

CICN PRESENTS

FLAVOR DEVELOPMENT

TRAINING MANUAL

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EXECUTIVE DIRECTOR
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2 – Operations
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BACKGROUND INFORMATION FOR TRAINERS

WELCOME to *CICN Presents: Flavor Development*. This training manual is an instructional aid for you, the course instructor. The manual provides the content and educational tools needed to introduce child nutrition professionals to concepts and basic skills related to preparing and serving safe, high-quality meals to students. To assist you further in successfully conducting this training, the Training Manual includes the following prompts:

INSTRUCTOR'S NOTE:

The purpose of the background information is to help you become familiar with the content of the training. It is not a part of the training detail.

DEMONSTRATE/DISCUSS

This prompt will be followed by talking points or instructions to deliver to the participants. Use these talking points as a guide for the topic of discussion. Following the instructions provided will assist you in having a successful training.

KEY MESSAGES

This prompt will provide important information that child nutrition professionals should understand. There are suggested questions to ask participants for discussion purposes. Please ensure the participants have a good understanding of these key messages before continuing with the training.

CLASS DISCUSSION PROMPTS

This prompt will suggest questions to ask the participants to start a good discussion among the group. For some questions, answers may be provided to help guide the conversation if participants seem reluctant to answer.

INSTRUCTOR'S NOTE:

If possible, arrange participants into smaller groups of 4–5 people during training sessions. This can be done upon arrival or around the ice breaker. If some participants seem hesitant to participate in class discussions, you can encourage them to discuss questions in smaller groups and then share their group's answers with the larger group. This strategy helps to involve more people in the conversation and prevents only a few individuals from dominating the discussion.

ADDITIONAL INFORMATION

- This training is intended for 24 participants, including hands-on food production activities for six teams of four participants each. However, if there are fewer than 24 participants, the total number of participants will be divided as needed.
- Best practices are bolded to prompt the instructor to emphasize the topic area.
- The equipment list, shopping list, setup guide, and lesson preparation information can be found in the Appendix of the Training Manual.

ACTIVITY INFORMATION

Participants will work together. At the beginning of the training, divide the participants into six teams of four. (The recommended team size for this training is four participants; however, if there are fewer than 24 participants, the total number of participants will be divided into six teams.)

Here are a few suggestions for developing teams:

- Allow participants sitting next to each other to be in teams or have them number off by the desired number of teams.
- Have child nutrition or culinary terms on one note card and the corresponding definition on another note card. Explain that participants need to circulate the room to find a match. The participants with matching cards are partners. For example, one card may have the word “food processor,” and the corresponding definition card may read, “This piece of equipment is used to shred, chop, and blend foods.”
- Place different colored dots on nametags, note cards, or on the outside of the workbooks. Use the colors to create groups or pairs.

The above suggestions can serve two purposes- an ice-breaker and a way to form lab teams.

TRAINING-AT-A-GLANCE

EXPECTED TRAINING DURATION- 2.5 HOURS

TIME	TOPIC	TASK	MATERIALS
INTRODUCTION			
20 Minutes	Welcome and Overview	<ul style="list-style-type: none"> ○ Introduce topic ○ Introduce instructor ○ Participant introductions ○ Training overview ○ Ground rules ○ Review USDA professional standards ○ Review ICN Competencies ○ Review training goals and objectives ○ Review culinary terms 	<ul style="list-style-type: none"> ○ Sign-in sheet ○ Training Manual
BASIC TASTES			
OBJECTIVE: Identify the five basic tastes.			
5 Minutes	Five basic tastes	○ Review the five basic tastes	○ Training Manual
5 Minutes	Sampling activity	○ Explore the five basic tastes through a sampling activity	<ul style="list-style-type: none"> ○ Training Manual ○ Activity supplies
5 Minutes	Other factors that affect flavor	○ Review additional food qualities that can affect the flavor of foods	○ Training Manual
AROMATIC VEGETABLES			
OBJECTIVES:			
<ul style="list-style-type: none"> ○ List examples of aromatic vegetables, such as onions, garlic, celery, and carrots. ○ Explain the role of aromatic vegetables in cooking and how they contribute to the flavor of dishes. 			
5 Minutes	Aromatic vegetables	○ Review the use of aromatic vegetables for flavor development	<ul style="list-style-type: none"> ○ Training Manual ○ Handout: Aromatic Vegetables
HERBS AND SPICES			
OBJECTIVES:			
<ul style="list-style-type: none"> ○ Identify a variety of fresh and dried herbs and spices used in child nutrition programs. ○ Recall how to use herbs and spices to develop flavor. 			
30 Minutes	Herbs and spices	○ Review the use of herbs and spices	<ul style="list-style-type: none"> ○ Training Manual ○ Handout: Herbs and Spices posters

TIME	TOPIC	TASK	MATERIALS
ACTIVITY: CREATING SPICE BLENDS			
OBJECTIVE: Create sodium-free spice blends using a variety of dried herbs and spices commonly used in child nutrition programs.			
20 Minutes	Create spice blends	○ Apply skills and knowledge to create spice blends	○ Training Manual ○ Supplies ○ Equipment ○ Handout: Spice Blends Poster
CULINARY ACIDS			
OBJECTIVE: Summarize the use of culinary acids to enhance flavor.			
10 Minutes	Culinary acids	○ Review the types and uses of culinary acids	○ Training Manual ○ Handout: Vinegar Types and Uses
DEMONSTRATION: LAYERING FLAVORS			
OBJECTIVE: Recognize how to use food items, herbs, spices, and culinary acids to layer flavor.			
20 Minutes	Demonstration	○ Demonstrate how to layer flavors in a recipe	○ Training Manual ○ Recipe: Chicken Tortilla Soup
WRAP UP			
10 Minutes	○ Review the training	○ Review the training ○ Discuss implementation of skills	○ Training Manual ○ Handout: Application Action Plan ○ Handout: Reflections
CONCLUSION			
10 Minutes	○ Training Evaluation	○ Conduct Training Evaluation ○ Conclude the training	○ Training Manual ○ Training Evaluation QR code

CICN PRESENTS: FLAVOR DEVELOPMENT

INTRODUCTION (5 MINUTES)

INTRODUCTION TALKING POINTS

- Welcome to *CICN Presents: Flavor Development*.
- You can say: This training is designed to be hands-on, inviting you, the participant, to be an active learner. Today, we will focus on developing culinary skills that will better enable you to prepare scratch and speed scratch recipes with a focus on developing flavorful foods. We will define and discuss the five basic tastes, discuss building flavor using aromatics, review herbs, spices, and culinary acids, and demonstrate how to layer flavors. The purpose of the training is to teach you ways to communicate the knowledge and skills you've gained with the people who create recipes and plan menus. You need to follow your site's recipes once you finish this training, but you can enhance the recipes by experimenting with new ingredients and cooking techniques and communicating this with your menu planner.
- Introduce yourself and other special guests. You should state your name, title/credentials, and relevant experience. Start the ice breaker.

