TRAINING MANUAL

SCHOOL MEAL RECIPE WORKSHOP:

From Concept to Standardization

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School Meal Recipe Workshop:

From Concept to Standardization

Training Manual

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Key Area: 1 – Nutrition
Key Area: 2 – Operations
Key Area: 4 – Communications and Marketing

USDA Professional Standards Codes
Menu Planning – 1100
Food Production – 2100
Communications and Marketing – 4100

2024

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Table of Contents

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Schedule-at-a-Glance

Day One		
Time	**Topic**	**Activities and Objectives**
30 Minutes	Introduction	◆ Introduce Instructor ◆ Introduce ICN Staff ◆ Participant Introductions and Ice Breaker Activity ◆ Review Workshop Schedule and Topics ◆ Review ICN Ground Rules ◆ Pre-Workshop Assessment
300 Minutes	How to Identify, Prepare, and Standardize a Recipe	◆ Participants will be able to describe how the recipes will be identified, prepared, and standardized in accordance with the USDA Recipe Standardization Process. ◆ USDA Recipe Standardization Process ◆ Recipe Verification Phase ◆ Product Evaluation Phase ◆ Quantity Adjustment Phase
5 Minutes	Wrap up	◆ Summarize the day ◆ Answer questions ◆ Next steps
Day Two		
Time	**Topic**	**Activities and Objectives**
120 Minutes	Review Plan for the Day	◆ Review the *Food Buying Guide for Child Nutrition Programs* (FBG) and *Recipe Analysis Workbook* (RAW). ◆ Discuss the recipes each participant will be developing. ◆ Draft the initial recipe using your nutrient analysis software and FBG.
As needed	Standardized Recipes	◆ Draft recipe
30-60 Minutes	End of the Day Meeting	◆ Summarize the day ◆ Answer questions ◆ Next steps

Day Three		
Time	Topic	Activities and Objectives
30 Minutes	Review Plan for the Day	◆ Review how to conduct a yield test. ◆ Yield test activity ◆ Produce a small batch of the recipe and ask staff to informally evaluate the recipe.
As needed	Recipe production and evaluation	◆ Make the small batch recipe ◆ Verify recipe yield ◆ Evaluate the recipe (staff) ◆ Make recipe adjustments
30-60 Minutes	End of the Day Meeting	◆ Summarize day ◆ Answer questions ◆ Next Steps
Day Four		
Time	Topic	Activities and Objectives
20 Minutes	Review Plan for the Day	◆ Produce a small batch of the recipe ◆ Staff and student evaluation
As needed	Recipe	◆ Prepare small batch recipe ◆ Evaluate the recipe (staff and students) ◆ Make recipe adjustments
30-60 Minutes	End of the Day Meeting	◆ Summarize day ◆ Answer questions ◆ Next Steps
Day Five		
Time	Topic	Activities and Objectives
20 Minutes	Review Plan for the Day	◆ Using the updated recipe, conduct a nutrient analysis for nutrition and crediting using the site's recipe analysis software and the RAW
As needed	Analysis	◆ Nutrient Analysis ◆ Crediting using RAW
60 Minutes	Celebration	◆ Answer questions ◆ Celebrate by sharing success ◆ Next Steps
As needed	Scale recipe	◆ Instructor is available to help scale the recipe for implementation

Suggested Workshop Pre-Work

It is strongly suggested that participants complete the following E-Learning modules on the ICN iLearn portal:

- FBG Module 1: Overview of the FBG for CNPs
- FBG Module 2: *Recipe Analysis Workbook* (RAW)

Virtual Workshop Lab Notes

The participants will conduct the workshop activities in a commercial kitchen or similar facility in a school kitchen. Prior to the workshop, the participants must select a recipe that they would like to standardize and purchase the ingredients to make the recipe twice in small-batch quantities (25 servings per batch). Note, day 4 includes taste testing, so participants need to plan to have students available to participate in this part of the workshop.

The instructor will use the Zoom Meeting platform to review the lesson objective(s), workshop activity, and Quality Score Cards; and conduct a virtual tour of the FBG and RAW.

The instructor will remain available via Zoom to answer any questions and provide support at pre-arranged times during the day. Outside of those times, the instructor will be available through a class discussion chat.

At the beginning of each day, participants will login to Zoom to receive instructions for the day and have questions answered. Participants will login to Zoom again at the end of each day to share successes and brainstorm solutions to problems. Meeting times will be established for each workshop based on the location(s) of the participants.

Background Information

Welcome to the Institute of Child Nutrition's *School Meal Recipe Workshop: From Concept to Standardization*. This training aims to develop, prepare, test, standardize, and menu for school meal programs.

As the instructor, you will train participants to successfully identify, prepare, test, verify, and adjust recipes following the USDA Recipe Standardization Process below.

- Recipe Verification Phase – consists of several steps. During this phase, you review the recipe, prepare the recipe, verify the recipe yield, and record any changes. You also need to complete a nutrient analysis and the *Recipe Analysis Workbook* (RAW).

- Product Evaluation Phase – focuses on determining the acceptability of the product produced from the recipe through taste tests and the assessment of quality features such as appearance, texture, and temperature.
- Quantity Adjustment Phase – this phase occurs if you need to adjust the yield of a recipe that is evaluated positively.

The instructor will review the importance of piloting newly standardized recipes as part of the school meal service. The school meal service pilot helps determine if the standardized recipe will work in the "real world." It is an opportunity to gather feedback from school nutrition staff and students on the recipe. It will also help determine if further modifications are needed before the recipe is implemented as part of a cycle menu.

Additionally, the instructor will familiarize participants with the process of conducting the standardization of a recipe utilizing the USDA Recipe Standardization Process through a hands-on workshop. Participants will work to complete the process of scaling, preparing, tasting, evaluating, and crediting a recipe.

Welcome and Introduction (30 Minutes)

- Enthusiastically welcome participants to the workshop.
    - The purpose of the *School Meal Recipe Workshop: From Concept to Standardization* is to build capacity and sustainable infrastructure to develop, standardize, prepare, test, and menu recipes for the School Meal Programs.
    - Introduce the instructor
    - Name and Job Title
    - Organization and Affiliation(s) (as applicable)
    - Instructor's background information as it applies to the topic area of the workshop
- Introduce other staff assisting with the workshop.
    - Name and Credentials
    - Organization and Affiliation(s) (as applicable)
- Introduce participants.
    - Facilitate an Ice Breaker Activity that ensures each participant, at minimum, names their school district, size, and state.
        - Name and Credentials
        - Organization and Affiliation(s) (as applicable)
        - Optional: Participants share favorite school lunch or breakfast served, their favorite food, or what they hope to gain from the workshop.
- Review the workshop schedule: See Schedule-at-a-Glance.
- Review the workshop goals.
- Review the ground rules and ask if there are any rules that the group would like to add.
- Provide the Pre-Workshop Assessment.
    - Provide participants with a link to the online workshop assessment.

Workshop Objectives

- Participants will be able to describe the components of a standardized recipe and the benefits of using one.
- Participants will be able to identify the three phases of the USDA Recipe Standardization Process.
- Participants will be able to evaluate standardized school meal recipes and pilot them as part of a school meal service.
- Participants will identify strategies for engaging students and the school community in the process of developing standardized recipes for school meals.
- Participants will complete the process of scaling, preparing, tasting, evaluating, and crediting a recipe utilizing the USDA Recipe Standardization Process.
- Participants will be able to utilize the *Food Buying Guide for Child Nutrition Programs* (FBG) and the *Recipe Analysis Workbook* (RAW) as part of the Recipe Standardization Process.

Key Areas and Professional Standards Codes

Key Areas

1 – Nutrition
2 – Operations
4 – Communications and Marketing

USDA Professional Standards Codes

Menu Planning – 1100

Employee will be able to effectively and efficiently plan and prepare standardized recipes, cycle menus, and meals, including the use of USDA Foods, to meet all Federal school nutrition program requirements, including the proper meal components.

- 1110 – Plan menus that meet USDA nutrition requirements for reimbursable meals, including calculating meal components.
- 1120 – Plan cycle menus that meet all rules. Consider cost, equipment, foods available, storage, staffing, student tastes, and promotional events.
- 1130 – Utilize local food sources, especially Farm to School, when possible.
- 1140 – Write standardized recipes and use *Food Buying Guide for Child Nutrition Programs* (FBG).

Food Production – 2100

Employee will be able to effectively utilize food preparation principles, production records, kitchen equipment, and food crediting to prepare foods from standardized recipes, including those for special diets.

- 2110 – Understand and effectively prepare food using a standardized recipe.
- 2130 – Develop culinary skills necessary for school meal preparation.
- 2150 – Understand CN labels, product formulation statements, and appropriate crediting information for school meal pattern requirements.

Communications and Marketing – 4100

Employee will be able to develop plans that include involvement with school and community members, empower school nutrition leaders, and address excellent customer service.

- 4130 – Empower school nutrition professionals to provide excellent customer service.
- 4140 – Develop communication skills.

Ground Rules

ICN developed ground rules to help the workshop run smoothly and allow all participants to benefit from the course instruction and information.

Show up on time and come prepared

Be prompt in arriving and returning from breaks. Come with a positive attitude.

Stay mentally and physically present

Be present and stay on task. Listen attentively to others and avoid disruptive side conversations.

Let everyone participate

Be patient when listening to others speak. Treat all participants with the same respect that you would want to receive.

Listen with an open mind

Stay open to new ways of doing things and listen for understanding. You can respect another person's point of view without agreeing with them.

Think before speaking

Seek first to understand, then to be understood. Avoid using idioms and phrases that can be misunderstood.

Attack the problem, not the person

Respectfully challenge the idea, not the person. Honest and constructive discussions are necessary to get the best results.

Focus on food safety

Ensure proper food safety practices are adhered to at all times. Practice proper handwashing and glove use, avoid cross-contact and cross-contamination, follow cleaning and sanitation practices, and use proper temperature controls.

Maintain physical safety

Kitchen environments are filled with the potential for accidents. Safeguard yourself and others by following good workplace safety practices. Keep floors clean and free of debris and standing water, move safely with sharp items such as knives, and use equipment with caution, preventing burns, cuts, and other injuries. Immediately report any injuries to your instructor.

Wear proper kitchen attire

Wear proper kitchen attire during culinary labs. Proper attire includes closed-toed shoes (slip-resistant are preferable), a clean apron, and a hair restraint. Remove jewelry (including rings—except for a single, plain band without stones), remove nail polish and artificial fingernails, and maintain good personal hygiene.

Pre-Assessment

The instructor will be given a QR code and link to the Pre-Assessment before the workshop. Please share this QR code with the participants and ask them to complete the assessment.

Recipe Standardization Assessment **Four-Digit Identifier _____**

1. A standardized recipe is _____.
   A. A recipe developed by USDA
   B. Any published quantity recipe
   C. A recipe that is tried and adapted to your operation
   D. All of the above

2. A standardized recipe will produce a consistent yield each time the recipe is followed.
   A. True
   B. False

3. The USDA Recipe Standardization Process typically starts with which phase?
   A. Verifying the recipe
   B. Evaluating the product
   C. Adjusting the quantity

4. A recipe calls for 2 lb of chopped onion, which is referred to as the _____.
   A. Edible portion (EP)
   B. As purchased portion (AP)
   C. Yield

5. The CCP in a USDA Standardized Recipe means _____.
   A. Commercial Commodity Production
   B. Critical Control Point
   C. Cooking Control Procedure
   D. Cooling Control Process

6. Using three 9-lb packages of ground beef when the recipe calls for 30 lb of ground beef is _____.
   A. The appropriate amount to use
   B. Too little meat to use; additional meat should be obtained
   C. Too much meat to use; some meat should be held for use in another recipe

7. Serving incorrect portions of food items could result in the loss of USDA meal reimbursement.
   A. True
   B. False

8. Using standardized recipes can result in _____.
   A. Better control of inventory
   B. Better control of costs
   C. Fewer mistakes
   D. All of the above

9. USDA Standardized recipes for school meals provide yields of _____.
   A. 50 or 100 servings
   B. 30 or 60 servings
   C. 100 or 200 servings
   D. 6 servings

10. A crediting statement for a standardized recipe is determined by _____.
   A. Recipe ingredients
   B. *Recipe Analysis Workbook* (RAW)
   C. *Food Buying Guide for Child Nutrition Programs* (FBG)
   D. School nutrition staff

Pre-Assessment — ANSWER KEY

1. A standardized recipe is _____.
   A. A recipe developed by USDA
   B. Any published quantity recipe
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   C. *Food Buying Guide for Child Nutrition Programs* (FBG)
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Lesson Content: How to Identify, Prepare, and Standardize a Recipe (300 Minutes)

Lesson Learning Goal

Participants will be able to describe how the recipes will be identified and prepared in accordance with the USDA Recipe Standardization Process.

Learning Objectives by Topic Areas

Introduction to Standardized Recipes

- Define a standardized recipe.
- Review the importance and benefits of using standardized recipes.

Recipe Verification Phase – Learning Objectives

- Describe methods for soliciting recipes from the school community.
- Discuss strategies for identifying locally sourced food items to be used in the recipe.
- Recognize the anatomy of a standardized recipe.
- Review the information to include in a standardized recipe.
- Summarize the recipe verification phase.
- Review the process of preparing, verifying the yield, completing the nutrient analyses and crediting information, and evaluating the usability of the recipe at the intended service site.

Product Evaluation Phase – Learning Objectives

- Summarize the product evaluation phase.
- Describe the informal evaluation process.
- Describe the formal evaluation process.

Quantity Adjustment Phase – Learning Objectives

- Identify the methods for adjusting the quantity yields for recipes.
- Discuss information for adjusting recipes.

After Recipe Standardization: Prepare and Serve Your New Recipe as Part of School Meal Service – Learning Objectives

- Discuss how piloting your new recipe as part of a school meal service can help you get feedback on whether the recipe will work in a "real world" setting.
- Review methods of training school nutrition staff on the preparation, service, and marketing of the recipe.
- Discuss strategies for implementing an evaluation process and collecting staff feedback.
- Evaluate student acceptability and collect feedback on the recipe during the meal service.
- Determine if the recipe needs to be modified and re-standardized based on the result of the pilot.

STANDARDIZED RECIPES

Discuss

In this section, we will cover:

- Benefits of standardized recipes
- Importance of standardized recipes

Benefits of Standardized Recipes — Instruction (10 Minutes)

Review what a standardized recipe is and the many benefits of using standardized recipes.

Objective

Review the benefits of using standardized recipes.

Discuss

- The U.S. Department of Agriculture (USDA) defines a standardized recipe as one that:

> "Has been tried, adapted, and retried at least three times and has been found to produce the same good results and yield every time when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients."
>
> The terms "quantity recipes" and "standardized recipes" often are used interchangeably; however, they are not the same. Many recipes are written to produce large quantities of food, but the recipe may or may not be standardized. Any recipe that produces 25 servings or more is termed a quantity recipe. However, quantity recipes are not standardized until they have been prepared at least 3 times with consistent results. All standardized recipes are quantity recipes, but not all quantity recipes are standardized recipes.

- The USDA Standardized Recipe Process begins by identifying and soliciting recipes and menu ideas from the school community.
- The USDA Standardized Recipe Process should be used when introducing a new recipe to the program or when producing the recipe requires significant changes, including changes in ingredients, equipment, and scaling the recipe into larger or smaller quantities than the original standardized recipe.
- When implementing a USDA Standardized Recipe at a site for the first time, it is not necessary to re-standardize the recipe for the site. However, it is advisable to pilot recipes when used at different sites to ensure the recipe can be successfully produced at the location. Minor adjustments do not require using the full USDA Standardized Recipe Process, but in the event the pilot proves unsuccessful, and several adjustments are needed, the USDA Standardized Recipe Process should be followed.
- Once the recipe is identified or developed, the school nutrition staff will use the USDA Recipe Standardization Process to verify, evaluate, and adjust the final quantity if needed.

Class Discussion Prompts

Instructor's Note: Use the whiteboard with the annotate feature to type the participants' answers to the continue discussion prompt.

ACTIVITY: Brainstorm

Ask participants to type into the chat (or unmute and share) the benefits of using standardized recipes. Read answers as they come up in the chat.

Continue Discussion

- How many attendees use standardized recipes in your kitchens?
- Where do you obtain the standardized recipes that you use in your kitchens?
- After discussing the questions, review the Benefits of Standardized Recipes and compare the participants' answers to the list. Discuss any differences between the lists.

Benefits of Standardized Recipes

Using standardized recipes provides many benefits to school foodservice operations.

Consistent food quality – The use of standardized recipes ensures that menu items will be consistent in quality each time they are prepared and served.

Predictable yield – The planned number of servings will be accurately produced by using standardized recipes. This can help reduce the amount of leftover food if there has been overproduction and helps prevent shortages of servings on the line. A predictable yield is especially important when food is transported from a production kitchen to other serving sites.

Customer satisfaction – Well-developed recipes that appeal to students are an important factor in maintaining and increasing student participation levels. Schools may gain knowledge from national restaurant chains that have developed popular menu items consistent in every detail of ingredient, quantity, preparation, and presentation. Standardized recipes provide this consistency and can result in increased customer satisfaction.

Consistent nutrient content – Standardized recipes will ensure that nutritional values per serving are valid and consistent.

Food cost control – Standardized recipes provide consistent and accurate information for food cost control because the same ingredients and quantities of ingredients per serving are used each time the recipe is produced.

Efficient purchasing procedures – Purchasing is more efficient because the quantity of food needed for production is easily calculated from the information on each standardized recipe.

Inventory control – The use of standardized recipes provides predictable information on the quantity of food inventory that will be used each time the recipe is produced.

Labor cost control – Written standardized procedures in the recipe make efficient use of labor time and allow for planned scheduling of foodservice personnel for the workday. Training costs are reduced because new employees are provided specific directions for the preparation of each recipe.

Increased employee confidence – Employees feel more satisfied and confident in their jobs because standardized recipes eliminate guesswork, decrease the chances of producing poor food products, and prevent shortages of servings during meal service.

Successful completion of Administrative Reviews – Standardized recipes are a documentation source for an Administrative Review (AR). ARs determine how well schools are meeting nutrition standards. A review cannot be completed if the recipes are missing information or provide inaccurate information on ingredients, yield, or serving size. ARs require standardized recipes to ensure that the nutrient analysis is accurate. Menus, recipes, production records, and a nutrient analysis are kept on file for review.

Importance of Standardized Recipes — Instruction (10 Minutes)

Activity: Question

- Which of the following is not a benefit of standardizing recipes?
    - Cost control
    - Customer satisfaction
    - **Over-purchasing food**
    - Nutrient analysis
    - Predictable yield
- Ask participants to type their answers into the chat box.

Discuss

- The proper use of standardized recipes is a critical component in the success of the school meal programs.
- The benefits of standardized recipes can be summed up in four main areas positively impacted by the use of standardized recipes.
    - Cost control
    - Customer satisfaction
    - Nutrient analysis
    - Predictable yield

Class Discussion Prompts

- How has the use of standardized recipes impacted the areas of cost control, nutrient analysis, predictable yield, and customer satisfaction in your program?
- Have any of your programs had challenges implementing standardized recipes?
- How have you been able to overcome those challenges?

Review the *Importance of Standardized Recipes* with the participants.

Importance of Standardized Recipes

The four main areas positively impacted by the regular use of standardized recipes are:

Cost control

Recipes are developed with specific ingredients with specific amounts of each ingredient clearly stated. When the amount or type of ingredient is changed, the cost of producing the recipe is also subject to change. Additionally, when incorrect portions of the food are served, the recipe's overall cost can be affected. Using and adhering to standardized recipes will result in better cost controls.

Customer satisfaction

Another fundamental reason to use standardized recipes is to keep customers happy and satisfied. Standardized recipes provide the same recipe outcome no matter who is preparing them. Production and other staff members can become familiar with the recipes quicker because all of the recipes have the same format. Guesswork is eliminated because staff members will have followed the standardized recipe. Customers will be more satisfied, and participation may increase because customers know what to expect each time a product is served.

Nutrient analysis

The purpose of the nutrient analysis is to determine compliance with regulatory requirements for calories, saturated fat, sodium, and added sugars to monitor levels of these dietary components in school meals. Similar to cost, nutrient analysis is predicated on the production of the recipe using the specific ingredient, ingredient amounts, and portion size stated in the recipe.

Predictable yield

Standardized recipes produce a planned number of servings. This can help reduce the amount of leftovers and overproduction. It can also help prevent shortages of servings on the serving line. A predictable yield is especially important when food is transported from a production kitchen to other serving sites.

Recipe Verification Phase — Instruction (5 Minutes)

Objective

Summarize the recipe verification phase to include identifying, reviewing, preparing, verifying the recipe yield, and recording changes to the recipe.

BACKGROUND: In the USDA Recipe Standardization Guide, the following topics are presented as part of the Recipe Verification Phase:

- Soliciting Recipes from the School Community
- Strategies for Soliciting Recipes from the School Community
- Strategies for Identifying Locally Sourced Food Items
- Summary of Farm to School Benefits

Although the participants are attending the workshop to standardize a pre-selected recipe, the training covers how to solicit recipes for the community at large as well as how to connect with local food producers.

Discuss

- The recipe verification phase includes identifying the recipe, reviewing and preparing the final acceptable recipes, verifying the recipe yields, and determining the contribution of the recipes toward meal pattern requirements and nutrition standards.
- During this phase, the recipes shall be prepared at least three times to verify a consistent yield (i.e., number of servings).
- The *Recipe Analysis Workbook* (RAW) (available at https://foodbuyingguide.fns.usda.gov/) shall be used to determine the expected meal pattern contribution and crediting information for recipes.
- After identifying a potential recipe, the next step under the Recipe Verification Phase is the Recipe Review Process.
- Use your program's recipe template or the USDA Standardized Recipe Template.

Soliciting Recipes from the School Community — Instruction (10 Minutes)

Objective

Describe methods for soliciting recipes from the school community.

ACTIVITY: Breakout Rooms

- Place participants into evenly divided breakout rooms. Ask participants to discuss ways that they have or could solicit recipes from the school community. Allow 4-5 minutes for breakout room discussions.
- Ask a representative from each room to summarize their discussion.

Discuss

- Incorporate stakeholders from the school community. This is a method proven to increase buy-in to the program. When stakeholders see themselves as partners in the process, they become more engaged. Soliciting recipes from the school community can take many forms.
    - Recipe contests
        - Focus on students, parents, community groups, or all of the above.
        - Gather recipes that resonate with the school community.
    - Advisory groups (student groups, parent groups, local stakeholders)
        - Hold regularly scheduled meetings to discuss the program and generate conversation about what is and is not working well on the menu.
        - Brainstorm new and creative ideas.
    - Focus groups
        - Target and identify specific age groups, sites, or stakeholders with the intent of gathering information about the types of recipes the participants want to see on their menus.
    - Surveys
        - Identify the group's likes and dislikes, perception of the department, and other useful information to help align the program to the customer's needs.
        - Collect menu suggestions and ideas.

- Include the school nutrition staff in the decision-making process about which recipes to use on the menu. Seek feedback on the recipes' usability in the program. In other words, can the recipe be successfully executed at the intended site(s)?
- Determine if the portion provided by a home-size recipe, which is being converted into a quantity recipe, is appropriate for the customers to whom it will be served. This includes making sure it meets the regulatory requirements of the School Meal Programs.

Key Message

- Including local stakeholders amplifies the program as a community partner and educates community members about its overall goals and mission. Solicit input from local stakeholders. Meet your customers where they are.

Class Discussion Prompts

- What are some benefits of incorporating local recipes into the School Meal Programs?
- How do you communicate with the local school community?

Strategies for Soliciting Recipes from the School Community

Strategy	Implementation	Benefits
Recipe Competitions	◆ Solicit local family favorites or regional and ethnic-inspired recipes. ◆ Recognize the winners with their name or school attached to the recipe. ◆ Create a school foodservice recipe book sharing favorite recipes from the program and the community.	◆ Gain an understanding of local food preferences ◆ Solicit authentic regional and ethnic recipes ◆ Creates community awareness of the program ◆ Promotes student buy-in to the program ◆ Enables stakeholders to participate in the continual improvement of the program

Advisory Group(s)	◆ Regularly schedule meetings that focus on program improvements.
	  ◆ Monthly
	  ◆ Quarterly
	◆ Organize by demographics such as:
	  ◆ Age group
	  ◆ Meal sites
	  ◆ Parent groups
	  ◆ School faculty/staff
	  ◆ Community members
	◆ Develop goals and action plans to meet stakeholder needs.
		◆ Increases program awareness by members of the school community
		◆ Creates program advocates and ambassadors that share program information with a variety of stakeholders
		◆ Allows the collection of regular feedback from the school community
		◆ Enables stakeholders to participate in the continual improvement of the program

Strategy	Implementation	Benefits

Focus Groups	◆ Facilitate small group discussions with the intent of learning participants' opinions on a specific topic area.
	◆ Organize by demographics such as:
	  ◆ Age group
	  ◆ Meal sites
	  ◆ Parent groups
	  ◆ School faculty/staff
	  ◆ Community members
	◆ Assess stakeholders' perception of the program.
	◆ Identify perceived gaps in the current menus and suggested improvements.
	◆ Solicit recipe ideas from participants.
		◆ Increases program awareness by members of the school community
		◆ The limited-time commitment of facilitator and participants
		◆ Can be used to seek feedback on a single issue or a variety of topics

Surveys	◆ Identify the types of menu items stakeholders want to see on the menu. ◆ Narrow down the types of recipes to solicit from the community. ◆ Use platforms that make sense to the user group—digital, paper, posters with stickers, in-person, etc. ◆ Administer to a variety of stakeholders. ◆ Students by age group, meal site, grade level, etc. ◆ Parents/households/community members	◆ Relatively easy to develop and administer ◆ Low cost ◆ High representativeness ◆ Low levels of subjectivity ◆ Captures the data efficiently needed for decision-making ◆ Easy to sort the data and make informed decisions

Strategy	Implementation	Benefits
Student Cooking Competitions	◆ Pair students with a School Nutrition professional with culinary experience (site-level cooks, department staff, local chefs, etc.) to develop a recipe. ◆ Develop requirements to use specific local products and provide guidelines for meal pattern crediting and desired nutritional parameters for each recipe by type (entrée or side dish). ◆ Invite local producers (e.g., local farmers) to participate to highlight the products and share ideas with students.	◆ Creates community awareness of the program ◆ Improves student buy-in to the program ◆ Creates a buzz around the program by highlighting student-designed meals ◆ Engages students and the community ◆ Builds goodwill and increases program awareness
Recipe Dropbox	◆ Add a digital recipe dropbox to the School Food Authority (SFA) webpage for stakeholders to submit recipes. ◆ Develop criteria for the recipes and post them in a centralized location. ◆ Pre-assign categories for the recipe submissions. ◆ Create a field for the user to input their information to request that they be reached for further questions and (if selected) to sample and provide feedback during the taste-testing and evaluation phase.	◆ Receive recipe ideas and concepts throughout the year ◆ Stakeholders can share recipes that are popular with students and the community in an easy-to-use format ◆ Easily sort and categorize recipe submissions ◆ Provides high user engagement

Strategy	Implementation	Benefits
Outreach to Parent Groups	◆ Present at PTA/PTO meetings. ◆ Provide program overview and goals as well as project-specific goals. ◆ Opportunity to solicit recipe ideas. ◆ Provide updates on the status of the project. Highlighting student engagement. ◆ Provide testimonials of how PTA/ PTO group input has improved the menu. ◆ Include the Local Wellness (policy) Team.	◆ Provides a high level of parent engagement by including stakeholders in solutions to improve the program ◆ Develops community advocates for the program ◆ Encourages strong parent buy-in may increase participation ◆ Increases Local Wellness Policy initiative awareness

Strategies for Identifying Locally Sourced Food Items — Instruction (10 Minutes)

Objective

Discuss strategies for identifying locally sourced food items to be used in the recipe.

BACKGROUND: This portion of the lesson is designed to briefly share information about the benefits of using local foods and how to access locally sourced foods.

Highlight areas of focus to connect the School Food Authority (SFA) with growers, producers, and local food suppliers.

Inform participants that ICN offers USDA's *Procuring Local Foods for Child Nutrition Programs* training for more in-depth training on the topic of procuring locally sourced food.

Activity: Question

- **True** or False: Many ingredients can be purchased locally.
- Ask participants to write their answers into the chat box.

Discuss

- Almost anything can be sourced locally in different parts of the country. Local sourcing is not just about fresh fruits and vegetables, and it is not just about farmers.
- Local and regional foods can include beans, grains, flour, meat, poultry, fish, condiments, herbs, eggs, and dairy.
    - Local products can come from local farmers, ranchers, fishers, food processors, and distributors of all sizes.
- It's up to each school district to define "local" in a way that works for their particular needs and goals. Having specific goals for your local purchasing efforts will help you craft a definition of "local" that works in service to your goals.
- It is advisable for school districts to contact their state and/or County Health Department for information on local food safety requirements.
- There are food safety considerations associated with locally sourced food items and the importance of school nutrition professionals checking in with their local health department regarding what is allowed.

- Purchasing locally sourced foods has many benefits.
    - Access to nutritious, high-quality foods
    - Good stewardship of SFA funds
    - Financial support of local food producers
    - Community engagement
    - Opportunities to increase food-related education of students
    - Positive environmental impacts
    - Learn about regional/ethnic food traditions and preparation methods
- The National Farm to School Network has identified four groups that directly benefit from Farm to School Activities. These groups include students, schools, farmers and producers, and community members.
- The USDA resource *Procuring Local Foods* provides information on serving school garden products in school meals, buying local meat, supporting local foods in tribal schools, and using USDA Foods to buy local foods.

The *Summary of Farm to School Benefits* provides a detailed overview of how schools may benefit from Farm to School efforts.

