



Statewide Framework Document for: 120505

Food Production and Services

Standards may be added to this document prior to submission but may not be removed from the framework to meet state credit equivalency requirements. Performance assessments may be developed at the local level. In order to earn state approval, performance assessments must be submitted within this framework. **This course is eligible for 1 credit of laboratory science.** The Washington State Science Standards performance expectations for high school blend core ideas (Disciplinary Core Ideas, or DCIs) with scientific and engineering practices (SEPs) and crosscutting concepts (CCCs) to support students in developing usable knowledge that can be applied across the science disciplines. These courses are to be taught in a [three-dimensional manner](#). The details about each performance expectation can be found at [Next Generation Science Standards](#), and the supporting evidence statements can be found under [Resources](#).

School District Name		
Course Title: Food Production and Service		Total Framework Hours: 180 to 360
CIP Code: 120505	<input type="checkbox"/> Exploratory <input checked="" type="checkbox"/> Preparatory	Date Last Modified: December 21, 2020
Career Cluster: Hospitality and Tourism		Cluster Pathway: Restaurant, Food, Beverage Services
<p>Course Summary:</p> <p>In Food Production and Services courses students learn the knowledge, skills, and practices required for careers in Food Production and Services. The course prepares individuals to serve under the supervision of chefs and other food service professionals. It includes instruction in kitchen organizations, sanitation and quality control, basic food preparation and cooking skills, kitchen and kitchen equipment maintenance and quantity food measurement and monitoring.</p> <p>The 8 out of 10 individuals work within the Hospitality industry at some point in their careers. It is one of the largest industries in the United States with many job opportunities from the farm to the table. In Food production and services, students learn the knowledge, skills, and practices required for careers in the hospitality industry from the food service and management side of the business. The course focuses on the relationship between food preparation, consumption, health, and service. Instruction includes Safety and Sanitation, Kitchen Basic, People Skills and Teamwork, Industrial Kitchen Equipment, Culinary Techniques and Skills, Customer Service and Relations, Nutrition and Menu Planning. Science is integrated throughout the course in such experiments as the caramelization of sugars and starches, the production and growth of yeast, or the effects of temperature on chocolate. Students may study such topics as the effects of antioxidants on humans, the shelf life of food products, and the positive and negative effects of bacteria on food.</p>		

During this course, students will work in teams to prepare and serve food. They will predict, interpret, and evaluate food service products and presentation for results. Throughout the course, students will discover exciting careers in the food industry. This framework is based on the National Family & Consumer Sciences (FCS) industry standards and is aligned with the Washington State Science Standards.

Eligible for Equivalent Credit in: Science

Total Number of Units: 15

Unit 1: The Hospitality and Tourism Industry

Total Learning Hours for Unit: 15

Performance Assessments: (Districts to complete for each unit)

Example assessments for this unit include:

- Analyze their work experiences and skill level by creating a career portfolio that includes but is not limited to the following: a personal biography, resume, and job application.
- Research, then compare and contrast 3 food service jobs in relationship to their own skills development, their plans for a food service career and the lifestyle they want to enjoy.
- Conduct a real or mock interview elaborating on skills, goals, and decisions made concluding with a summary of their work to date and prediction for the future.
- Include samples of best recipes and work in a personal portfolio, along with other supportive program accomplishments. The portfolio will include evidence of attainment of FACS Competencies 1.2.1, 1.2.3, 1.2.4, 1.2.5, 1.2.6, and 1.2.8. The portfolio may be presented during culminating project or to achieve final Certificate of Program Completion.

Leadership Alignment: (Districts to complete for each unit)

Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.

Example:

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using Parliamentary Procedure; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA). For this unit, students will begin to formulate one or more in or out of school Community Awareness and service outreach projects.
- Assessments using FCCLA activities include: Career Investigation/ Career Connection, events that focus on this lesson and topics and include activities that use built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