INSTRUCTOR'S NOTE:

Introduce yourself to the attendees using the following format and select an ice breaker from the list below. Confirm that participants have signed the sign-in sheet and that they all have a copy of the workbook and a pen or pencil.

ICE BREAKER IDEAS

- Facilitate an ice breaker to provide participants with an opportunity to introduce themselves and identify their titles/credentials and relevant experience. Ideas may include asking participants to include a fun food fact about themselves in their introduction. Suggested examples include:
 - What's the strangest thing you've ever eaten?
 - If you could only eat one food for the rest of your life, what would it be, and why?
 - What's something that you regularly ate growing up?
 - What's your signature dish?
 - If you could go to dinner anywhere tonight, where would you go?
- After the ice breaker, instruct participants to form (or you may assign) six teams of four. Assign each team a number from 1 to 6 to correspond with the team's recipes listed below. (The recommended team size for this training is four participants; however, if there are fewer than 24 participants, the total number of participants will be divided as needed).
- When using recipes in a culinary lab, assign the recipes each team will work with at the beginning of the training. (Consider adjusting the recipe assignments for teams with fewer than four participants). Assigning recipes at the beginning of the training allows participants to review the recipes they will prepare. Participants will better understand how the discussed techniques during lectures and demonstrations apply to the recipes they will use during the lab exercise.
- Consider combining the ice-breaker and lab team formation.

TRAINING OVERVIEW

Refer participants to the following documents and briefly review each one:

- Ground Rules
- USDA Professional Standards
- ICN Competencies
- Training Goals and Objectives
- Culinary Terms

INSTRUCTOR'S NOTE:

Time does not allow for a review of all of the terms and definitions included in the Culinary Terms. Ask volunteers to read the definitions for the following terms: **Aromatics**, **Flavor**, **Seasoning**, **Mirepoix**, and **Sofritto**. Ask if any other culinary terms need clarification.

GROUND RULES

INSTRUCTOR'S NOTE:

Prior to the training, you can send the following ground rules to all training participants.

ICN developed ground rules to help the training 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 from them.

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 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 to prevent 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.

PROFESSIONAL STANDARDS AND KEY AREA CODE

KEY AREA CODES

1 – Nutrition

2 – Operations

PROFESSIONAL STANDARDS

General Nutrition – 1300

Employee will be able to understand the Dietary Guidelines for Americans, USDA's food guidance system concepts, and general nutrition principles.

1320 – Understand general nutrition concepts that relate to school meals, such as whole grains, sodium, etc.

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.

2130 – Develop culinary skills necessary for school meal preparation.

ICN COMPETENCIES

COMPETENCIES, KNOWLEDGE, AND SKILLS OF EFFECTIVE SCHOOL NUTRITION ASSISTANTS AND TECHNICIANS

FUNCTIONAL AREA 1: EQUIPMENT USE AND CARE — This functional area is defined as the selection, operation, and maintenance of foodservice equipment.

CORE COMPETENCY 1.1

1.1a Demonstrates the ability to select the correct foodservice equipment for the food product being prepared.

FUNCTIONAL AREA 2: FOOD PRODUCTION — This functional area is defined as the production of high-quality food products using procedures for receiving, inventory, preparation, and service of safe, appetizing, nutritious meals to students.

CORE COMPETENCY 2.2

2.2a Knows and demonstrates basic food preparation techniques used in producing large quantities of food items.

2.2b Knows and demonstrates the ability to prepare food products following standardized recipes.

CORE COMPETENCY 2.3

2.3a Knows the importance of and demonstrates proper procedures for monitoring and evaluating all foods (received and produced) to ensure quality standards are achieved.

OVERALL TRAINING GOALS

- Describe fundamental principles of flavor development in cooking.
- Identify the five basic tastes and understand the role of aromatic vegetables in adding depth and complexity to dishes.
- Learn how to identify and use a variety of fresh and dried herbs and spices to create unique flavor profiles.
- Understand how to use culinary acids to enhance and balance flavors.
- Learn to confidently layer flavors using a combination of food items, herbs, spices, and culinary acids.
- Create delicious and well-balanced dishes

TRAINING OBJECTIVES

By the end of the training, participants will be able to:

- Identify the five basic tastes.
- List examples of aromatic vegetables.
- Explain the role of aromatic vegetables in cooking and how they contribute to the flavor of dishes.
- Identify a variety of fresh and dried herbs and spices used in child nutrition programs.
- Recall how to use herbs and spices to develop flavor.
- Summarize the uses of culinary acids to enhance flavor.
- Recognize how to use herbs, spices, and culinary acids to layer flavors.

BASIC TASTES

[15 MINUTES]

TIME	TOPIC	TASK	MATERIALS
BASIC TASTES			
OBJECTIVE: Identify the five basic tastes.			
5 Minutes	Five basic tastes	○ Review the five basic tastes	○ Training Manual
5 Minutes	Sampling activity	○ Explore the five basic tastes through a sampling activity	○ Training Manual ○ Activity supplies
5 Minutes	Other factors that affect flavor	○ Review additional food qualities that can affect the flavor of foods	○ Training Manual

LESSON OVERVIEW

- In this lesson, you'll learn about the five basic tastes (salty, sweet, bitter, sour, and umami) that can influence how customers perceive the taste and quality of the food they select from a menu.

DISCUSS

- The five basic tastes are salty, sweet, bitter, sour, and umami.
 - **Salty** taste is often associated with sodium and can enhance the flavor of many foods. However, consuming too much salt can be harmful to our health. A guiding principle is to use a small amount of salt to enhance the flavor of foods. The result should never taste salty. In an effort to align with the Dietary Guidelines for Americans, the USDA has set guidelines for the meals provided under the Child Nutrition Programs.
 - **Sweet** taste is usually associated with sugary foods. Some foods, like fruit, are naturally sweet, and other foods, like soda, have added sugars. Sweetness can provide a pleasurable taste experience. The Dietary Guidelines for Americans recommends limiting added sugars.
 - **Bitter** taste is often associated with vegetables and herbs. While some people may find bitter tastes unpleasant, it can be an acquired taste.
 - **Sour** taste is usually associated with acidic foods like citrus fruits or vinegar. This taste can add a tangy flavor to dishes, but too much sourness can be overpowering.
 - **Umami** taste is often described as savory or meaty and is found in foods such as meat, mushrooms, and soy sauce. It can help to enhance the flavor of foods and make them more satisfying.
- Combining these five basic tastes can create a complex and enjoyable flavor experience. For example, adding a bit of salt to a sweet dish can enhance the sweetness, while adding a sour element to a savory dish can make it more well-rounded.

