation of National Standards for Food Science, Dietetics, and Nutrition with *Principles of Food Science*

In planning your program, you may want to use the correlation chart below. This chart correlates the Family and Consumer Sciences Education National Standards with the content of *Principles of Food Science*. It lists the competencies for each of the content standards for Food Science, Dietetics, and Nutrition. It also identifies the major text concepts that relate to each competency. Bold numbers indicate chapters in which concepts are found.

After studying the content of this text, students will be able to achieve the following comprehensive standard:

**9.0 Integrate knowledge, skills, practices required for careers in food science, food technology, dietetics, and nutrition.**

Content Standard 9.1	
Analyze career paths within food science, food technology, dietetics, and nutrition industries.	
Competencies	Text Concepts
<p><b>9.1.1</b> Explain the roles and functions of individuals engaged in food science, food technology, dietetics, and nutrition careers.</p>	<p><b>1:</b> Government regulation of the food industry; recent contributions of food scientists <b>25:</b> Food science careers in the food industry Under the microscope unit openers for units 1-6</p>
<p><b>9.1.2</b> Analyze opportunities for employment and entrepreneurial endeavors.</p>	<p><b>25:</b> Food science careers in the food industry; entrepreneurship Under the microscope unit openers for units 1-6</p>
<p><b>9.1.3</b> Summarize education and training requirements and opportunities for career paths in food science, food technology, dietetics, and nutrition.</p>	<p><b>25:</b> Careers, food, and you; education and training <b>Special Topics:</b> Career success</p>
<p><b>9.1.4</b> Analyze the impact of food science, dietetics, and nutrition occupations on local, state, national, and global economies.</p>	<p><b>1:</b> Government regulation of the food industry; recent contributions of food scientists <b>25:</b> Types of employers; business sector, education sector, government sector</p>
<p><b>9.1.5</b> Create an employment portfolio for use with applying for internships and work-based learning opportunities in food science, food technology, dietetics, and nutrition careers.</p>	<p><b>Special Topics:</b> Career success</p>
<p><b>9.1.6</b> Analyze the role of professional organizations in food science, food technology, dietetics, and nutrition careers.</p>	<p><b>25:</b> Types of employers; professional associations</p>

Content Standard 9.2	
Apply risk management procedures to food safety, food testing, and sanitation.	
Competencies	Text Concepts
<b>9.2.1</b> Analyze factors that contribute to foodborne illness.	<b>18:</b> Types of foodborne illness; how pathogens enter the food supply
<b>9.2.2</b> Analyze food service management safety and sanitation programs.	<b>18:</b> Food industry sanitation procedures; developing a HACCP system; HACCP in the meat industry; government regulation of the food industry
<b>9.2.3</b> Implement industry standards for documenting, investigating, and reporting foodborne illnesses.	<b>18:</b> Types of foodborne illness
<b>9.2.4</b> Use the Hazard Analysis Critical Control Point (HACCP) during all food handling processes to minimize the risks of foodborne illness.	<b>18:</b> Food industry sanitation procedures; developing a HACCP system; HACCP in the meat industry
<b>9.2.5</b> Demonstrate practices and procedures that assure personal and workplace health and hygiene.	<b>18:</b> How pathogens enter the food supply; poor personal hygiene
<b>9.2.6</b> Demonstrate standard procedures for receiving and storage of raw and prepared foods.	<b>18:</b> How pathogens enter the food supply; raw fish, meat and dairy products, time and temperature abuse
<b>9.2.7</b> Classify current types of cleaning materials and sanitizers and their proper use.	<b>2:</b> Lab safety
<b>9.2.8</b> Use Occupational Safety and Health Administration's (OSHA) Right to Know Law and Material Safety Data Sheets (MSDS) and explain their requirements in handling hazardous materials.	<b>2:</b> Lab safety
<b>9.2.9</b> Demonstrate waste disposal and recycling methods.	<b>2:</b> Lab safety <b>18:</b> Types of food contamination; sources of toxic substances
Content Standard 9.3	
Evaluate nutrition principles, food plans, preparation techniques, and specialized dietary plans.	
<b>9.3.1</b> Analyze nutrient requirements across the life span addressing the diversity of people, culture, and religions.	<b>10:</b> STEM Connections activity <b>Special Topics:</b> Nutritional guidelines
<b>9.3.2</b> Analyze nutritional data.	<b>8:</b> The nutritional value of sugar <b>9:</b> Nutritional impact of complex carbohydrates <b>10:</b> Lipids in your diet; functions of lipids in the body <b>11:</b> The nutritional contributions of proteins <b>Special Topics:</b> Nutritional guidelines