Class Discussion Prompts

- What are some positive impacts you have experienced from increasing the procurement of local foods in your program/state?
- What are some local food items you have had success purchasing and serving?
- Does anyone want to share some unique food items that will be featured in your recipes? Can you also share why you selected the food item?

Summary of Farm to School Benefits

Summary of Farm to School Benefits

Population	Reach	Benefits
Students		
Fruit and vegetable consumption	Increased +0.99 to +1.3 servings per day	- Public Health
Physical activity	Increased physical activity	- Public Health
Health	Minimized risk of childhood obesity and diet-related diseases such as diabetes	- Public Health
Food system awareness	Increased knowledge about gardening, agriculture, healthy food, local food, seasonality	- Public Health - Education
Food choices	Willingness to try new and healthy food; choosing healthier options in the cafeteria and at home	- Public Health - Education
Academic achievement	Overall improvement in both grades and test scores (K-12)	- Education
Social-Emotional Wellbeing	Improved life skills, self-esteem, social skills and other types of personal growth	- Education
Advancing Health Education	Improving access to health and education for low-income populations; encouraging public participation in environmental matters.	- Public Health - Community Engagement
Schools		
Meal participation	Average increase of 9% (range 3% to 16%)	- Economic Development - Public Health
Meal cost	Lowers school meal program costs	- Economic Development
School food environment	Increased offerings of fruits and vegetables; positive cafeteria atmosphere; school wellness policy adherence	- Public Health
Food service staff	Improved morale; increased knowledge of local food	- Education - Community Engagement
Educators	Positive diet and lifestyle changes; greater intent to integrate farm to school activities in the classroom	- Public Health - Education - Community Engagement
Learning opportunities	Greater opportunity for hands-on, active and experiential learning opportunities	- Public Health - Education
Farmers and Producers		
Income	Average increase of 5%	- Economic Development
Markets	Increased diversification and new opportunities	- Economic Development - Community Engagement
Families and Community Members		
Local economy	$0.60-$2.16 economic activity generated for every $1 spent	- Economic Development
Job creation	Each new farm to school job contributes to the creation of additional 1.67 jobs	- Economic Development - Community Engagement
Parents and families	Increased food security and positive diet changes; increased student participation in meals at home	- Public Health - Community Engagement
Food waste and transportation	Decreased food waste; decreased air pollution	- Environment

Benefit Key:

Benefits of Farm to School

Economic Development | Public Health | Education | Environment | Community Engagement

Discuss

- There are many models for getting local foods into school cafeterias, and they are not necessarily exclusive to each other. These include procuring foods:
    - Through distributors
    - From food processors
    - Via Department of Defense Fresh Fruit and Vegetable Program (DoD Fresh)
    - From individual producers (direct from farmers, ranchers, and fishers)
    - From producer cooperatives (co-ops) and food hubs
    - From school gardens
- Incorporating local agricultural products in school food programs enriches the connection communities have with fresh, healthy food and local producers. Building a relationship between schools and farms requires laying some groundwork.
- Some schools may not know how to connect with local producers, and at the same time, local producers may be unaware that selling to schools is an option. Many organizations are set up to help establish the relationship between schools and local food producers; these include:
    - **National Farm to School Network**
        - This information, advocacy, and networking hub for communities works to bring local food sourcing, school gardens, and food and agriculture education into schools and early care and education settings. Connect with Farm to School partners in all 50 States and Territories.
    - **Cooperative Extension Programs**
        - Work directly with school districts and other constituents to identify barriers and obstacles to implementing Farm to School and how to overcome these obstacles. Increase the market opportunities for local farmers by connecting them with local school districts.
    - **Food Hubs**
        - Actively manage the aggregation, distribution, and marketing of source-identified food products to multiple buyers from multiple producers, primarily local and regional producers. This strengthens the producers' ability to satisfy local and regional wholesale, retail, and institutional demand.

Key Message

Developing relationships between the school district and local producers and suppliers benefits everyone, from teachers and administrators to parents and producers. It provides opportunities to build positive community outcomes, which might not have otherwise been explored.

Class Discussion Prompts

- How many attendees are already buying local products?
- What resources are you using in your program to source local foods?
- Looking at your recipe, are there any ingredients you could procure locally?

Recipe Review Process — Instruction (5 Minutes)

Discuss

- After identifying a potential recipe and sourcing ingredients, the next step under the Recipe Verification Phase is the Recipe Review Process.
- The Recipe Review Process entails writing the recipe and then reviewing the recipe with your food production team.
- School nutrition staff should provide input regarding the practicality of the recipes as part of ongoing school meal service operations.
- The process is broken into two parts:
  - Evaluation
  - Staff Feedback

Areas to Evaluate

Execution of the recipe

- Does the production site have the equipment and staff skill level needed to produce the recipe?

Ingredient sourcing

- Are the ingredients selected readily available at the time of year the recipe is going to be served?
- Does the cost of the ingredients work within the food budget?

Production schedule

- How long will it take to prepare the recipe from start to finish?
- How will that impact other menu items?
- What equipment will be needed to prepare the recipe, and will there be conflicts with other menu items being prepared using the same equipment?

Menu mix

- How will the recipe be incorporated into the menu?
- Which other menu items will be offered on the same day/meal period?
- What main dish or side will accompany the recipe?

Likeability

- Is this a recipe that will be well received by your customers?
- Have the customers' needs and expectations been met, allowing for the recipe to be successfully implemented?

Staff Feedback

Review the recipe with your production staff once the recipe has been placed in the recipe template used in your program.

Assess the feasibility of implementing the recipe at the production site.

Get feedback and buy-in from the production staff. The staff will be responsible for executing the recipe, so gaining their support and buy-in from the onset will be critical as your team works through all of the standardization process steps.

Key Message

The recipe verification phase is the foundation of the recipe standardization process. Assessing the ease of use and feasibility of a recipe early in the process will set your team up for success through the three phases of recipe standardization.

Class Discussion Prompts

- What are some factors to consider when assessing the feasibility of a recipe at a production site?
- How have you created staff buy-in when introducing new recipes at the production site?

Anatomy of a Standardized Recipe — Instruction (10 Minutes)

Objective

Recognize the anatomy of a standardized recipe.

Instructor's Note: Inform participants that they will spend Day 2 of the workshop drafting an initial recipe.

Activity: Brainstorm

Ask participants to type into the chat box the information that a standardized recipe should include. Read out answers as they come up in the chat. Use the answers to lead into the following discussion.

Discuss

- Consistently producing high-quality food that satisfies your customers and meets the requirements for reimbursable meals is an important task.
- A standardized recipe has been tested for use in your kitchen(s). It produces consistently good results and yields when the preparer uses the same procedures, equipment, and quality and quantity of ingredients.
- For a standardized recipe to meet those needs, it must include the correct information.
- A standardized recipe format should include:
    - Recipe Title and Description
    - Recipe Category
    - Ingredients
    - Weight/Volume of Each Ingredient
    - Units of Measure for Each Ingredient
    - Preparation Directions
    - Cooking Time, Temperature, and Preparation Time
    - Serving Size
    - Yield
    - Equipment and Tools Needed
    - Crediting Information
    - Nutrient Analysis
    - Service Style
    - Marketing Guide
    - Food Safety Guidelines
    - Recipe Variations
    - Alternative Ingredients
    - Optional Ingredients
    - Notes Section

Key Message

A standardized recipe must include all of the information the school nutrition staff needs to successfully produce the recipe with consistent results or quality and yield.

Information to Include in a Standardized Recipe

Recipe Title and Recipe Description

The recipe should have a title (name) along with a brief description (1–3 sentences) of the recipe.

Recipe Category

Identify the recipe as an entrée or side dish.

Ingredients

Include all ingredients used in a recipe. The ingredient name should include the name of the product, product type/form (fresh, frozen, canned), and any preparation technique(s) (peeled, grated, minced, diced). Be sure to indicate the size for preparation techniques, such as slicing and dicing (e.g., "½ -inch slices" or "¼-inch diced"). List the ingredients in the order they are used when preparing the recipe.

Units of Measure for Each Ingredient

List the quantity of each ingredient in weight and volume. USDA includes both the weight and volume, except when the weight is below 1 oz, because weight provides the most accurate information for the RAW and nutrient analysis. Avoid using packaging or quantity to describe the amount of a product, such as "1 each" or "1 package." The packaging is variable, and the size can vary depending on the supplier. The amount of product in a package may vary depending on its' form. List quantities in the most straightforward unit of measure (e.g., "1 lb 4 oz" instead of "20 oz" or "½ cup" instead of "8 Tbsp."). Use standard abbreviations for units of measure and a fraction format.

Preparation Directions

List the steps for the preparation of the recipe. This can include information on alternative preparation methods and helpful cooking tips.

Cooking Temperature, Cooking Time, and Preparation Time

Include the cooking temperature and cooking time, if appropriate, as well as the amount of time required to prepare the recipe. This includes time for chopping or dicing ingredients, preparing individual servings, placing items on a baking sheet, etc.

Serving Size

Provide the amount of a single portion in volume and/or weight. Give this information in a practical amount, such as ½ cup, 1 slice, 2 squares, etc.

Recipe Yield

Provide the amount of the finished or processed product (weight/volume and number of servings) available at the completion of production.

Equipment and Utensils Needed

List the cooking and serving equipment needed to prepare and serve the recipe.

Crediting Information

Instructor's Note: Use the RSW Instructor's Link Sheet to access the RAW for the Bean Tostada USDA Recipe for Schools.

This statement should identify which NSLP/SBP meal component(s) the ingredients in the recipe count toward; meats/meat alternates, vegetables (including subgroups), fruits, and/or grains. If an ingredient may be credited toward more than one meal component, include both crediting statements (e.g., Bean Tostada USDA Recipe for Schools crediting statement – "Legume* as Meat Alternate: 2 oz equivalent meat/meat alternate, ⅛ cup red/orange vegetable, ¼ cup other vegetable, ⅛ cup additional vegetable, and 1 oz equivalent grains." OR "Legume* as Vegetable: 0.5 oz equivalent meat/meat alternate, ⅜ cup beans, peas, and lentils vegetable, ⅛ cup red/orange vegetable, ¼ cup other vegetable, ⅛ cup additional vegetable, and 1 oz equivalent grains").

* While the recipes in this workshop list the crediting for the legumes, an update to the subgroup's name was included in the final rule published in 2024, Child Nutrition Programs: Meal Patterns Consistent With the 2020-2025 Dietary Guidelines for Americans. The subgroup Legumes is now known as Beans, Peas, and Lentils.

Nutrient Analysis

In this section, identify the nutrients provided per serving. The purpose of the nutrient analysis is to determine compliance with school meal regulatory requirements for calories, saturated fat, sodium, and added sugars and to monitor levels of these dietary components in school meals.

Service Style

Include information about how the recipe will be served at the site (e.g., self-serve, grab-and-go, made-to-order, traditional service model). Information regarding the Service Style should be included in the Notes section of the recipe template.

Marketing Guide

Use The *Food Buying Guide for Child Nutrition Programs* (FBG) to determine the amount of product needed (as purchased) to yield the edible portion required for the recipe.

Food Safety Guidelines

Include procedures designed to ensure the safe production and service of food. Indicate Hazard Analysis Critical Control Point (HACCP) information, if appropriate. Include the appropriate cooking temperature for any ingredients that require cooking and/or chilling and a final holding temperature. As applicable, include information about food allergens or developmental considerations (e.g., choking hazards for young children).

Recipe Variations – Optional

If appropriate, include alternative ways of preparing the recipe.

Alternative Ingredients – Optional

If appropriate, include ingredients that can be substituted for a listed recipe ingredient. Possible examples include substituting frozen corn for canned corn, pre-chopped diced onions for diced in-house onions, USDA diced chicken for a commercially purchased diced chicken. Be sure to verify product yield and nutrition content for direct swaps. For non-direct swaps, ensure the correct measure is listed to ensure proper yield, crediting, and nutrient content.

Optional Ingredients – Optional

Do not include alternative and/or optional ingredients in the nutrient analysis or crediting information unless they are used in the actual recipe. If they are used in the recipe, then the alternative and/or optional ingredients will need to be included in the nutrient analyses and crediting information.

Sample USDA Standardized Recipe

Turkey Meatloaf USDA Recipe for Schools

Turkey Meatloaf is a tasty combination of lean ground turkey, spinach, celery, and dried cranberries.

NSLP/SBP CREDITING INFORMATION
1 meatloaf slice and 1 roll provide 2 oz equivalent meat/meat alternate, ⅛ cup dark green vegetable, ⅛ cup additional vegetable, and 1 oz equivalent grains.

INGREDIENTS	50 SERVINGS		100 SERVINGS	
	Weight	Measure	Weight	Measure
Water		1 qt		2 qt
Brown rice, long grain, regular, dry, parboiled	10 oz	1½ cups 2 Tbsp	1 lb 4 oz	3¼ cups
Canola oil		¼ cup		½ cup
*Fresh onions, diced	8 oz	1½ cups 1 Tbsp	1 lb	3 cup 2 Tbsp
*Fresh celery, diced	8 oz	1½ cups 1 Tbsp	1 lb	3 cup 2 Tbsp
Garlic, minced	5 oz	¼ cup 2 Tbsp 2 tsp	10 oz	¾ cup 1 Tbsp 1 tsp
Raw ground turkey (no more than 15% fat)	8 lb 4 oz	1 gal ½ cup	16 lb 8 oz	2 gal 1 cup
Frozen whole eggs, thawed	14 oz	1½ cups 1 Tbsp 1¼ tsp	1 lb 12 oz	3 cups 2 Tbsp 2½ tsp
Dried cranberries, chopped	12 oz	2¼ cups 2 Tbsp	1 lb 8 oz	1 qt ¾ cup
*Fresh spinach, chopped	1 lb	1 qt 2½ cups	2 lb	3 qt 1 cup
Worcestershire sauce		¼ cup		½ cup
Salt		1 Tbsp 2 tsp		3 Tbsp 1 tsp

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INGREDIENTS	50 SERVINGS		100 SERVINGS	
	Weight	Measure	Weight	Measure
Ground black pepper		1 Tbsp		2 Tbsp
Canned no-salt-added tomato paste	8 oz	⅔ cup 3 Tbsp ½ tsp	1 lb	1⅔ cups 2½ tsp (approx. ⅛ No. 10 can)
Mini whole-grain rolls (1 oz each)	3 lb 2 oz	50 each	6 lb 4 oz	100 each

Directions:

1. Boil water.
2. Place ¾ cup 1 Tbsp brown rice (5 oz) in a half steam table pan (12" x 10" x 2½").

   For 50 servings, use 1 pan.
   For 100 servings, use 2 pans.
3. Pour boiling water (2 cups per steam table pan) over brown rice. Stir. Cover pans tightly.

   For 50 servings, use 1 quart.
   For 100 servings, use 2 quarts.
4. Bake:

   Conventional oven: 350 °F for 40 minutes.
   Convection oven: 325 °F for 40 minutes.
   Steamer: 5 lb pressure for 25 minutes.
5. Critical Control Point:

   Heat to 135 °F or higher.
6. Remove rice from oven.

   Refrigerate and set aside for step 13.
7. Critical Control Point:

   Cool to 41 °F or lower within 4 hours.
8. Heat oil in a large stock pot.
9. Add onions, celery, and garlic.

   Sauté uncovered for 5-7 minutes or until soft.
10. Critical Control Point:

    Heat to 135 °F or higher.
11. Refrigerate and set aside for step 13.
12. Critical Control Point:

    Cool to 41 °F or lower within 4 hours.
13. Combine turkey, egg, cranberries, spinach, Worcestershire sauce, salt, pepper, tomato paste, brown rice, and onion mixture in a large bowl. Stir well.
14. Press 3 qt 2 cups (about 7 lb) turkey mixture in a loaf pan (20¾" x 6⁷⁄₁₆").

    For 50 servings, use 2 pans.
    For 100 servings, use 4 pans.
15. Bake until golden brown:

    Conventional oven: 350 °F for 40-45 minutes.
    Convection oven: 325 °F for 30-35 minutes.
16. Critical Control Point:

    Heat to 165 °F or higher for at least 15 second.
17. Critical Control Point:

    Hold for hot service at 135 °F or higher.
18. Serve with roll.
19. Portion: Cut each loaf into 25 slices, ¾" thick.

    Serve 1 meatloaf slice and 1 roll.

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NUTRITION INFORMATION
For 1 meatloaf slice and 1 roll

NUTRIENTS	AMOUNT
Calories	**207**
Total Fat	**4 g**
Saturated Fat	1 g
Cholesterol	55 mg
Sodium	**449 mg**
Total Carbohydrate	**24 g**
Dietary Fiber	3 g
Total Sugars	5 g
Added Sugars included	N/A
Protein	**18 g**
Vitamin D	7 IU
Calcium	35 mg
Iron	2 mg
Potassium	99 mg

N/A=data not available

MARKETING GUIDE		
Food as Purchased for	50 Servings	100 Servings
Mature onions	10 oz	1 lb 4 oz
Celery	10 oz	1 lb 4 oz
Spinach	1 lb	2 lb

NOTES
*See Marketing Guide for purchasing information on foods that will change during preparation or when a variation of the ingredients is available. Cooking Process #2: Same Day Service,

YIELD/VOLUME	
50 Servings	100 Servings
About 11 lb 12 oz About 1 gal 1 qt 3½ cups/ 2 loaf pans (20¾" x 6⁷⁄₁₆")	About 23 lb 8 oz About 2 gal 3 qt 3 cups/ 4 loaf pans (20¾" x 6⁷⁄₁₆")

Recipe Title and Description — Instruction (10 Minutes)

Objective

Recognize the importance of creating a representative recipe title and description.

Discuss

- The recipe title (name) and description should accurately describe the recipe.
- The title should be descriptive of the product and easily understood by everyone working in the operation and your customers.
- Developing a catchy name and description is an integral part of your marketing strategy. The name and description are often the first impressions customers have of the recipe.
- Use language that focuses on the recipe's flavors and/or textures. This helps to entice the customer to try the recipe.
- Use age-appropriate names for each grade level.
- Stanford University has developed a toolkit, the Edgy Veggies Toolkit, to help recipe and menu developers create exciting names for their recipes.
- Direct participants to the *RESOURCE: Edgy Veggies Toolkit* page in their participant's workbook.

Instructor's Note: Direct participants to the RESOURCE: Edgy Veggies Toolkit page in their participant's workbook.

URL: http://sparqtools.org/edgyveggies/ (Paste URL in Chat for participants to bookmark)

Key Message

Using exciting names for your recipes will help entice students to try a new recipe.

Class Discussion Prompt

Which of the recipe titles below sounds more enticing?

Brussels Sprouts with Seasoning **OR** Tender Roasted Brussels Sprouts with Sweet Chili Glaze	Green Beans with Cheese **OR** Sizzlin' Garlic-Parmesan Skillet Green Beans

Practice

Introduce the Edgy Veggies toolkit (see below). Using the resource, brainstorm taste-focused names for carrot recipes as a class.

Class Activity

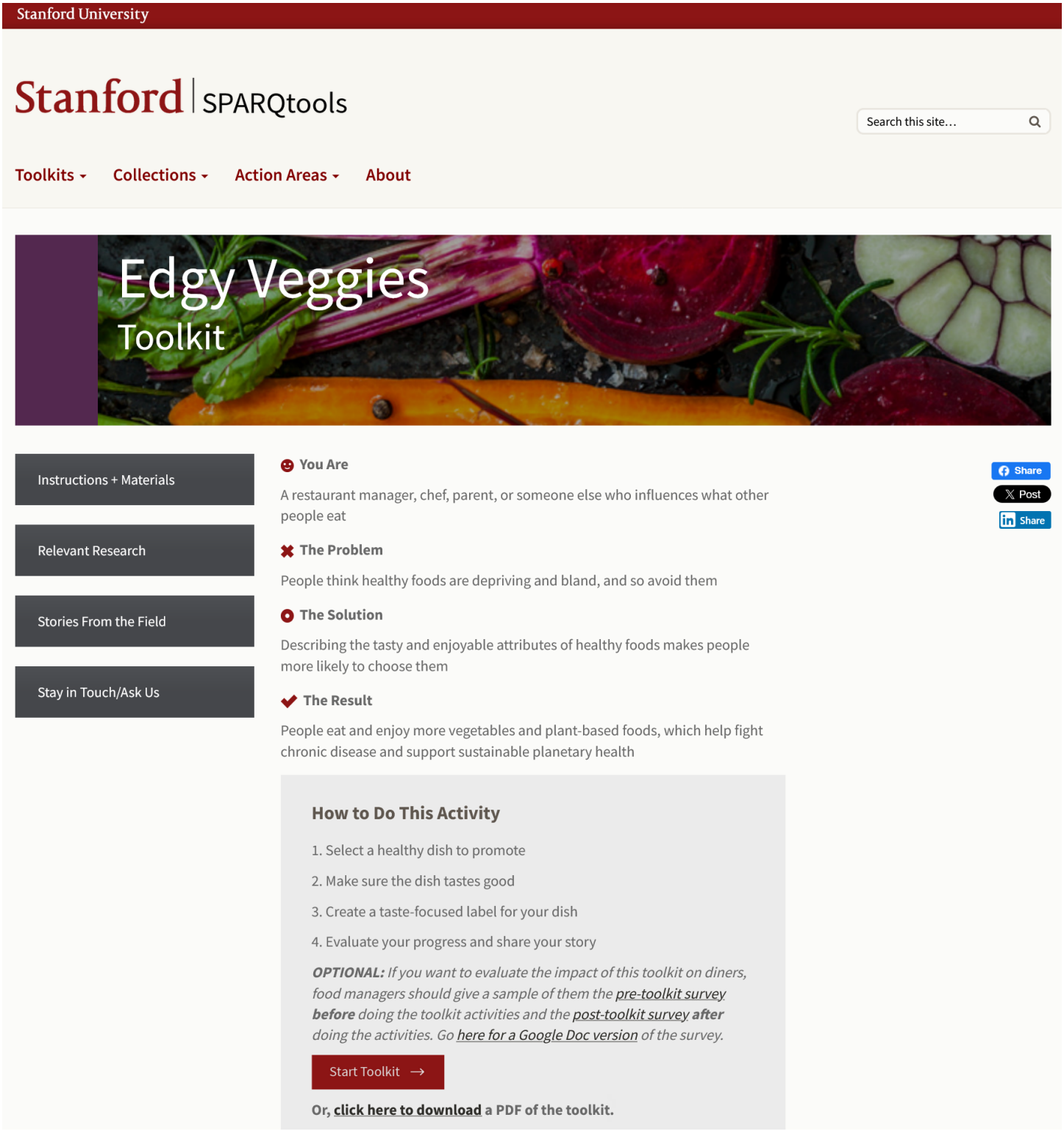
Review the *ACTIVITY: Name Your Recipe* with the participants. Allow each group ten minutes to complete the activity.

Instructor's Note: Alternatively, the instructor may choose to conduct the activity in a larger group and crowdsource the recipe names.

- Assign participants into breakout rooms.
- Allow each group 10 minutes to complete the activity.
- In each group, have each participant share the name of the recipe they plan to standardize. The group will brainstorm ideas for a more enticing name for each recipe. Have each group report their results to the whole group.

Edgy Veggies Toolkit

sparqtools.org/edgyveggies/



Edgy Names by Theme — Adapted

Theme	Edgy Words
American regional*	Alaska, Alaskan, American, Americana, Atlantic, Baltimore, Bayou, Boston, Brooklyn, Cajun, Cali, California, Californian, Carolina, Coastal, Colorado, Creole, Dakota, Daytona Beach, East Coast, Hawaiian, Hollywood, Idaho, Kansas City, Key West, Louisiana, Maine, Nantucket, Napa, Nashville, New Orleans, New York, North Beach, Northern, NY, Pacific, Philly, Santa Fe, Sedona, Sierra, Smoky Mountain, Southern, Southwest, Southwestern, St. Louis, Texas, Western, Wisconsin
Artisan	aged, artisan, by hand, certified, craft, crafted, culinary, fancy, finest, gourmet, grade, market, natural, organic, peak, premium, pure, refined, slow, slowly, thinly
Choice	alternative, any style, choice, choices, choose, choosing, options, pick, request, requested, select, specifications, substitute, the way you want, variety, you like, your favorite, your liking, your own, your way
Exciting	action, adventure, blasts, boost, build, butterflied, crazy, create, creation, crushed, debut, deepest, dive, feature, featuring, festival, fiery, fiesta, firecracker, go wild, high gear, infused, inspired, jammin', jump, kaleidoscope, kick, kickin', knock, new level, not just your standard, overdrive, packs a punch, power, primetime, ragin', rainbow, ripped, rockin', roped, secret, shaken, shaking, sizzlin', sizzling, slam, spellbinding, splash, steel-drum band, street, surfer, swirl, swirled, thunder, transform, trip, tropical, turbo, twist, twisted, unique, upgrade, upside-down, wave, you won't find, zest
Farm	country, countryside, farm, farmer, farmers, farmhouse, farm-raised, farms, field, harvest, groves, natural, organic, raised, ripe, root, sawmill, seasonal, smokehouse, sprouted, vine-ripened, wild, garden
Cultural/Ethnic/ Multicultural*	Arctic, Argentinean, Asian, Aussie, Baja, Bavarian, Belgian, Bolognese, British, Calabrian, Canadian, Cantonese, Caribbean, Chilean, Chinese, Cuban, Danish, Dutch, England, English, Florentine, French, Fuji, German, Greek, Hunan, Italian, Italiano, Italy, Jamaican, Korean, Madeira, Mandarin, Marsala, Mediterranean, Mexican, Milanese, Mongolian, Montreal, Moroccan, Norwegian, Paris, Saigon, Shanghai, Sichuan, Sicilian, Siciliani, Singapore, Spanish, Swedish, Swiss, Sydney, Thai, Toscana, Toscano, Tuscan, Vietnamese, Westminster, Yukon, Zealand

Theme	Edgy Words
Fun	bite, bites, bite-sized, bits, boneless, build, create, crispers, crisps, cubes, dip, dippable, dipped, dipper, dipping, dips, dollop, dome, fun, links, medallions, minis, petals, piece, pieces, puff, ring, rings, sampler, scoop, scoops, skewer, skewered, skewers, slice, slices, slider, sliders, snacks, spears, squares, stack, stacked, stacker, stickers, sticks, straws, strings, strips, tanglers, tenders, topping, toppings, tots, triangles, twists, wedge, wrappers
Indulgent	aromatic, battered, bliss, buttered, buttery, candied, caramelized, cheesy, chocolaty, chunky, covered, cravers, creamed, creamy, crispy, crowned, crunchy, decadent, dream, enjoy, enjoying, everything, feast, fill, filled, filling, flaky, fluffed, full of, glaze, glazed, gobble up, gooey, hearty, hungry, indulge, indulgent, juicy, layer, layered, layers, loaded, love, marbled, marinated, meaty, melted, melting, mouthwatering, overstuffed, powdered, prime, rich, richest, savory, smothered, specialty, stuffed, supreme, sweet, the works, thick, treat, trimmings, ultimate, velvety, why settle
Size	big, biggest, bottomless, brawny, buff, decker, deluxe, double, enormous, enough of a mouthful, even more, extra, full of, generous, giant, gigantic, grand, grande, heaping, hearty, huge, jumbo, king-sized, larger, loads, lots, lumberjack, mammoth, maximum, mega, monster, more, pile, piled, plenty, portion, stacked to the rafters, the works, tower, towering, triple, unlimited
Spicy hot	buffalo, burnin', chipotle, fiery, firecracker, habanero, kick, mesquite, ragin', seriously spicy, spicy, zesty
Taste	breaded, coated, consistency, creamy, crisp, crisply, crispy, crumb, crumble, crumbled, crumbles, crumbs, crunch, crunchy, crusted, curly, firm, flakes, flakier, flaky, fluff, fluffed, fluffy, gooey, juicy, moist, powdered, silk, silken, silky, smooth, soft, tender, tenderness, velvet, velvety, wavy
Texture	breaded, chunk, chunks, chunky, coated, consistency, creamy, crisp, crisply, crispy, crumb, crumble, crumbled, crumbles, crumbs, crunch, crunchy, crusted, curly, firm, flakes, flakier, flaky, fluff, fluffed, fluffy, gooey, juicy, moist, powdered, silk, silken, silky, smooth, soft, tender, tenderness, velvet, velvety, wavy

Theme	Edgy Words
Traditional*	applewood, authentic, barrel, buttermilk, campfire, classic, classics, club, clubhouse, comfort, corralled, country, countryside, county fair, famous, farm, farmhouse, favorite, favorites, field, fixin', generations, genuine, harvest, hearth, heritage, hickory, home, homemade, homestead, home-style, house, house-made, kitchen, kitchens, old, old-fashioned, original, recipe, rustic, sack lunch, sawmill, scratch, signature, smokehouse, smoky, soothed, Southern, Southern charm, Southern-style, tradition, traditional, tribute, tried to copy, true
Vague positive	amazing, best, better, bravo, can't be beat, can't be messed with, championship, exceptional, fabulous, favorite, five-star, good, goodness, great, grinning, groovy, iconic, legendary, love, loved, nice, perfect, perfected, perfection, perfectly, popular, prized, sensation, special, specially, super, tough to beat, tremendous, unforgettable, wonderful, worthy, wow

*Caution should be used to ensure the words used are culturally appropriate.

Recipe Categories — Instruction (5 Minutes)

Objective

Review the appropriate categories for classifying recipes.