CLASS DISCUSSION PROMPT

Question: Identify some commonly used food items used in child nutrition programs that are:

- Salty
- Sweet
- Bitter
- Sour
- Umami

Possible Answer:

- Salty – cheese, deli meats, pickles, soy sauce, condiments
- Sweet – cereals, grain-based foods, apples, pears
- Bitter – lettuce, cucumber, broccoli
- Sour – vinegar, citrus fruits, yogurt
- Umami – tomatoes, mushrooms, Parmesan cheese, beef

LEARNING ACTIVITY: EXPLORING THE FIVE BASIC TASTES**DISCUSS**

- We will explore the five basic tastes and how ingredients with each taste can enhance or detract from each other.

INSTRUCTIONS

1. Start by introducing the five basic tastes of food items:
 - Bitter – Endive (or other bitter green)
 - Salt – Kosher salt
 - Sweet – Granulated sugar
 - Sour – Lemon
 - Umami – Parmesan cheese
2. Ask each participant to try a piece of raw endive and ask them to describe the taste. Encourage them to use adjectives to describe the flavor.
3. Next, add a small amount of salt to the endive and ask participants to taste it again. Discuss how the addition of salt changed the flavor of the endive.
4. On a new piece of endive, add a pinch of sugar to the endive and salt, then have participants taste and review again. Discuss how the combination of salt and sugar affected the taste.
5. On a new piece of endive, squeeze a bit of lemon juice onto the endive, salt, and sugar, then taste again. Discuss how the addition of sourness affected the taste.
6. Finally, on a new piece of endive, add a slice of Parmesan cheese to the endive, sugar, and lemon (omit salt because Parmesan has a salty quality), and taste one last time. Review the flavor and discuss how the umami flavor of the cheese affects the overall taste.
7. Lead a guided discussion on how each addition changed the flavors of the endive. Ask participants to reflect on how they felt about each combination of flavors and which they preferred the most. Encourage them to think about how they might apply this knowledge in cooking or eating.

KEY MESSAGE

- By exploring how different flavors interact, participants can better appreciate the complexity of taste and how it can be manipulated in cooking.

INSTRUCTOR'S NOTE:

Ask if there are any questions.

DISCUSS

- Now that we have identified the basic tastes, let's review some factors that can affect how foods are perceived when eaten. We will begin by explaining a flavor profile.
 - A flavor profile refers to the combination of basic tastes, smells, textures, and other sensory qualities that make up the overall experience associated with consuming a food or beverage. It is essentially the unique “personality” or “character” of the dish or drink.
- Smell
 - Smell is a sense that allows us to detect different odors in the environment.
 - When we eat, we use our senses of taste and smell to experience the full flavor of food. The smell of a food influences its taste by providing additional sensory information to our brains about the food we're eating.
 - For example, the aroma of vanilla in a dessert can enhance the dish's sweetness, while the smell of garlic can add a savory flavor to a dish.
 - So, when we eat food, our sense of smell works in conjunction with our sense of taste to create the overall flavor profile of the food.
- Texture
 - Texture refers to how food feels in your mouth, including its physical properties such as hardness, softness, chewiness, or crunchiness.
 - Texture can significantly impact a food's flavor profile because it affects how it interacts with your taste buds and how the flavors release in your mouth.
 - For example, a crunchy texture can create a more intense flavor experience by releasing the flavors more quickly and effectively. In contrast, a soft or creamy texture can create a smoother and more subtle flavor experience.
 - Texture can also influence how food is perceived, such as how refreshing or filling it feels. It can even affect the overall enjoyment of the dish. Therefore, texture is an important factor to consider when trying to create a balanced and flavorful dish.
- Visual presentation
 - Visual presentation refers to how food is arranged and presented, including the food's colors, textures, and shapes.
 - Presentation can affect a food's flavor profile because our sense of sight influences our expectations and taste perceptions.
 - For example, a visually appealing dish with vibrant colors and appealing textures can make the food seem more flavorful and appetizing, even before it is tasted. On the other hand, a poorly presented dish may not be as appealing, which can affect our enjoyment of the food and how we perceive its flavor.
 - Visual presentation can also help enhance the overall dining experience and create a more memorable meal.

CLASS DISCUSSION PROMPT

Question: What is a flavor profile, and what factors can affect it?

Possible Answers

- A flavor profile is the combination of basic tastes, smells, textures, and other sensory qualities that make up the overall taste of a food or beverage.
- The factors affecting a food's flavor profile include smell, texture, and visual presentation.
- Smell can influence taste by providing additional sensory information to the brain.
- Texture can affect how the food interacts with taste buds and how flavors are released.
- Visual presentation can influence expectations and perceptions of taste.

AROMATIC VEGETABLES

[5 MINUTES]

TIME	TOPIC	TASK	MATERIALS
AROMATIC VEGETABLES			
OBJECTIVES:			
<ul style="list-style-type: none"> ○ List examples of aromatic vegetables, such as onions, garlic, celery, and carrots. ○ Explain the role of aromatic vegetables in cooking and how they contribute to the flavor of dishes. 			
5 Minutes	Aromatic vegetables	<ul style="list-style-type: none"> ○ Review the use of aromatic vegetables for flavor development 	<ul style="list-style-type: none"> ○ Training Manual ○ Handout: Aromatic Vegetables

LESSON OVERVIEW

- In this lesson, we will discuss using aromatic vegetables to build flavor in foods. By the end of this training, you will be able to list examples of aromatic vegetables and explain how they contribute to the flavor of dishes.

DISCUSS

- Aromatic vegetables have a strong, pleasant scent and flavor. They are often used as a base for soups, stews, and other dishes to add depth and richness to the overall flavor.
- Examples of aromatic vegetables include onions, garlic, celery, carrots, and bell peppers.
- These vegetables contain natural compounds that add an earthy, sweet, or pungent flavor to food and are essential ingredients in many cuisines worldwide. When cooked, these vegetables release flavorful compounds that infuse the dish with their unique taste and aroma.
- For example, cooking onion releases a compound called sulfenic acid, which gives its characteristic sweet and savory flavor. Similarly, garlic releases a compound called allicin, which gives it its pungent and slightly bitter taste.
- Aromatic vegetables help to build layers of flavor in dishes.
- For example, when following a standardized recipe for soup or stew, you might start by sautéing onions, carrots, and celery in a little oil or butter. This process, called sweating, helps to soften the vegetables, and release their flavors into the dish. As the soup or stew simmers, the flavors of the aromatic vegetables meld with the other ingredients, creating a rich and complex flavor profile.

CLASS DISCUSSION PROMPT

Question: What recipes do you use at school that use aromatic vegetables to add layers of flavor to the dish?

Possible Answer

Answers will vary but may include the following:

- Chicken noodle soup
- Spaghetti/marinara sauce
- Chili
- Stir-fry
- Curry

INSTRUCTOR'S NOTE:

Review the **Aromatic Vegetables** handout with the participants. Discuss how some ingredients are used in their kitchens or can be used to build flavor.