Competencies	Text Concepts
<b>9.3.3</b> Apply principles of food production to maximize nutrient retention in prepared foods.	<b>13:</b> Effects of processing and preservation; factors affecting nutrient stability, vitamins and minerals as food additives, preserving vitamins and minerals at home
<b>9.3.4</b> Assess the influence of socioeconomic and psychological factors on food and nutrition and behavior.	<b>3:</b> Influences of food likes and dislikes
<b>9.3.5</b> Analyze recipe/formula proportions and modifications for food production.	<b>2:</b> The scientific method <b>24:</b> Developing food science experiments; developing a new food product
<b>9.3.6</b> Critique the selection of foods to promote a healthy lifestyle.	<b>9:</b> Nutritional impact of complex carbohydrates; nutritional functions of carbohydrates <b>10:</b> Lipids in your diet; dietary recommendations <b>11:</b> The nutritional contributions of proteins <b>Special Topics:</b> Nutritional guidelines
<b>9.3.7</b> Categorize foods into exchange groups and plan menus, applying the exchange system to meet various nutrient needs.	
<b>Content Standard 9.4</b> <b>Apply basic concepts of nutrition and nutritional therapy in a variety of settings.</b>	
<b>9.4.1</b> Analyze nutritional needs of individuals.	<b>5:</b> Math Matters feature <b>7:</b> Functions of water in the body; meeting your body's water needs <b>9:</b> Nutritional impact of complex carbohydrates; nutritional functions of carbohydrates <b>10:</b> Dietary recommendations <b>Special Topics:</b> Nutritional guidelines
<b>9.4.2</b> Use nutritional information to support care planning.	<b>8:</b> Nutritional value of sugar; diabetes mellitus <b>10:</b> Lipids in your diet; dietary recommendations <b>11:</b> Nutritional contributions of proteins; health concerns <b>Special Topics:</b> Nutrition labeling; nutritional guidelines
<b>9.4.3</b> Utilize a selective menu.	<b>9:</b> Nutritional functions of carbohydrates health tip feature <b>11:</b> Nutritional contributions of proteins health tip feature <b>13:</b> Preserving vitamins and minerals at home; health tip feature
<b>9.4.4</b> Construct a modified diet based on nutritional needs and health conditions.	<b>8:</b> Academic Connections activity <b>9:</b> Academic Connections activity <b>10:</b> Lipids in your diet; dietary recommendations; Academic Connections activity <b>11:</b> STEM Connections activity <b>Special Topics:</b> Nutritional guidelines

Competencies	Text Concepts
<b>9.4.5</b> Design instruction on nutrition for health maintenance and disease prevention.	<b>9:</b> Academic Connections activity <b>10:</b> Academic Connections activity <b>13:</b> Academic Connections activity <b>14:</b> Academic Connections activity
<b>Content Standard 9.5</b> <b>Demonstrate use of current technology in food product development and marketing.</b>	
<b>9.5.1</b> Analyze various factors that affect food preferences in the marketing of food.	<b>3:</b> Influences on food likes and dislikes; physical, psychological, cultural, environmental influences; sensory characteristics of food products <b>24:</b> Research in the food industry
<b>9.5.2</b> Analyze data in statistical analysis in making development and marketing decisions.	<b>2:</b> Scientific evaluation, measurements; the scientific method <b>24:</b> Developing a new food product, analytical research
<b>9.5.3</b> Prepare food for presentation and assessment.	<b>3:</b> Taste test panels; creating an evaluation form <b>24:</b> Developing a new food product; pilot manufacture the product
<b>9.5.4</b> Maintain test kitchen/ laboratory and related equipment and supplies.	<b>2:</b> Measurements; equipment for measuring mass; equipment used for measuring volume
<b>9.5.5</b> Implement procedures that affect quality product performance.	<b>18:</b> Food industry sanitation procedures; government regulation of the food industry
<b>9.5.6</b> Conduct sensory evaluations of food products.	<b>3:</b> Taste test panels <b>24:</b> Research in food industry; descriptive research
<b>9.5.7</b> Conduct testing for safety of food products, utilizing available technology.	<b>18:</b> Types of food contamination; physical contaminants, chemical contaminants, microbial contaminants; types of foodborne illness; food intoxication, food infection; parasitic infections, viral infections, prions, how pathogens enter the food supply; food industry sanitation procedures; government regulation of the food industry
<b>Content Standard 9.6</b> <b>Demonstrate food science, dietetics, and nutrition management principles and practices.</b>	
<b>9.6.1</b> Build menus to customer/ client preferences.	<b>24:</b> Developing a new food product; identify the target consumer group

Competencies	Text Concepts
<p><b>9.6.2</b> Implement food preparation, production, and testing systems.</p>	<p><b>12:</b> Enzymes and the food supply  <b>16:</b> Functions of additives  <b>17:</b> Fermentation  <b>18:</b> Food industry sanitation procedures  <b>19:</b> Heat processing; cold processing  <b>20:</b> Dehydration; concentration; intermediate-moisture foods  <b>21:</b> Irradiation; packaging  <b>22:</b> Solutions; colloidal dispersions; suspensions  <b>23:</b> Mechanical separation; chemical separation  <b>24:</b> Developing a new food product, pilot manufacture the product, mass-produce the product</p>
<p><b>9.6.3</b> Apply standards for food quality.</p>	<p><b>1:</b> Government regulation today  <b>25:</b> Food science careers in the food industry; quality control</p>
<p><b>9.6.4</b> Create standardized recipes.</p>	<p><b>24:</b> Developing a new food product; develop the product</p>
<p><b>9.6.5</b> Manage amounts of food to meet needs of customers, clients.</p>	<p><b>24:</b> Developing a new food product; mass-produce the product  <b>Special Topics:</b> Nutritional guidelines</p>
<p><b>9.6.6</b> Analyze new products.</p>	<p><b>3:</b> Taste test panels  <b>24:</b> Research in the food industry; descriptive research; analytical research</p>
<p><b>9.6.7</b> Implement procedures that provide cost-effective products.</p>	<p><b>2:</b> The scientific method  <b>24:</b> Developing a new food product; identify the target consumer group; receive management approval</p>
<p><b>9.6.8</b> Establish par levels for the purchase of supplies based on an organization's needs.</p>	
<p><b>9.6.9</b> Utilize Food Code Points of time, temperature, date markings, cross contamination, hand washing, and personal hygiene as criteria for safe food preparation.</p>	<p><b>1:</b> What is food science; government regulation of the food industry  <b>18:</b> How pathogens enter the food supply; improper handling procedures; food industry sanitation procedures</p>