Discuss

- Recipes should be categorized by type, for example salad, sandwich, soup, etc.
- When standardizing a recipe, a recipe category should be assigned to facilitate the organization of recipes.
- Using recipe categories makes it easier to locate recipes at the kitchen site's recipe file box or on the computer's USDA-approved nutrient analysis software.
- Recipes are broken down into two classifications:
    - Main Dishes (Entrée). An item that is served as the main dish and is either:
        - A combination food of meats and/or meat alternates and grains
        - A combination food of vegetables and/or fruits and meats and/or meat alternates
        - A combination food of meats and/or meat alternates and/or grains and/or vegetables and/or fruits
        - A meat or meat alternate alone with the exception of yogurt, low-fat or reduced-fat cheese and meat snacks (such as dried beef jerky)
        - A grain that is served as the main dish of the school breakfast program reimbursable meal
    - Side Dish is an accompanying item.
        - Side dishes can be a wide variety of fruits and vegetables.
        - Grains may be side items, such as brown rice, whole grain-rich pastas, rolls, breadsticks, or grain-based salads and side dishes.
        - A combination food of vegetables and/or fruits and grains

Class Discussion Prompts

- Why is it useful to categorize recipes?
- How do you categorize recipes in your kitchen?
- How would you categorize the recipe that you are going to standardize? Could it fall into two categories?

Ingredients — Instruction (5 Minutes)

Objective

Describe how to properly list the ingredients in a recipe.

Discuss

- The ingredient name should be exact so that the name of the product, product type/form (fresh, frozen, canned), and any preparation technique(s) (peeled, grated, minced, diced) are listed.
- Be sure to indicate the size for preparation techniques, such as slicing and dicing.
    - Example: sliced ½ inch, diced ¼ inch
- List the ingredients in order of their use in preparing the recipe.
- Recipes may have variations of the ingredient included in the recipe. Be sure to include the proper unit of measurement for each variation.
    - Example: use canned corn (#10 can/106 ounces) or frozen corn (5 lb) for a Southwest Corn recipe
- Ingredients included in a recipe may be listed as purchased (AP) or edible portion (EP) quantity based on how they will be either combined or consumed.
- When fresh fruits and vegetables are processed, there is a loss in yield. This loss occurs because fresh items often have to be peeled and/or trimmed before they are ready for use in a recipe.
    - Example: serving a whole, unprocessed apple versus serving a whole apple cored and cut into wedges
- For raw meats, the cooked EP amount of meat is always less than the raw AP quantity because moisture and fat are lost in the cooking process. Thus, the yield on meats that are cooked in an operation is always less than 100%. The yield of precooked or processed meats usually is near 100%, no loss in cooking occurs.
- For rice and pasta, the cooked quantity (both in volume and weight) is more than the dry quantity because water is absorbed in the cooking process. Thus, the yield of rice and pasta is greater than 100%.

****The Food Buying Guide for Child Nutrition Programs provides yield information to assist with determining EP quantity.*

Tips for Listing Ingredients

- The ingredient name should be exact so that the name of the product, product type/form (fresh, frozen, canned), and any preparation technique(s) (peeled, grated, minced, diced) are listed.
- Be sure to indicate the size for preparation techniques, such as slicing and dicing.
    - Example: sliced ½ inch, diced ¼ inch
- List the ingredients in order of their use in preparing the recipe.
- USDA recipes often have optional ingredients or variations included in the recipe.
- Decisions should be made in advance whether optional ingredients will be included or whether a variation of the recipe will be used instead of the main recipe.
- Care must be taken when substituting ingredients in a recipe since different forms of an ingredient may have very different nutrient contents.
    - Example: fruit packed in juice vs. fruit packed in syrup
- Review the ingredients and create a RAW to help purchase the proper amount and type of ingredients necessary to make the recipe.
- When reviewing the ingredients, take note of items that may need pre-preparation one or more days in advance of service. Ensure that HACCP standards are followed.
    - Example: Meats delivered frozen would need to be placed in the refrigerator to thaw several days in advance of preparation and service.

Class Discussion Prompts

- When would you list the as purchased (AP) quantity versus the edible portion (EP) quantity for an ingredient?
- What are the benefits of listing the preparation technique along with the product name?

Ingredient Units of Measure — Instruction (15 Minutes)

Instructor's Note: Ensure all participants have a firm understanding of the difference between weight and volume before moving to the next section. Strongly emphasize the difference between and weight and volume and why it's critical to understand when and how to use each.

Objective

Summarize how to list units of measure in a recipe.

Discuss

Weight is used to determine the heaviness of a product. Weight is the unit of measure used to determine the amount of a dry or non-liquid ingredient needed to produce a recipe.

- Weight is measured with the use of a scale.

Volume is used to determine the amount of space or capacity a product occupies in a three-dimensional space. Volume is the unit of measure used to determine the amount of a liquid ingredient needed to produce a recipe.

- Volume is measured using a liquid measure.
- Only the measurement is recorded.

- Both weight and measurement describe the amount of each dry ingredient needed for the recipe. For dry ingredients with a weight of less than 1 oz, only the measurement is recorded.
- Volume, not weight, describes the amount of each liquid ingredient needed for the recipe.
- When reviewing the recipe, if the ingredient quantity is not in the preferred weight or volume, conversions need to be made before the recipe can be prepared.
- A best practice to ensure accuracy is to list liquid ingredients by volume and all other ingredients by weight and measurement.
- Liquid volume measurements should not be used for dry ingredients.
- Dry ingredient measurements and weights should not be used for liquid ingredients.

- Quantities should be listed in the most manageable unit of measure.
    - Examples:
        - 1 lb 4 oz instead of 20 oz
        - ½ cup instead of 8 Tbsp

Instructor's Note: Refer participants to Appendix A to locate the Recipe Conversion Charts. These charts can assist participants with weight and volume conversions. They also provide information on the proper abbreviations to use in standardized recipes.

Key Message

- It is important to list the correct units of measure for each ingredient to ensure accuracy.
- Listing the ingredient in a unit of measure that is easy to understand and appropriate is critical to ensure accuracy and ease of execution.

Class Discussion Prompt

- What are some common measuring mistakes you have observed during production?

ACTIVITY: Manageable Units of Measure

Instructions:

Review the measurements below. Identify which measurements need to be adjusted to the most manageable unit of measure. Convert the incorrectly listed units of measure into the most manageable measurement. Use the conversion chart (below) to assist with the activity.

Original Unit of Measure		Most Manageable Unit of Measure	
Ingredient	Unit of Measure	Ingredient	Unit of Measure
Flour	40 oz	Flour	
Vegetable Oil	6 cups	Vegetable Oil	
Ground Turkey	8.75 lb	Ground Turkey	
Black Pepper	7 tsp	Black Pepper	
Skim Milk	50 fl oz	Skim Milk	
Diced Celery	74 oz	Diced Celery	
Diced Chicken	93 oz	Diced Chicken	
Cumin	17 Tbsp	Cumin	
Water	13 qt	Water	

Weight and Volume Conversions

Weight and Volume Convertions

Teaspoons and Tablespoons

3 tsp	= 1 Tbsp
1½ tsp	= ½ Tbsp
1 tsp	= ⅓ Tbsp

Tablespoons to Cups

16 Tbsp	= 1 cup
12 Tbsp	= ¾ cup
10⅔ Tbsp	= ⅔ cup
8 Tbsp	= ½ cup
5⅓ Tbsp	= ⅓ cup
4 Tbsp	= ¼ cup
2 Tbsp	= ⅛ cup
1 Tbsp	= 1⁄16 cup

Ounces to Pounds

16 oz	= 1 lb	(1.000 lb)
14 oz	= ⅞ lb	(0.875 lb)
12 oz	= ¾ lb	(0.750 lb)
10⅔ oz	= ⅔ lb	(0.667 lb)
10 oz	= ⅝ lb	(0.625 lb)
8 oz	= ½ lb	(0.500 lb)
6 oz	= ⅜ lb	(0.375 lb)
5⅓ oz	= ⅓ lb	(0.333 lb)
4 oz	= ¼ lb	(0.250 lb)
2 oz	= ⅛ lb	(0.125 lb)
1 oz	= 1⁄16 lb	(0.063 lb)

Cups to Quarts

4 cups	= 1 qt
3 cups	= ¾ qt
2 cups	= ½ qt
1 cup	= ¼ qt

Quarts to Gallons

4 qt	= 1 gal
3 qt	= ¾ gal
2 qt	= ½ gal
1 qt	= ¼ gal

Fluid Ounces to Volume Measure

½ fl oz	= 1 Tbsp
2 fl oz	= ¼ cup
2.65 fl oz	= ⅓ cup
4 fl oz	= ½ cup
5.36 fl oz	= ⅔ cup
6 fl oz	= ¾ cup
8 fl oz	= 1 cup
16 fl oz	= 1 pt
32 fl oz	= 1 qt
64 fl oz	= 2 qt or ½ gal
96 fl oz	= 3 qt or ¾ gal
128 fl oz	= 1 gal

Adapted from *USDA Quantity Recipes for School Foodservice, 1998*

Abbreviations Used in Standardized Recipes

Measurement	Abbreviation
teaspoon	tsp
tablespoon	Tbsp
cup	cup
quart	qt
gallon	gal
ounce	oz
pound	lb
fluid ounces	fl oz

Source: USDA, FNS, Child Nutrition Programs, Alexandria, VA

ACTIVITY: Manageable Units of Measure — ANSWER KEY

Instructions:

Review the measurements below. Identify which measurements need to be adjusted to the most manageable unit of measure. Convert the incorrectly listed units of measure into the most manageable measurement. Use the conversion chart (below) to assist with the activity.

Instructor's Note: Review a few of the answers with the participants to identify how the answer was reached.

Original Unit of Measure		Most Manageable Unit of Measure	
Ingredient	Unit of Measure	Ingredient	Unit of Measure
Flour	40 oz	Flour	2 lb + 8 oz
Vegetable Oil	6 cups	Vegetable Oil	1 qt + 2 cup
Ground Turkey	8.75 lb	Ground Turkey	8 lb + 12 oz
Black Pepper	7 tsp	Black Pepper	⅛ cup + 1 tsp
Skim Milk	50 fl oz	Skim Milk	1.5 qt + ¼ cup
Diced Celery	74 oz	Diced Celery	4 lb + 10 oz
Diced Chicken	93 oz	Diced Chicken	5 lb + 13 oz
Cumin	17 Tbsp	Cumin	1 cup + 1 Tbsp
Water	13 qt	Water	3 gal + 1 qt

Recipe Preparation Directions — Instruction (10 Minutes)

Objective

Review how to develop preparation directions in a recipe.

Discuss

- Detailed directions should be included with each recipe to indicate how ingredients are to be combined.
- The directions should list, in order, the steps to be followed in preparing the recipe.
    - Alternative preparation methods and helpful cooking tips may also be included.
- Food safety guidelines, such as proper thawing, internal cooking, holding, serving, and storage temperatures, must be included in the directions to help ensure that the final product will be safe to eat.
- All preparation and cooking terms should be reviewed to make sure staff members understand exactly what each means. If the correct procedures are not used, the final product will not be correct.

Key Message

- Recipes can be perceived as complex the first time they are viewed (sometimes several times). This frequently happens with recipes that have a lot of ingredients or steps. It is critical to ensure clarity in the face of complexity to yield desired results.

Recipe Review

- Directions may need to be revised after initial production; staff reading the recipes may provide valuable feedback to improve how they are written.
- Look at the recipe you will be standardizing. Do you see any aspects of the directions that could be improved for quantity production?
    - Are the ingredients listed in the same order as they will be utilized in the recipe?
    - Are the directions logical, and do they use all of the ingredients listed in the ingredient section?
    - Are clear, familiar words used to describe the actions taken in the preparation?
    - Are the number of cooking tools listed?
    - Are there steps that could be performed the day(s) before, such as defrosting meat or prepping produce items?

Tips for Recipe Preparation Directions

- Detailed directions should be included with each recipe to indicate how to combine ingredients.
    - List directions with the corresponding ingredients.
    - The directions should list, in order, the steps to be followed in preparing the recipe.
- Ensure directions and cooking terms are clear and easily understood by the food production team.
- Include pre-preparation steps as needed. For example:
    - Defrost product 3 days prior
    - Pre-heat oven to 375 °F for 15 minutes
- Include all Critical Control Points (CCP) throughout the production process.
- Include exact or near-exact preparation and cooking times.
- If the recipe has different elements, such as crust and filling, break the recipe into sections that correspond with the ingredients in each element.
- List ingredients that are to be combined using the same method of incorporation (such as in a baking recipe, combining all the wet ingredients at once) by descending weight or volume.
- If the preparation method is simple, include the preparation method in the ingredient list, such as "Onion, fresh, yellow, ¼-inch diced, 1 cup" or "Beans, black, canned, 3 lb."
- Indicate the size or type of cookware or utensils to be used. Such as "8-quart mixing bowl," "2-inch stainless steel hotel pan," or "turner, perforated 8-inch."
- Include information such as serving size, serving (portioning) utensil, service ware (disposable- such as 2 oz soufflé cup, or 9" x 9" grab-and-go carton), and any garnish information.
- If applicable, include directions for storage of leftover portions.
- Be as concise as possible. Limit extra or unneeded words.

Class Discussion Prompts

- Has anyone had experience with poorly written recipe directions? What was the outcome?
- What are some challenges you've experienced with recipe preparation directions?

Cooking Time and Temperature and Preparation Time — Instruction (5 Minutes)

Objective

Identify how to include time and temperature standards in a recipe.

Activity: Question

Poultry should be cooked to:

- 135 °F
- 145 °F
- 155 °F
- **165 °F**

Ask participants to put the correct answer into the chat box.

Discuss

- Cooking time and temperature should be identified on the recipe; additionally, the amount of time required to prepare the recipe should be specified.
    - This includes time for chopping or dicing ingredients, assembling the recipe, preparing individual servings, placing items on a baking sheet, etc.
- Adjustments may be needed in the cooking time and temperature, depending on the equipment used to prepare the food.
- The final internal temperature of the prepared foods should be identified.
    - Specifying a final internal temperature for the product will ensure that products are cooked safely and properly.
    - Please check with your state or local health authority for guidance related to safe internal cooking temperatures.

Key Message

- Preparation and cooking times help the food production team manage their time. They also help the menu planner design the cycle menus.
- Understanding the amount of time each recipe takes to prepare will help the menu planner identify which recipes work well, from a production point of view, on which days.

Class Discussion Prompt

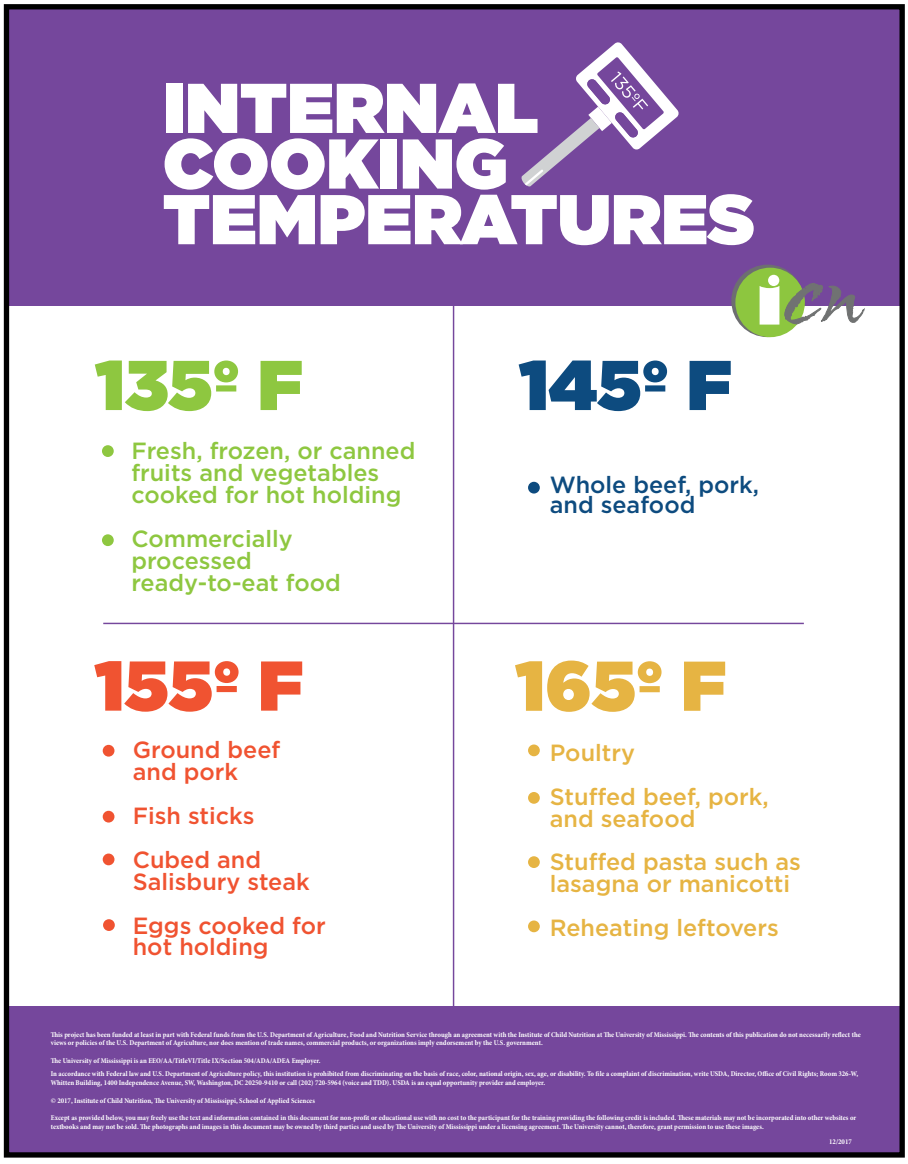
- One of the primary reasons standardized recipes need to be standardized to the site is variations between kitchens. What aspects of the kitchen do you think create variations between sites?

ICN Food Safety Tools and Resources

The Institute of Child Nutrition provides a wide variety of food safety resources that can assist recipe developers and program operators in ensuring their recipes and programs have the most up-to-date food safety procedures. Topics include employee health and hygiene, food safety standard operating procedures (SOPs), cooking and cooling procedures, and much more.

Please visit theicn.org/icn-resources-a-z/food-safety for the most up-to-date tools and resources.

SAMPLE RESOURCE: Food Safety Mini-Poster – Internal Cooking Temperatures



Additional Resource: The Safe Recipe Style Guide provides easy edits to any recipe to improve food safety practices. Please visit https://www.saferecipeguide.org/.

Please ensure your food safety practices are aligned with the regulations and policies of your State or local health authority.

Serving Size and Yield — Instruction (10 Minutes)

Objective

Review how to properly list serving sizes and yields in a recipe.

Discuss

Serving Size

- The size of an individual serving should be listed on the recipe.
- Assess the appropriateness of the serving size for each age group and the School Meal Program, NSLP, or SBP.
- List the weight and volume of the serving. The weight and volume of the serving are needed for the nutrient analysis and should be provided for the yield information. Assess whether the serving size is appropriate for the age being served and the School Meal Program, NSLP, or SBP.
- Identify the weight of one serving and the general description of serving size.
    - Give this information in a reasonable amount, such as ½ cup, 1 slice, 2 squares, etc.
    - Provide information regarding the correct serving utensil to use when portioning food items.
- Identifying proper serving sizes helps to ensure the correct portion of food is being served. Incorrect portioning can lead to:
    - Running out of food on the service line
    - Inaccurate nutritional makeup of the serving
    - Increase in food and labor costs
    - Unsatisfied customers

Yield

- Recipe yield refers to the amount of product that will be obtained when preparing a recipe.
- Provide the amount of the finished or processed product (weight, volume, and number of servings) available at the completion of production.
- Identify recipe yield in total weight and/or volume, as well as a more general description such as 50 servings or 8 (12" x 20" x 4") pans.
- Include the number of servings per pan. For example, each 2" full pan yields (50) servings.

Finding the total yield of a standardized recipe and verifying it in both weight and volume is important for those working in school nutrition programs. This process helps ensure that the right amount of food is prepared to serve the students. Here is a simple explanation of the process:

1. Understand the recipe: First, read the recipe carefully to understand the ingredients, their quantities, and the number of servings it makes. The total yield is the total amount of food produced by the recipe, usually given in weight or volume measurements.

2. Calculate the yield: To find the total yield, multiply the quantity of each ingredient by the number of servings the recipe makes. Add up these quantities to get the total weight or volume of the prepared food. This is the recipe's total yield.

3. Test the recipe: To verify the yield, prepare the recipe according to the instructions. Be sure to use the same ingredients, quantities, and equipment specified in the recipe.

4. Measure the yield: After preparing the recipe, measure the total amount of food produced. Use a scale for weight and measuring cups or containers for volume. Take note of these measurements.

5. Compare and adjust: Compare the actual yield (the amount you measured) to the expected yield (the amount stated in the recipe). If there are significant differences, you may need to adjust the recipe. This could mean changing ingredient quantities, cooking times, or equipment.

6. Document the results: Keep a record of your findings, including any adjustments made to the recipe. Use the information to amend the recipe for the next round of testing.

By following these steps, you can ensure that the total yield of a standardized recipe is accurate and consistent, helping to provide the right amount of food for the students in your school nutrition program.

Key Message

- Serving the correct portion size is critical for maintaining the integrity of the recipes' nutritional value.
- Proper portion control ensures the recipe yields the correct number of servings.

Class Discussion Prompts

Instructor's Note: Direct participants to the ICN's Basics at a Glance and ask them to locate the portioning utensils and the portioning tables and diagrams for various pan sizes.

ICN's *Basics at a Glance* is also available in Spanish.

- How can the *Basics at a Glance* tool help you and your staff ensure the proper portioning of foods?
- Based on your own experience, what is the most common cause of incorrect portioning?
- What is the proper portion size for the recipe you will standardize? What serving utensil will you use to ensure proper crediting? If you are unsure, let's discuss.

ICN's Basics at a Glance

The Institute of Child Nutrition developed the Basics at a Glance Poster to provide operators with a quick reference tool on recipe abbreviations, measurement conversions, portioning tools, and steamtable pan capacity. Please visit theicn.org/icn-resources-a-z/basics-at-a-glance/ to download the 17" x 22" poster.

Basics at a Glance

Recipe Abbreviations

approx.	=	approximate
tsp or t	=	teaspoon
Tbsp or T	=	tablespoon
c	=	cup
pt	=	pint
qt	=	quart
gal	=	gallon
wt	=	weight
oz	=	ounce
lb or #	=	pound (e.g., 3#)
g	=	gram
kg	=	kilogram
vol	=	volume
mL	=	milliliter
L	=	liter
fl oz	=	fluid ounce
No. or #	=	number (e.g., #3)
in. or "	=	inches (e.g., 12")
°F	=	degree Fahrenheit
°C	=	degree Celsius or centigrade

Volume Equivalents for Liquids

60 drops	= 1 tsp	
1 Tbsp	= 3 tsp	= 0.5 fl oz
1/8 cup	= 2 Tbsp	= 1 fl oz
1/4 cup	= 4 Tbsp	= 2 fl oz
1/3 cup	= 5 Tbsp + 1 tsp	= 2.65 fl oz
3/8 cup	= 6 Tbsp	= 3 fl oz
1/2 cup	= 8 Tbsp	= 4 fl oz
5/8 cup	= 10 Tbsp	= 5 fl oz
2/3 cup	= 10 Tbsp + 2 tsp	= 5.3 fl oz
3/4 cup	= 12 Tbsp	= 6 fl oz
7/8 cup	= 14 Tbsp	= 7 fl oz
1 cup	= 16 Tbsp	= 8 fl oz
1/2 pint	= 1 cup	= 8 fl oz
1 pint	= 2 cups	= 16 fl oz
1 quart	= 2 pt	= 32 fl oz
1 gallon	= 4 qt	= 128 fl oz

Equivalent Weights

16 oz	= 1 lb	= 1.000 lb
12 oz	= 3/4 lb	= 0.750 lb
8 oz	= 1/2 lb	= 0.500 lb
4 oz	= 1/4 lb	= 0.250 lb
1 oz	= 1/16 lb	= 0.063 lb

Scoops (Dishers)

Size/No.[1]	Level Measure	Color Code[2]
6	2/3 cup	
8	1/2 cup	
10	3/8 cup	
12	1/3 cup	
16	1/4 cup	
20	3-1/3 Tbsp	
24	2-2/3 Tbsp	
30	2 Tbsp	
40	1-2/3 Tbsp	
50	3-3/4 tsp	
60	3-1/4 tsp	
70	2-3/4 tsp	
100	2 tsp	

[1] Scoops are left or right hand or squeeze-type that can be used for both hands. Number on the scoop indicates how many level scoopfuls make one quart. For example, eight No. 8 scoops = 1 quart.

[2] Use colored dots matching the brand-specific color coding of scoop sizes.

Ladles Portion Servers

Ladle fl oz	Appox. Measure	Portion Server fl oz
1 oz	1/8 cup	1 oz
2 oz	1/4 cup	2 oz
3 oz	3/8 cup	3 oz
4 oz	1/2 cup	4 oz
6 oz	3/4 cup	6 oz
8 oz	1 cup	8 oz
12 oz	1-1/2 cups	—

Ladles and portion servers (measuring-serving spoons that are volume-standardized) are labeled "oz." "Fl oz" would be more accurate since they measure volume, not weight.

Use ladles for serving soups, stews, creamed dishes, sauces, gravies, and other liquid products.

Use portion servers (solid or perforated) for portioning solids and semi-solids such as fruits and vegetables, and condiments.

Cooking or Serving Spoons

Solid Spoons

Perforated Spoons

Slotted Spoons

Spoons vary in length (11", 13", 15", 18", 21") for ease of use in cooking or serving. Spoons can have plastic handles that are heat-resistant. Level scoops, ladles, and portion servers provide more accurate portion control than serving spoons that are not volume-standardized measure.

Specialty Spoons

A thumb notch on a server or spoon handle prevents the spoon from slipping into the pan and prevents hands from sliding into the food. Triple-edge (solid or perforated) spoons have a flat edge that increases the area where the spoon touches the bottom of the pan when stirring.

Steamtable Pan Capacity

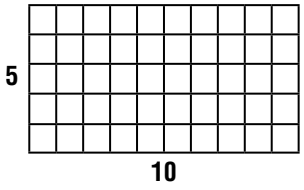
Pan Size	Approx. Capacity	Serving Size	Ladle (fl oz)	Scoop #	Approx. # Servings
12" x 20" x 2-1/2" 	2 gal	1/2 cup 3/8 cup 1/3 cup 1/4 cup	4 oz 3 oz 2.65 oz 2 oz	8 10 12 16	64 80 96 128
12" x 20" x 4" 	3-1/2 gal	1/2 cup 3/8 cup 1/3 cup 1/4 cup	4 oz 3 oz 2.65 oz 2 oz	8 10 12 16	112 135 168 224
12" x 20" x 6" 	5 gal	1/2 cup 3/8 cup 1/3 cup 1/4 cup	4 oz 3 oz 2.65 oz 2 oz	8 10 12 16	160 200 240 320

Approximate Dimensions of Serving Sizes from Different Pan Sizes

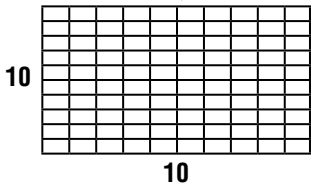
Pan	Approx. Size	No. and Approx. Size Servings per Pan		
		25	50	100
Baking or steamtable	12" x 20" x 2-1/2"	2" x 3-3/4"	2" x 2"	_ _ _ _ _
Sheet or bun	18" x 26" x 1"	3-1/4" x 5"	3-1/4" x 2-1/2"	1-3/4" x 2-1/2"

Cutting Diagrams for Portioning

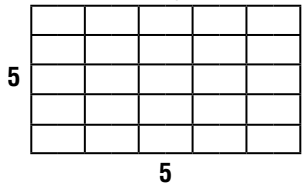
For 50 servings cut 5 x 10



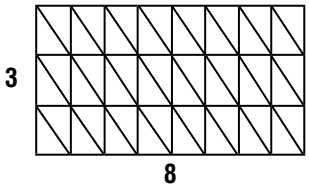
For 100 servings cut 10 x 10



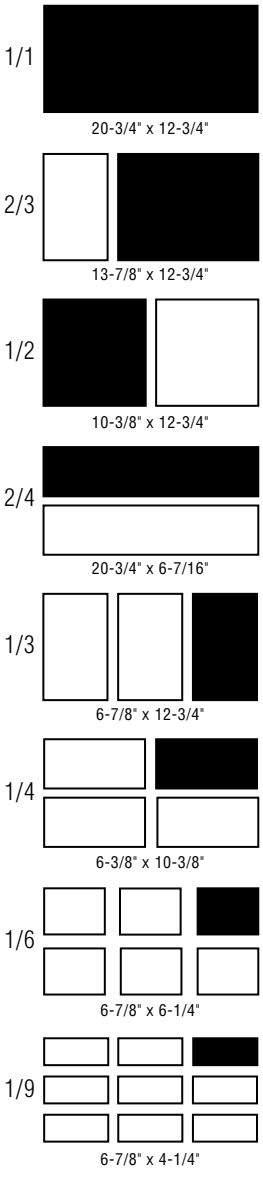
For 25 servings cut 5 x 5



For 48 servings cut 3 x 8 then diagonally



Other Pan Sizes



Steamtable or counter pans are available in various sizes. Smaller size pans may require the use of an adapter bar.

Fraction to Decimal Equivalents

1/8	= 0.125
1/4	= 0.250
1/3	= 0.333
3/8	= 0.375
1/2	= 0.500
5/8	= 0.625
2/3	= 0.666
3/4	= 0.750
7/8	= 0.875

Metric Equivalents by Weight

Customary Unit (avoirdupois)	**Metric Unit**
Ounces (oz)	**Grams (g)**
1 oz	= 28.35 g
4 oz	= 113.4 g
8 oz	= 226.8 g
16 oz	= 453.6 g
Pounds (lb)	**Grams (g)**
1 lb	= 453.6 g
2 lb	= 907.2 g
Pounds (lb)	**Kilograms (kg)**
2.2 lb	= 1 kg (1000 g)

Metric Equivalents by Volume

Customary Unit (fl oz)	Metric Unit
1 cup (8 fl oz)	= 236.59 mL
1 quart (32 fl oz)	= 946.36 mL
1.5 quarts (48 fl oz)	= 1.42 L
33.818 fl oz	= 1.0 L

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Equipment and Tools — Instruction (10 Minutes)

Objective

Identify how to include information pertaining to the use of equipment and tools in a recipe.