8.1.2 Analyze opportunities for employment and entrepreneurial endeavors.

8.1.3 Summarize education and training requirements and opportunities for career paths in food production and services.

Aligned Washington State Academic Standards

Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 2: Safety and Sanitation	Total Learning Hours for Unit: 15
<p>Performance Assessments: (Districts to complete for each unit)</p> <p><i>Example assessments for this unit include Students:</i></p> <ul style="list-style-type: none"> • Acquire a food handler's card • Acquire ServSafe training • Demonstrate basic food safety first aid using role play situations that require assessment of the injury and appropriate treatment. • Demonstrate proper food safety and sanitation. 	
<p>Leadership Alignment: (Districts to complete for each unit)</p> <p><i>Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.</i></p> <p><i>Example:</i></p> <ul style="list-style-type: none"> • FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using Parliamentary Procedure; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills. • Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school and service outreach. For this unit, FCCLA activities include: Culinary Arts, events that focus on this lesson and built-in Rubrics. 	
<p>Industry Standards and/or Competencies:</p> <p>National Standards for Family and Consumer Sciences Education (FCS)</p> <p>1.2 Demonstrate transferable knowledge, attitudes, and technical and employability skills in school, community and workplace settings.</p> <p>1.2.7 Analyze factors that contribute to maintaining safe and healthy school, work and community environments.</p> <p>5.4.4 Record presence of hazardous materials and occurrence of hazardous situations accurately and communicate to appropriate authorities.</p> <p>5.4.5 Describe procedures for safely handling and storing hazardous materials and waste products.</p> <p>5.5.2 Apply security procedures.</p> <p>5.5.3 Demonstrate safe procedures in the use, care, and storage of equipment.</p> <p>5.5.4 Apply safety and security procedures as required by Hazard Analysis and Critical Control Point (HACCP), Occupational Safety and Health Administrations (OSHA), and other agencies.</p> <p>5.5.5 Apply procedures for control of infection and infectious materials.</p> <p>8.2.1 Identify characteristics of major foodborne pathogens, their role in causing illness, foods involved in outbreaks, and methods of prevention.</p> <p>8.2.2 Employ food service management safety/sanitation program procedures, including CPR and first aid.</p> <p>8.2.3 Use knowledge of systems for documenting, investigating, reporting, and preventing foodborne illness.</p> <p>8.2.4 Use the Hazard Analysis Critical Control Point (HACCP) and crisis management principles and procedures during food handling processes to minimize the risks of foodborne illness.</p> <p>8.2.5 Practice standard personal hygiene and wellness procedures.</p> <p>8.2.6 Demonstrate proper purchasing, receiving, storage, and handling of both raw and prepared foods.</p> <p>8.2.7 Demonstrate safe food handling and preparation techniques that prevent cross contamination from potentially hazardous foods and food groups.</p>	

- 8.2.8 Analyze current types of cleaning and sanitizing materials for proper use.
- 8.2.9 Use the Occupational Safety and Health Administration (OSHA) Right to Know Law and Materials Safety Data Sheets (MSDS) and explain their requirements in safe handling and storage of hazardous materials.
- 8.2.10 Demonstrate safe and environmentally responsible waste disposal and recycling methods.
- 8.2.11 Demonstrate ability to maintain necessary records to document time and temperature control, HACCP, employee health, maintenance of equipment, and other elements of food preparation, storage, and presentation.
- 8.5.1 Demonstrate professional skills in safe handling of knives, tools, and equipment.
- 8.6.9 Design internal/external crisis management and disaster plans and response procedures.
- 9.2.1 Analyze factors that contribute to food borne illness.
- 9.2.6 Demonstrate standard procedures for receiving, storage, and preparation of raw and prepared foods.
- 9.2.7 Classify cleaning and sanitizing materials and their correct use.
- 14.4.5 Analyze foodborne illness factors, including causes, potentially hazardous foods, and methods of prevention.
- 14.4.6 Analyze current consumer information about food safety and sanitation.

American Culinary Foundations (ACF)

B1 Use/follow recognized safety and sanitation practices

Aligned Washington State Academic Standards

Science

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.

H. S-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity

HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

	<p>HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.</p> <p>HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</p> <p>HS-LS4-3. Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.</p> <p>HS-LS3-1. Ask Questions to Clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.</p>	
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 3: Kitchen/Culinary Basics	Total Learning Hours for Unit: 40
<p>Performance Assessments: (Districts to complete for each unit)</p> <p><i>Example assessments for this unit include Students:</i></p> <ul style="list-style-type: none"> Having determined the recipe yield needed, the student will standardize (increase or decrease) a recipe, analyze and make recipe ingredient adjustments, and determine modifications in preparation. The student will test the recipe for conversion success. Having determined the recipe yield needed, the student will convert (increase or decrease) a recipe, analyze and make recipe ingredient adjustments, and determine modifications in preparation. The student will test the recipe for conversion success. Use a competency performance rubric based on industry standards for assessing the proper and efficient use of recognized standard preparation methods. 	
<p>Leadership Alignment: (Districts to complete for each unit)</p> <p><i>Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.</i></p> <p><i>Example:</i></p> <ul style="list-style-type: none"> FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using Parliamentary Procedure; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills. Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school community and service outreach. For this unit, FCCLA activities include using the Planning Process to plan labs and events that focus on these lessons. 	
<p>Industry Standards and/or Competencies:</p> <p>National Standards for Family and Consumer Sciences Education (FCS)</p> <p>8.5.2 Demonstrate professional skill for a variety of cooking methods including roasting, broiling, smoking, grilling, sautéing, pan frying, deep frying, braising, stewing, poaching, steaming, and baking using professional equipment and current technologies.</p> <p>8.5.3 Demonstrate knowledge of portion control and proper scaling and measurement techniques</p> <p>8.5.4 Apply the fundamentals of time, temperature, and cooking methods to cooking, cooling, reheating, and holding of a variety of foods.</p> <p>8.5.5 Prepare various meats, seafood, and poultry using safe handling and professional preparation techniques.</p>	

- 8.5.6 Prepare various stocks, soups, and sauces using safe handling and professional preparation techniques.
- 8.5.7 Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.
- 8.5.8 Prepare various salads, dressings, marinades, and spices using safe handling and professional preparation techniques.
- 8.5.9 Prepare sandwiches, canapes and appetizers using safe handling and professional preparation techniques.
- 8.5.10 Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.
- 8.5.11 Prepare breakfast meats, eggs, cereals, and batter products using safe handling and professional preparation techniques.
- 8.5.12 Demonstrate professional plating, garnishing, and food presentation techniques.
- 8.5.13 Integrate sustainability in food production and services including menu planning; acquisition, preparation, and serving of food; storage; and recycling and waste management.
- 9.6.4 Create standardized recipes.
- 9.6.5 Manage food production to meet needs and preferences of diverse customer populations.
- 14.3.3 Demonstrate ability to select, store, prepare, and serve nutritious, aesthetically pleasing food and food product.