HANDOUT: AROMATIC VEGETABLES

AROMATIC VEGETABLES

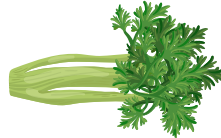
Aromatics are vegetables that work harmoniously to establish a dish's foundational flavor. The food items are cooked in heated fat (oil or butter) at the beginning stages of the recipe. As the items cook, they release their natural sugars and aromas. The level of depth in flavor that can be extracted from the vegetables depends on a combination of time and temperature

CARROT



Native to Asia and the Middle East, carrots are good sources of beta carotene, which supports the immune system and may reduce the risk for certain diseases of aging. Carrots are a good source of fiber, vitamins C and B6, and potassium. Cooking carrots releases beta-carotene for better absorption.

CELERY



Often mistakenly described as the "negative-calorie vegetable," celery has 15 calories per cup and is a source of vitamins A, C, and K, and potassium. Celery also provides quercetin, a flavonoid with antioxidant, anti-inflammatory, and heart-protecting properties. Cook celery to release its deep, savory flavor, or enjoy it raw as a crunchy snack.

CHILIES AND PEPPERS



Native to Central and South America, chili peppers range from mild to fiery hot. Heat intensity is courtesy of the chemical compound capsaicin, which may improve digestion. Smaller peppers are generally hotter. Add peppers to salsas, sauces, and entrees for a spicy kick and boost of vitamins A and C.

GARLIC



The most pungent of the alliums (plants in the onion family, which includes onions, garlic, leeks, chives, and shallots). Enjoy garlic raw or cooked in salads, stir-fries, sauces, and stews. Regularly eating garlic may reduce atherosclerosis and the risk of stomach and colorectal cancers. Garlic's rich phytochemical content delivers its potential cholesterol-lowering and cancer-fighting characteristics.

GINGER



In its native Southeast Asia and India, fresh ginger completes, with garlic and chili peppers, what's sometimes referred to in culinary circles as a holy trinity of flavor. With a signature spicy fragrance, ginger shines in sweet and savory dishes. It is rich in antioxidants such as 6-gingerol, which may reduce nausea and symptoms of vertigo. Ginger provides vitamin C, magnesium, and potassium.

ONION



A staple in the U.S., onions are an aromatics superstar. High concentrations of allyl sulfides in onions may be related to reducing heart disease and cancer. Onions are a good source of inulin (for a healthy gut), vitamin C, fiber, folate, and manganese. Enjoy sweet onions raw in salads and the pungent ones in stews, sauces, or roasted.

DISCUSS

- As school menus become more diverse in the foods served, it is helpful to understand some of the global aromatic vegetable combinations that can add flavor to your recipes.
- One popular combination is mirepoix—a mix of chopped onions, carrots, and celery. Mirepoix is commonly used as a base for soups, stews, and sauces and can add a savory, slightly sweet flavor to your dishes.
- Another combination is called trinity—often used in Cajun and Creole cooking. Trinity includes onions, bell peppers, and celery and can add a slightly spicy and sweet flavor to your dishes.
- Sofrito is a combination of onions, garlic, and tomatoes and is commonly used in Spanish, Latin American, and Caribbean cooking. It can add a bold, slightly sweet flavor to your dishes.
- If you are looking for a spicier combination, try using a curry. Curries typically includes mixtures of aromatic spices, including ginger, garlic, cumin, coriander, and turmeric. They can add a complex, spicy flavor to your dishes.
- Other combinations to consider include:
 - French bouquet garni (a mix of herbs such as thyme, bay leaves, and parsley).
 - Sofrito, which is a popular base for many dishes in Caribbean, Spanish, and Latin American cuisines (made from finely chopped and sautéed aromatics, often including ingredients like garlic, onions, peppers, and tomatoes), the Italian soffritto (spelled with two t's) is a mix of onions, celery, and carrots.
 - Chinese five spice (a mix of cinnamon, star anise, cloves, fennel seeds, and Szechuan peppercorns).
- Remember that using aromatic vegetable combinations can help enhance the flavor of your dishes making them more appealing to children. Work with your recipe development team and menu planner to experiment with different combinations to find the ones that work best for you and your recipes. Using these flavor enhancers will help reduce sodium in your meals and help you adhere to USDA guidelines while making meals more appealing to students.

CLASS DISCUSSION PROMPT

Question: What global aromatic vegetable combinations could you use to add flavor to recipes?

Possible Answer: Answers will vary.

KEY MESSAGES

- Aromatic vegetables are flavorful vegetables often used as a base in cooking. Examples of aromatic vegetables include onions, garlic, celery, carrots, and bell peppers. Cooked aromatic vegetables release flavorful compounds that infuse the dish with their unique taste and aroma. They also help to build layers of flavor in dishes.
- Different combinations of aromatic vegetables are used in various cuisines worldwide, such as mirepoix, trinity, sofrito, and curry. These combinations can add different flavors and enhance the taste of dishes. It is important to experiment with different combinations to find the ones that work best for you and your recipes.

INSTRUCTOR'S NOTE:

Ask if there are any questions.

HERBS AND SPICES

[30 MINUTES]

TIME	TOPIC	TASK	MATERIALS
HERBS AND SPICES			
OBJECTIVES:			
<ul style="list-style-type: none"> ○ Identify a variety of fresh and dried herbs and spices used in child nutrition programs. ○ Recall how to use herbs and spices to develop flavor. 			
10 Minutes	Herbs and spices	<ul style="list-style-type: none"> ○ Review the use of herbs and spices 	<ul style="list-style-type: none"> ○ Training Manual ○ Handout: Herbs and Spices poster
20 Minutes	Herbs and spices	<ul style="list-style-type: none"> ○ Practice creating spice blends 	<ul style="list-style-type: none"> ○ Training Manual ○ Handout: Herbs and Spices poster

LESSON OVERVIEW

- This lesson will cover the use of fresh herbs, dried herbs, and dried spices to enhance the flavor of foods. We will discuss the basics of how and when to use these ingredients in school meals. After the discussion, we will make sodium-free spice blends that you can use in your programs.

DISCUSS

- Fresh Herbs
 - Let's start by identifying various fresh herbs commonly used in child nutrition programs.
- Two kinds of fresh herbs are used in cooking: leafy or tender and woody or hard.
 - As the name suggests, leafy herbs have leaves as their main edible part. Examples of leafy herbs include basil, cilantro, parsley, and mint. These herbs are typically soft, have a tender texture, and are often used fresh in cooking or as a garnish.
 - Leafy herbs are usually added to dishes toward the end of the cooking process, as their delicate flavors can be easily lost if cooked for too long.
 - Woody herbs, on the other hand, have woody stems and tougher leaves. Examples of woody herbs include rosemary, thyme, sage, and oregano. These herbs are often dried and used in cooking as they have a stronger flavor and aroma that can withstand heat and prolonged cooking times.
 - Add woody herbs to soups, stews, marinades, or roasts. Fresh woody herbs can also be used to finish dishes, but the stems should be removed before use, and the leaves should be chopped finely.

CLASS DISCUSSION PROMPT

Question: By a show of hands, how many of you are using fresh herbs in your recipes? Would anyone share a few examples of how your program uses fresh herbs?