Activity: Question

- What piece of equipment do you use most often?
  - Convection oven
  - Steam-jacked kettle
  - Tilt-skillet
  - Hotel pan
  - Mixer
- Ask participants to put their answers into the chat box.

Discuss

- List the cooking and serving equipment needed to prepare and serve the recipe.
  - Identify the pans needed to produce and serve the product.
  - Include the length, width, and depth of the pans.
- Utilize your local nomenclature (commonly used name) when writing recipes - i.e., "tilt skillet" vs. "braiser."
- School foodservice kitchens come equipped with a variety of pieces of equipment.
  - Often, different pieces of equipment can be used to achieve the same outcome.
  - For example, use a convection or conventional oven to bake a casserole, or use a steamer, tilt-skillet (braising pan), steam-jacketed kettle, or oven for cooking rice or pasta.
  - When reviewing a recipe, identify the exact piece(s) of equipment required to prepare and cook the product.
- Always consider the capacity of the cooking equipment.
  - For example, the site may need 1,000 rolls made, but if the mixer capacity cannot hold the needed quantity of ingredients, the site must prepare the recipe in batch sizes the mixer can accommodate.
- Determine the cooking time and temperature based on the specific piece of equipment used to prepare the recipe.

Key Message

- Standardized recipes yield consistent results when replicated using the same ingredients and equipment. Therefore, the recipes must be standardized to the production site and the specific equipment available at the site. As mentioned at the beginning of the workshop, this applies to new recipes, not recipes that have already been successfully standardized by the program.
- Recipes may include detailed alternative preparation methods highlighting the preparation steps, times, and equipment needed to produce the recipe in the alternative method accurately.

Class Discussion Prompts

- Why would a recipe need to include alternative preparation methods?
- Does anyone have an example of a recipe they use at one of their sites that includes more than one production method?

Tips & Strategies for Listing Equipment and Tools

- List the cooking and serving equipment needed to prepare and serve the recipe.
    - Identify the pans needed to produce and serve the product.
    - Include the length, width, and depth of the pans.
- School foodservice kitchens come equipped with a variety of pieces of equipment.
    - Often, different pieces of equipment can be used to achieve the same outcome.
    - For example, a convection or conventional oven can be used for baking a casserole, a steamer, tilt-skillet (braising pan), steam-jacketed kettle, or oven could be used for cooking rice or pasta.
    - When reviewing a recipe, the exact piece(s) of equipment to be used for the preparation and cooking of the product should be listed within the recipe.
- The capacity of cooking equipment needs to be considered.
    - For example, 1,000 rolls may need to be made, but if the mixer capacity does not hold that quantity of ingredients, then the recipe will need to be adjusted in batches that can be made in that mixer.
- Cooking time and temperature need to be determined for the specific piece of equipment that will be used to prepare the recipe.
- The utensil(s) for portioning and/or serving the product need to be listed on a recipe.

Crediting Information — Instruction (10 Minutes)

Instructor's Note: Briefly review this section. This topic will be covered in detail later in the training.

Objective

Review the steps for including crediting information in a recipe.

Discuss

- Each meal component has a minimum creditable amount.
    - Crediting refers to how a food counts toward the required meal component for reimbursement.
- The crediting statement identifies which NSLP/SBP meal component(s) the ingredients in the recipe can count toward:
    - Meats/meat alternates
    - Vegetables (including subgroups)
    - Fruits
    - Grains
- The minimum creditable amount is the smallest portion of food that counts toward meal component requirements, for example, ⅛ cup green beans.
    - Understanding minimum creditable amounts helps you plan reimbursable meals while considering food costs.
    - If you serve food items in portions smaller than the minimum creditable amount, they cannot count toward reimbursement requirements.

- Beans, Peas, and Lentils may be credited toward more than one meal component; include both in the crediting statement.
    - Example: 2 Bean tostadas provide:
        - Beans, Peas, and Lentils as Meat Alternate: 2 oz equivalent meat/meat alternate, cup red/orange vegetable, ¼ cup other vegetable, ⅛ cup additional vegetable, and 1 oz equivalent grains.

OR

        - Beans, Peas, and Lentils as Vegetable: 0.5 oz equivalent meat/meat alternate, ⅜ cup beans, peas, and lentils vegetable, ⅛ cup red/orange vegetable, ¼ cup other vegetable, ⅛ cup additional vegetable, and 1 oz equivalent grains.
- Use the *Recipe Analysis Workbook* (RAW) (available at https://foodbuyingguide.fns.usda.gov/) to determine the crediting statement.
    - We will review the RAW later in the workshop.
- Reviewing the crediting statement on the recipe is helpful when unplanned substitutions are necessary. Site staff can use the crediting statement to identify the component(s) that need substitution and search for alternative recipes that will meet the planned menu's meal pattern requirements.

Key Message

- The crediting statement is a crucial component for identifying how the recipe contributes to the meal pattern.
- Including the crediting statement on the recipe helps foodservice workers and menu planners assess how the recipe contributes to the daily menu's meal pattern compliance.

Class Discussion Prompt

- How has including crediting statements on recipes helped you in your program?

Recipe Crediting Information Guidelines

- The *Recipe Analysis Workbook* (RAW) should be used to determine the crediting statement.
    - (Available at https://foodbuyingguide.fns.usda.gov/)
- The crediting information needs to be included in a statement that identifies which NSLP/SBP meal component(s) the ingredients in the recipe can count toward:
    - Meats/Meat Alternates
    - Vegetables (including subgroups)
    - Fruits
    - Grains
- Each meal component has a minimum creditable amount.
    - Crediting refers to how a food counts toward the required meal component for reimbursement.
- The minimum creditable amount is the smallest portion of a food that counts toward meal component requirements, for example, ⅛ cup green beans.
    - Understanding minimum creditable amounts helps you plan reimbursable meals while considering food costs.
    - If you serve food items in portions smaller than the minimum creditable amount, they cannot count toward reimbursement requirements.
- When crediting Beans, Peas, and Lentils toward more than one meal component, include both the meat alternate and the vegetable credit in the crediting statement.
    - Example: This recipe credits X cups of vegetables OR Y oz eq of meat alternate

While the recipes in this workshop list the crediting for the legumes, an update to the subgroup's name was included in the final rule published in 2024, Child Nutrition Programs: Meal Patterns Consistent With the 2020-2025 Dietary Guidelines for Americans. The subgroup Legumes is now known as Beans, Peas, and Lentils.

SAMPLE: Crediting Statement – Bean Tostada USDA Recipe for Schools

United States Department of Agriculture

Bean Tostada
USDA Recipe for Schools

Creamy pinto beans combine with tomatoes, fresh bell peppers, cheese and Mexican spices served on a crispy tostada.

NSLP/SBP CREDITING INFORMATION
2 tostadas provide

Legume as Meat Alternate: 2 oz equivalent meat/meat alternate, ⅛ cup red/orange vegetable, ¼ cup other vegetable, ⅛ cup additional vegetable, and 1 oz equivalent grains.

OR

Legume as Vegetable: 0.5 oz equivalent meat/meat alternate, ⅜ cup legume vegetable, ⅛ cup red/orange vegetable, ¼ cup other vegetable, ⅛ cup additional vegetable, and 1 oz equivalent grains.

Nutrient Analysis Introduction — Instruction (5 Minutes)

Instructor's Note: Briefly review this section. This topic will be covered in detail later in the training.

Objective

Introduce the importance of recipe nutrient analysis.

Discuss

- School meals provide the essential nutrients students need because they follow meal pattern requirements. This section of the recipe identifies the nutrients provided per recipe per serving.
- The purpose of the nutrient analysis is to determine compliance with school meal regulatory requirements for calories, saturated fat, added sugars, and sodium and to monitor levels of these dietary components in school meals.
- The nutrient content of foods may vary greatly depending on the method of preparation. As foods cook, they may lose moisture and nutrients. All ingredients in recipes prepared "from scratch" must be entered into the computer using the Yield Factor Method to account for nutrient value changes due to preparation and cooking.
    - We will cover the Yield Factor Method later in the workshop.

Key Message

- Performing an accurate nutrient analysis is critical to the evaluation of menus and menu documentation.

Service Style — Instruction (5 Minutes)

Objective

Review the various types of service and how to indicate the service style in a recipe.

Activity: Brainstorm

- What are some unique service models you are currently using in your program or have considered implementing at your sites?
- Ask participants to type their answers into the chat box and read them as they appear.

Discuss

- Including directions on how the recipe is to be served to the customer is a useful tool for staff. How the food is held before service, the vessel the food item is served in, the utensil used for service, and how the item is garnished all play a role in how customers initially perceive the food.
- Providing information on how to present and package a recipe or meal is an important part of the recipe.
- School meals are now served in a variety of ways, each requiring a unique method of delivery. These include but are not limited to:
    - Traditional cafeteria service
    - Grab-and-go
    - Kiosks
    - Meals in the classroom
    - Self-service bars and stations
    - Made-to-order stations
    - Food trucks
    - Vending machines
- Staff can properly prepare their work plan when they know all the ways the recipe may be served.
- Include information such as:
    - Packing types and sizes
    - Serving pan types and sizes
    - Serving and portioning utensils
    - Garnishing information

- A recipe may be produced in bulk in a central kitchen and sent to a satellite location for service. The staff at both the central production site and satellite site need to understand how the recipe will be presented to the customer.
- A single bulk recipe may be prepared at the central production site (kitchen) and used at various sites or in a variety of applications. For instance, ground beef taco meat may be served as a standard taco at a K–5 site and used as a part of a made-to-order burrito bowl in a secondary school.

Key Message

How food items are presented is a critical component of engaging the customer. Our customer's first impression of the food items served is visual. Instruction on how to serve the menu item beyond portioning is a key component of customer service.

Class Discussion Prompts

- What are some unique service models you are currently using in your program or have considered implementing at your sites?
- How would including information about service style help your staff better deliver meals?

Marketing Guide — Instruction (10 Minutes)

Objective

Review how to incorporate a marketing guide into a recipe.

Activity: True or False?

- **True** or False: The marketing guide section of a recipe includes information for food as purchased (AP).
- Ask participants to type their answers into the chat box.

Discuss

- USDA recipes provide information to assist in purchasing necessary quantities of food for recipe production. Recipes call for a specific amount of an ingredient. However, the ingredient amount is rarely equal to the purchasing amount for many types of food.
    - Example: When recipes call for fresh fruits or vegetables, the ingredient amount is typically the edible or trimmed portion. The purchase amount will be more than the ingredient amount to account for losses. These losses include the parts of the fruits and vegetables that are not consumed.
- The marketing guide section of each recipe provides purchasing information, including:
    - Food as Purchased (AP) – lists each food item to purchase
    - Food quantity to purchase for each recipe yield; for example, 50 servings or 100 servings

The *Food Buying Guide for Child Nutrition Programs* (FBG) shows how to determine marketing guide quantities. Use the FBG information under the Additional Information Column for the AP quantities needed.

The FBG tool represents an average weight to volume representation of food items. If your site consistently (six times or more) gets a greater or lesser yield than the FBG states, document this and retain for AR. Use your own yields once verified.

The FGB has a section called In-House Yield Data (located in the About the Food Buying Guide section, under the HOME tab https://foodbuyingguide.fns.usda.gov/Home/About). This section provides the user with the steps to take and documentation needed to perform an In-House Yield Study.

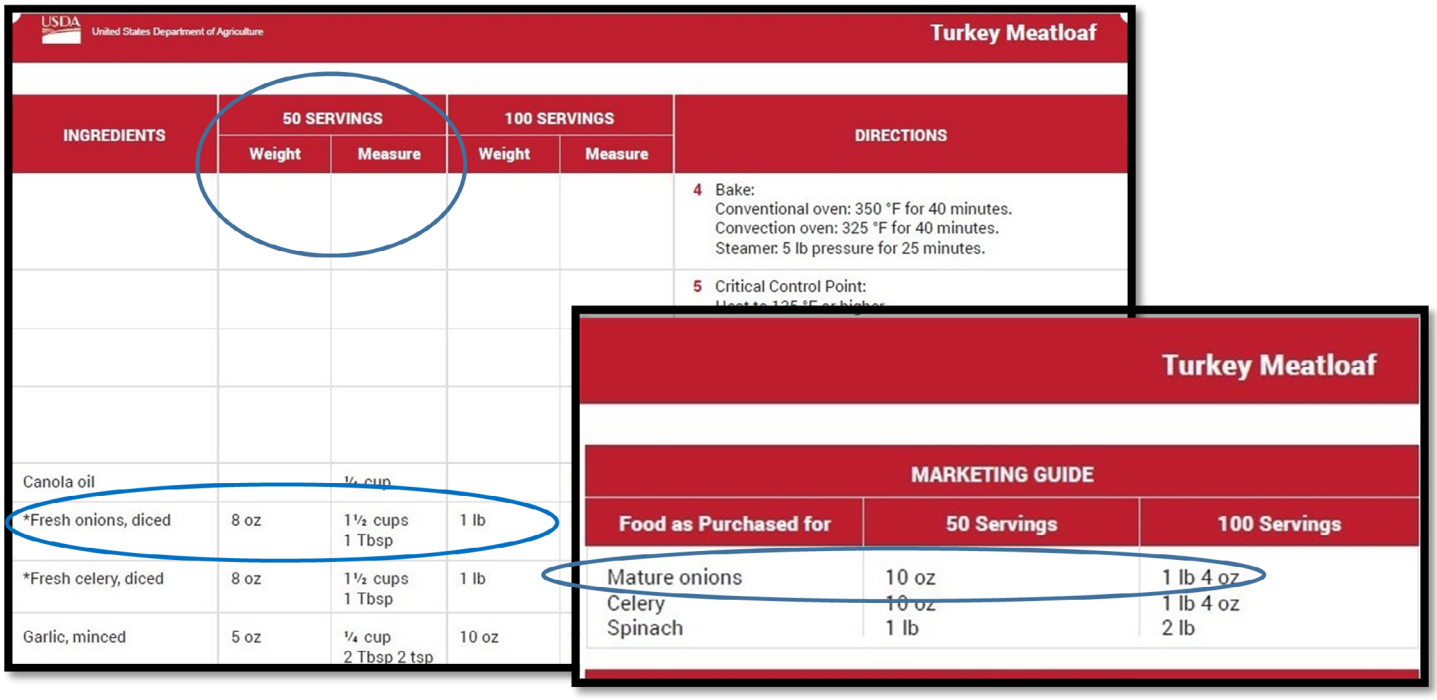
Key Message

- Marketing Guides help prevent under- and over-purchasing. Add a Marketing Guide to all of your school recipes.

Recipe Marketing Guide

The recipe Marketing Guide shows the amount of each fresh vegetable or fruit to purchase that, when trimmed, provides the amount the recipe requires.

Using the Turkey Meatloaf Recipe as an example, the 50-serving recipe calls for 8 oz of diced fresh onions. The marketing guide shows that 10 oz of mature onions will trim and dice to 8 oz. Both of these measurements are weight. A volume amount of diced onion is also provided: 1½ cups + 1 Tbsp for 8 oz. When appropriate, both weight and volume are listed in the recipe.



USDA United States Department of Agriculture

Turkey Meatloaf

INGREDIENTS	50 SERVINGS		100 SERVINGS		DIRECTIONS
	Weight	Measure	Weight	Measure	
					4 Bake: Conventional oven: 350 °F for 40 minutes. Convection oven: 325 °F for 40 minutes. Steamer: 5 lb pressure for 25 minutes.
					5 Critical Control Point:
Canola oil		¼ cup			
*Fresh onions, diced	8 oz	1½ cups 1 Tbsp	1 lb		
*Fresh celery, diced	8 oz	1½ cups 1 Tbsp	1 lb		
Garlic, minced	5 oz	¼ cup 2 Tbsp 2 tsp	10 oz		

Turkey Meatloaf

MARKETING GUIDE

Food as Purchased for	50 Servings	100 Servings
Mature onions	10 oz	1 lb 4 oz
Celery	10 oz	1 lb 4 oz
Spinach	1 lb	2 lb

The *Food Buying Guide for Child Nutrition Programs* (FBG) shows how to determine marketing guide quantities. Use the FBG information under the Additional Information Column. Here you see that 1 lb fresh mature onions, when trimmed and cooked, yield about 0.78 lb of the finished product.

Meal Component	Vegetables
Meal Category	Other Vegetables[1]
Subcategory	ONIONS, MATURE
Food As Purchased, AP	**Onions, Mature, fresh** *All sizes, Whole*
Purchase Unit	Pound
Servings per Purchase Unit, EP	7.90
Serving Size per Meal Contribution	1/4 cup cooked vegetable pieces
Purchase Units for 100 Servings	12.70
Additional Information	1 lb AP = 0.78 lb cooked onion; 1 lb AP = 0.88 lb ready-to-serve or -cook raw onion
Footnote	[1] For the purposes of the NSLP, the "Other Vegetables" requirement may be met with any additional amounts from the dark green, red/orange, and beans/peas (legumes) vegetable subgroups as defined in § 210.10(c)(2)(iii). Additional documentation from the vendor would be necessary to determine crediting.

Class Discussion Prompts

- How many of you use a marketing guide when building your local recipes?
- Has anybody ever had a situation where a site manager under-purchased a food item because they only looked at the ingredients listed in the recipe and did not account for the loss due to trim?

Food Safety Guidelines — Instruction (5 Minutes)

Objective

Review food safety guidelines and how to properly use the Process Approach to communicate food safety standards in a recipe.

Discuss

- Include procedures designed to ensure the safe production and service of food.
- Indicate Hazard Analysis Critical Control Point (HACCP) information.
- The most common approach to HACCP in the School Meals Programs is the Process Approach. The Process Approach focuses on the number of times a food moves through the temperature danger zone (41 °F to 135 °F). Foods are grouped into one of three process categories.
    - **Process #1 – No Cook**
        - The menu item does not go through the entire danger zone at any time.
        - Example: Melon is washed, peeled, cut, and held for service at 41 °F or lower.
    - **Process #2 – Same Day Service**
        - The menu item goes through the danger zone once during cooking.
        - Example: Pizza is cooked to 165 °F; held for service at 135 °F or higher; leftovers discarded.
    - **Process #3 – Complex Food Preparation**
        - The menu item goes through the temperature danger zone at least twice, first heating (cooking) and then proper cooling for future use.
- Include the appropriate cooking temperature for any ingredients that require one (cooking, chilling, and a final holding temperature).
- As applicable, include information about food allergens or developmental considerations.
    - Example: choking hazards for young children

Key Message

- Food safety must be at the forefront of all aspects of food production.
- Including food safety information in the recipe helps ensure the production team understands and follows safe food handling practices.

Understanding Food Safety Guidelines

Important HACCP Terms

Hazard Analysis – review of operation to identify areas where food safety problems may occur

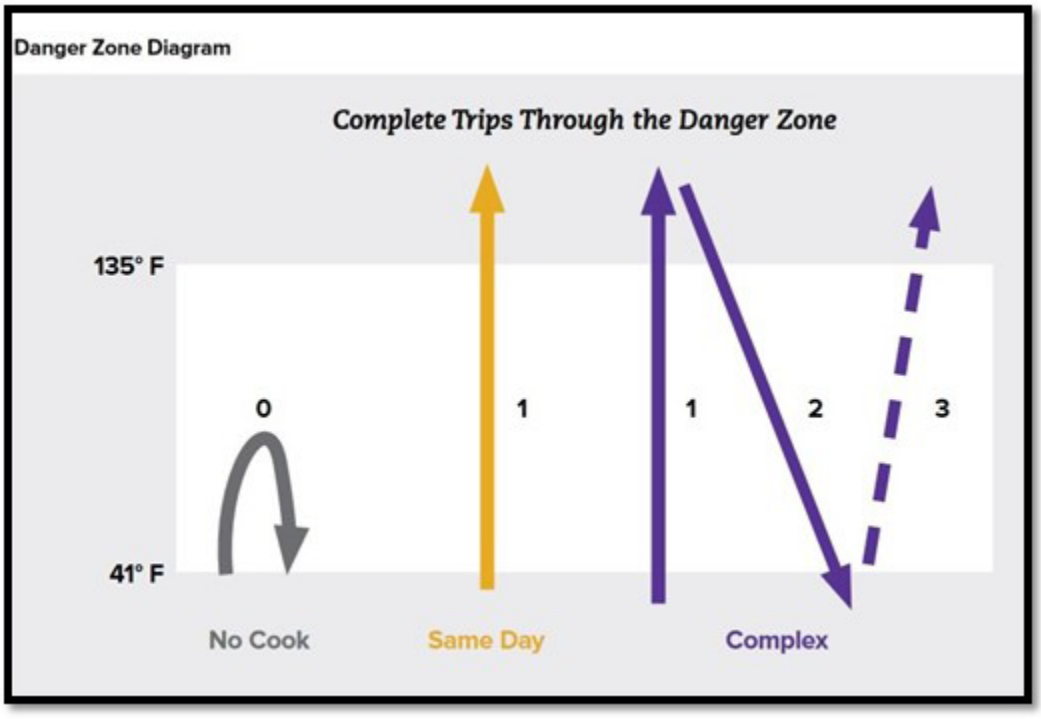
Control Measures – steps to reduce food contamination or bacterial growth

Critical Control Points (CCPs) – points in food preparation where process control (example – cooking) is essential to keep food safe

Critical Limits – time and temperature range for food preparation and service for keeping food safe (hot, 135 °F or higher; cold, 41 °F or lower)

Process Approach – a HACCP method of grouping menu items into one of three processes depending upon the number of times food goes through the temperature danger zone (41 °F to 135 °F)

- **Process #1 – No Cook**
  - The menu item does not go through the entire danger zone at any time.
  - Example: Melon is washed, peeled, cut, and held for service at 41 °F or lower.
- **Process #2 – Same Day Service**
  - The menu item goes through the danger zone once during cooking.
  - Example: Pizza is cooked to 165 °F; held for service at 135 °F or higher; leftovers discarded.
- **Process #3 – Complex Food Preparation**
  - The menu item goes through the temperature danger zone at least twice, first heating (cooking) and then proper cooling for future use.



Class Discussion Prompts

- What are some common food safety issues you find when staff are preparing recipes? How have you overcome those issues?
- What are some popular recipes that would require a Complex Food Preparation Process?
- What CCPs will your recipe go through?

Small Batch Taste-Testing — Instruction (20 Minutes)

Objective

Describe the process for conducting small batch taste-testing for new recipes.

Instructor's Note: Inform the participants that this will occur on Day 3 of the workshop.

Discuss

- There are many steps in the initial development of a recipe, but putting the work in on the front end will help save time and money in the long run.
- Once the recipe has been developed and entered into the nutrient analysis software, you will need to evaluate the recipe's nutrition composition and meal component contribution (crediting statement) with the food production team.
    - Ask the staff to provide feedback regarding each of the areas:
        - Recipe title
        - Ingredients
        - Directions
        - Cooking and preparation times
- Use the Recipe Review Checklist to verify all of the components have been included.
- Once verified, create a small batch of the recipe.
- The recommended small batch size is 25 servings. It is relatively simple to scale up a recipe from 25 servings. Throughout the process of making the small-batch version of the recipe, taste as you go, and keep careful notes about any variations you make. Record this information directly on the recipe for future reference.
- Once the recipe's test batch has been completed, move on to the Product Evaluation Phase. Have staff use the Informal Evaluation Checklist to determine if the recipe meets your program's standards.

Key Message

- Staff buy-in is critical in the recipe development process; after all, the staff will be the people preparing the recipe.
- Efficiently conduct small batch taste-testing to evaluate the feasibility and acceptability of a recipe.

Class Activity

- Break participants into groups.
- Ask the groups to review the *Recipe Review Checklist* and the *Informal Evaluation Checklist*.
- Ask the groups to identify if there are any additions or changes that they would make to either checklist. Ask the participants to think specifically of these checklists as they would be most helpful in evaluating the recipe they have chosen for standardization.

Additionally, ICN has developed *Quality Score Cards* that can be used to evaluate the quality of recipes. These are useful tools to train staff on the program's expectations for the quality of the meals served.

Instructor's Note: Point out that this *Recipe Review Checklist* will be used on Day 2 (except for recipes analysis and crediting) to ensure that they have completed all the steps needed for Day 3.

Recipe Review Checklist

The recipe review checklist is a tool to verify the recipe and includes all of the information required to move into the recipe testing phase.

Review Step	Questions	Yes	No	N/A	Action Needed
Title	Is the recipe name descriptive of the dish, and is the dish appropriately named?				
	Is the title appealing to customers?				
Recipe category	Are recipes organized by category?				
Ingredients	Are all the ingredient names clear?				
	Are the ingredients listed in the order they are used?				
	Does each ingredient name indicate product type/form (i.e., fresh, frozen, canned [drained, packed in syrup, packed in juice], dried, dehydrated, cooked)?				
	Does each ingredient name indicate the pre-preparation technique to be applied to the ingredient (i.e., peeled, sliced, chopped, diced, grated, minced) and size, if applicable (¼ inch, ½ inch)?				
Weight or volume	Is there an appropriate weight or volume listed for each ingredient?				
Directions	Do the written directions clearly describe exactly what needs to be done to prepare the recipe?				

Review Step	Questions	Yes	No	N/A	Action Needed
Food preparation (hot and cold) and holding temperature and cooking and preparation time	Is the preparation temperature stated on the recipe?				
	Is the cooking time stated on the recipe?				
	Have time standards been established for the preparation of the recipe?				
Serving size	Is the serving size stated on the recipe?				
	Is the serving weight given?				
	Are directions given for how to divide the product into individual servings?				
Recipe yield	Is the recipe yield indicated?				
Equipment	If preparation equipment is needed, is it indicated?				
	Is the cooking equipment indicated?				
	Is the serving utensil listed?				
Food Safety Guidelines	Have the Critical Control Points been identified for each step of the process?				
	Has a HACCP Approach Process been identified?				
Nutrient Analysis	Is the nutrient analysis accurate, and does it meet the desired nutrient profile?				
Crediting Statement	Are meal components appropriately credited?				

Recipe Review Checklist Decision Guide

Review Step	Questions	Yes	No	N/A	Action Needed
Title	Is the recipe name descriptive of the dish, and is the dish appropriately named?				◆ If yes, leave the title as listed, move to next title question. ◆ If no, consider new title.
	Is the title appealing to customers?				◆ If yes, leave title as listed, move to next review step. ◆ If no, consider alternate title to be used on menu.
Recipe category	Are recipes organized by category?				◆ If yes, move to next review step. ◆ If no, identify recipe category on recipe.
Ingredients	Are all the ingredient names clear?				◆ If yes, move to next ingredient question. ◆ If no, rewrite ingredient name.
	Are the ingredients listed in the order they are used?				◆ If yes, move to next ingredient question. ◆ If no, change order so ingredients are listed in order used.
	Does each ingredient name indicate product type/form (i.e., fresh, frozen, canned [drained, packed in syrup, packed in juice], dried, dehydrated, cooked)?				◆ If yes, move to next ingredient question. ◆ If no, add product type information to ingredient name.

Review Step	Questions	Yes	No	N/A	Action Needed
Ingredients (*continued*)	Does each ingredient name indicate the pre-preparation technique to be applied to the ingredient (i.e., peeled, sliced, chopped, diced, grated, minced) and size, if applicable (¼ inch, ½ inch)?				◆ If yes, move to next review step. ◆ If no, indicate the preparation technique to the ingredient name.
Weight or volume	Is there an appropriate weight or volume listed for each ingredient?				◆ If yes, move to next review step. ◆ If no, indicate weight (preferred) or volume for each ingredient.
Directions	Do the written directions clearly describe exactly what needs to be done to prepare the recipe?				◆ If yes, move to next review step. ◆ If no, write specific directions for preparing the recipe.
Food preparation (hot and cold) and holding temperature and cooking and preparation time	Is the preparation temperature stated on the recipe?				◆ If yes, move to next preparation temperature and time question. ◆ If no, write down the cooking temperature.
	Is the cooking time stated on the recipe?				◆ If yes, move to next review step. ◆ If no, write cooking time on the recipe.
	Have time standards been established for the preparation of the recipe?				◆ If yes, move to next review step. ◆ If no, write the preparation times on the recipe.

Review Step	Questions	Yes	No	N/A	Action Needed
Serving size	Is the serving size stated on the recipe?				◆ If yes, move to next serving size question. ◆ If no, the serving size will need to be determined when the recipe is prepared as part of the Verification Phase and written on recipe.
	Is the serving weight given?				◆ If yes, move to next serving size question. ◆ If no, the serving size weight will need to be determined when the recipe is made during the Verification Phase and written on recipe.
	Are directions given for how to divide the product into individual servings?				◆ If yes, move to next review step. ◆ If no, write the directions for portioning the product.
Recipe yield	Is the recipe yield indicated?				◆ If yes, move to next review step. ◆ If no, the yield will need to be determined when the recipe is made during Verification Phase and written on recipe.

Review Step	Questions	Yes	No	N/A	Action Needed
Equipment	If preparation equipment is needed, is it indicated?				◆ If yes, move to next equipment question. ◆ If no, write down what size pan should be used.
	Is the cooking equipment indicated?				◆ If yes, move to next equipment question. ◆ If no, write down which piece(s) of equipment should be used.
	Is the serving utensil listed?				◆ If yes, review is complete. ◆ If no, indicate the serving utensil.
Food Safety Guidelines	Have the Critical Control Points been identified for each step of the process?				◆ If yes, move to next review step. ◆ If no, indicate the proper CCP.
	Has a HACCP Approach Process been identified?				◆ If yes, move to next review step. ◆ If no, indicate the proper Process Approach.
Nutrient Analysis	Is the nutrient analysis accurate, and does it meet the desired nutrient profile?				◆ If yes, move to next review step. ◆ If no, conduct a nutrient analysis of the recipe.
Crediting Statement	Are meal components appropriately credited?				◆ If yes, the review is complete. ◆ If no, use the *Recipe Analysis Workbook* and/or *Exhibit A* tool to complete the crediting statement.