Aligned Washington State Academic Standards

Science

HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

HS-PS1-5. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.

HS-PS1-6. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.

HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

HS-PS3-2 Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particle (objects) and energy associated with the relative positions of particles

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within (objects).and multicellular organisms.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

	<p>HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy</p> <p>HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.</p> <p>HS-LS3-2. Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.</p> <p>HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p> <p>HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.</p> <p>HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</p> <p>HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</p>	
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 4: People Skills and Teamwork	Total Learning Hours for Unit: 10
<p>Performance Assessments: (Districts to complete for each unit)</p> <p><i>Example assessments for this unit include:</i></p> <ul style="list-style-type: none"> Using a variety of resources, the student will analyze, design, and develop an “aspects of industry” project, e.g., the student will create a “mock” business, entrepreneurship or community service project. This will be presented to a panel of persons, some of whom have industry experience. Students make an industry connection and conduct an informational interview and/or job shadow. Using a variety of presentation skills, the student presents what they learned to classmates. Groups of students plan and present a simulation/role play of employee interview and orientation, training, and evaluation. The simulation/role play should show evidence of Student mastery of FACS competencies 1.2, 5.7.4, 8.6.5, 8.6.6, 8.6.7, 8.6.8. 	
<p>Leadership Alignment: (Districts to complete for each unit)</p> <p><i>Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.</i></p> <p><i>Example:</i></p>	

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community and service outreach. FCCLA activities include: Power of One – Better You and the use of built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

- 1.2.8 Demonstrate employability skills, work ethics, and professionalism.
- 5.7.1 Demonstrate quality customer service which exceeds customer expectations in diverse settings.
- 10.6.1 Coordinate client inquiries and requests.
- 10.6.2 Design themes, timelines, budgets, agendas, and itineraries for specific programs and events.
- 10.6.3 Organize resources and information about locations, facilities, suppliers, and vendors for specific services.
- 10.6.4 Prepare event materials for distribution.
- 10.6.5 Demonstrate skills related to promoting and publicizing events.
- 10.6.6 Manage programs and events for specific age groups or diverse populations.
- 10.6.7 Promote wellness initiatives through recreation and leisure programs and events.
- 10.6.8 Evaluate overall effectiveness of specific events.
- 10.6.9 Describe tourism related organizations and agencies and their impact on hospitality, lodging, travel, and recreation operations.
- 13.5.1 Create an environment that encourages and respects the ideas, perspectives, and contributions of all group members.
- 13.5.2 Demonstrate strategies to motivate, encourage, and build trust in group members.
- 13.5.3 Demonstrate strategies that utilize the strengths and minimize the limitations of team members.
- 13.5.4 Demonstrate techniques that develop team and community spirit.
- 13.5.5 Demonstrate ways to organize and delegate responsibilities.
- 13.5.6 Create strategies to integrate new members into the team.
- 13.5.7 Demonstrate processes for cooperating, compromising, and collaborating.

Aligned Washington State Academic Standards

Science	<p>HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</p> <p>HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p> <p>H.S-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity</p>
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Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 5: Basic and Industrial Kitchen Equipment**Total Learning Hours for Unit: 30****Performance Assessments:** (Districts to complete for each unit)*Example assessments for this unit include:*

- Students use applied thinking skills to demonstrate and teach classmates the proper use of a selected piece of equipment.
- After reading technical instruction manuals, students apply decision-making and planning skills to demonstrate proper use of equipment, this must include demonstration and explanation, variety of uses, all safety issues. Related math and science principles must be clear to the targeted audience.
- Students participate in inventory, cleaning and maintenance of lab equipment as part of kitchen brigade duties.

Leadership Alignment: (Districts to complete for each unit)*Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.**Example:*

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community and service outreach. For this unit, FCCLA activities include: **Food Innovation** focusing on a particular lesson topic and using built-in Rubrics.

Industry Standards and/or Competencies:**National Standards for Family and Consumer Sciences Education (FCS)**

8.2.2 Employ food service management safety/sanitation program procedures, including CPR and first aid.

8.2.8 Analyze current types of cleaning and sanitizing materials for proper use.

8.3.3 Demonstrate procedures for cleaning and sanitizing equipment, serving dishes, glassware, and utensils to meet industry standards and OSHA requirements.