Possible Answer: Answers will vary.

DISCUSS

○ Dried Herbs

- Dried herbs are a great addition to recipes in the child nutrition programs as they add flavor and nutrition to dishes without adding salt. Here are some tips on how to use dried herbs effectively:
 - Choose high-quality dried herbs. Look for herbs that are fresh and have a strong aroma. Avoid herbs that are dull or discolored.
 - Use in moderation. Dried herbs are more concentrated than fresh herbs, so a little goes a long way. Start with small amounts and add more as needed.
 - Store properly. Keep dried herbs in a cool, dark, and dry place to maintain their freshness. Avoid storing them near heat or moisture.
 - Most fresh herbs will last about one week under refrigeration. However, some soft herbs like basil and mint might last for less, while hardier herbs like rosemary or thyme may last longer.

○ Choose dried herbs over fresh herbs when:

- You want a longer shelf life: Dried herbs can last up to a year if stored properly, while fresh herbs only last a few days. You should only buy dried herbs in quantities that you can use within three to six months.
- You want a stronger flavor: Dried herbs have a more concentrated flavor than fresh herbs, which makes them a good choice for dishes that need a stronger taste.
- You want to save money: Dried herbs are often more affordable than fresh herbs and can be used in larger quantities.

○ Dried herbs can be a great addition to your child nutrition program. By following these tips, you can use them effectively to enhance the flavor and nutrition of your dishes.

CLASS DISCUSSION PROMPT

Question: Would anyone care to share a few examples of how your program uses dried herbs in recipes?

Possible Answer: Answers will vary.

DISCUSS**○ Dried Spices**

- Dried spices are made from plant-based ingredients, such as leaves, seeds, and roots, which have been dried and ground into a powder or flakes. These spices add flavor, aroma, and color to food.
- In child nutrition programs, dried spices can make healthy, tasty meals that appeal to children. Use them to enhance the flavor of vegetables, whole grains, and lean proteins without adding extra salt, sugar, or fat. Using dried spices can also help children develop a taste for different flavors and expand their culinary horizons.

○ Some common dried spices used in child nutrition programs include:

- Cumin
- Paprika
- Oregano
- Thyme
- Basil
- Garlic powder
- Onion powder
- Chili powder
- Turmeric
- Black pepper

○ Using dried spices in child nutrition programs can add flavor and variety to meals while providing some nutritional benefits. Here are some tips for best using dried spices:

- **Start with small amounts:** When using spices during recipe development, it is best to start with small amounts and gradually increase as needed. Starting small can help prevent overpowering the dish with too much flavor.
- **Store properly:** Dried spices should be stored in a cool, dry place away from direct sunlight. Proper storage will help preserve their flavor and nutritional value.
- **Use a variety of spices:** Using a variety of spices can help add flavor and nutrition to meals. Some good options for child nutrition programs include cinnamon, garlic powder, paprika, and turmeric.
- **Consider cultural preferences:** When selecting spices, consider the cultural preferences of the children you serve. Some spices may be more familiar or preferred in certain cultures.
- **Use with other healthy ingredients:** Using dried spices in combination with other healthy ingredients, such as vegetables and whole grains, can help create flavorful and nutritious meals for children.

CLASS DISCUSSION PROMPT

Question: By a show of hands, how many of you are using dried spices in your recipes? Would anyone share a few examples of how your program uses dried spices?

Possible Answer: Answers will vary.

DISCUSS

- One of the best ways to ensure you get maximum flavor from your dried spices when cooking is to bloom the spices.
- Blooming dried spices is a process that involves heating them in oil (or other cooking fat) to release their flavors and aromas. Here's how you can do it:
 1. Heat a small amount of oil in a pan over low to medium heat.
 2. Add the dried spices to the oil and stir them continuously for a minute or two.
 3. Watch the spices closely as they start to change color and release their fragrance.
 4. Once the spices are fragrant, remove the pan from the heat and let it cool down or add the next listing of ingredients.

CLASS DISCUSSION PROMPT

Question: Has anyone tasted food that had a raw or uncooked spice flavor? If so, would you care to share how it affected the overall dish?

Possible Answer: Answers will vary.

DISCUSS

- It is important to note that not all dried spices need to be bloomed. Some dried spices can be added directly to dishes without blooming, while others may need to be toasted before blooming. Check the instructions or recipe to determine the best method for your spices.
- Overall, blooming dried spices helps to release their essential oils, intensifying their flavor and aroma.
- The following dried spices are generally better bloomed before being added to a dish:
 - **Cumin:** Blooming cumin enhances the nutty and earthy flavor.
 - **Coriander:** Blooming coriander enhances the citrusy and slightly sweet flavor.
 - **Fennel:** Blooming fennel brings out the sweet and licorice-like flavor.
 - **Chili powder:** Blooming chili powder brings out its flavor and aroma, making it more intense and delicious. The process of blooming chili powder can help create a smooth and even texture in your dish to make it more flavorful.
- On the other hand, some dried spices are better added later in the recipe to prevent their flavor from overpowering the dish or becoming bitter:
 - **Paprika:** Paprika can become bitter if overcooked, so it is better to add it toward the end of the cooking process.

INSTRUCTOR'S NOTE:

Explain that raw or undercooked/underdeveloped spices are off-putting and leave a bad taste for the customer.

- **Turmeric:** Turmeric can turn bitter if cooked for too long, so it is better to add it toward the end of the cooking process.
 - **Ground cinnamon:** Adding ground cinnamon toward the end of the cooking process helps prevent its flavor from becoming too strong and overwhelming the dish.
 - **Ground cloves:** Ground cloves have a strong, pungent flavor that can easily overpower a dish, so it is better to add it toward the end of the cooking process.
- We will demonstrate how to bloom spices later in today's training.

INSTRUCTOR'S NOTE:

Review the **Herb and Spice Posters** handout with the participants.

KEY MESSAGES

- Knowing the difference between leafy and woody herbs and how to use fresh herbs properly can enhance the flavor and nutrition of meals served through the child nutrition programs.
- Dried herbs and spices are a great way to add flavor without adding salt, sugar, or fat, and blooming them can intensify their flavors. However, not all spices need to be bloomed, and some should be added toward the end of the cooking process to prevent bitterness or overpowering the dish.
- Using a variety of herbs and spices can help create flavorful and nutritious meals for children.
- Herbs and spices can be used to improve the variety and appeal of your menu, and to prepare meals that meets students' cultural preferences.

INSTRUCTOR'S NOTE:

Ask if there are any questions.