Informal Evaluation Checklist

Instructor's Note: Participants will use this form for the staff evaluation on Day 3.

Recipe Name:			
Questions	Yes	No	Corrective Action
Is the visual appearance of the product acceptable?			
Is the flavor of the product one that students might enjoy?			
Are the ingredients in the recipe easily obtained?			
Is the texture of the recipe correct?			
Is the labor time to make the product within foodservice department guidelines?			
Do employees possess the skills to prepare this item?			
Is the recipe within nutrition guidelines/goals?			
Is the equipment available to prepare this item?			
Is the recipe acceptable enough to continue with more evaluation?			
Other observations (i.e., is the garnish appropriate)			

Decision Guidelines

- If the answer is yes to all of the above questions, then proceed to the Formal Evaluation Phase of the recipe.
- If the answer is no to one or two of the above questions, return to the recipe Preparation Phase, make necessary corrections to the draft recipe, and do another small batch of taste testing and informal evaluation.
- If the answer is no to three or more of the above questions, strong consideration should be given to not continuing with this recipe's standardization.

Recipe Yield Verification — Instruction (20 Minutes)

Objective

Review the process of verifying the recipe yield.

Discuss

- Once the recipe has been tried and tested in a small batch and adjustments to the original recipe have been made, you will need to verify the recipe for accuracy.
- Verify the correct yield has been reached.
    - Verifying yields includes making sure the ingredients, recipe directions, and serving yields are accurate.
    - When verifying a recipe, the As Purchased (AP) quantity needed to yield the necessary Edible Portion (EP) quantity of an ingredient must be determined.
    - Yields can vary depending on product quality, preparation techniques, cooking times, and temperatures.
    - Recipe yield verification occurs once all of the ingredients have been combined and the recipe preparation is completed.
- How to determine yield:
    - Recipe yield should be specified in both the total quantity (weight and volume) and the number of servings.
    - Recipe yield can be determined by weighing the final product or measuring its volume.
    - The weight of a serving is determined by taking the total final product's weight and dividing it by the number of servings the recipe makes.
    - Guidelines for portioning the product into individual servings must be included in the recipe.
    - A serving utensil should be identified for each product.
    - Weights of these actual servings should be compared to the calculated serving weight to ensure portioning is being done correctly.
    - If the desired serving size is not achieved when verifying the yield, changes in the recipe, portioning, or ingredient amounts may be needed.

Yield Determination Steps

To create a standardized process for determining the total yield of a standardized recipe and ensuring the correct portion size for each student, follow these steps:

1. Gather the recipe and equipment:
   A. Obtain the standardized recipe that yields 25 servings.
   B. Gather measuring cups, spoons, and a kitchen scale.

2. Prepare the recipe:
   A. Follow the recipe instructions to prepare the 25-serving batch.

3. Determine the total weight of the batch:
   A. After cooking, weigh the entire batch using a kitchen scale.
   B. Record the total weight in grams or ounces.

4. Calculate the weight of a single serving:
   A. Divide the total weight of the batch by 25 servings.
   B. This will give you the weight of a single serving in ounces.

5. Convert the single-serving weight to volume (as applicable):
   A. Using portioning tools, identify the correct portioning tool to use for a single serving by verifying the volume of the portioning tool, when filled to a level scoop, matches the weight of a serving.

      For example: A 25 serving pan of Chili with Beef and Beans weighs 14 lb + 2 oz. When divided by 25 servings, the weight of each serving is 9.04 oz. In order to identify the correct portioning tool, first select a portioning tool that represents your intended portion size. For this recipe, the ideal portion is one cup (8 fl oz). For this example, a 8 fl oz spoodle was selected. Scoop a level portion of the chili and then weigh the single portion on a portion scale (be sure to zero/tare) the scale. The weight of one 8 fl oz spoodle of chili, when weighed, came to 9.04 oz. So, the correct portion tool was selected.

      In the event the weight was under or over the intended size for the portion tool, a different size portion tool would need to be selected and the recipe developer would need to test the new sized tool to verify yield accuracy.

6. Serve the correct portion size:
   A. To serve a single portion, use the appropriate measuring cup or spoon to scoop the calculated volume of the recipe.
   B. Serve this portion to each student, ensuring consistency in portion size.

By following this standardized process, you can ensure that every student receives the proper portion size, allowing you to effectively manage the school nutrition program.

Key Message

Yield accuracy is critical for ensuring that the nutritional composition and number of portions between the written and prepared recipes correspond.

Class Discussion Prompts

- Where can yield verification go wrong?
- What are some factors that can cause incorrect yields?

Determining Yield

- Recipe yield should be specified in both the total quantity (weight and volume) and the number of servings.
- Recipe yield should be determined by weighing the final product and measuring its volume.
- The weight of a serving is determined by taking the total final product's weight and dividing it by the number of servings the recipe makes.
- Guidelines for portioning the product into individual servings should be given on the recipe.
- A serving utensil should be identified for each product.
- Weights of these actual servings should be compared to the calculated serving weight to ensure portioning is being done correctly.
- If the desired serving size is not achieved when verifying the yield, changes in the recipe, portioning, or ingredient amounts may be needed.

Nutrient Analysis — Instruction (10 Minutes)

Objective

Review the process of conducting a nutrient analysis of the recipe.

Discuss

- Once the correct yield has been verified, the next step is to re-analyze the recipe using USDA-approved Nutrient Analysis Software.

URL: https://www.fns.usda.gov/tn/usda-approved-nutrient-analysis-software
(Paste URL in Chat for participants to bookmark)

- Performing an accurate nutrient analysis is critical to evaluating menus and menu documentation.
- Even small changes to a recipe can have a massive impact on the overall contribution to meal pattern requirements and nutrition standards.
- Each SFA should establish a nutrient threshold for each recipe category.
    - Example: A side dish may contain no more than 200 mg of sodium and no more than 225 calories.
- Review the recipe in the Nutrient Analysis Software by:
    - Verifying the nutrition labels of products is the same as when the recipe was first designed.
    - Verify all changes to ingredient quantities (measurements) have been reconciled and are accurate in the local Nutrient Analysis Software system.
- Changes to ingredient quantities can impact:
    - Meal pattern compliance
    - Nutritional values of the recipe
- The USDA has approved several software programs for conducting the Nutrient Analysis of recipes.
    - Visit www.fns.usda.gov/tn/usda-approved-nutrient-analysis-software for an up-to-date listing of approved software.
- USDA released *Nutrient Analysis Protocols: How to Analyze Menus for USDA's School Meals Programs*. The resource provides a thorough overview of Menu Analysis for schools.
    - Visit https://www.fns.usda.gov/tn/Nutrient-Analysis-Protocols-Manual

Key Message

- The purpose of the nutrient analysis is to determine compliance with school meal regulatory requirements for calories, saturated fat, added sugar, and sodium and to monitor these dietary components' levels in school meals.

Class Discussion Prompts

Review *Recipe Nutrient Analysis – A Five-Step Process* with the participants.

- Does anyone have any best practices for conducting a Nutrient Analysis of their recipe, which they would like to share?
- Has anybody experienced a situation where the manufacturer changed the nutritional value of a product you used in a recipe?
- How did it impact your Nutrient Analysis?

Recipe Nutrient Analysis – A Five-Step Process for Operators

STEP 1 Gathering Materials

- Nutrient information for ingredients used in recipes that are not already loaded (included) into the software database.
    - Collect Nutrition Facts labels or the manufacturer's nutrient data statement (spec sheet) from the food items in the recipe.
    - Use the USDA Nutrient Database, USDA FoodData Central, for food items without a Nutrition Facts label.
        - FoodData Central: https://fdc.nal.usda.gov/

STEP 2 Entering Food Items (Ingredients) into the Database

Operators are encouraged to work with their software vendor to access training on how to complete this step in the specific software program used by the School Food Authority.

- Assign each new food product an identification number. Some software programs will auto-assign numbers.
- Enter a description of the food item/ingredient.
- Enter or select a food category for the food item/ingredient.
- Identify the source of the data as "Local," "school name," or "user-added."
- If the product is commercially prepared, enter the name of the manufacturer and/or brand name.
- Enter the unit(s) of measurement for the food item/ingredient.
- Enter the nutrient composition information.
    - Include information from the product's Nutritional Labels or the USDA Nutrient Database.
    - Include weight and volume measurements.
- Ensure all ingredients are accounted for.
    - If the Nutrition Facts label or the manufacturer's nutrient data statement indicates there is an insignificant amount of a nutrient, enter zero ("0") for the nutrient value.

STEP 3 Adding the Recipe to the Local Database

Operators are encouraged to work with their software vendor to access training on how to complete this step in the specific software program used by the School Food Authority.

- Recipes' nutrient analyses are based on the form in which the food is consumed. If quantity recipes include raw ingredients that will be cooked or further prepared before consumption, they will need to be converted to the ingredient's edible prepared or cooked form. This is referred to as the Yield Factor Method (utilize the *Food Buying Guide for Child Nutrition Programs* (FBG) to obtain the Yield Factor for ingredients).
- Basic Rules for the Yield Factor Method
    - Use the form and portion of the food as served.
    - Select raw if not heated or cooked.
    - If cooked before serving, select cooked (or a cooked preparation method) using the database food code for the cooked ingredient.
    - Convert the amount to the prepared amount (yield after preparation or cooking).

STEP 4 Entering Specific Menu Planning Data

- Identify the age group for the recipe.
- Identify the meal type – breakfast or lunch.
- Determine the number of servings and serving size.

STEP 5 Evaluating the Recipe for Dietary Specifications Requirements

- Review the SFA established nutrient threshold for menu items.
- Review any changes in the quantity and/or product specifications of the recipe ingredients – adjust as needed.

Product Evaluation Phase – Introduction (10 Minutes)

Objectives

- Summarize the product evaluation phase.
- Describe the informal evaluation process.
- Describe the formal evaluation process.

Instructor's Note: Inform participants that this evaluation will take place on Day 4.

Discuss

- Product evaluation follows the recipe verification phase and is an important part of the recipe standardization process. It will help determine the acceptability of the recipe and will provide objective information that can be used to further improve the recipe.
- Recipe evaluation should include the manager, foodservice staff members, and customers (can include students, teachers, administrators, and parents). As a best practice, a minimum of 50 students (from NSLP participating schools) should be included in the taste testing.
- Two types of evaluation occur in the evaluation phase: informal and formal. The recipe needs to pass the informal evaluation before it goes on to the formal evaluation.
- Best practices for conducting and assessing student evaluations.

Evaluation Process Informal and Formal— Instruction (10 Minutes)

Discuss

- **Informal evaluation** is an important first step in the Evaluation Process.
- Begin with the recipe development team as taste testers.
    - An assessment is made of whether efforts to standardize the recipe should continue.
    - Use the *Food Product Evaluation Form* located in the Participant's Workbook.
- Three decisions are possible as a result of the informal evaluation.
    1. If the product was found to be unacceptable based on several of the informal evaluation criteria, the decision might be made to discontinue any further work on standardizing the recipe.
    2. If most of the informal evaluation criteria were drafted as acceptable, the recipe might go back to the verification phase to allow for changes to be made to the recipe and a new version of the recipe prepared.
    3. If all evaluation criteria were rated as acceptable in the informal evaluation, then the recipe may be prepared for formal evaluation.
- The **formal evaluation** occurs after successfully completing the informal evaluation process when the foodservice staff believes a recipe has potential for service in their operation.

Procedures for Conducting a Formal Evaluation

- Procedures for conducting a formal evaluation of the recipe include:
- Select a group(s) of people to taste the sample recipe.
    - School foodservice staff members, students, and other customers should evaluate recipes during the formal evaluation of the recipe.
    - Keep the group size manageable when evaluating a recipe. Usually, 10 or fewer people should sample a food item at a given time.
- Choose an evaluation form. The evaluation form used should be appropriate for the age of the group members who are sampling the food items.
    - It should address the questions the school foodservice manager and employees want answered, be easy for the evaluators to read and complete, and provide the information needed to adequately evaluate the product.

- Two sample evaluation forms are included in this manual.
  - One was developed for use with older students and staff members, and the other for younger children.
- Evaluation forms designed for specific food products can be obtained from the ICN.
  - When developing an evaluation form, consider:
    - What questions need to be answered?
    - Who will fill out the form?
    - How will the results be tallied?

Preparing the Sample Recipe Process

- Once a group has been selected to sample the product(s) and an evaluation form has been selected, the recipe can be prepared for evaluation. Typically, recipes for sampling are made in small quantities, such as 25 servings.
- Set up sampling areas - The area to be used for sampling should be prepared with drinking water, eating and serving utensils, napkins, evaluation forms, and pens or pencils.
- If more than one food item is being evaluated, evaluators should be provided with unsalted soda crackers to nibble between foods. The cracker will help prevent flavor carryover from the first food.
- Seat evaluators apart to prevent them from talking with each other during the evaluation and influencing the ratings.

Taste and Evaluate Process

- Tasting procedures should be explained to those who will be evaluating the product, and the evaluation form should be reviewed with them prior to tasting.
  - Remind evaluators of the importance of not making facial expressions or verbal comments about the food during the tasting. If asking for an evaluation of qualities such as moistness and/or temperature, explain what these terms mean.

Summarizing the Results Process

- The evaluation form used will help determine the way results are summarized.
- When evaluating a product, the total score, mean score, and individual attribute ratings should be reviewed.

Determine if Recipe Is Acceptable

- Based on the formal evaluation results, the recipe will be accepted as is, rejected, or changed.
    - If the formal evaluation comments are positive and the recipe is accepted as is, no further changes in ingredients will be needed. At this point, a decision is made on whether the recipe is in the correct quantity or not. If a different yield is needed, the recipe moves to the quantity adjustment phase of the recipe standardization process.
    - If no additional quantity adjustment is needed, the recipe is considered standardized.
    - If the evaluation comments are very poor, the recipe likely will be rejected, and no further work will be done to standardize it for an operation.
    - If the evaluation comments were neither very good nor very poor, additional work on the recipe might be needed. This likely would mean that the recipe would go back through the verification phase with changes being made to ingredients, preparation directions, or cooking procedures.

Key Message

- Getting feedback from taste testers is key. If the taste testers do not like the recipe, it needs to be re-evaluated.

Class Discussion Prompts

- What are some successful strategies you have used for conducting taste-testing events?
- What has proven to be the most effective way to collect feedback in your program?

Evaluating Student Acceptability (Small Scale) — Instruction (10 Minutes)

Objective

Review the process for evaluating student acceptability of the recipe.

Discuss

- The key stakeholders in the school nutrition program are the students served by the program. Meeting their needs and expectations is important for the overall health of your program.
- Getting students' feedback is the final step in the recipe standardization process.
    - The best way to evaluate student acceptability is to conduct taste-testing with the students and collect their feedback.
- To conduct a taste test of a new recipe, keep the group size manageable.
- Develop an appropriate survey for the age group completing the form and keep it simple.
- Gathering feedback may take various forms:
    - Paper surveys
    - Posters with stickers – "Loved it," "Liked it," "Not really my thing," "No thank you."
    - Facilitated questions with a show of hands
    - Online surveys
    - Ballot boxes
- When developing a survey, consider the following:
    - What questions need to be answered?
    - Who will fill out the form?
    - How will the results be tallied?
- Suggested methods for conducting a taste-test event include:
    - Sample station in the cafeteria
    - Incorporated into a nutrition education lesson
    - In conjunction with a visit from a local farm/rancher/fisher highlighting an ingredient
    - Part of a student leadership group meeting
    - Work with school administration to make being a "taste tester" a reward

Key Message

Students are the primary customer. Getting their feedback is key. No matter how much the adults may like a recipe, if the students are not receptive, the recipe needs to be re-evaluated.

Class Discussion Prompts

- What are some successful strategies you have used for conducting taste-testing events?
- What has proven to be the most effective way to collect student feedback in your program?

Taste Testing Survey Templates

(For Elementary Students)

For younger grades (3rd and below), provide emoji faces to select the answer.

Recipe Name _____

Please read the following questions and select your answer.

(For younger students, staff may need to read the questions to the student.)

1. Do you like the way this food looks?
   - ◯ Yes
   - ◯ No
   - ◯ Don't know

2. Does it smell good to you?
   - ◯ Yes
   - ◯ No
   - ◯ Don't know

3. Do you like the taste?
   - ◯ Yes
   - ◯ No
   - ◯ Don't know

4. Would you try this food item if it were served in your school cafeteria?
   - ◯ Yes
   - ◯ No
   - ◯ Don't know

Comments:

Food Product Evaluation Form

(For Foodservice Staff, Students, and Teachers)

Recipe Name _____

Please rate this product using the scale provided.

	Very Undesirable	Moderately Undesirable	Neither Desirable nor Undesirable	Moderately Desirable	Very Desirable
The **appearance** of the food	1	2	3	4	5
The **taste** of the food	1	2	3	4	5
The **temperature** of the food	1	2	3	4	5
The **texture** of the food	1	2	3	4	5
The **overall acceptability** of the food	1	2	3	4	5

Total Score _____

Comments:

Quantity Adjustment Phase — Instruction (30 Minutes)

Objectives

- Identify the methods for adjusting the quantity yields for recipes.
- Discuss information for adjusting recipes.

When a recipe has been evaluated positively in the evaluation phase but is not in the desired quantity, it would move to the quantity adjustment phase of recipe standardization. Several methods can be used to adjust a recipe to get to the desired number of servings (yield).

Instructor's Note: Participants will have an option to do this in the afternoon on Day 5. This is encouraged, especially if they feel they need help from the instructor. There is also an option to do this after the workshop.

Discuss

- Once a recipe is accepted, you need to adjust it for quantity production.
- While many schools have software that will adjust recipes, all staff members need to receive training on quantity adjustment for recipes to understand the process.
- There are several ways to increase or decrease the ingredients in a standardized recipe, which is the process of scaling a recipe.
- The factor method is often used in school nutrition programs during standardization.
- Other methods include:
    - Direct reading tables method
    - Percentage method
    - Computerized recipe adjustments

Factor Method of Recipe Adjustment

- The factor method for adjusting recipes involves mathematical calculations and is the most commonly used manual adjustment method.
- Determine the factor to be used.
- Multiply each ingredient quantity by the factor.
- Change the amounts into more common measurements.

Key Message

- When a recipe has been evaluated positively but is not in the desired quantity, it moves to the quantity adjustment phase of the recipe standardization process.
- Using the factor method, you can adjust the yield of a standardized recipe for your school meals program.
- As your team completes recipe standardization, you may find modifications necessary to create the quality and quantity required. Always test and standardize recipes before including them in your school nutrition program menus.

Class Discussion Prompts

- Review the Factor Method Steps to Adjust Recipe Yield.
- Mention that the Comparison of Standardized Recipe Adjustment Methods highlights other possible methods. For the sake of training time, the review can be completed on the participant's own time.

Class Activity

Review the *ACTIVITY: Factor Method* with the participants. Allow each group 5 minutes to complete the activity.

Instructor's Note: For the common measure column, refer participants to the Weight and Volume Conversions Chart.

- Divide participants into five breakout room groups.
- Allow each group 5 minutes to complete the activity.

Factor Method Steps to Adjust Recipe Yield

- Using the factor method, you can adjust the yield of a standardized recipe for your school nutrition program. Three steps in the process include:
- Determine the factor to be used: the desired yield ÷ current yield = factor.
    - Multiply each ingredient by the factor: current measure x factor = new measure.
    - Change amounts into more common measurements: a new measure may not convert to a useful measure.
- Here is an example of increasing a recipe for the first two steps:
    - Determine the factor to be used: desired yield ÷ current yield = factor
        - Example:
          250 (desired serving yield) ÷ 100 (current serving yield) = 2.5 (factor).
        - Multiply each ingredient by the factor:
          current measure x factor = new measure
        - Example:
          5 pounds (current measure for 100 servings) x 2.5 (factor) = 12.5 pounds (measure for 250 servings).
- Here is an example of decreasing a recipe for the first two steps:
    - Determine the factor to be used: desired yield ÷ current yield = factor
        - Example:
          125 (desired serving yield) ÷ 250 (current serving yield) = 0.5 (factor).
        - Multiply each ingredient by the factor:
          current measure x factor = new measure
        - Example:
          5 pounds (current measure for 250 servings) x 0.5 (factor) = 2.5 pounds (measure for 125 servings).

Note: The factor to decrease a recipe is always less than 1; the factor to increase a recipe is always greater than 1.

- Then, if necessary, use the third step:
    - Change amounts into more common measurements: a new measure may not convert to a useful measure.
        - Example: A recipe for 50 servings calls for ⅔ cup (0.66 cups) shredded carrots; the amount for 300 servings is 3.96 cups of shredded carrots — convert to 1 quart.
        - Example: A recipe for 100 servings calls for 2 cups of diced onions; the amount for 60 servings is 1.2 cups—convert to 1¼ cups of diced onions.

- Some ingredients require special attention during recipe standardization. These ingredients do not increase or decrease proportionately:
    - Herbs and spices
    - Leavening agents – baking powder, soda, and yeast
    - Thickening agents – flour, cornstarch, and eggs
    - Liquids – water and juice.
- The best method to determine the quantities of these specific ingredients is to prepare the recipe.

Comparison of Standardized Recipe Adjustment Methods

Method	Advantages	Disadvantages	Initial Recipe	Final Recipe
Factor Method	◆ Can be used for most recipes ◆ Easy to use	◆ Math skills required*	◆ Can start with any recipe and desired yield	◆ Final recipe can yield any number of servings desired
Direct Reading Tables Method	◆ Minimal math skills required	◆ Direct reading tables must be available ◆ Must know how to read tables ◆ Can only be used for yields in multiples of 25	◆ Must have yield of 25 servings or multiples of 25 servings	◆ Yield of 25 servings or multiples of 25 servings (i.e.,200, 175, 500)
Percentage Method	◆ Further adjustments to a single recipe are easy after initial ingredient percentages are calculated	◆ Many steps in the process ◆ Math skills required ◆ Must use weights for all ingredients ◆ Must calculate and adjust for handling loss	◆ Can start with any recipe and yield ◆ Initial recipe ingredients must be in weights	◆ Yield can be any amount desired ◆ All final ingredients are in weights
Computerized Recipe Adjustment	◆ Adjustments are easy after recipe entered into system ◆ No math skills needed	◆ Computer programs can be expensive ◆ Some programs require ingredients to be entered in weights only ◆ Ingredient quantities may be listed in decimals	◆ Can start with any recipe and desired yield	◆ Final recipe can yield any number of servings desired

*Visit www.TheICN.org to enroll in the *Basic Culinary Math* eLearning series.

ACTIVITY: Factor Method

Instructions:

Using the Factor Method, adjust the Broccoli Salad recipe below to determine the amount of each ingredient needed to make 225 servings.

To assist in completing the common measure column, please use the Weight and Volume Conversions Chart.

The measure of some ingredients will need to be converted to simplify the math equation.

Broccoli Salad **Desired Yield: 225** **Current Yield: 100** **Factor: _____**

Ingredients	100 Servings (Recipe Amount)	Converted Quantities	Factor	225 Servings (Calculated Amount)	225 Servings (Calculated Amount)
Broccoli, fresh	13 lb 8 oz				
Mayonnaise, low-fat	2 qt				
Sugar	2 lb				
White Vinegar	½ cup				
Milk, low-fat	⅓ cup				
Cranberry, dried	1 qt + 3½ cups				

ACTIVITY: Factor Method (Answer Key)

Instructions:

Using the Factor Method, adjust the Broccoli Salad recipe below to determine the amount of each ingredient needed to make 225 servings.

The measure of some ingredients will need to be converted to simplify the math equation.

Broccoli Salad **Desired Yield: 225** **Current Yield: 100** **Factor: 2.25**

Ingredients	100 Servings (Recipe Amount)	Converted Quantities	Factor	225 Servings (Calculated Amount)	225 Servings (Calculated Amount)
Broccoli, fresh	13 lb 8 oz	13.5 lb	2.25	30.375 lb	30 lb 6 oz
Mayonnaise, low-fat	2 qt	2 qt	2.25	4.5 qt	4 qt + 1 pt
Sugar	2 lb	2 lb	2.25	4.5 lb	4 lb 8oz
White Vinegar	½ cup	0.5 cup	2.25	1.125 cups	1 cup + 2 Tbsp
Milk, low-fat	⅓ cup	0.333 cup	2.25	0.759 cup	¾ cup
Cranberry, dried	1 qt + 3½ cups	7.5 cups	2.25	16.875 cups	4 qt + ⅞ cup

Step 1: Determine the "factor" to be used

The factor is determined by dividing the desired yield in servings (225) by the current yield in servings (100).

$$225 \div 100 = 2.25$$

Step 2: Multiply each ingredient quantity by the "factor."

Several conversions could be done before multiplying to simplify the math. For example, the 13 lb 8 oz of fresh broccoli could be converted to 13.5 lb; the ½ cup of white vinegar could be converted to 0.5 cup.

Step 3: Change amounts into more common measurements.

Once the new quantities have been calculated, conversion to more common measures may be needed. For example, if an operation weighs ingredients in pounds and ounces, the 30.375 lb of fresh broccoli could be converted to 30 lb 6 oz.

School Meal Service Pilot — Instruction (10 Minutes)

Discuss

- After standardizing your recipe, piloting the recipe as part of a school meal service will help you:
    - Get school nutrition staff feedback on whether the recipe will work as part of the school's meal service.
        - Determine if the recipe directions are clear and appropriate for the environment in which it will be prepared.
- Based upon feedback from staff and the outcome of the meal service, the recipe may be accepted as is; adjusted and re-tested; or rejected.
    - Evaluate student acceptability and feedback on the standardized recipe with a wider sample of taste testers.

Staff Training — Instruction (10 Minutes)

Instructor's Note: This step will not take place during the week-long workshop but we will review it today for your use in the future.

Discuss

- Staff buy-in is an essential part of recipe development and implementation.
- Including staff early in the process creates buy-in as the staff is part of the decision-making team.
- When reviewing the recipe with staff, it is critical to evaluate their comfort with producing the recipe. Comfort levels often depend on effective training.
    - Has the staff been provided with the training they need to produce the recipe?
    - What level of training do they need to increase their skillset?
    - Do they understand and know how to execute the recipe directions?
- Include the entire staff, not just the production team, in the evaluation of the recipe. It is important for the people serving the food to also be excited to serve the recipe.
- Beyond the skillset of producing the recipe, it is important to train the staff on how to market the recipe to students.
- Presentation of the Food
    - The term "we eat with our eyes first" is very accurate as we see our food before consuming it.
    - A service line should be set up to draw the eye in by highlighting the colors, textures, freshness, and variety of food being offered is a free marketing tool at your disposal.
    - A best practice to ensure your line setup is visually appealing is to view them from the customer's perspective. Hold a pre-service meeting with staff and walk through the service line viewing it through the lens of a customer.
- Presentation of the Serving Lines
    - You may not have control of how the cafeteria space looks, but you do have control over how your serving lines look.
    - Ensure the serving lines are inviting and appealing.

- Appearance and Perception of the Staff
    - Students easily read verbal and nonverbal cues. Ensure the staff communication creates a positive message about the food item being served.
    - When the staff is invested in providing great customer service, they help market your program at the point of service, creating a pleasurable dining experience for your customer and elevating your business's overall perception.

Key Message

- Proper staff training is key to successfully implementing new menu items and recipes.

Class Discussion Prompts

- How do you train staff to produce new recipes?
- How does your staff encourage students to try new menu items?

Evaluating Student Acceptability (Large Scale) — Instruction (5 Minutes)

Instructor's Note: This step will not take place during the week-long workshop but we will review it today for your use in the future.

Discuss

- The key stakeholders in the school nutrition program are the students served by the program. Meeting their needs and expectations is important for the overall health of your program.
- When evaluating the new recipe as part of the pilot meal service, consider a student survey or other way to collect feedback:
    - Paper surveys
    - Posters with stickers – "Loved it," "Liked it," "Not really my thing"
    - Facilitated questions with a show of hands
    - Online surveys
    - Ballot boxes
- When developing a survey, consider the following:
    - What questions need to be answered?
    - Who will fill out the form?
    - How will the results be tallied?

Key Message

- Students are the primary customer. Getting their feedback is key. No matter how much the adults may like a recipe, if the students are not receptive, the recipe needs to be re-evaluated. Sometimes how the recipe is served on the line may affect student feedback regarding the quality or taste of the food.

Class Discussion Prompts

- What are some successful strategies you have used to get feedback on new food items served in the cafeteria?
- What has proven to be the most effective way to collect student feedback in your program?

Taste Testing Survey Templates

Food Product Evaluation Form

(For Elementary Students)

Recipe Name _____

Please read the following questions and select your answer.

(For younger students, staff may need to read the questions to the student.)

1. Do you like the way this food looks?
   - ◯ Yes
   - ◯ No
   - ◯ Don't know

2. Do you like the taste?
   - ◯ Yes
   - ◯ No
   - ◯ Don't know

3. Would you try this food item if it were served in your school cafeteria?
   - ◯ Yes
   - ◯ No
   - ◯ Don't know

Comments:

Food Product Evaluation Form

(For Foodservice Staff, Students, and Teachers)

Recipe Name _____

Please rate this product using the scale provided.