8.3.5 Demonstrate procedures for safe and secure storage of equipment and tools.

Aligned Washington State Academic Standards

Science	<p>HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.</p> <p>HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.</p> <p>HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.</p> <p>HS-PS1-5. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.</p>
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	<p>HS-PS1-6. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.</p> <p>HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.</p> <p>HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.</p> <p>HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p> <p>HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.</p> <p>HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy</p> <p>HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</p>	
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 6: Culinary Techniques and Skills	Total Learning Hours for Unit: 40
<p>Performance Assessments: (Districts to complete for each unit)</p> <p><i>Example assessments for this unit include:</i></p> <ul style="list-style-type: none"> Students perform food preparation techniques at a level 3 or better in each food preparation category according to a recognized competency standard. Students set goals to carry out and incorporate into their final portfolio, a meal planning and preparation extended learning project. The project shall include such steps and elements as planning, purchasing, preparation, documentation, cost analysis, and evaluation. A minimum of 3 courses is required, e.g., appetizer, entrée, starch, cooked vegetable, dessert. BABRS and thinking skills will be taught and assessed as students demonstrate and teach others food preparation skills. 	
<p>Leadership Alignment: (Districts to complete for each unit)</p> <p><i>Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.</i></p> <p><i>Example:</i></p> <ul style="list-style-type: none"> FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using Parliamentary Procedure; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills. 	

- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community, and service outreach. FCCLA activities for this unit include the: **Culinary and Management Event** including built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

- 8.5.7 Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.
- 8.5.8 Prepare various salads, dressings, marinades, and spices using safe handling and professional preparation techniques.
- 8.5.9 Prepare sandwiches, canapes and appetizers using safe handling and professional preparation techniques.
- 8.5.10 Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.
- 8.5.11 Prepare breakfast meats, eggs, cereals, and batter products using safe handling and professional preparation techniques.
- 8.5.12 Demonstrate professional plating, garnishing, and food presentation techniques.
- 9.6.3 Apply standards for food quality and sustainability.
- 9.6.7 Implement procedures that provide cost effective products.

Aligned Washington State Academic Standards

Science

HS-LS3-1. Ask Questions to Clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.

HS-LS4-5 Evaluate the evidence supporting claims that Changes in environmental conditions may result in (1) increases in the number of individuals of some species (2) the emergence of new species overtime, and (3) the extinction of other species

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.

HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

HS-PS3-2. Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).

HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.

HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

HS-PS1-5. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.

HS-PS1-6. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.

HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.

	<p>HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</p> <p>HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</p>	
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 7: Customer Service and Relations	Total Learning Hours for Unit: 10
<p>Performance Assessments: (Districts to complete for each unit)</p> <p><i>Example assessments for this unit include:</i></p> <ul style="list-style-type: none"> In a real or role-play situation, students demonstrate service procedures and operations of the culinary arts field and gather evidence of customer satisfaction. Students may use current available industry educational programs relating to food services and leadership for this assessment. Students assessed on use of reading, writing, and communication essential learning as they develop, implement and present their project. The student applies/uses recognized service procedures and operations in the culinary arts retail operation, contrasting opinion of fact. 	
<p>Leadership Alignment: (Districts to complete for each unit)</p> <p><i>Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.</i></p> <p><i>Example:</i></p> <ul style="list-style-type: none"> FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using Parliamentary Procedure; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills. Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community and service outreach. FCCLA activities include: Hospitality, focusing on a particular lesson topic with built-in Rubrics. 	
<p>Industry Standards and/or Competencies:</p> <p>National Standards for Family and Consumer Sciences Education (FCS)</p> <p>1.2.8 Demonstrate employability skills, work ethics, and professionalism.</p> <p>5.7.1 Demonstrate quality customer service which exceeds customer expectations in diverse settings.</p> <p>13.5.1 Create an environment that encourages and respects the ideas, perspectives, and contributions of all group members.</p> <p>13.5.2 Demonstrate strategies to motivate, encourage, and build trust in group members.</p> <p>13.5.3 Demonstrate strategies that utilize the strengths and minimize the limitations of team members.</p> <p>13.5.4 Demonstrate techniques that develop team and community spirit.</p> <p>13.5.5 Demonstrate ways to organize and delegate responsibilities.</p> <p>13.5.6 Create strategies to integrate new members into the team.</p>	

Aligned Washington State Academic Standards		
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 8: Nutrition and Menu Planning	Total Learning Hours for Unit: 20
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Performance Assessments: (Districts to complete for each unit)

Example assessments for this unit include:

- Teams of students develop a menu for a specific customer group and analyze its nutritional value, using available resources such as nutritional analysis software, USDA guidelines. The menu will address learning standards as appropriate.
- As part of the culinary arts program, the student uses nutritional/dietary guidelines and menu planning principles to develop menu items that provide guests and customers with food choices that meet a range of dietary needs. Proper, efficient and appropriate food handling techniques will be used in the preparation of these menu items that will show evidence of menu analysis.
- During the menu planning process, students follow steps to efficiently and correctly calculate food cost.

Leadership Alignment: (Districts to complete for each unit)

Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.