HANDOUT: HERBS AND SPICES POSTERS

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DRIED SPICES

ALLSPICE

Earthy, Sweet



Best Used In

Baked Goods, Marinades, Sauces, Soups, Spice Blends, Stews

Fruits and Vegetables

Apples, Cabbage, Carrot, Cauliflower, Chickpeas, Root Vegetables, Sweet Potato, Winter Squash

Meats/Meat Alternates

Beef, Chicken, Legumes, Pork, Yogurt

CAYENNE

Spicy, Earthy



Best Used In

Chili, Condiments, Curry, Marinades, Salad Dressing, Salsa, Sauces, Soups, Spice Blends, Stews

Fruits and Vegetables

Bell Peppers, Black Beans, Cabbage, Cauliflower, Chickpeas, Corn, Potato, Root Vegetables, Summer Squash, White Beans

Meats/Meat Alternates

Beef, Chicken, Fish, Legumes, Pork, Tofu

CHILI POWDER

Sweet, Spicy, Smokey, Earthy, Savory



Best Used In

Chili, Condiments, Curry, Fresh Fruit, Fruit Salads, Marinades, Salad Dressing, Salsa, Sauces, Soups, Spice Blends, Tomato Sauce

Fruits and Vegetables

Bell Peppers, Black Beans, Cabbage, Carrot, Cauliflower, Chickpeas, Corn, Melon, Pineapple, Root Vegetables, Summer Squash, Tomato

Meats/Meat Alternates

Beef, Chicken, Legumes, Pork, Tofu

CINNAMON

Earthy, Sweet, Spicy, Woody



Best Used In

Baked Goods, Chili, Condiments, Curry, Fruit Salads, Marinades, Sauces, Spice Blends, Stews

Fruits and Vegetables

Apples, Carrot, Root Vegetables, Sweet Potato, Winter Squash

Meats/Meat Alternates

Chicken, Legumes, Pork, Tofu

CORIANDER

Citrusy, Earthy, Peppery



Best Used In

Chili, Curry, Marinades, Salad Dressing, Sauces, Soups, Spice Blends, Stews

Fruits and Vegetables

Bell Peppers, Black Beans, Cabbage, Carrot, Cauliflower, Chickpeas, Potato, Tomato

Meats/Meat Alternates

Beef, Chicken, Fish, Legumes, Pork, Tofu, Yogurt

CUMIN

Earthy, Nutty, Mild-Spice



Best Used In

Chili, Curry, Marinades, Salsa, Sauces, Soups, Spice Blends

Fruits and Vegetables

Bell Peppers, Black Beans, Cabbage, Carrot, Cauliflower, Chickpeas, Corn, Green Beans, Summer Squash, Tomato

Meats/Meat Alternates

Beef, Chicken, Fish, Legumes, Pork, Tofu, Turkey, Yogurt

GARLIC

granulated/powder
Savory, Spicy



Best Used In

Chili, Condiments, Curry, Marinades, Salad Dressing, Salsa, Sauces, Soups, Spice Blends

Fruits and Vegetables

Bell Peppers, Black Beans, Broccoli, Cabbage, Carrot, Cauliflower, Chickpeas, Corn, Mushrooms, Peas, Potato, Tomato, White Beans

Meats/Meat Alternates

Beef, Chicken, Legumes, Pork, Yogurt

GINGER

Mild-Spice, Sweet, Warm



Best Used In

Baked Goods, Condiments, Curry, Marinades, Spice Blends, Stir-fry

Fruits and Vegetables

Carrot, Root Vegetables, Summer Squash, Sweet Potato, Winter Squash

Meats/Meat Alternates

Beef, Chicken, Fish, Legumes, Pork, Tofu

NUTMEG

Earthy, Nutty, Sweet



Best Used In

Baked Goods, Sauces, Soups

Fruits and Vegetables

Broccoli, Cabbage, Cauliflower, Root Vegetables, Sweet Potato

Meats/Meat Alternates

Chicken, Egg, Fish, Yogurt

ONION POWDER

Sweet, Savory



Best Used In

Chili, Condiments, Curry, Marinades, Salad Dressing, Sauces, Soups, Spice Blends, Stews

Fruits and Vegetables

Bell Peppers, Black Beans, Broccoli, Cabbage, Carrot, Cauliflower, Chickpeas, Corn, Green Beans, Mushrooms, Peas, Potato, Root Vegetables, Summer Squash, Sweet Potato, Tomato, White Beans, Winter Squash

Meats/Meat Alternates

Beef, Chicken, Egg, Fish, Legumes, Pork, Tofu, Turkey, Yogurt

PAPRIKA

Mild-Sweetness



Best Used In

Chili, Condiments, Curry, Marinades, Salad Dressing, Sauces, Soups, Spice Blends, Stews

Fruits and Vegetables

Bell Peppers, Black Beans, Broccoli, Cabbage, Carrot, Cauliflower, Chickpeas, Corn, Cucumber, Green Beans, Mushrooms, Potato, Summer Squash, Tomato, White Beans

Meats/Meat Alternates

Beef, Chicken, Egg, Fish, Legumes, Pork, Tofu, Turkey, Yogurt

RED CHILI FLAKES

Spicy, Mild Sweetness



Best Used In

Chili, Condiments, Curry, Marinades, Salad Dressing, Salsa, Sauces, Soups, Spice Blends, Stews, Stir-fry, Tomato Sauce

Fruits and Vegetables

Bell Peppers, Black Beans, Broccoli, Cabbage, Carrot, Cauliflower, Chickpeas, Corn, Cucumber, Green Beans, Mushrooms, Potato, Root Vegetables, Summer Squash, Tomato, White Beans

Meats/Meat Alternates

Beef, Chicken, Egg, Fish, Legumes, Pork, Tofu, Turkey, Yogurt

TURMERIC

Mild-Aromatic, Bitter, Mild Citrus



Best Used In

Condiments, Curry, Marinades, Sauces

Fruits and Vegetables

Cabbage, Carrot, Cauliflower, Chickpeas, Potato, Sweet Potato, Winter Squash

Meats/Meat Alternates

Chicken, Fish, Legumes, Tofu, Turkey, Yogurt

PURCHASING TIP



Only buy in quantities that you can use within three months.

PRO TIP



Creating your own spice blends allows you to customize flavors to meet your student's needs.

STORAGE TIP



Keep in a dry cool place in a tightly sealed container. Moisture will quickly ruin your spices.