	Very Undesirable	Moderately Undesirable	Neither Desirable nor Undesirable	Moderately Desirable	Very Desirable
The **appearance** of the food	1	2	3	4	5
The **taste** of the food	1	2	3	4	5
The **temperature** of the food	1	2	3	4	5
The **texture** of the food	1	2	3	4	5
The **overall acceptability** of the food	1	2	3	4	5

Total Score _____

Comments:

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QUALITY SCORE CARDS

Quality Score Cards

Discuss

- Review a Quality Score Card from the handouts.
- The Quality Score Card is a tool designed to assist you in establishing the quality standards you expect for food items served in your kitchen(s). Each card describes how the food should look and taste when it is prepared correctly. The ideal service temperature is also shown on the card.

Quality Score Card for Dry Beans, Peas, and Lentils

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Product appears moist, but not watery.	○	○	○	
Beans, peas, and lentils retain their shape.	○	○	○	
No oil or fat is visible.	○	○	○	
TEXTURE OR CONSISTENCY				
Product has a soft texture.	○	○	○	
Product is moist, not dry.	○	○	○	
Product gives little resistance to bite.	○	○	○	
FLAVOR AND SEASONING				
Flavor is distinctive for the specific beans, peas, and lentils.	○	○	○	
Product is free from a scorched or burned taste.	○	○	○	
Seasonings are well blended.	○	○	○	
SERVICE TEMPERATURE				
135 °F or above	○	○	○	

Quality Score Card for Salads

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Bright color is typical of the fresh greens.	○	○	○	
Bright color is typical of other fresh ingredients (no discoloration).	○	○	○	
Salad appears moist, not dry or excessively wet.	○	○	○	
Salad ingredients appear crisp, not limp.	○	○	○	
Garnish is edible and appropriate for the salad.	○	○	○	
TEXTURE OR CONSISTENCY				
Salad ingredients are crisp, not soggy.	○	○	○	
Meat or pasta/rice salads are tender but not mushy.	○	○	○	
FLAVOR AND SEASONING				
Salad ingredients have a fresh, distinctive flavor.	○	○	○	
Seasonings enhance the salad but are not too salty or too tart.	○	○	○	
A variety of salad dressings are available.	○	○	○	
SERVICE TEMPERATURE				
Chilled – 34 °F – 38 °F	○	○	○	

Quality Score Card for Cooked Vegetables

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Bright color typical of the vegetable.	○	○	○	
Vegetable pieces are similar in size.	○	○	○	
Vegetable pieces are intact (pieces are not overcooked with a mushy appearance).	○	○	○	
Garnish is edible and appropriate for the dish.	○	○	○	
TEXTURE OR CONSISTENCY				
Vegetable is fork-tender (slightly crisp and not overcooked).	○	○	○	
All pieces of the vegetable have the same texture.	○	○	○	
Vegetables in casserole-type recipes are well blended, tender, and identifiable.	○	○	○	
FLAVOR AND SEASONING				
Vegetable has a definite, good flavor.	○	○	○	
Seasonings are detectable but not overpowering.	○	○	○	
Seasonings enhance the vegetable flavor.	○	○	○	
A minimal amount of salt has been added (according to recipe if applicable).	○	○	○	
If a sauce is used, it complements the vegetable (mild, not overpowering).	○	○	○	
SERVICE TEMPERATURE				
Hot – 135 °F or above	○	○	○	

Quality Score Card for Fresh Fruits and Fruit Menu Items

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Color is typical of the ripe fruit(s).	○	○	○	
Color is fresh (not marred by discoloration from oxidation).	○	○	○	
Fruit pieces are similar in size.	○	○	○	
Fruit pieces are intact.	○	○	○	
Garnish is edible and appropriate for the dish.	○	○	○	
TEXTURE OR CONSISTENCY				
Fruit is at the peak of ripeness.	○	○	○	
All pieces of the fruit have the same texture.	○	○	○	
FLAVOR AND SEASONING				
Fruits have a pleasing, slightly sweet, ripe flavor.	○	○	○	
If seasonings have been used, they are detectable but not overpowering.	○	○	○	
Seasonings enhance the fruit flavor.	○	○	○	
If a dressing or sauce is used, it complements the fruit (mild, not overpowering).	○	○	○	
SERVICE TEMPERATURE				
Chilled – 34 °F – 38 °F	○	○	○	

Quality Score Card for Baked Fruits and Fruit Desserts

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Fruit pieces are similar in size.	○	○	○	
Fruit pieces are intact.	○	○	○	
Garnish is edible and appropriate for the dish.	○	○	○	
Pastry or topping has a golden brown color.	○	○	○	
Pastry has a blistery surface.	○	○	○	
TEXTURE OR CONSISTENCY				
All pieces of the fruit have the same texture.	○	○	○	
Pastry has a flaky or mealy texture.	○	○	○	
Pastry cuts easily.	○	○	○	
FLAVOR AND SEASONING				
Fruits have a pleasing, slightly sweet, ripe flavor.	○	○	○	
If seasonings have been used, they are detectable but not overpowering.	○	○	○	
Seasonings enhance the fruit flavor.	○	○	○	
Pastry has a pleasant, bland flavor.	○	○	○	
SERVICE TEMPERATURE				
Pastry Dessert – 60 °F – 70 °F	○	○	○	
Hot Baked Fruit – 135 °F or above	○	○	○	

Quality Score Card for Meat, Poultry, and Fish

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Product appears moist.	○	○	○	
Product has been trimmed of any excess visible fat.	○	○	○	
Product has been drained and no cooking fat is visible.	○	○	○	
Color is a rich brown, characteristic of the meat, poultry, or fish item.	○	○	○	
Browning is even and correct for the product (not too brown).	○	○	○	
Portions are uniform in size.	○	○	○	
TEXTURE OR CONSISTENCY				
Product is tender and easily chewed.	○	○	○	
Product can be pierced with a fork with minimum pressure.	○	○	○	
Product is firm and moist.	○	○	○	
FLAVOR AND SEASONING				
Product is juicy.	○	○	○	
Flavor is fresh and appropriate for the product (no refrigerator taste or freezer burn).	○	○	○	
Seasonings enhance but do not overpower the taste (no greasy taste, not too much salt).	○	○	○	
SERVICE TEMPERATURE				
Meat and poultry products served hot – 135 °F or above	○	○	○	
Meat and poultry products served cold – 40 °F or above	○	○	○	

Quality Score Card for Sandwiches

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
The proportion of sandwich filling to bread is balanced.	○	○	○	
Vegetable accompaniments are attractive and not wilted.	○	○	○	
If sandwich is toasted, the color of the bread is even and golden.	○	○	○	
TEXTURE OR CONSISTENCY				
Sandwich bread is fresh.	○	○	○	
Crumb is moist but not doughy.	○	○	○	
Vegetables, if used, are crisp.	○	○	○	
FLAVOR AND SEASONING				
Flavors of the filling, spread, and accompaniments complement each other.	○	○	○	
Bread is free from foreign flavors such as rancid fat or sour taste.	○	○	○	
SERVICE TEMPERATURE				
Cold sandwiches: 34 °F – 38 °F	○	○	○	
Hot sandwiches: 135 °F or above	○	○	○	

Quality Score Card for Quick Breads

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Color is evenly light to golden brown.	○	○	○	
Sides are even and straight.	○	○	○	
Muffins have slightly rounded tops with no cracks.	○	○	○	
Muffins have rough, pebbled tops.	○	○	○	
Biscuits have level tops with no bumps.	○	○	○	
TEXTURE OR CONSISTENCY				
Crust is tender.	○	○	○	
Crumb is moist but not doughy.	○	○	○	
Texture is even without large holes or tunnels.	○	○	○	
Bread breaks easily without crumbling.	○	○	○	
FLAVOR AND SEASONING				
Bread is fresh-tasting.	○	○	○	
Bread is free from foreign flavors such as rancid fat or sour taste.	○	○	○	
Flavor is light and pleasing.	○	○	○	
SERVICE TEMPERATURE				
60 °F – 120 °F	○	○	○	

Quality Score Card for Yeast Breads

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Color of crust is golden brown.	○	○	○	
Color is smooth, free from air bubbles.	○	○	○	
Slices of bread are uniform in size.	○	○	○	
Rolls are uniform in size.	○	○	○	
Color of the interior is creamy white (or light brown, depending on the type of flour used).	○	○	○	
TEXTURE OR CONSISTENCY				
Crust is tender (French bread or other hard crust breads should have a crisp crust).	○	○	○	
Product is moist.	○	○	○	
Product is fine and even (free from holes).	○	○	○	
Crumb is elastic.	○	○	○	
FLAVOR AND SEASONING				
Bread is fresh-tasting with nut-like flavor.	○	○	○	
Bread is free from foreign flavors such as rancid fat or sour taste.	○	○	○	
SERVICE TEMPERATURE				
No lower than 60 °F	○	○	○	

Quality Score Card for Sauces

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
No lumps are visible.	○	○	○	
There is no visible fat or scum.	○	○	○	
Color is consistent with the main ingredients.	○	○	○	
The sauce/gravy appears fresh, not too jellied.	○	○	○	
TEXTURE OR CONSISTENCY				
Thickness is about like corn syrup.	○	○	○	
There are no lumps.	○	○	○	
Added ingredients are fork-tender.	○	○	○	
FLAVOR AND SEASONING				
Seasonings are balanced with no one additive predominant (salt is not an obvious taste).	○	○	○	
Thickener has been thoroughly cooked, so there is no starchy taste.	○	○	○	
True flavor with no taste of burned thickener or off-flavor.	○	○	○	
The sauce or gravy complements the food item.	○	○	○	
SERVICE TEMPERATURE				
135 °F or above	○	○	○	

Quality Score Card for Eggs

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Product appears moist, but not watery.	○	○	○	
No oil or fat is visible.	○	○	○	
Egg yolk is bright yellow and white is opaque, with no evidence of greening.	○	○	○	
TEXTURE OR CONSISTENCY				
Product is fork-tender.	○	○	○	
Product is moist, not dry.	○	○	○	
Food items within the product have a defined texture.	○	○	○	
Egg mixture is soft, without accumulated water (weeping).	○	○	○	
FLAVOR AND SEASONING				
Ingredients have a balanced taste.	○	○	○	
Product is free from a burned taste or off-flavor.	○	○	○	
Seasonings are well blended.	○	○	○	
SERVICE TEMPERATURE				
135 °F or above	○	○	○	

Quality Score Card for Dairy Products

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Product appears moist, but not watery.	○	○	○	
Cheese topping is melted, but not stringy.	○	○	○	
No oil or fat is visible.	○	○	○	
TEXTURE OR CONSISTENCY				
Product is fork-tender.	○	○	○	
Product is moist, not dry.	○	○	○	
Food items within the product have a defined texture.	○	○	○	
FLAVOR AND SEASONING				
Ingredients have a balanced taste.	○	○	○	
Product is free from a burned taste or off-flavor.	○	○	○	
Seasonings are well blended.	○	○	○	
SERVICE TEMPERATURE				
135 °F or above	○	○	○	

Quality Score Card for Soups

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Ingredients do not appear overcooked.	○	○	○	
There is no visible fat or scum.	○	○	○	
Color is consistent with the main ingredients.	○	○	○	
TEXTURE OR CONSISTENCY				
Thickness is appropriate for type of soup.	○	○	○	
Added ingredients are fork-tender.	○	○	○	
FLAVOR AND SEASONING				
Seasonings are balanced with no one additive predominant (salt is not an obvious taste).	○	○	○	
If a thickener is used, it has been thoroughly cooked, so there is no starch taste.	○	○	○	
True flavor with no taste of burned ingredients or off-flavor.	○	○	○	
The ingredients of the soup complement each other.	○	○	○	
SERVICE TEMPERATURE				
150 °F – 170 °F	○	○	○	

Quality Score Card for Pasta, Rice, Grains

Date: _____ Name of Menu Item: _____

Proudly Prepared by _____

Quality Scored by _____

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

QUALITY STANDARD	YES	NO	NA	COMMENTS
APPEARANCE				
Pasta strands or pieces are distinct.	○	○	○	
Rice grains are intact (still whole).	○	○	○	
Grains/cereals have distinct particles, grains or flakes.	○	○	○	
Product is moist but not watery.	○	○	○	
No oil or fat is visible.	○	○	○	
TEXTURE OR CONSISTENCY				
Pasta pieces are tender (*al dente*) but not gummy	○	○	○	
Rice/grains are firm, but tender, fluffy.	○	○	○	
Cereal is thick but not gummy.	○	○	○	
Product does not have lumps.	○	○	○	
FLAVOR AND SEASONING				
Flavor is bland, but does not taste starchy.	○	○	○	
Flavor is typical of the grain.	○	○	○	
Product is free from a scorched or burned taste.	○	○	○	
A mixed dish is well seasoned but not to excess.	○	○	○	
SERVICE TEMPERATURE				
Hot pasta, rice, and grain dishes — 135 °F or above	○	○	○	
Cold pasta, rice, and grain salads — 34 °F — 38 °F	○	○	○	

Day 1: Conclusion (5 Minutes)

Discuss

- In day 1 of the workshop, we have reviewed the USDA Recipe Standardization Process and the steps for piloting a standardized recipe as part of the school meal service.
- Ask participants if they have any final thoughts or questions.
- Thank the participants for their time and attention.
- Remind participants about the time and date of Day 2, and give a quick overview of the itinerary.

Day 2: FBG, RAW, and Recipe Writing

Day 2
Morning Meeting: ◆ Review Plan for the Day: ◆ Review the *Food Buying Guide for Child Nutrition Programs* (FBG) and *Recipe Analysis Workbook* (RAW). ◆ Discuss the recipes each participant will be developing. ◆ Draft the initial recipe using your nutrient analysis software and FBG. ◆ End of day meeting – **Establish the time the group will reconvene for the end of day meeting.**
Mid-Day Check-in (as needed): The instructors will be available via Zoom throughout the day to provide assistance to the participant(s) as needed. The instructors need to establish a break time in which they will not be immediately available to answer questions or provide assistance. The break time needs to be communicated prior to dismissing the participants for the on-site activities.
End of Day Meeting ◆ Each participant summarizes their work for the day ◆ Successes and challenges of the day ◆ Answer any questions ◆ Short preview of Day 3

Food Buying Guide for Child Nutrition Programs (FBG) and Recipe Analysis Workbook (RAW) — (120 Minutes)

Learning Goal

Familiarize participants with the *Food Buying Guide for Child Nutrition Programs* (FBG) and *Recipe Analysis Workbook* (RAW).

Objective

Summarize the basic components of the FBG and RAW.

Introduction Talking Points

- It is a big and important job to plan, purchase, prepare, and serve nourishing meals for the USDA Child Nutrition Programs. Every day, your work helps fight hunger and improve the nutritional health of children and adults in America.
- The FBG is a resource designed to help you:
    - Purchase the right amount of food in the most cost-effective way.
    - Determine the specific contribution each food makes toward the meal pattern requirements. (This is necessary to ensure that meals provide balanced nourishment and meet program requirements for reimbursement.)
- The FBG was first published in 1947.
- It is updated as needed to reflect updated meal pattern requirements, add new foods, and reflect changes in processing technology or packaging that may affect yield.
- The RAW is a tool used to determine the expected meal pattern contribution and crediting statement for a recipe.
- The RAW consists of a worksheet for each meal component.
- Determining meal pattern contributions for recipes is an important step in ensuring that meals served are nutritious and meet Federal meal pattern requirements. The RAW provides the specifics for determining the meal pattern contribution of a recipe served in the National School Lunch Program (NSLP) and School Breakfast Program (SBP).
    - The information may also be used to determine the meal pattern contribution of recipes served in the Child and Adult Care Food Program (CACFP), Summer Food Service Program (SFSP), and NSLP afterschool snack service (NSLP afterschool snacks). The total amount from each of the vegetable subgroups can be combined to determine the vegetables component for the CACFP meal pattern.

- Today, Child Nutrition Programs use web-based and mobile applications in addition to computer programs and paper and pencil tools.
- All versions provide the same information making it easy to find and use the resources in your office, production kitchen, or on the go, even when purchasing food.

Virtual Review of the FBG and RAW

Instructor's Note: Use the Bean Tostada USDA Recipe for Schools as the recipe to explain the Food Buying Guide for Child Nutrition Programs and the Recipe Analysis Workbook.

https://theicn.org/cnrb/recipes-for-schools/recipes-for-schools-main-dishes/bean-tostada-usda-recipe-for-schools/

Instructions:

The instructor will provide a virtual tour of the FBG and the RAW. The instructor will use Zoom to share their screen with participants. The instructor will highlight the following features.

FBG Log-in Page

- Review the benefits of signing up for a registered account.
  - The RAW cannot be used without a registered account.
  - Recipes that have been entered into the RAW can be saved future use or reference.
  - Registered users can save information when creating a FBG Calculator Shopping List.

Food Buying Guide Homepage

- Home Tab
- Resource Center
  - Tables
  - Figures
- Meal Components
  - Meats/Meat Alternates
  - Vegetables
  - Fruits
  - Grains
  - Other Foods
- Highlight the Yields tab for M/MA, Vegetables, and Fruits.
- Highlight the Yield Table PDF for all Components.

Food Item Search

- Highlight Meal Component Selection Tab
- Highlight Category Tab
- Review Keywords
    - Drill down to the most specific keywords
    - Review the following columns
        - Meal Component
        - Category/Subcategory
        - Food As Purchased, AP
        - Purchase Unit
        - Servings per Purchase Unit, (Edible Portion) EP
        - Serving Size per Meal Contribution

Recipe Analysis Workbook (RAW)

- Create RAW
    - Review the required components
        - Recipe Name
        - Servings per Recipe – Based upon the site's desired number of portions per recipe
        - Serving Size
        - Recipe Number – Note: Optional but recommended for an organization
    - Review Search Food Ingredients
        - Ensure the correct Meal Program is selected for proper crediting information.
        - It is critical to select the food item that is closest to how the food will be served in its final form.
    - Review Appendix C: *When to Use the Additional Information Column to Determine the Calculated Quantity to Purchase* to review questions regarding the use of the preparation yield column.
    - Review the Component Tabs and the Meal Pattern Contribution Tab

Key Message

- The FBG is used to make purchasing decisions.
- The RAW is used to credit recipes.

Activity: Recipe Writing

Objective

Participants will write a first draft of a recipe using their site's nutrient analysis software.

Discuss

- Ask participants to share the name of the recipe they plan to write during the activity.
- Encourage participants to share details about the recipe. The shared information may include:
    - Why (on how if applicable) the recipe was selected
    - The primary ingredients that will be used
    - The production process (hot, cold, complex food production, etc.)
    - Any challenges they may perceive in developing the recipe
    - Additional questions as the instructor(s) see as useful to enhance the learning

Ask participants if they have any questions or concerns before beginning the activity. Remind participants that if they have a question, others may have the same or a similar question.

Activity Instructions:

Each participant will work independently to write the first draft of their recipe for the workshop, in accordance with the lessons from day one and the *USDA Recipe Standardization Guide for School Nutrition Programs*. https://theicn.org/cicn/usda-recipe-standardization-guide-for-school-nutrition-programs/

Participants are encouraged to select a recipe that is planned to be used in the program on future menus.

Instructors will be available to answer questions and provide technical assistance throughout the activity.

Be prepared to share the recipe, via screen share on the Zoom Meeting application, with the workshop cohort.

Day 2: Conclusion (30-60 Minutes)

Instructor's Note: Allow all participants to screen share in the Zoom Platform. Create a safe-space for participants to share their experience and recipes without fear of criticism or judgement. The principle task of the workshop is to guide participants to success through encouragement, technical assistance, and group learning. Acknowledge that this workshop is a leaning environment; mistakes are a critical part of the learning experience.

Objective

Participants will share and review a first draft of a written recipe.

Discuss

- Review the recipe writing process by asking participants to share their experience. Ask participants to share their experience by sharing their:
  - challenges with the recipe writing process,
  - any successes or areas of strength they may have identified when recipe writing, and
  - any "ah-ha" moment that may have occurred during the activity.
- Ask participants to screen share their recipes with the cohort and explain the recipe and the process used to write the first draft.
  - Provide positive feedback.
  - Identify areas of opportunity to strengthen the draft recipe.
- Provide technical assistance, as needed, to ensure the draft recipe has the required components and language needed to successfully implement the small-batch testing on day 3.

Close out

- Review the Day 3 agenda
  - Start and end times
  - Day 3's activity - Produce a small batch of the recipe and ask staff to informally evaluate the recipe
  - Day 3 report out

- Remind participants they will need to have their ingredients ready for testing on day 3.
- Thank the participants for their attention and participation in the day's lessons and activities.
- Allow space for any departing thoughts, questions, or concerns.

Day 3: Small Batch Recipe

Day 3
Morning Meeting: ◆ Review Plan for the Day: ◆ Opening Meeting ◆ Review how to conduct a yield test. ◆ Yield test activity ◆ Produce a small batch of the recipe and ask staff to informally evaluate the recipe. ◆ End of day meeting – **Establish the time the group will reconvene for the end of day meeting.**
Mid-Day Check-in (as needed): The instructors will be available via Zoom throughout the day to provide assistance to the participant(s) as needed. The instructors need to establish a break time in which they will not be immediately available to answer questions or provide assistance. The break time needs to be communicated prior to dismissing the participants for the on-site activities.
End of Day Meeting ◆ Each participant summarizes their work for the day ◆ Successes and challenges of the day ◆ Answer any questions ◆ Short preview of Day 4

Morning Meeting (30 minutes)

- Review the daily agenda.
- Ask if there are any questions, comments, or concerns from the previous day.

How to conduct a yield test

Discuss

- A yield test in recipe development for Child Nutrition Programs is a process used to determine the amount of food that is usable after it has been prepared from a given quantity of raw ingredients. This test is critical in the context of Child Nutrition Programs for several reasons:
    - **Nutritional Accuracy:** It ensures that the nutritional values provided by the recipe are accurate and consistent with what is actually being served. This is vital for meeting specific dietary guidelines and ensuring that children receive the necessary nutrients for their development.
    - **Cost Effectiveness:** By determining the exact yield of a recipe, Child Nutrition Programs can more accurately forecast costs and budget for food purchases. This helps in minimizing waste and ensuring that the program is financially sustainable.
    - **Portion Control:** Yield tests help in standardizing portion sizes, ensuring that each child receives an appropriate amount of food. This is important not only for nutritional reasons but also for maintaining consistent food quality and satisfaction among children.
    - **Menu Planning:** Understanding the yield of recipes aids in efficient menu planning, allowing for the accurate preparation of meals for the expected number of children. This helps in avoiding shortages or excesses of food.
    - **Waste Reduction:** By accurately predicting how much food a recipe produces, yield tests contribute to waste reduction. This is because they help in preparing the right amount of food, reducing the likelihood of disposing of unused or spoiled ingredients.
- The process involves measuring the quantity of each ingredient before preparation, tracking any changes in weight or volume through the cooking process (due to cooking losses or gains from moisture, fat rendering, etc.), and measuring the final product's weight or volume. The difference in weight or volume from start to finish helps in determining the actual yield of the recipe, which can then be used to adjust ingredient amounts, cooking methods, or serving sizes as needed to meet the program's objectives.

Instructor's Note: Review the two yield test scenarios below.

Scenario: Yield Test for Vegetable Soup

Objective

Your team is testing a new vegetable soup to add to next year's menu. You are in the process of recipe testing and want to ensure an accurate yield. Below is a step-by-step scenario on how to accomplish the yield test as part of batch testing.

Preparation

Gather Ingredients and Equipment: Before you start, make sure you have all the ingredients for the vegetable soup and the necessary kitchen equipment, including a scale, measuring cups, and cooking vessel.

Weigh and Measure Raw Ingredients:

- Weigh each ingredient separately before preparing them. For example, weigh the carrots, potatoes, onions, and any other vegetables you're using.
- Record the weight of each ingredient.

Cooking Process

Prepare the Ingredients: Follow the recipe to prepare your ingredients. This might include peeling and chopping vegetables.

Cook the Soup: Cook the soup according to the recipe instructions. This usually involves combining the ingredients in a cooking vessel, adding water or broth, and simmering until the vegetables are tender.

Measuring Final Yield

Cool the Soup Slightly: Let the soup cool down a bit for safer handling.

Weigh the Cooked Soup: Place a large, empty food pan on the scale and tare (zero) it. Then, transfer the soup to this pan to weigh the entire batch. Record the weight.

Calculate the Yield:

- If you need to find out the yield in terms of servings, first decide on a serving size. For example, if one serving is 8 ounces, use a measuring cup or a ladle to measure out exactly 8 ounces.
- Count how many servings you can get from the cooked batch. This tells you the final yield of the recipe in terms of number of servings.

Analysis and Adjustment

Analyze the Results: Compare the final yield to what the recipe predicted. If there's a significant difference, consider if you need to adjust the recipe. This could mean changing ingredient amounts or cooking times.

Adjust for Consistency: If the yield was lower than expected, you might need to add more of certain ingredients or alter the recipe to ensure each child gets a proper serving.

Document the Results: Keep a record of your yield test results. This information will be valuable for future planning and cost management.

Scenario: Yield Test for Taco Meat

Objective

Participants will learn how to calculate and assess the yield of a recipe for taco meat intended to provide 25 servings, each serving being a 2 oz portion of cooked and seasoned ground beef. This activity will help school nutrition program staff ensure that their recipes provide the correct number of servings to meet their program's needs.

Preparation

Gather Ingredients and Equipment

- Paper and pen or a computer with spreadsheet software (Excel, Google Sheets, etc.)
- Calculator
- Recipe for taco meat intended for 25 servings
- Ingredients
- Kitchen scale

Understand the Recipe Yield: Start by reviewing the given recipe for taco meat. The recipe aims to produce 25 servings, with each serving consisting of a 2 oz portion of cooked and seasoned ground meat. Note that the ground beef used contains no more than 15% fat and experiences a 25% yield loss when cooked.

Calculate Raw Ground Beef Needed:

- Given that 1 lb of raw ground beef yields six 2 oz portions of cooked beef, first calculate the total amount of cooked meat needed for 25 servings.
- Then, calculate how much raw ground beef is needed, accounting for the 25% yield loss during cooking.

Calculate the Raw Ground Beef Needed:

- **Step 1:** Calculate the total cooked meat required for 25 servings. Use the formula: Total servings × portion size (in oz).
    - 2 oz x 25 servings = 50 oz
- **Step 2:** Since there is a 25% yield loss, you need to adjust the raw meat quantity to account for this loss. To find the required raw weight, divide the total cooked meat weight by 0.75 (since 25% is lost, 75% remains).
    - 50 oz / 0.75 = 66.67 oz
    - 66.7 oz / 16 (1 pound equals 16 oz) = 4.17 lb = 4 lb + 3 oz*
      * 0.17 lb = 2 2/3 oz – for ease of use, round up to 3

Cooking Process

Cook the Taco Meat and Assess Yield:

- Prepare the taco meat according to the recipe, starting with the amount of raw ground beef calculated.

Measuring Final Yield

Identify Yield Accuracy:

- After cooking, weigh the final cooked product to assess the actual yield.
- Compare the actual cooked weight to the expected cooked weight calculated in Raw Ground Beef Needed.
- If the actual cooked weight matches or closely aligns with your expected cooked weight, the yield is correct.
- If there is a significant discrepancy, proceed to the corrective action steps.

Corrective Actions (if needed):

- **If the yield is too low:** You may have overcooked the meat or not accounted for the correct fat content and loss. Increase the amount of raw beef slightly for the next batch, or adjust cooking methods to reduce loss.
- **If the yield is too high:** This could indicate undercooking or an error in initial measurements. Verify the cooking process and ensure accurate measurement of raw materials.

Documentation and Adjustment:

- Document the results of your yield test, including the amount of raw meat used, the cooked yield, and any discrepancies.
- Based on your findings, adjust the recipe as needed for future use. This may involve altering the amount of raw beef used or modifying cooking techniques to achieve the desired yield.

Discuss

- Review Plan for the Day: Produce a small batch of the recipe and ask staff to informally evaluate the recipe.
- Participants are encouraged to take photos and/or videos during the Small Batch recipe production and staff informal evaluation. Sharing images/videos is a great way to connect the cohort to the work each participant will be completing on-site.

Activity Instructions:

Each participant will work independently to conduct a small batch test and informal evaluation of their recipe for the workshop, in accordance with the lessons from day 1 and the *USDA Recipe Standardization Guide for School Nutrition Programs*. https://theicn.org/cicn/usda-recipe-standardization-guide-for-school-nutrition-programs/

Small batch testing and an informal evaluation include the following steps:

- Complete the *Recipe Review Checklist and Recipe Review Checklist Decision Guide* to ensure the recipe includes all the required information.
- Produce a small batch of the recipe. The recommended small batch serving size is 25 servings. It is relatively simple to scale up a recipe from 25 servings.
- Throughout the process of making the small-batch version of the recipe, taste as you go, and keep careful notes about any variations you make.
- Record this information directly on the recipe for future reference.
- Verify the yield of the recipe. (See: "Recipe Yield Verification" on page 103 in the Training Manual)
- Conduct an informal evaluation of the recipe with staff (and other stakeholders as applicable) using the Informal Evaluation Checklist. (See: "Informal Evaluation Checklist" on page 102 in the Training Manual)
- Be prepared to report your findings during the daily conclusion.

Participants are encouraged to involve staff and other stakeholders (as appropriate) in the testing and evaluation of the recipe.

Instructors will be available to answer questions and provide technical assistance throughout the activity.

Be prepared to share the recipe, via screen share on the Zoom Meeting application, with the workshop cohort.

Day 3: Conclusion (30-60 Minutes)

Instructor's Note: Allow all participants to screen share in the Zoom Platform. Create a safe-space for participants to share their experience and recipes without fear of criticism or judgement. The principle task of the workshop is to guide participants to success through encouragement, technical assistance, and group learning. Acknowledge that this workshop is a leaning environment; mistakes are a critical part of the learning experience.

Objective

Participants will share and review their small batch testing and informal evaluation.