Example:

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community, and service outreach. FCCLA activities might include: **Student Body** and **Financial Fitness** focusing on a particular lesson topic with built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

- 8.4.1 Use computer-based menu systems to develop and modify menus.
- 8.4.2 Apply menu-planning principles to develop and modify menus.
- 8.4.3 Analyze food, equipment, and supplies needed for production.
- 8.4.4 Develop a variety of menu layouts, themes, and design styles.
- 8.4.6 Record performance of menu items to analyze sales and determine menu revisions.
- 9.3.2 Analyze nutritional data.
- 9.3.3 Apply principles of food production to maximize nutrient retention in menus.
- 9.3.4 Assess the influence of cultural, socioeconomic and psychological factors on food and nutrition and behavior.
- 9.3.5 Analyze recipe/formula proportions and modifications for food production.
- 9.3.6 Critique the selection of foods to promote a healthy lifestyle.
- 9.4.3 Determine when to provide a selective menu approach in nutrition therapy settings.
- 9.4.4 Construct a modified diet based on nutritional needs and health conditions.

- 9.4.5 Design instruction on nutrition to promote wellness and disease prevention.
- 14.2.1 Evaluate the effect of nutrition on health, wellness and performance.
- 14.2.4 Analyze sources of food and nutrition information, including food labels, related to health and wellness.

Aligned Washington State Academic Standards

Science	Washington Science Standards (Next Generation Science Standards): HS-PS3-1. Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known. HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells. HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules. HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy. HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce. HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts		
	Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

<p>Unit 9: The Hospitality Industry</p>	<p>Total Learning Hours for Unit: 15</p>
<p>Performance Assessments: (Districts to complete for each unit)</p> <p><i>Example assessments for this unit include:</i></p> <ul style="list-style-type: none"> Using a variety of resources, the student researches one aspect of the hospitality industry, comparing and contrasting it to others, and evaluating and analyzing the opportunities within that career path. The student elaborates on their research by giving an original presentation (display, video production, Power Point presentation, etc.). 	
<p>Leadership Alignment: (Districts to complete for each unit)</p> <p><i>Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.</i></p>	

Example:

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community and service outreach. FCCLA activities include: a portfolio and **Job Interview** and includes the use of built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

- 8.1 Analyze career paths within the food production and food services industries.
- 8.1.1 Explain the roles, duties, and functions of individuals engaged in food production and services careers.
- 8.1.2 Analyze opportunities for employment and entrepreneurial endeavors.
- 8.1.3 Summarize education and training requirements and opportunities for career paths in food production and services.
- 8.1.4 Analyze the correlation between food production and services occupations and local, state, national, and global economies.
- 8.1.5 Create an employment portfolio to communicate food production and services knowledge and skills.
- 8.1.6 Analyze the role of professional organizations in food production and services.

Aligned Washington State Academic Standards

Science	Washington Science Standards (Next Generation Science Standards): HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.		
	Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 10: Safety & Sanitation	Total Learning Hours for Unit: 15
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Performance Assessments: (Districts to complete for each unit)

Example assessments for this unit include:

- The student develops and use, within the day-to-day operation of the culinary kitchen, an HACCP flow chart (sanitation) that demonstrates the cause/effect relationship between food handling and serving.
- The student passes at 90% a recognized food handler test, and demonstrate knowledge and understanding of food service safety, related vocabulary comprehension, and cause/effect relationships relative to food borne illness.
- The student passes at 90% a recognized safety test and demonstrate knowledge and understanding of safety practices in the food service facility, related vocabulary comprehension, and cause/effect relationships relative to proper use of utensils and equipment.
- All sanitation and safety procedures will be continuously applied and assessed in learning activities.

Leadership Alignment: (Districts to complete for each unit)

Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.

Example:

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community and service outreach. FCCLA activities might include: **Leaders at Work** and the use of built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

8.2 Demonstrate food safety and sanitation procedures.

8.2.1 Identify characteristics of major foodborne pathogens, their role in causing illness, foods involved in outbreaks, and methods of prevention.

8.2.2 Employ food service management safety/sanitation program procedures, including CPR and first aid.

8.2.3 Use knowledge of systems for documenting, investigating, reporting, and preventing foodborne illness.

8.2.4 Use the Hazard Analysis Critical Control Point (HACCP) and crisis management principles and procedures during food handling processes to minimize the risks of foodborne illness.

8.2.5 Practice standard personal hygiene and wellness procedures.

8.2.6 Demonstrate proper purchasing, receiving, storage, and handling of both raw and prepared foods.

8.2.7 Demonstrate safe food handling and preparation techniques that prevent cross contamination from potentially hazardous foods and food groups.

8.2.8 Analyze current types of cleaning and sanitizing materials for proper use.

8.2.9 Use the Occupational Safety and Health Administration (OSHA) Right to Know Law and Materials Safety Data Sheets (MSDS) and explain their requirements in safe handling and storage of hazardous materials.

8.2.10 Demonstrate safe and environmentally responsible waste disposal and recycling methods.

8.2.11 Demonstrate ability to maintain necessary records to document time and temperature control, HACCP, employee health, maintenance of equipment, and other elements of food preparation, storage, and presentation.