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DRIED HERBS

BASIL
Sweet, Peppery, Earthy



Best Used In
Condiments, Curry, Fresh Fruit, Fruit Salads,
Marinades, Salad Dressing, Soups,
Spice Blends, Tomato Sauces

Fruits and Vegetables
Cauliflower, Chickpeas, Green Beans, Peas, Potato,
Summer Squash, Tomato, White Beans

Meats/Meat Alternates
Chicken, Egg, Fish, Legumes,
Pork, Tofu, Turkey, Yogurt

BAY LEAF
Pungent, Bitter, Aromatic



Best Used In
Sauces, Soups, Stews, Tomato Sauces

Fruits and Vegetables
Chickpeas, Mushrooms, Potato, Tomato, White Beans

Meats/Meat Alternates
Beef, Legumes

DILL
Lemony, Sweet, Grassy, Floral



Best Used In
Condiments, Salad Dressing,
Salads, Sauces, Spice Blends

Fruits and Vegetables
Broccoli, Cabbage, Carrot, Cauliflower,
Chickpeas, Cucumber, Green Beans, Peas, Potato,
Summer Squash, Tomato, White Beans

Meats/Meat Alternates
Chicken, Egg, Fish, Legumes, Tofu, Yogurt

MARJORAM
Lightly-Sweet, Earthy, Mild-Bitter



Best Used In
Marinades, Salad Dressing, Sauces, Spice Blends

Fruits and Vegetables
Cauliflower, Chickpeas, Green Beans,
Mushrooms, Peas, Potato, Summer Squash,
Tomato, White Beans, Winter Squash

Meats/Meat Alternates
Chicken, Fish, Legumes, Pork, Tofu, Turkey, Yogurt

OREGANO
Pungent, Peppery, Earthy, Bitter



Best Used In
Chili, Marinades, Salsa, Sauces,
Spice Blends, Tomato Sauce

Fruits and Vegetables
Bell Peppers, Black Beans, Cabbage, Carrot,
Mushrooms, Potato, Root Vegetables,
Summer Squash, Tomato, White Beans

Meats/Meat Alternates
Beef, Chicken, Legumes, Pork, Tofu

ROSEMARY
Woody, Pungent, Lemon-Pine



Best Used In
Marinades, Sauces, Soups, Spice Blends,
Stews, Roasted Meats, Roasted Vegetables

Fruits and Vegetables
Carrot, Mushrooms, Potato, Root Vegetables,
Tomato, White Beans, Winter Squash

Meats/Meat Alternates
Beef, Legumes, Pork

SAGE
Mild-Sweetness, Earthy,
Mild-Citrus, Light-Pine



Best Used In
Sauces, Soups, Spice Blends,
Roasted Meats, Roasted Vegetables

Fruits and Vegetables
Cabbage, Carrot, Cauliflower, Chickpeas, Mushrooms,
Potato, Root Vegetables, White Beans, Winter Squash

Meats/Meat Alternates
Legumes, Pork, Turkey

THYME
Earthy, Sweet, Mild-Mint



Best Used In
Marinades, Sauces, Soups, Spice Blends,
Stews, Roasted Meats, Roasted Vegetables

Fruits and Vegetables
Citrus, Cabbage, Carrot, Cauliflower, Green Beans,
Mushrooms, Potato, Root Vegetables, Summer Squash,
Sweet Potato, Tomato, White Beans, Winter Squash

Meats/Meat Alternates
Chicken, Fish, Legumes, Pork, Tofu, Turkey

PURCHASING TIP



Only buy in quantities that you can use within three months.

PRO TIP



Adding dried herbs is a great way to add a boost to custom spice.

STORAGE TIP



Keep in a dry cool place in a tightly sealed container. Moisture will quickly ruin your dried herbs.

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FRESH HERBS

<p>BASIL Sweet, Peppery, Light Licorice Flavor</p>  <p>Best Used In Condiments, Curry, Fresh Fruit, Fruit Salads, Marinades, Salad Dressing, Salads, Sauces, Soups, Stir-fry, Tomato Sauce</p> <p>Fruits and Vegetables Bell Peppers, Broccoli, Chickpeas, Cucumber, Green Beans, Lettuce, Melon, Peas, Pineapple, Summer Squash, Tomato</p> <p>Meats/Meat Alternates Chicken, Egg, Fish, Legumes, Tofu, Turkey, Yogurt</p>	<p>CILANTRO Bright, Citrusy</p>  <p>Best Used In Chili, Condiments, Curry, Fruit Salads, Marinades, Salad Dressing, Salads, Salsa, Sauces, Soups, Stir-fry</p> <p>Fruits and Vegetables Bell Peppers, Black Beans, Cabbage, Carrot, Cauliflower, Chickpeas, Corn, Lettuce, Melon, Pineapple, Summer Squash, Sweet Potato, Tomato</p> <p>Meats/Meat Alternates Beef, Chicken, Egg, Fish, Legumes, Pork, Tofu</p>	<p>DILL Lemony, Sweet, Grassy, Floral</p>  <p>Best Used In Condiments, Marinades, Salad Dressing, Salads, Sauces, Soups</p> <p>Fruits and Vegetables Bell Peppers, Broccoli, Cabbage, Carrot, Cauliflower, Chickpeas, Cucumber, Green Beans, Lettuce, Peas, Potato, Summer Squash, Tomato, White Beans</p> <p>Meats/Meat Alternates Chicken, Egg, Fish, Legumes, Pork, Tofu, Turkey, Yogurt</p>	<p>MINT Sweet and Cool</p>  <p>Best Used In Condiments, Curry, Fresh Fruit, Fruit Salads, Marinades, Salad Dressing, Salads, Sauces</p> <p>Fruits and Vegetables Cabbage, Carrot, Cauliflower, Chickpeas, Cucumber, Lettuce, Melon, Peas, Pineapple, Potato, Summer Squash, White Beans</p> <p>Meats/Meat Alternates Legumes, Tofu, Yogurt</p>
<p>OREGANO Pungent, Peppery, Earthy, Bitter</p>  <p>Best Used In Chili, Marinades, Salad Dressing, Sauces, Soups, Tomato Sauce</p> <p>Fruits and Vegetables Bell Peppers, Black Beans, Cauliflower, Chickpeas, Mushrooms, Potato, Root Vegetables, Summer Squash, Tomato, White Beans, Winter Squash</p> <p>Meats/Meat Alternates Beef, Chicken, Fish, Legumes, Tofu, Yogurt</p>	<p>PARSLEY Fresh, Bright, Grassy, Mild-Bitter</p>  <p>Best Used In Condiments, Fruit Salads, Marinades, Salad Dressing, Salads, Sauces, Soups, Stews</p> <p>Fruits and Vegetables Bell Peppers, Broccoli, Cabbage, Carrot, Cauliflower, Cucumber, Melon, Mushrooms, Peas, Potato, Summer Squash, Sweet Potato, Tomato, White Beans</p> <p>Meats/Meat Alternates Beef, Chicken, Fish, Legumes, Tofu, Turkey, Yogurt</p>	<p>ROSEMARY Woody, Pungent, Lemon-Pine</p>  <p>Best Used In Condiments, Marinades, Sauces, Soups, Stews, Tomato Sauce</p> <p>Fruits and Vegetables Carrot, Cauliflower, Mushrooms, Peas, Potato, Root Vegetables, Sweet Potato, Tomato, White Beans, Winter Squash</p> <p>Meats/Meat Alternates Chicken, Legumes, Pork, Tofu</p>	<p>THYME Earthy, Sweet, Mild-Mint</p>  <p>Best Used In Fresh Fruit, Fruit Salads, Marinades, Salad Dressing, Sauces, Soups, Tomato Sauce</p> <p>Fruits and Vegetables Carrot, Cauliflower, Chickpeas, Mushrooms, Peas, Root Vegetables, Summer Squash, White Beans, Winter Squash</p> <p>Meats/Meat Alternates Chicken, Legumes, Pork, Tofu, Turkey, Yogurt</p>

PURCHASING TIP



Work with your vendor to see if you can purchase herbs by the bunch versus by the case.