Discuss

- Review the small batch and informal evaluation process by asking participants to share their experience. Ask participants to share their experience by sharing their:
  - challenges with the recipe development process,
  - any successes or areas of strength they may have identified when recipe testing, and
  - any "ah-ha" moment that may have occurred during the activity.
- Ask participants to screen share any images or videos with the cohort and explain the recipe and the process used test and evaluate.
  - Provide positive feedback.
  - Identify areas of opportunity to strengthen the recipe.
- Provide technical assistance, as needed, to assist in adjusting the recipe.

Close out

- Review the Day Four agenda.
  - Start and end times
  - Day 4's activity - Produce a small batch of the recipe, and students evaluate the recipe.
  - Day 4 report out
- Remind participants they will need to have their ingredients ready for testing and sampling on day four and may require the purchase of more ingredients based on the testing conducted on day three.
- Thank the participants for their attention and participation in the day's lessons and activities.
- Allow space for any departing thoughts, questions, or concerns.

Day 4: Evaluation and Testing

Day 4

Morning Meeting:
◆ Review Plan for the Day:
  ◆ Opening Meeting
  ◆ Produce a small batch of the recipe and conduct the evaluations
  ◆ End of day meeting – **Establish the time the group will reconvene for the end of day meeting.**

Mid-Day Check-in (as needed): The instructors will be available via Zoom throughout the day to provide assistance to the participant(s) as needed. The instructors need to establish a break time in which they will not be immediately available to answer questions or provide assistance. The break time needs to be communicated prior to dismissing the participants for the on-site activities.
End of Day Meeting ◆ Each participant summarizes their work for the day ◆ Successes and challenges of the day ◆ Answer any questions ◆ Short preview of Day 5

Morning Meeting (20 minutes)

- Ask if there are any questions, comments, or concerns from the previous day.
- Review Plan for the Day: Produce a small batch of the recipe, and students evaluate the recipe.
- Participants are encouraged to take photos and/or videos during the Small Batch recipe production and staff informal evaluation. Sharing images/videos is a great way to connect the cohort to the work each participant will be completing on-site.
- Student feedback plays a critical role in evaluating and refining recipes to meet taste and nutritional standards.
- Both informal and formal methods are utilized to collect comprehensive feedback from students on recipe acceptability.
- Necessary modifications are made to recipes based on student feedback to ensure they are both appealing and nutritionally appropriate.

Activity Instructions:

Each participant will work independently to conduct a small batch test and a student evaluation of their recipe for the workshop, in accordance with the lessons from day 1 and the USDA Recipe Standardization Guide for School Nutrition Programs. https://theicn.org/cicn/usda-recipe-standardization-guide-for-school-nutrition-programs/

Small batch testing and a student evaluation include the following steps:

- Complete the Recipe Review Checklist and Recipe Review Checklist Decision Guide to ensure the recipe includes all the required information.
- Produce a small batch of the recipe. The recommended small batch serving size is 25 servings. It is relatively simple to scale up a recipe from 25 servings.
- Throughout the process of making the small-batch version of the recipe, taste as you go, and keep careful notes about any variations you make.
- Record this information directly on the recipe for future reference.
- Verify the yield of the recipe. (See: "Recipe Yield Verification" on page 103 in the Training Manual)
- Conduct a small batch student evaluation of the recipe (include other stakeholders as applicable) using the "Evaluating Student Acceptability (Small Scale)" on page 114 in the Training Manual.
- Be prepared to report your findings during the daily conclusion.

Participants are encouraged to involve staff and other stakeholders (as appropriate) in the testing and evaluation of the recipe.

Instructors will be available to answer questions and provide technical assistance throughout the activity.

Be prepared to share the recipe, via screen share on the Zoom Meeting application, with the workshop cohort.

Day 4: Conclusion (30-60 Minutes)

Instructor's Note: Allow all participants to screen share in the Zoom Platform. Create a safe-space for participants to share their experience and recipes without fear of criticism or judgement. The principle task of the workshop is to guide participants to success through encouragement, technical assistance, and group learning. Acknowledge that this workshop is a leaning environment; mistakes are a critical part of the learning experience.

Objective

Participants will share and review their small batch testing and informal evaluation.

Discuss

- Review the small batch and student evaluation process by asking participants to share their experience. Ask participants to share their experience by sharing their:
  - challenges with the recipe development/evaluation process,
  - any successes or areas of strength they may have identified when recipe testing and evaluating with students, and
  - any "ah-ha" moment that may have occurred during the activity.
- Ask participants to screen share any images or videos with the cohort and explain the recipe and the process used test and evaluate.
  - Provide positive feedback.
  - Identify areas of opportunity to strengthen the recipe.
- Provide technical assistance, as needed, to assist in adjusting the recipe.

Close out

- Review the Day 5 agenda
  - Start and end times
  - Day 5's activity - Using the updated recipe, conduct a nutrient analysis for nutrition and crediting using the site's recipe analysis software and the RAW.
  - Day 5 close out
- Thank the participants for their attention and participation in the day's lessons and activities.
- Allow space for any departing thoughts, questions, or concerns.

Day 5: Nutrient Analysis and Crediting

Day 5
Morning Meeting: ◆ Review Plan for the Day: ◆ Opening Meeting ◆ Produce a small batch of the recipe and conduct the evaluations ◆ End of day meeting – **Establish the time the group will reconvene for the end of day meeting and close out session.** ◆ As needed: Assist in the Nutrient Analysis and Crediting using RAW
Mid-Day Check-in (as needed): The instructors will be available via Zoom throughout the day to provide assistance to the participant(s) as needed. The instructors need to establish a break time in which they will not be immediately available to answer questions or provide assistance. The break time needs to be communicated prior to dismissing the participants for the on-site activities.
End of Day Meeting ◆ Each participant summarizes their work for the day ◆ Successes and challenges of the day ◆ Answer any questions ◆ Celebrate the success.

Morning Meeting (20+ minutes)

- Ask if there are any questions, comments, or concerns from the previous day.
- Review Plan for the Day: Using the updated recipe, conduct a nutrient analysis for nutrition and crediting using the site's recipe analysis software and the RAW.

Discuss

- The purpose of the nutrient analysis is to determine compliance with school meal regulatory requirements for calories, saturated fat, sodium, and added sugars and to monitor these dietary components' levels in school meals.
- Performing an accurate nutrient analysis is critical to evaluating menus and menu documentation.
- Small changes to a recipe can have a massive impact on the overall contribution to meal pattern requirements and nutrition standards.
- Changes to ingredient quantities can impact:
    - Meal pattern compliance
    - Nutritional values of the recipe
- Utilize the FBG and RAW to verify the accuracy of meal pattern contribution.
- The nutrient content of foods may vary greatly depending on the method of preparation.
- As foods cook, they may lose moisture and nutrients.
- All ingredients in recipes prepared "from scratch" must be entered into the software using the Yield Factor Method to account for nutrient value changes due to preparation and cooking.
- Recipe Nutrient Analysis A Five-Step Process
    - Step 1 – Gathering Materials
    - Step 2 – Entering Food Items (Ingredients) into the Database
    - Step 3 – Adding the Recipe to the Local Database
    - Step 4 – Entering Specific Menu Planning Data
    - Step 5 – Evaluating the Recipe for Dietary Specifications Requirements
- As needed: Assist in the Nutrient Analysis and Crediting using RAW

Activity Instructions:

Each participant will work independently to conduct a nutrient analysis and complete a crediting statement using the RAW.

Utilize the information from day 1 in the Nutrient Analysis section of the Training Manual to conduct a nutrient analysis.

Complete a RAW to credit the new recipe. The RAW can be found at https://foodbuyingguide.fns.usda.gov/Raw/Edit/0

Instructors will be available to answer questions and provide technical assistance throughout the activity.

Be prepared to share the recipe, nutrient analysis and RAW via screen share on the Zoom Meeting application, with the workshop cohort.

Day 5: Conclusion (30 Minutes)

Review Overall Workshop Goals

- Participants will be able to describe the components of a standardized recipe and the benefits of using one.
- Participants will be able to identify the three phases of the USDA Recipe Standardization Process.
- Participants will be able to evaluate standardized school meal recipes and pilot them as part of a school meal service.
- Participants will identify strategies for engaging students and the school community in the process of developing standardized recipes for school meals.
- Participants will complete the process of scaling, preparing, tasting, evaluating, and crediting a recipe utilizing the USDA Recipe Standardization Process.

Celebrate Success

1. **Start by thanking the learners for their participation.** Let them know that you appreciate their time and effort.
2. **Take a moment to reflect on the workshop.** What did the learners learn? What were their biggest takeaways?
3. **Share some of the successes of the workshop.** Did the learners create new recipes? Did they learn new techniques?
4. **Celebrate the learners' accomplishments.** Give them a round of applause or a virtual standing ovation.
5. **Encourage the learners to continue learning.** Let them know that you are there to support them on their journey.

Here are some additional tips for celebrating the learners' success:

- **Be specific in your praise.** Don't just say "good job." Instead, point out specific things that the learners did well.
- **Be genuine.** Don't fake it. The learners will be able to tell if you're not being sincere.
- **Be positive.** Focus on the learners' successes, not their failures.
- **Be brief.** Don't drag out the celebration. Keep it short and sweet.

Key Takeaways

- Ask each participant to share their key takeaway from the workshop and steps they plan to implement.
- Ask participants to share their contact information with the cohort if they would like. They will be excellent resources for each other.

Post-Workshop Assessment

- Distribute the post-workshop assessment.

Workshop Evaluation

- Distribute the workshop evaluation assessment.

APPENDIXES

Recipe Standardization Workshop Terms and Definitions

1. Crediting Statement

A crediting statement shows how much each creditable ingredient contributes to the meal pattern requirements.

2. Entrée (Main Dish)

An item that is served as the main dish and is either:

- A combination food of meat and/or meat alternate and grains
- A combination food of vegetables and/or fruits and meat and/or meat alternates
- A combination of food of meat and/or meat alternates and/or grains and/or vegetables and/or fruits
- A meat or meat alternate alone with the exception of yogurt, low-fat or reduced-fat cheese and meat snacks (such as dried beef jerky)
- A grain served as the main dish of the School Breakfast Program reimbursable meal

3. Farm to School Program

Established efforts that connect schools with local or regional producers to serve local or regionally produced foods in school cafeterias; improve student nutrition; provide agriculture, health, and nutrition education opportunities; and support local and regional farmers.

4. Farm to School Grant

On an annual basis, USDA competitively awards grant funds for training, supporting operations, planning, purchasing equipment, developing school gardens, developing partnerships, and implementing Farm to School programs. Additional information on Farm to School Grants: https://www.fns.usda.gov/cfs/farm-school-grant-program

5. *Food Buying Guide for Child Nutrition Programs* (FBG)

The authoritative guide developed by USDA to help child nutrition professionals determine how much food to purchase, in the most cost-effective manner, for crediting meal components in food-based menu planning. This can be especially helpful in preparing a new standardized recipe for meal service. FBG and related resources: https://foodbuyingguide.fns.usda.gov/

6. Grain-Based Dessert

Grain-based desserts are those items that have a superscript 3 or 4 in the *Food Buying Guide for Child Nutrition Programs*' *Exhibit A: Grain Requirements for Child Nutrition Programs*.

7. Local Agricultural Product

The definition of "local agricultural products," for which there is no Federal definition, can depend on geographic, social, governmental, physical, or economic parameters; seasonality; and/or other factors. Local procurement options differ greatly across communities depending on district and school size, proximity to agricultural areas, growing season, and demographics. USDA expects that State agencies will have varying definitions of "local agricultural products" that align with their particular needs and goals. The intent of schools utilizing local agricultural products in their standardized recipes is to serve more locally produced foods in school cafeterias, improve student nutrition, provide nutrition education opportunities, and support local and regional farmers, ranchers, and fishers. Local agricultural products can be meats, seafood, fruits, vegetables, nuts, seeds, dairy foods, or legumes.

8. Marketing Guide

Based on the *Food Buying Guide for Child Nutrition Programs* (FBG), this component of a final standardized recipe gives the amount of product needed as purchased to yield the edible portion required for the recipe.

9. Meal Service

The time period during a school day when schools offer meals to students through the National School Lunch Program (NSLP) or School Breakfast Program (SBP). A meal service includes all lunch or breakfast periods during a particular day.

10. Nutrient Analysis

The purpose of a nutrient analysis using USDA-approved software is to determine compliance with regulatory requirements for calories, saturated fat, sodium, and added sugars and to monitor levels of these dietary components in school meals. Performing an accurate nutrient analysis is critical to the evaluation of menus and menu documentation.

11. *Recipe Analysis Workbook* (RAW)

This tool is used to determine the expected meal pattern contribution and crediting statement for a recipe. This tool is available as part of the *Food Buying Guide for Child Nutrition Programs*: https://foodbuyingguide.fns.usda.gov/

12. Recipe Category

This identifies the recipe classification as an entrée or side dish.

13. School Community

In addition to students, the school community encompasses the school administrators, teachers, and staff members who work in a school; parents and families of students; and local residents and organizations invested in the school's success.

14. Standardized Recipe

A standardized recipe is a recipe that has been tried, adapted, and retried at least three times for use by a given foodservice operation. The recipe has been found to produce the same good results and yield every time it is prepared when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients.

A USDA standardized recipe for school meals is verified, evaluated, and adjusted for yield quantities using a prescribed process. It presents information for recipe yields of 50 and 100 servings in accordance with a specific template.

15. Yield

Yield information is a valuable menu planning and production tool used to:

- Estimate the amount of food to purchase
- Determine meal pattern contribution for each meal component
- Help control foods costs
- Minimize food waste
- Ensure an adequate quantity of food is produced for each meal
- Purchase the appropriate amount of food for the meal preparation

Culinary Terms

Al dente – to cook until tender but still slightly firm, usually used to describe pasta but can also apply to vegetables; Italian cooking term that translates literally "to the tooth"

As Purchased (AP) – the amount of food item as it is purchased before any preparation has been completed

Bake – to cook by dry heat, usually in an oven. A suitable cooking method for bread and many other foods

Baste – to spoon liquids, sauce, or meat juice over food to keep it moist during cooking and to add flavor

Beat – to mix vigorously by hand or with mixing equipment to make a mixture light, fluffy, or smooth

Blend – to mix two or more ingredients

Boil – to cook rapidly in water or a liquid so that the bubbles rise and break on the surface

Braise – to cook slowly in a covered container with a small amount of liquid or water; a good method for less tender cuts of meat

Bread – to coat food with bread crumbs, cracker crumbs, or flour before cooking

Broil – to cook by direct heat from a flame, electric unit, or glowing coals; a suitable cooking method for tender meat cuts

Brown – to cook food, generally meat, until it is uniformly brown on all sides

Chill – to cool food with ice water or refrigeration

Chop – to cut food into small pieces with a knife or chopping equipment

Combine – to mix two or more ingredients

Cream – to work foods such as shortening and sugar together with a spoon or mixer until soft, fluffy, and thoroughly blended

Crumb – to cover a food with bread (or cracker) crumbs or to break food, such as bread, into crumbs

Cut in – to mix solid fat, such as butter or margarine, into dry ingredients with a cutting motion so that the fat remains in small particles

Dice – to cut into small cubes with a knife or chopping equipment

Dredge – to coat a food by dipping in crumbs, flour, cornmeal, sugar, or other coatings

Edible Portion (EP) – the amount of a food item that is ready for use in a recipe after all pre-preparation

Fold – to combine several food ingredients into a mixture by gently turning the mixture, with a minimum of motions, until the ingredients are blended

Fry – to cook in fat over heat in a skillet, pan, or griddle, or in a fryer

Glaze – to coat with a mixture to produce a glossy appearance on the food

Grill – to cook uncovered over direct heat on a griddle or pan, removing fat as it accumulates

Grind – to chop or pulverize food, such as meat, into small particles by using a food chopping device or meat grinder

Julienne – to cut food in narrow, lengthwise strips, resembling matchsticks

Knead – to work with dough, such as bread dough, by pressing, folding, and stretching to develop the dough structure

Leaven – to cause food, such as bread, to rise and increase volume by adding a leavening agent, such as yeast or baking powder

Marinate – to treat food with a marinade to add flavor, and when used with meats, to provide some tenderizing action

Melt – to turn solid food into liquid by heating

Mince – to finely chop food, such as garlic, into very small pieces

Mix – to blend or combine with two or more foods or ingredients

Parboil – to boil in water briefly as a preliminary cooking step; may be used with vegetables and meat

Pare – to thinly trim off the outer covering or skin of a food, such as potatoes

Peel – to strip off the outer covering of a food, such as oranges

Punch down – to remove air bubbles from risen yeast dough by pushing the dough down with the fists

Reconstitute – to bring back a concentrated food, such as a juice concentrate, to the original strength—or dry food, such as nonfat dry milk, to the original state—by adding liquid

Rehydrate – to add fluids back into a dried food, such as dehydrated onions

Roast – to bake without water, uncovered, in an oven

Scald – to heat a liquid (such as milk) to a temperature just below the boiling point; tiny bubbles will appear around the edge of the pan

Shred – to cut or grate foods into narrow strips

Simmer – to cook in liquid that is kept just below the boiling point

Slice – to cut a food with a knife or slicing equipment

Steam – to cook food with steam, with or without pressure

Stir – to mix with a circular motion

Stir-fry – to cook quickly, in a small amount of oil or water, tossing and stirring lightly to preserve the shape of the food

Whip – to rapidly beat a food (such as eggs or cream), incorporating air to lighten the mixture and increase its volume; usually done with a whisk, fork, or mixing equipment

APPENDIX A: USDA Standardized Recipe Template

USDA Food and Nutrition Service
U.S. DEPARTMENT OF AGRICULTURE

Image of Recipe

Recipe Title

Brief recipe description

AGES:
PREP TIME:
COOK TIME:

CREDITING INFORMATION

SOURCE

INGREDIENTS	50 SERVINGS		100 SERVINGS		DIRECTIONS
	Weight	Measure	Weight	Measure	

USDA standardized recipes can be found on the Child Nutrition Recipe Box (CNRB) (https://theicn.org/cnrb/). CNRB also includes recipes in Spanish.

USDA Food and Nutrition Service
U.S. DEPARTMENT OF AGRICULTURE

INGREDIENTS	50 SERVINGS		100 SERVINGS		DIRECTIONS
	Weight	Measure	Weight	Measure	

INGREDIENTS	50 SERVINGS		100 SERVINGS		DIRECTIONS
	Weight	Measure	Weight	Measure	

NUTRITION INFORMATION

NUTRIENTS	AMOUNT
Calories	
Total Fat	
Saturated Fat	
Cholesterol	
Sodium	
Total Carbohydrate	
Dietary Fiber	
Total Sugars	
Includes Added Sugars	N/A
Protein	
Vitamin D	N/A
Calcium	
Iron	
Potassium	N/A

N/A = Data not available

MARKETING GUIDE		
Food as Purchased for	50 Servings	100 Servings

NOTES

YIELD/VOLUME	
50 Servings	100 Servings

APPENDIX B: Recipe Conversion Charts

Recipe Conversion Charts

Weight and Volume Conversions

Teaspoons to Tablespoons

3 tsp	= 1 Tbsp
1½ tsp	= ½ Tbsp
1 tsp	= ⅓ Tbsp

Tablespoons to Cups

16 Tbsp	= 1 cup
12 Tbsp	= ¾ cup
10⅔ Tbsp	= ⅔ cup
8 Tbsp	= ½ cup
5½ Tbsp	= ⅓ cup
4 Tbsp	= ¼ cup
2 Tbsp	= ⅛ cup
1 Tbsp	= 1/16 cup

Ounces to Pounds

16 oz	= 1 lb (1.00 lb)
14 oz	= ⅞ lb (0.875 lb)
12 oz	= ¾ lb (0.750 lb)
10 ⅔ oz	= ⅔ lb (0.667 lb)
10 oz	= ⅝ lb (0.625 lb)
8 oz	= ½ lb (0.500 lb)
6 oz	= ⅜ lb (0.375 lb)
5⅓ oz	= ⅓ lb (0.333 lb)
4 oz	= ¼ lb (0.250 lb)
2 oz	= ⅛ lb (0.125 lb)
1 oz	= 1/16 lb (0.063 lb)

Cups to Quarts

4 cups	= 1 qt
3 cups	= ¾ qt
2 cups	= ½ qt
1 cups	= ¼ qt

Quarts to Gallons

4 qt	= 1 gal
3 qt	= ¾ gal
2 qt	= ½ gal
1 qt	= ¼ gal

Fluid Ounces to Volume Measure

½ fl oz	= 1 Tbsp
2 fl oz	= ¼ cup
2.65 fl oz	= ⅓ cup
4 fl oz	= ½ cup
5.36 fl oz	= ⅔ cup
6 fl oz	= ¾ cup
8 fl oz	= 1 cup
16 fl oz	= 1 pt
32 fl oz	= 1 qt
64 fl oz	= 2 qt or ½ gal
96 fl oz	= 3 qt or ¾ gal
128 fl oz	= 1 gal

Adapted form *USDA Quality Recipes for School Foodservice, 1988*

Abbreviations Used in Standarized Recipes

Measurement	Abbreviation
teaspoon	tsp
tablespoon	Tbsp
cup	cup
quart	qt
gallon	gal
ounce	oz
pound	lb
fluid ounces	fl oz

Source: USDA,FNS, Child Nutrition Programs, Alexandria, VA

Converting Fractions to Decimals

1/8	0.125
1/4	0.250
1/3	0.333
3/8	0.375
1/2	0.500
5/8	0.625
2/3	0.666
3/4	0.750
7/8	0.875

Rounding Rules

Weights

If the total amount of an ingredient is	Round it to
Less than 2 oz	Volume measure only unless weight 1/4, 1/2, or 3/4 oz amounts
2 to 10 oz	Nearest 1/4 oz
10 oz to 2 lb 8 oz	Nearest 1/2 oz
2 lb 8 0z to 5 lb	Nearest full oz
5 lb or more	Nearest 2 oz

Measures

If the total amount of an ingredient is	Round it to
Less than 2 Tbsp	Nearest 1/4 tsp
2 Tbsp to 1/2 cup	Nearest tsp
1/2 cup to 3/4 cup	Nearest Tbsp (unless measure 2/3 cup)
3/4 cup to 2 cups	Nearest Tbsp (unless measure 1 1/3 or 1 2/3 cups)
2 cups to 2 qt	Nearest 1/4 cup
2 qt to 4 qt	Nearest 1/2 cup
1gal to 2 gal	Nearest full cup
2 gal and more	Nearest full qt

Source: USDA, FNS, Child Nutrition Programs, Alexandria, VA

Chart for Converting to Decimal Part of a Pound

Ounces	Decimal Part of lb
1/4	0.016
1/3	0.021
1/2	0.031
2/3	0.042
3/4	0.047
1	0.063
1 1/4	0.078
1 1/3	0.083
1 1/2	0.094
1 2/3	0.104
1 3/4	0.109
2	0.125
2 1/4	0.141
2 1/3	0.146
2 1/2	0.156
2 2/3	0.166
2 3/4	0.172
3	0.188
3 1/4	0.203
3 1/3	0.208
3 1/2	0.219
3 2/3	0.229
3 3/4	0.234
4	0.250
4 1/4	0.266
4 1/3	0.271
4 1/2	0.281
4 2/3	0.292
4 3/4	0.297
5	0.313
5 1/4	0.328
5 1/3	0.333
5 1/2	0.344
5 2/3	0.354
5 3/4	0.359
6	0.375
6 1/4	0.391
6 1/3	0.393
6 1/2	0.406
6 2/3	0.417
6 3/4	0.422
7	0.438
7 1/4	0.453
7 1/3	0.456
7 1/2	0.469
7 2/3	0.479
7 3/4	0.484
8	0.500
8 1/4	0.516
8 1/3	0.521
8 1/2	0.531
8 2/3	0.542
8 3/4	0.547
9	0.563
9 1/4	0.578
9 1/3	0.583
9 1/2	0.594
9 2/3	0.604
9 3/4	0.609
10	0.625
10 1/4	0.641
10 1/3	0.644
10 1/2	0.656
10 2/3	0.667
10 3/4	0.672
11	0.688
11 1/4	0.703
11 1/3	0.708
11 1/2	0.719
11 2/3	0.729
11 3/4	0.734
12	0.750
12 1/4	0.766
12 1/3	0.771
12 1/2	0.781
12 2/3	0.792
12 3/4	0.797
13	0.813
13 1/4	0.828
13 1/3	0.833
13 1/2	0.844
13 2/3	0.854
13 3/4	0.859
14	0.875
14 1/4	0.891
14 1/3	0.896
14 1/2	0.906
14 2/3	0.917
14 3/4	0.922
15	0.938
15 1/4	0.953
15 1/3	0.958
15 1/2	0.969
15 2/3	0.979
15 3/4	0.984
16	1.000

APPENDIX B: Food Buying Guide Tables and Figures

Table 1: Abbreviations and Symbols

Abbreviation	Meaning
AP	as purchased
EP	edible portion
incl	including
excl	excluding
cyl	cylinder
pkg	package
No.	number
approx.	approximately
wt	weight
oz	ounce
lb	pound
g	gram
kg	kilogram
vol	volume
tsp	teaspoon
Tbsp	tablespoon
fl oz	fluid ounce
c	cup
pt	pint
qt	quart
gal	gallon
mL	milliliter
L	liter
oz eq	ounce equivalent

Table 2: Common Can and Jar Sizes
Average Net Weight or Fluid Measure and Average Volume Per Can

Can Size	Average Net Weight or Fluid Measure Per Can		Average Volume Per Can	
	Customary	Metric	Cups	Liters
No. 10	6 lb (96 oz) to 7 lb 5 oz (117 oz)	2.72 kg to 3.31 kg	12 cups to 13-2/3 cups	2.84 L to 3.24 L
No. 3 Cyl	51 oz (3 lb 3 oz) or 46 fl oz (1 qt 14 fl oz)	1.44 kg to 1.36 L	5-3/4 cups	1.36 L
No. 2-1/2	26 oz (1 lb 10 oz) to 30 oz (1 lb 14 oz)	737 g to 850 g	3-1/2 cups	0.83 L
No. 2 Cyl	24 fl oz	709 mL	3 cups	0.71 L
No. 2	20 oz (1 lb 4 oz) or 18 fl oz (1 pt 2 fl oz)	567 g or 532 mL	2-1/2 cups	0.59 L
No. 300	14 oz to 16 oz (1 lb)	396 g to 453 g	1-3/4 cups	0.41 L
No. 2 (Vacuum)	12 oz	340 g	1-1/2 cups	0.36 L
No. 1 (Picnic)	10-1/2 oz to 12 oz	297 g to 340 g	1-1/4 cups	0.30 L
8 oz	8 oz	226 g	1 cup	0.24 L

Table 3: Common Can and Jar Sizes - per Case and Principal Products

Can Size	Cans Per Case	Principal Products
No. 10	6 cans per case	Institutional size: Fruits, vegetables, some other foods
No. 3 Cyl	12 cans per case	Institutjonal size: Condensed soups, some vegetables, meat and poultry products, and vegetable juices
No. 2-1/2	24 cans per case	Family size: Fruits, some vegetables
No. 2 Cyl	24 cans per case	Family size: Juices, soups
No. 2	24 cans per case	Family size: Juices, ready-to-serve soups, sorne fruits
No. 300	24 cans per case	Small cans: Some fruits and meat products
No. 2 (Vacuum)	24 cans per case	Small cans: Principally vacuum-packed corn
No. 1 (Picnic)	48 cans per case	Small cans: Condensed soups, some fruits, vegetables, meat, fish
8 oz	48 or 72 cans per case	Small cans: Ready-to-serve soups, fruits, vegetables

Table 4: A Guide for Substituting Cans

Can Size in Yield Table	No. 10	No. 3 Cyl	No. 2-1/2	No. 2	No. 300
No. 10	1.0	2.1	3.7	5.3	7.4
No. 3 Cyl	0.5	1.0	1.8	2.6	3.3
No. 2½	0.3	0.6	1.0	1.5	2.0
No. 2	0.2	0.4	0.7	1.0	1.5
No. 300	0.1	0.3	0.5	0.7	1.0

Table 5: Decimal Weight Equivalents

Ounces	Pounds
1 oz	0.06 lb
2 oz	0.12 lb
3 oz	0.19 lb
4 oz	0.25 lb
5 oz	0.31 lb
6 oz	0.38 lb
7 oz	0.44 lb
8 oz	0.50 lb
9 oz	0.56 lb
10 oz	0.62 lb
11 oz	0.69 lb
12 oz	0.75 lb
13 oz	0.81 lb
14 oz	0.88 lb
15 oz	0.94 lb
16 oz	1.00 lb
32 oz	2.00 lb
35 oz	2.19 lb
48 oz	3.00 lb
64 oz	4.00 lb
71 oz	4.44 lb
80 oz	5.00 lb
96 oz	6.00 lb
106 oz	6.63 lb
112 oz	7.00 lb
128 oz	8.00 lb
141 oz	8.82 lb
144 oz	9.00 lb
160 oz	10.00 lb

Table 6: Decimal Equivalents of Commonly Used Fractions

Fraction	Decimal
1/8	0.125
1/4	0.250
1/3	0.333
3/8	0.375
1/2	0.500
5/8	0.625
2/3	0.667
3/4	0.750
7/8	0.875

Table 7: Converting Decimal Equivalents to the Nearest Portion of a Cup for Fruits and Vegetables

If decimal equivalent is	The recipe contributes
0.125 - 0.249	1/8 cup
0.250 - 0.374	1/4 cup
0.375 - 0.499	3/8 cup
0.500 - 0.624	1/2 cup
0.625 - 0.749	5/8 cup
0.750 - 0.874	3/4 cup
0.875 - 0.999	7/8 cup
1.000 - 1.124	1 cup

Table 8: Decimal Equivalents For Fractions of a Unit

Whole units are on the left. The fraction or part of the unit is to the right.