8.2.10 Demonstrate safe and environmentally responsible waste disposal and recycling methods.

Aligned Washington State Academic Standards

Science	<p>Washington Science Standards (Next Generation Science Standards):</p> <p>HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.</p> <p>HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.</p> <p>H. S-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity</p> <p>HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems</p>
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	<p>HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials</p> <p>HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.</p> <p>HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.</p> <p>HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.</p> <p>HS-LS4-3. Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.</p> <p>HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</p> <p>HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</p>	
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 11: Kitchen Basics	Total Learning Hours for Unit: 30
<p>Performance Assessments: (Districts to complete for each unit)</p> <p><i>Example assessments for this unit include:</i></p> <ul style="list-style-type: none"> Having determined the recipe yield needed, the student converts (increase or decrease) a recipe, analyze and make recipe ingredient adjustments, and determine modifications in preparation. The student tests the recipe for conversion success. Students develop and use a competency performance rubric (which includes all framework columns) for assessing the proper and efficient use of recognized standard preparation methods. Students will perform at a level 3 or better when assessed using the rubric, demonstrating persistence to reach these goals. <p>NOTE: In the case where a competency performance rubric is used for scoring, assessment shall be of all columns. This applies wherever a performance rubric is used.</p> <p>Competency performance levels are defined as follows:</p> <p>Level 1 – Has some knowledge, but cannot perform the task</p> <p>Level 2 – Needs assistance to perform the task</p> <p>Level 3 – Performs the task with little or no assistance</p> <p>Level 4 – Able to teach the task</p>	
<p>Leadership Alignment: (Districts to complete for each unit)</p>	

Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.

Example:

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community and service outreach. FCCLA activities include: **Culinary and Management Events** focusing on a particular lesson topic and using built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

8.4 Demonstrate menu planning principles and techniques based on standardized recipes to meet customer needs.

8.4.1 Use computer-based menu systems to develop and modify menus.

8.4.2 Apply menu-planning principles to develop and modify menus.

8.4.3 Analyze food, equipment, and supplies needed for production.

8.4.4 Develop a variety of menu layouts, themes, and design styles.

8.4.5 Prepare requisitions for food, equipment, and supplies to meet production requirements.

8.4.6 Record performance of menu items to analyze sales and determine menu revisions.

8.4.7 Apply principles of measurement, portion control, conversions, food cost analysis and control, menu terminology, and menu pricing to menu planning.

8.5 Demonstrate professional food preparation methods and techniques for all menu categories to produce a variety of food products that meet customer needs.

8.5.1 Demonstrate professional skills in safe handling of knives, tools, and equipment.

8.5.2 Demonstrate professional skill for a variety of cooking methods including roasting, broiling, smoking, grilling, sautéing, pan frying, deep frying, braising, stewing, poaching, steaming, and baking using professional equipment and current technologies.

8.5.3 Demonstrate knowledge of portion control and proper scaling and measurement techniques

8.5.4 Apply the fundamentals of time, temperature, and cooking methods to cooking, cooling, reheating, and holding of a variety of foods.

8.5.5 Prepare various meats, seafood, and poultry using safe handling and professional preparation techniques.

8.5.6 Prepare various stocks, soups, and sauces using safe handling and professional preparation techniques.

8.5.7 Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.

8.5.8 Prepare various salads, dressings, marinades, and spices using safe handling and professional preparation techniques.

8.5.9 Prepare sandwiches, canapes and appetizers using safe handling and professional preparation techniques.

8.5.10 Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.

8.5.11 Prepare breakfast meats, eggs, cereals, and batter products using safe handling and professional preparation techniques.

8.5.12 Demonstrate professional plating, garnishing, and food presentation techniques.

8.5.13 Integrate sustainability in food production and services including menu planning; acquisition, preparation, and serving of food; storage; and recycling and waste management.

8.5.14 Demonstrate cooking methods that increase nutritional value, lower calorie and fat content, and utilize herbs and spices to enhance flavor.

Aligned Washington State Academic Standards

Science

Washington Science Standards (Next Generation Science Standards):

S-PS3-2. Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).

HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.

HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

HS-PS1-5. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.

HS-PS1-6. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.

HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

	HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy. HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.	
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 12: Basic Industrial Kitchen Equipment	Total Learning Hours for Unit: 30
<p>Performance Assessments: (Districts to complete for each unit)</p> <p><i>Example assessments for this unit include:</i></p> <ul style="list-style-type: none"> Students develop and use a competency performance rubric for assessing the proper and efficient use of equipment, hand tools, and utensils. Students will perform at a level 3 or better when assessed using the rubric, demonstrating persistence to reach these goals. Given a food service situation, students demonstrate correct use of appropriate equipment. They will read technical manuals and be able to explain the reasons for correct use including relates math and science principles. After reading technical instruction manuals, students apply decision-making and planning skills to demonstrate proper use of equipment, this must include demonstration and explanation, variety of uses, all safety issues. Related math and science principles must be clear to the targeted audience. 	
<p>Leadership Alignment: (Districts to complete for each unit)</p> <p><i>Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.</i></p> <p><i>Example:</i></p> <ul style="list-style-type: none"> FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using Parliamentary Procedure; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills. Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community, and service outreach. FCCLA activities include: the Planning Process focusing on a particular lesson topic. 	
<p>Industry Standards and/or Competencies:</p> <p>National Standards for Family and Consumer Sciences Education (FCS)</p> <p>8.3 Demonstrate industry standards in selecting, using, and maintaining food production and food service equipment.</p> <p>8.3.1 Operate tools and equipment following safety procedures and OSHA requirements.</p> <p>8.3.2 Maintain tools and equipment following safety procedures and OSHA requirements.</p> <p>8.3.3 Demonstrate procedures for cleaning and sanitizing equipment, serving dishes, glassware, and utensils to meet industry standards and OSHA requirements.</p> <p>8.3.4 Analyze equipment purchases based on long-term business needs, specific regulations, and codes related to foods.</p> <p>8.3.5 Demonstrate procedures for safe and secure storage of equipment and tools.</p>	

8.3.6 Identify a variety of types of equipment for food processing, cooking, holding, storing, and serving.

Aligned Washington State Academic Standards

Science	Washington Science Standards (Next Generation Science Standards): HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles. HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy. HS-PS1-5. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs. HS-PS1-6. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium. HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials. HS-PS3-2. Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects). HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules. HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy. HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.		
	Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Performance Assessments: (Districts to complete for each unit)

Example assessments for this unit include:

- Students demonstrate and teach others food preparation skills.
- Catering Events, Culinary Competitions, Special events, Cooking Labs, Community Service, Guest Chefs.

Leadership Alignment: (Districts to complete for each unit)

Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.

Example:

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community, and service outreach. FCCLA projects include: **Culinary Arts** focusing on a particular lesson topic, using built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

8.5 Demonstrate professional food preparation methods and techniques for all menu categories to produce a variety of food products that meet customer needs.

8.5.1 Demonstrate professional skills in safe handling of knives, tools, and equipment.

8.5.2 Demonstrate professional skill for a variety of cooking methods including roasting, broiling, smoking, grilling, sautéing, pan frying, deep frying, braising, stewing, poaching, steaming, and baking using professional equipment and current technologies.

8.5.3 Demonstrate knowledge of portion control and proper scaling and measurement techniques

8.5.4 Apply the fundamentals of time, temperature, and cooking methods to cooking, cooling, reheating, and holding of a variety of foods.

8.5.5 Prepare various meats, seafood, and poultry using safe handling and professional preparation techniques.

8.5.6 Prepare various stocks, soups, and sauces using safe handling and professional preparation techniques.

8.5.7 Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.

8.5.8 Prepare various salads, dressings, marinades, and spices using safe handling and professional preparation techniques.

8.5.9 Prepare sandwiches, canapes and appetizers using safe handling and professional preparation techniques.

8.5.10 Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.

8.5.11 Prepare breakfast meats, eggs, cereals, and batter products using safe handling and professional preparation techniques.

8.5.12 Demonstrate professional plating, garnishing, and food presentation techniques.

8.5.13 Integrate sustainability in food production and services including menu planning; acquisition, preparation, and serving of food; storage; and recycling and waste management.

Aligned Washington State Academic Standards

Science

Washington Science Standards (Next Generation Science Standards):

HS-LS3-1 Ask Questions to Clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.

HS-LS4-5 Evaluate the evidence supporting claims that Changes in environmental conditions may result in (1) increases in the number of individuals of some species (2) the emergence of new species overtime, and (3) the extinction of other species

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.

HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

HS-PS1-5. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.

HS-PS1-6. Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.

HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

HS-PS3-2. Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).

HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

	<p>HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.</p> <p>HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.</p> <p>HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p> <p>HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.</p> <p>HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.</p> <p>HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</p> <p>HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.</p>		
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept	

Unit 14: Customer Service Relations

Total Learning Hours for Unit: 10

Performance Assessments: (Districts to complete for each unit)

Example assessments for this unit include:

- Prepare for the transition to employee and from employee to supervisor.
- Demonstrate effective communication and interpersonal skills: a) interact with others using tact and courtesy in both verbal and non-verbal communication; b) set and utilize appropriate rules when interacting with others; c) use effective structure and presentation style when speaking; d) use effective listening skills; e) adapt communication skills to appropriate environment and medium
- Demonstrate the ability to work as a group member in the production of quality work: a) knowledge of own and others' interactive styles; b) ability to relate and interact effectively in teams consisting of individuals with differing interests, genders, backgrounds and professions
- Logically and effectively solve personal and professional problems: a) adapt to change; b) deal constructively with stress; c) conflict resolution
- Demonstrate ability to set and work towards goals within a set timeline: a) set priorities, plan time lines, take action, evaluate and adjust accordingly; b) identify professional goals; c) reflect on short-term goals to measure personal effectiveness
- Carry out steps in job search and obtain employment: a) job interview; b) correct professional appearance and conduct; c) commit to industry work ethics

- Identify and value quality: a) able to identify standards of quality; b) assess a service/product and determine if meets defined quality standard; c) able to define quality process; d) willing to adjust to meet quality standards
- Describe procedure to progressive discipline.
- Discuss techniques for motivating employees.
- Outline current federal and state employment laws.
- Use proper evaluative techniques.

Leadership Alignment: (Districts to complete for each unit)

Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.