If the whole units are:	The decimal equivalents are part of:
Ounces	1 pound
Tablespoons	1 cup
Cups	1 gallon

Fraction or Part of the Unit

Number of units	_	+1/4 of unit	+1/3 of unit	+1/2 of unit	+2/3 of unit	+3/4 of unit
0	–	0.02	0.02	0.03	0.04	0.05
1	0.06	0.08	0.08	0.09	0.10	0.11
2	0.12	0.14	0.15	0.16	0.17	0.17
3	0.19	0.20	0.21	0.22	0.23	0.23
4	0.25	0.27	0.27	0.28	0.29	0.30
5	0.31	0.33	0.33	0.34	0.35	0.36
6	0.38	0.39	0.40	0.41	0.42	0.42
7	0.44	0.45	0.46	0.47	0.48	0.48
8	0.50	0.52	0.52	0.53	0.54	0.55
9	0.56	0.58	0.58	0.59	0.60	0.61
10	0.62	0.64	0.65	0.66	0.67	0.67
11	0.69	0.70	0.71	0.72	0.73	0.73
12	0.75	0.77	0.77	0.78	0.79	0.80
13	0.81	0.83	0.83	0.84	0.85	0.86
14	0.88	0.89	0.90	0.91	0.92	0.92
15	0.94	0.95	0.96	0.97	0.98	0.98
16	1.00	1.02	1.02	1.03	1.04	1.05

Table 9: A Guide to Metric Conversions

To change	To	Multiply by
ounces (oz)	grams (g)	28.35
pounds (lb)	grams (g)	453.6
pounds (lb)	kilograms (kg)	0.4536
teaspoons (tsp)	milliliters (mL)	4.93
tablespoons (Tbsp)	milliliters (mL)	14.79
fluid ounces (fl oz)	milliliters (mL)	29.57
cups (c)	liters (L)	0.236
pints (pt)	liters (L)	0.473
quarts (qt)	liters (L)	0.946
gallons (gal)	liters (L)	3.785

Table 10: Metric Equivalents by Weight

Customary Unit	Metric Unit
Ounces (oz)	Grams (g)
1 oz	28.35 g
4 oz	113.4 g
8 oz	226.8 g
16 oz	453.6 g
Pounds (lb)	Grams (g)
1 lb	453.6 g
2 lb	907.2 g
Pounds (lb)	Kilograms (kg)
2.2 lb	1 kg (1000 g)

Table 11: Metric Equivalents by Volume

Customary Unit (fluid ounces)	Metric Unit
1 cup (8 fl oz)	236.59 milliliters (mL)
1 quart (32 fl oz)	946.36 milliliters (mL)
1.5 quarts (48 fl oz)	1.42 liters (L)
33.818 fl oz	1.0 liter (L)

Table 12: Guide to Volume Equivalents for Liquids

1 tablespoon	= 3 teaspoons	= 0.5 fluid ounce
1/8 cup	= 2 teaspoons	= 1 fluid ounce
1/4 cup	= 4 teaspoons	= 2 fluid ounces
1/3 cup	= 5-1/3 teaspoons	= 2.65 fluid ounces
3/8 cup	= 6 teaspoons	= 3 fluid ounces
1/2 cup	= 8 teaspoons	= 4 fluid ounces
5/8 cup	= 10 teaspoons	= 5 fluid ounces
2/3 cup	= 10-2/3 teaspoons	= 5.3 fluid ounces
3/4 cup	= 12 teaspoons	= 6 fluid ounces
7/8 cup	= 14 teaspoons	= 7 fluid ounces
1 cup	= 16 teaspoons	= 8 fluid ounces
1/2 pint	= 1 cup	= 8 fluid ounces
1 pint	= 2 cups	= 16 fluid ounces
1 quart	= 2 pints	= 32 fluid ounces
1 gallon	= 4 quarts	= 128 fluid ounces
1 peck	= 8 quarts (dry)	
1 bushel	= 4 pecks	

Table 13: Sizes and Capacities of Scoops (or Dishers)

Number on Scoop (Disher)	Level Measure
6	2/3 cups
8	1/2 cup
10	3/8 cup
12	1/3 cup
16	1/4 cup
20	3-1/3 tablespoons
24	2-2/3 tablespoons
30	2 tablespoons
40	1-2/3 tablespoons
50	3-3/4 teaspoons
60	3-1/4 teaspoons
70	2-3/4 teaspoons
100	2 teaspoons

Table 14: Sizes and Capacities of Ladles

Number on Ladle	Approximate Measure
1 ounce	1/8 cup
2 ounce	1/4 cup
4 ounce	1/2 cup
6 ounce	3/4 cup
8 ounce	1 cup

Table 15: Sizes and Capacities of Measuring-Serving Spoons

Size of Measuring/Serving Spoon	Approximate Measure
2 oz	1/4 cup
3 oz	3/8 cup
4 oz	1/2 cup
6 oz	3/4 cup
8 oz	1 cup

Table 16: Quarter Cup to Cup Conversions

Quarter Cup	Cup	Ounce
0.5 Quarter Cups	1/8 cup vegetable/fruit	or 0.5 ounces of equivalent meat alternate
1.0 Quarter Cups	1/4 cup vegetable/fruit	or 1.0 ounces of equivalent meat alternate
1.5 Quarter Cups	3/8 cup vegetable/fruit	or 1.5 ounces of equivalent meat alternate
2.0 Quarter Cups	1/2 cup vegetable/fruit	or 2.0 ounces of equivalent meat alternate
2.5 Quarter Cups	5/8 cup vegetable/fruit	or 2.5 ounces of equivalent meat alternate
3.0 Quarter Cups	3/4 cup vegetable/fruit	or 3.0 ounces of equivalent meat alternate
3.5 Quarter Cups	7/8 cup vegetable/fruit	or 3.5 ounces of equivalent meat alternate
4.0 Quarter Cups	1 cup vegetable/fruit	or 4.0 ounces of equivalent meat alternate

The result of 0.9999 equals 1/8 cup but a result of 1.0 equals 1/4 cup

Figure 1: Can Size Template

Lie a can on its size directly on this actual size template to help you determine what size can it is.

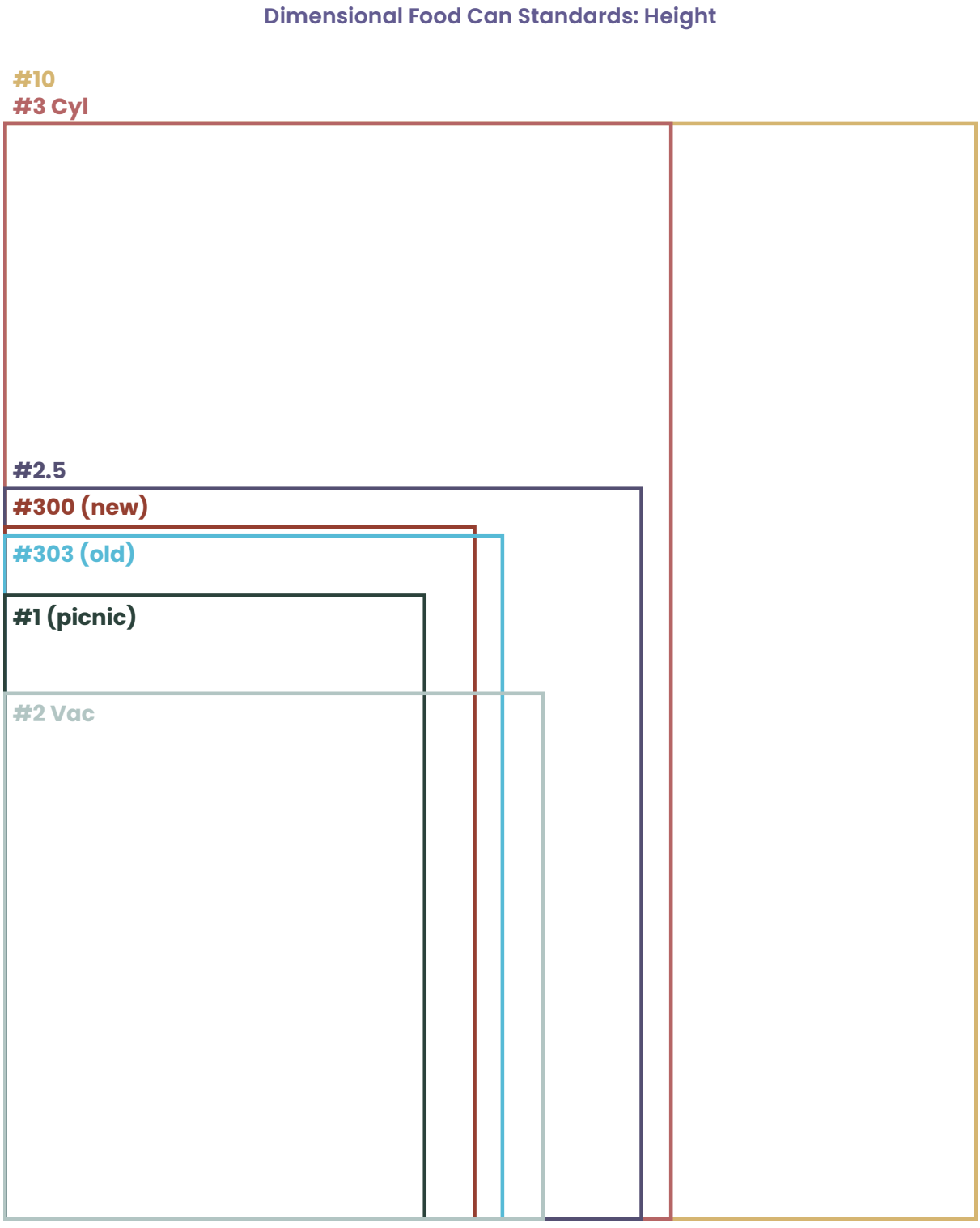
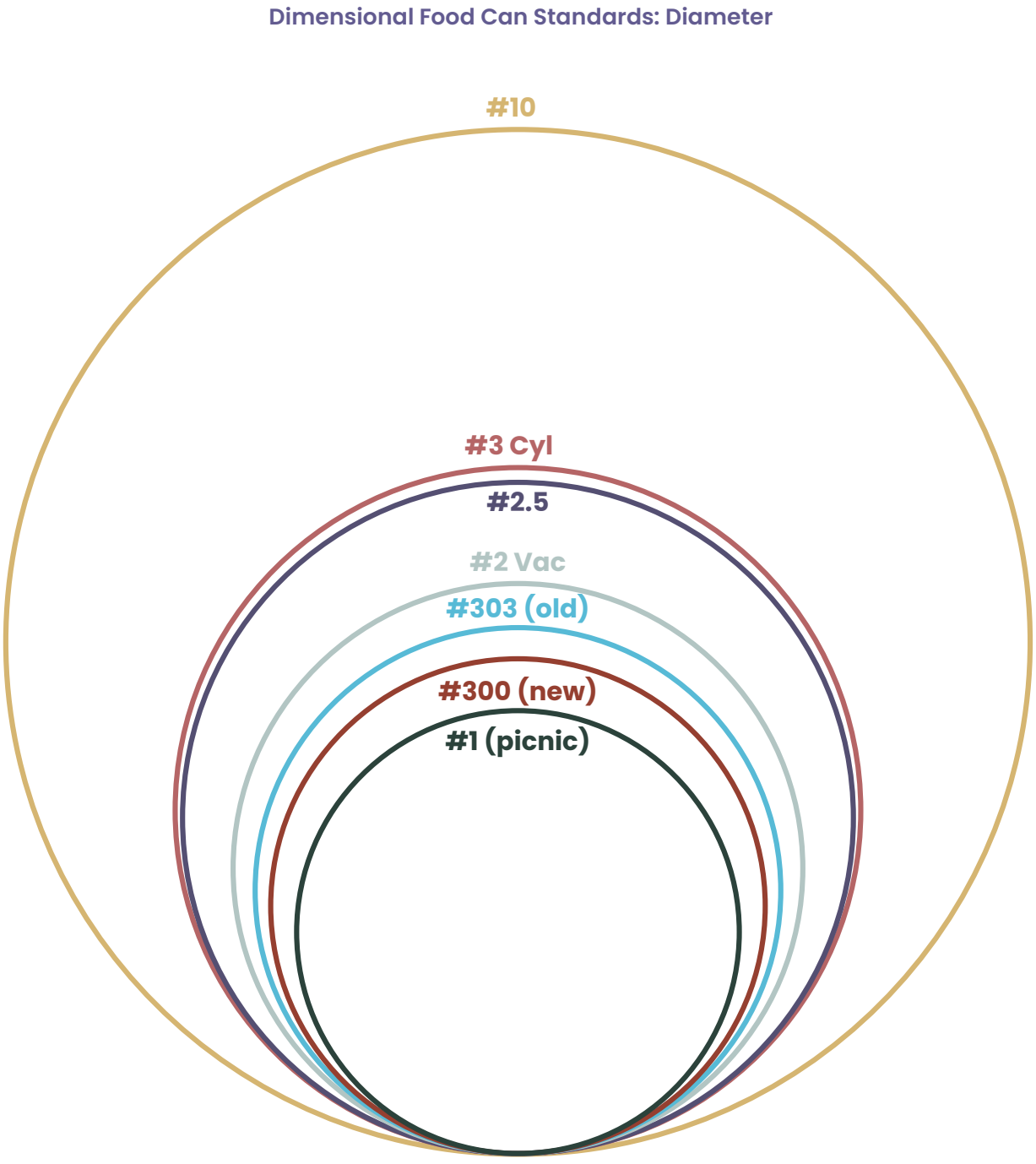


Figure 2: Can Size Template

Position the top side of a can directly on this actual size template to help you determine what size can it is.



APPENDIX C: When to Use the Additional Information Column to Determine the Calculated Quantity to Purchase

The Additional Information column in the *Food Buying Guide for Child Nutrition Programs* (FBG) is only needed when the food/ingredient listed in the recipe needs to be converted to match the form of the food/ingredient as listed in the **Food As Purchased (AP)** column. Please see Examples 1 and 2 below to learn more about when this information is not needed. Examples 3 and 4 demonstrate when this information is needed.

Additional Information Column Not Needed:

Example 1: Cantaloupe

Recipe Ingredients

6 lb + 4 oz Cantaloupe, raw (whole melon)

In the ingredient list, the cantaloupe is listed as "Cantaloupe, raw (whole melon)." The recipe requires 6 lb 4 oz of the raw, whole cantaloupe.

In the **Food As Purchased (AP)** column, the cantaloupe is written as "Cantaloupe, fresh, Whole." The form of the food in the ingredient list and the form of the food in the **Food As Purchased (AP)** column are the same; they are both "whole" and "fresh/raw."

Because the form of cantaloupe in the ingredient list is the same as it is in the **Food As Purchased (AP)** column, the ingredient does **not** need to be converted to match the form of the cantaloupe as listed in the **Food As Purchased (AP)** column.

Meal Component	Category/ Sub category	Food As Purchased, AP	Purchase Unit	Servings per Purchase Unit (EP)	Serving Size per Meal Contribution	Additional Information
Fruits	Fruit and Fruit Juice CANTALOUPE	**Cantaloupe, fresh**[3] Whole, 15 Count (5-3/4-inch diameter, about 40 oz) *Footnote*	Pound	6.74	1/4 cup cubed or diced fruit	1 lb AP = 0.56 lb (about 1-2/3 cups) ready-to-serve, raw, peeled, diced melon, 1 melon = about 1.3 lb EP; 1/4 cup cubed or diced fruit = about 1/16 large melon

To calculate the Quantity to Purchase:

1. Look at the information under the **Purchase Unit** column. Find the unit of purchase for your ingredient.

   In this example, the purchase unit is pounds.

2. Convert the ingredient in your recipe to a unit of measure that matches the information in the **Purchase Unit** column.

   In this example, the recipe calls for 6 lb 4 oz of cantaloupe. To convert ounces into pounds, divide the number of ounces by 16.

   4 oz/16 oz in 1 lb = 0.25 lb

   6 lb + 0.25 lb = 6.25 lb

   This recipe calls for 6.25 lb of cantaloupe.

3. Enter this quantity into the **Quantity of Ingredient** column. You do not need to use the **Preparation Yield** column.

Food As Purchased, AP	Purchase Unit	Servings per Purchase Unit (EP)	Serving Size per Meal Contribution	Additional Information	Quantity of Ingredient	Preparation Yield (If applicable)	Calculated Quantity to Purchase
Cantaloupe, fresh *Whole, 15 Count (5-3/4-inch diameter, about 40 oz)*	Pound	6.74	1/4 cup cubed or diced fruit	1 lb AP = 0.56 lb (about 1-2/3 cups) ready-to-serve, raw, peeled, diced melon, 1 melon = about 1.3 lb EP; 1/4 cup cubed or diced fruit = about 1/16 large melon	6.2500	0.0000	**6.2500**

Example 2: Ground Turkey

Recipe Ingredients

1 lb + 3 oz Turkey, ground, fresh or frozen

In the ingredient list, the ground turkey is listed as "Turkey, ground, fresh, or frozen." In the **Food As Purchased (AP)** column, the turkey is written as "Turkey, ground, fresh or frozen." The form of the food in the ingredient list and the form of the food in the **Food As Purchased (AP)** column are the same; they are both "turkey, ground, fresh or frozen."

Because the form of the turkey in the ingredient list is the same as the **Food As Purchased (AP)** column, the ingredient does not need to be converted to match the form of the turkey as listed in the **Food As Purchased (AP)** column.

Meal Component	Category/ Sub category	Food As Purchased, AP	Purchase Unit	Servings per Purchase Unit (EP)	Serving Size per Meal Contribution	Additional Information
Meats/Meat Alternates[1] *Footnote*	Poultry TURKEY, GROUND, fresh or frozen	**Turkey, Ground, fresh or frozen** *With skin in natural proportions*	Pound	11.20	1 oz cooked turkey	1 lb AP = 0.70 lb cooked, drained turkey

To calculate the Quantity to Purchase:

1. Look at the information under the **Purchase Unit** column. Find the unit of purchase for your ingredient.

   In this example, the purchase unit is pounds.

2. Convert the ingredient in your recipe to a unit of measure that matches the information in the **Purchase Unit** column.

   In this example, the recipe calls for 1 lb 3 oz of turkey. To convert ounces into pounds, divide the number of ounces by 16.

   3 oz/16 oz in 1 lb = 0.1875 lb

   1 lb + 0.1875 lb = 1.1875 lb

   The recipe calls for 1.1875 lb turkey.

3. Enter this quantity into the **Quantity of Ingredient** column. You **do not** need to use the **Preparation Yield** column.

Food As Purchased, AP	Purchase Unit	Servings per Purchase Unit (EP)	Serving Size per Meal Contribution	Additional Information	Quantity of Ingredient	Preparation Yield (If applicable)	Calculated Quantity to Purchase
Turkey, Ground, fresh or frozen *With skin in natural proportions*	Pound	11.20	1 oz cooked turkey	1 lb AP = 0.70 lb cooked, drained turkey	1.1875	0.0000	**1.1875**

Additional Information Column Needed

Example 3: Romaine lettuce

Recipe Ingredients

3 lb Romaine lettuce, fresh, shredded

In the ingredient list, romaine lettuce is listed as "3 lb romaine lettuce, fresh, shredded." In the **Food As Purchased (AP)** column, the form of the food is provided as "Lettuce, fresh, Romaine, Untrimmed." The form of the lettuce in the ingredient list and the form of the lettuce in the **Food As Purchased (AP)** column are not the same. The amount of fresh, shredded lettuce in the recipe needs to be converted into the amount of fresh untrimmed romaine lettuce as listed in the **Food As Purchased (AP)** column.

Meal Component	Category/ Sub category	Food As Purchased, AP	Purchase Unit	Servings per Purchase Unit (EP)	Serving Size per Meal Contribution	Additional Information	Calculated Quantity to Purchase
Vegetables	Dark Green Vegetables LETTUCE	**Lettuce, fresh** *Romaine, Untrimmed*	Pound	31.30	1/4 cup raw vegetable pieces (credits as 1/8 cup in NSLP/SBP and CACFP)	1 lb AP = 0.64 lb ready-to-serve raw lettuce	**Add**

To calculate the **Calculated Quantity to Purchase**, use the information in the **Additional Information** column to complete the **Preparation Yield** column.

The **Additional Information** column tells us that 1 lb of "Lettuce, fresh, Romaine, Untrimmed" yields 0.64 lb ready-to-serve raw lettuce. Our recipe calls for fresh, shredded romaine lettuce, so we can use this information to calculate how much to buy.

*The Serving Size per Meal Contribution states that the item is served as raw vegetable pieces, which is not the same as shredded, but may be used if this is the closest item available in the FBG.

To calculate the Quantity to Purchase:

1. Look at the information under the "**Purchase Unit**" column. Find the unit of purchase for your ingredient.

   In this example, the purchase unit is pounds.

2. Convert the ingredient in your recipe to a unit of measure that matches the information in the **Purchase Unit** column.

   In this example, the recipe ingredient is also measured in pounds. The recipe calls for 3 lb of lettuce, so enter 3 into the **Quantity of Ingredient** column.

3. Because the recipe uses the ingredient in a different form than what's listed in the **Food As Purchased (AP)** column, use the **Additional Information** column to find a preparation yield.

   The **Additional Information** column tells us that 1 lb of untrimmed romaine lettuce = 0.64 lb of ready-to-serve raw lettuce.

   Enter 0.64 into the **Preparation Yield** Column.

Food As Purchased, AP	Purchase Unit	Servings per Purchase Unit (EP)	Serving Size per Meal Contribution	Additional Information	Quantity of Ingredient	Preparation Yield (If applicable)	Calculated Quantity to Purchase
Lettuce, fresh *Romaine, Untrimmed*	Pound	31.30	1/4 cup raw vegetable pieces (credits as 1/8 cup in NSLP/SBP and CACFP)	1 lb AP = 0.64 lb ready-to-serve raw lettuce	3.000	0.6400	**4.6875**

4.6875 lb of fresh, romaine untrimmed lettuce needs to be purchased for the recipe in order to yield 3 lb of ready-to-serve raw lettuce.

Example 4: Peaches

Recipe Ingredients

11 ½ oz, fresh peaches, diced

In the ingredient list, the peaches are listed as "fresh peaches, diced." In the **Food As Purchased (AP)** column, the form of the food is provided as "Peaches, fresh, *Size 80, Whole.*" The form of the peaches in the ingredient list and the form of the peaches in the **Food As Purchased (AP)** column are not the same. The amount of diced peaches in the recipe needs to be converted into the amount of whole peaches listed in the **Food As Purchased (AP)** column.

Meal Component	Category/ Sub category	Food As Purchased, AP	Purchase Unit	Servings per Purchase Unit (EP)	Serving Size per Meal Contribution	Additional Information	Calculated Quantity to Purchase
Fruits	Fruit and Fruit Juice PEACHES	**Peaches, fresh** *Size 80, Whole*	Pound	10.20	1/4 cup raw diced fruit	1 lb AP = 0.93 lb ready-to-serve unpeeled, pitted, diced peaches	**Add**

To calculate the Calculated Quantity to Purchase, use the information in the **Additional Information** column to complete the **Preparation Yield** column.

The **Additional Information** column tells us that 1 lb of "Peaches, fresh, Size 80, Whole" equals 0.93 lb of ready-to-serve unpeeled, pitted, diced peaches. Our recipe calls for ready-to-serve raw peaches, so we can use this information to calculate how much to buy.

To calculate the Quantity to Purchase:

1. Look at the information under the "**Purchase Unit**" column. Find the unit of purchase for your ingredient.

   In this example, the purchase unit is pounds.

2. Convert the ingredient in your recipe to a unit of measure that matches the information in the **Purchase Unit** column.

   In this example, the peaches in the recipe are measured in ounces. To convert ounces to lb, divide number of oz by 16

   11.5 oz/16 oz per lb = 0.71875 lb. Round up to 0.7188 lbs. Enter 0.7188 into **Quantity of Ingredient** column.

3. Because recipe uses the ingredient in a different form than what's listed in the **Food As Purchased (AP)** column, use the **Additional Information** column to find a preparation yield.

   The **Additional Information** column tells that 1 lb of Peaches, fresh, Size 80, Whole = 0.93 lb of ready-to-serve unpeeled, pitted, diced peaches

   Enter 0.93 into the **Preparation Yield** column.

Food As Purchased, AP	Purchase Unit	Servings per Purchase Unit (EP)	Serving Size per Meal Contribution	Additional Information	Quantity of Ingredient	Preparation Yield (If applicable)	Calculated Quantity to Purchase
Peaches, fresh *Size 80, Whole*	Pound	10.20	1/4 cup raw diced fruit	1 lb AP = 0.93 lb ready-to-serve unpeeled, pitted, diced peaches	0.7188	0.9300	**0.7729**

0.7729 lb of Peaches, fresh, Size 80, Whole, needs to be purchased for the recipe in order to yield 11.5 oz of ready-to-serve fresh peaches, diced.

Things to Remember

- Choose the food item in the FBG, As Purchased, that most closely matches the form of the ingredient called for in the recipe and that also most closely matches the form of the ingredient as served, hence; you should pay particular attention to the description of the food as served when selecting a food item.
- Keep in mind the rounding rule used when calculating the *credit* for meal pattern components. For *crediting purposes, you need to round down* to ensure that each portion served provides the minimum amount of credit you are claiming. This is different from the rounding rule used when calculating how much food to purchase and/or prepare. The rounding rule used for *Purchasing and/or preparing food* is to round up to ensure enough food is purchased and/or prepared.
- The **Additional Information** column may contain information for more than one form of the ingredient. For example: Squash 1 lb AP = 0.83 lb (about 2 cups) cooked, sliced squash; 1 lb AP = 0.98 lb (about 3-7/8) ready-to-serve-or-cook squash.

APPENDIX D: Resources for Soliciting Recipes from the School Community

Surveys

The Institute of Child Nutrition – Middle/Junior High School Student Survey Guide and Tools
theicn.org/research

Center for Ecoliteracy – School Lunch Survey
ecoliteracy.org/sites/default/files/uploads/shared_files/CEL_School_Lunch_Survey.pdf

Outreach

Engaging Parents to Promote Healthy Schools – School Nutrition Association Annual National Convention

Wisconsin Department of Public Instruction – School Nutrition Outreach Toolkit
dpi.wi.gov/wisconsin-school-meals-rock/school-nutrition-professionals/school-nutrition-outreach-toolkit

Student Cooking Competition

Kentucky Department of Agriculture – Jr Chef Competition
kyagr.com/junior-chef/

Public Schools of North Carolina – Jr Chef Competition
dpi.nc.gov/districts-schools/district-operations/school-nutrition/sn-news-events/north-carolina-jr-chef-competition

Focus Groups

Eastern Illinois University – Designing and Conducting Focus Group Interviews
eiu.edu/ihec/Krueger-FocusGroupInterviews.pdf

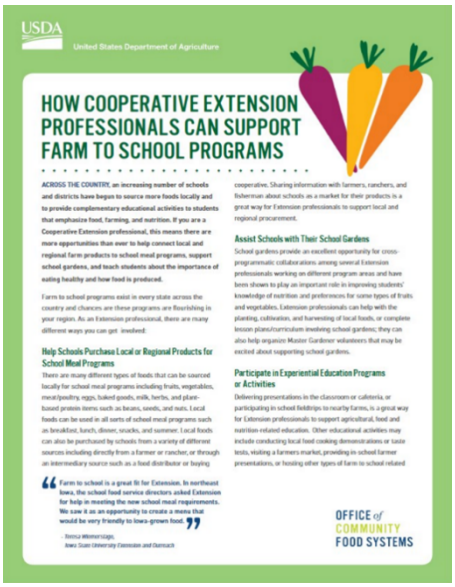
New York State Education Department – School Focus Groups Guide
nysed.gov/common/nysed/files/programs/accountability/school-focus-groups-guidebook.pdf

APPENDIX E: Resources for Accessing Locally Sourced Food Items

NATIONAL FARM to SCHOOL NETWORK

National Farm to School Network

www.farmtoschool.org



USDA NIFA

United States Department of Agriculture
National Institute of Food and Agriculture

Cooperative Extension System

https://nifa.usda.gov/cooperative-extension-system

ASSOCIATION OF PUBLIC & LAND-GRANT UNIVERSITIES

https://www.aplu.org/members/our-members/index.html

USDA Agricultural Marketing Service

Food Directories: Food Hub Directory

www.ams.usda.gov/local-food-directories/foodhubs

Resources

ICN iLearn

The Institute of Child Nutrition (ICN) offers free, online training on a broad range of topics for child nutrition professionals working in school nutrition and child care settings. These free, self-paced online courses provide an excellent method of meeting professional standards requirements.

Please visit https://theicn.org/icn-ilearn/ for more information.

Recommended Courses

- Food Buying Guide Series
  - Module 1: Overview of the FBG for CNPs
  - Module 2: *Recipe Analysis Workbook* (RAW)
  - Module 3: Product Formulation Statements (PFS)
- Culinary Math Series
  - Calculating Food Cost
  - Conversions
  - Measurement
  - Operations with Fractions
  - Operations with Decimals
  - Operations with Whole Numbers

Virtual Instructor-Led Trainings (VILTs)

The Institute of Child Nutrition (ICN) offers free virtual group training on a broad range of topics for child nutrition professionals working in school nutrition and child care settings. In addition to training sessions at the Institute's headquarters at The University of Mississippi, virtual training may be requested free of charge.

Please visit https://theicn.org/icn-virtual-group-training/ for more information.

Recommended Courses

- Basic Culinary Math for School Nutrition Professionals
- Food Safety Basics
- Foundations for Training Excellence: Basics
- Training Culturally Diverse Groups

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U.S. Department of Agriculture, Food and Nutrition Service. (2025). *Food buying guide for child nutrition programs.* https://foodbuyingguide.fns.usda.gov/Appendix/DownLoadFBG

Notes

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School of Applied Sciences

800-321-3054
www.theicn.org