Example:

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community and service outreach. FCCLA activities include: **Interpersonal Relationships** or **Hospitality**, focusing on a particular lesson topic with built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

- 1.2.8 Demonstrate employability skills, work ethics, and professionalism.
- 5.7.1 Demonstrate quality customer service which exceeds customer expectations in diverse settings.
- 8.7.1 Analyze the role of quality service as a strategic component of exceptional performance.
- 8.7.2 Demonstrate quality service techniques and procedures that meet industry standards in the food service industry.
- 8.7.3 Analyze the relationship between employee attitude and skills and customer satisfaction.
- 8.7.4 Apply procedures for addressing and resolving complaints.
- 8.7.5 Demonstrate sensitivity to diversity and special needs.
- 13.5.1 Create an environment that encourages and respects the ideas, perspectives, and contributions of all group members.
- 13.5.2 Demonstrate strategies to motivate, encourage, and build trust in group members.
- 13.5.3 Demonstrate strategies that utilize the strengths and minimize the limitations of team members.
- 13.5.4 Demonstrate techniques that develop team and community spirit.
- 13.5.5 Demonstrate ways to organize and delegate responsibilities.
- 13.5.6 Create strategies to integrate new members into the team.
- 13.5.7 Demonstrate processes for cooperating, compromising, and collaborating.

American Culinary Foundations (ACF)

- I1.1 Demonstrate effective communication and interpersonal skills: a) interact with others using tact and courtesy in both verbal and non-verbal communication; b) set and utilize appropriate rules when interacting with others; c) use effective structure and presentation style when speaking; d) use effective listening skills; e) adapt communication skills to appropriate environment and medium

- I1.2 Demonstrate the ability to work as a group member in the production of quality work: a) knowledge of own and others' interactive styles; b) ability to relate and interact effectively in teams consisting of individuals with differing interests, genders, backgrounds and professions
- I1.3 Logically and effectively solve personal and professional problems: a) adapt to change; b) deal constructively with stress; c) conflict resolution
- I1.4 Demonstrate ability to set and work towards goals within a set time line: a) set priorities, plan time lines, take action, evaluate and adjust accordingly; b) identify professional goals; c) reflect on short-term goals to measure personal effectiveness
- I1.5 Carry out steps in job search and obtain employment: a) job interview; b) correct professional appearance and conduct; c) commit to industry work ethics
- I1.6 Identify and value quality: a) able to identify standards of quality; b) assess a service/product and determine if meets defined quality standard; c) able to define quality process; d) willing to adjust to meet quality standards
- I1.7 Describe procedure to progressive discipline.
- I1.8 Discuss techniques for motivating employees.
- I1.9 Outline current federal and state employment laws.
- I1.10 Use proper evaluative techniques.

Aligned Washington State Academic Standards		
Science	HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios. HS-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.	
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept

Unit 15: Nutrition and Menu Planning	Total Learning Hours for Unit: 10
Performance Assessments: (Districts to complete for each unit) <i>Example assessments for this unit include:</i> <ul style="list-style-type: none"> As part of the culinary arts retail operation, the student uses nutritional/dietary guidelines and menu planning principles to develop menu items that provide guests and customers with food choices that meet a range of dietary needs. Proper, efficient and appropriate food handling techniques will be used in the preparation of these menu items that will show evidence of menu analysis. The student researches and reviews a number of marketing/advertising styles and examples to develop a menu that could be used in the culinary arts retail operation. 	
Leadership Alignment: (Districts to complete for each unit) <i>Leadership alignment must include a unit specific project/activity that aligns with the 21st Century Leadership Skills.</i> <i>Example:</i>	

- FCCLA student Leadership activities will use a variety of formative and summative assessments that might include: class organization with officers and committees using **Parliamentary Procedure**; brainstorming for course /project ideas; project planning, group interaction; creative use of materials, historical perspectives, real - world problem solving; technical skills; career & life skills development and other 21st century skills.
- Students use the information as they practice/compete in individual and team competitions, including the Hospitality Cup (WRA) and perform in and out of school, community, and service outreach. FCCLA activities might include: **Financial Fitness** and **Nutrition and Wellness** focusing on a particular lesson topic with built-in Rubrics.

Industry Standards and/or Competencies:

National Standards for Family and Consumer Sciences Education (FCS)

8.4 Demonstrate menu planning principles and techniques based on standardized recipes to meet customer needs.

8.4.1 Use computer-based menu systems to develop and modify menus.

8.4.2 Apply menu-planning principles to develop and modify menus.

8.4.3 Analyze food, equipment, and supplies needed for production.

8.4.4 Develop a variety of menu layouts, themes, and design styles.

8.4.5 Prepare requisitions for food, equipment, and supplies to meet production requirements.

8.4.6 Record performance of menu items to analyze sales and determine menu revisions.

8.4.7 Apply principles of measurement, portion control, conversions, food cost analysis and control, menu terminology, and menu pricing to menu planning.

Aligned Washington State Academic Standards

Science

Washington Science Standards (Next Generation Science Standards):

HS-PS3-1. Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.

HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.

HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

	HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.	
Science and Engineering Practice	Disciplinary Core Idea	Crosscutting Concept