PRO TIP



If you have access to fresh herbs, puree them with a little water and freeze the mixture for later use as a flavor booster.

STORAGE TIP



Trim the stem ends and either wrap in a damp paper towel or stand upright in a plastic hotel pan with a little water at the base.

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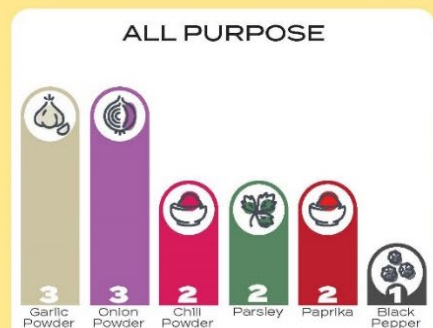
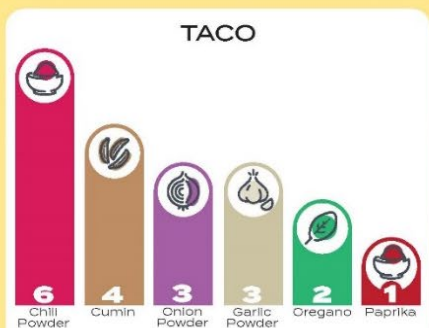
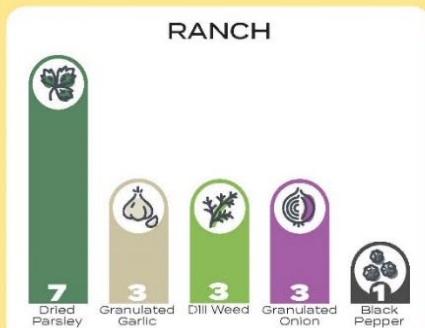
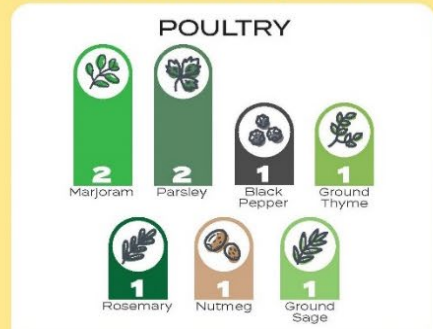
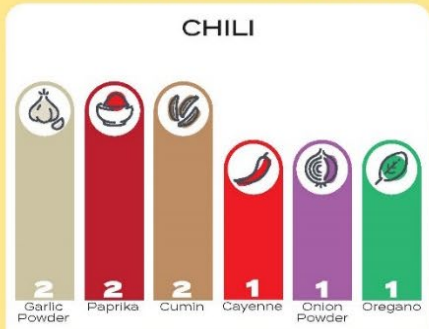
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CULINARY INSTITUTE OF CHILD NUTRITION SPICE BLENDS

The numbers referenced in each ingredient represent a ratio part.



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ACTIVITY: CREATING SPICE BLENDS

(20 MINUTES)

TIME	TOPIC	TASK	MATERIALS
ACTIVITY: CREATING SPICE BLENDS			
OBJECTIVE: Create sodium-free spice blends using a variety of dried herbs and spices commonly used in child nutrition programs.			
20 Minutes	Create spice blends	<ul style="list-style-type: none"> ○ Apply skills and knowledge to create spice blends 	<ul style="list-style-type: none"> ○ Training Manual ○ Supplies ○ Equipment ○ Handout: Spice Blends Poster

DISCUSS

- The purpose of this lab is to provide you with the opportunity to apply your knowledge and skills through creating spice blends for use in your programs.

MATERIALS

- Measuring spoons – one set per group
- Mixing bowl – one per group
- Whisk – one per group
- Containers to hold spices – 4 oz portion cup with lids
- Dried herbs and spices:
 - Allspice
 - Cumin
 - Mustard
 - Rosemary
 - Black pepper
 - Dill
 - Onion powder
 - Thyme
 - Cayenne
 - Garlic
 - Oregano
 - Chili powder
 - Ginger
 - Paprika
 - Coriander
 - Ground sage
 - Parsley

INSTRUCTIONS

1. Introduce the dried herbs and spices to the participants. Explain that this activity aims to create sodium-free spice blends that enhance the flavor of meals served to students.
2. Divide the participants into small groups that were formed earlier.
3. Refer the participants to the **Spice Blends Poster** in the **Herbs and Spice Posters** handouts.
4. Instruct participants to work within their groups to identify a spice blend they want to create. The spice blends are listed on the poster for inspiration.
5. Encourage the groups to write down the spice blend they want to create and experiment with different combinations and ratios until they find a blend they like.
6. Once the groups have written down their spice blends, they may go and measure out their spices and return to their group's work area. Once they have created their spice blends, have them taste-test them to determine if they need to make any adjustments. If necessary, they can add more of a certain herb or spice to balance out the flavor.
7. Finally, have the staff transfer their spice blends into containers with labels. They should write the name of the spice blend, the date created, and a list of the herbs and spices used. Encourage them to share their spice blends with their colleagues and use them in meal planning.

INSTRUCTOR'S NOTE:

Circulate the training space to observe and mentor the participants as they prepare and execute their spice blends.

CULINARY ACIDS

[10 MINUTES]

TIME	TOPIC	TASK	MATERIALS
CULINARY ACIDS			
OBJECTIVE: Summarize the use of culinary acids to enhance flavor.			
10 Minutes	Culinary acids	○ Review the types and uses of culinary acids	○ Training Manual ○ Handout: Vinegar Types and Uses

LESSON OVERVIEW

- This lesson provides an overview of using culinary acids to enhance the flavor of dishes and reduce the need for salt in meals served through the child nutrition programs. Culinary acids are food items with a high pH balance, such as citrus juice, vinegars, and fermented and cultured dairy products. Adding culinary acids can balance a dish and helps to highlight all the other flavors without using excess salt. Using culinary acids, child nutrition professionals can create flavorful and healthy meals that are low in sodium.

DISCUSS

- As child nutrition professionals, we all want to create delicious and healthy meals for the children we serve. One way to achieve this is by using culinary acids to enhance the flavor of our dishes.
- Culinary acids are food items with a high pH balance. Some examples are citrus juice, vinegars, and fermented and cultured dairy products. In this training, we will learn how to use culinary acids to enhance the flavor of our dishes and reduce the need for salt.
- Child nutrition recipes provide instructions for the food production team and contain the necessary information to analyze the nutrients and credit the recipe. **If you need to modify the recipe, always consult your program's menu planner or recipe developer. Additions and subtractions will alter the nutritional makeup of a recipe.**
- The Importance of Culinary Acids
 - Many times, when a dish tastes flat (lacks flavor), people think they need to reach for salt when, in fact, they are missing the acid to pull the flavors together.
 - By adding a culinary acid, you can brighten the dish and highlight all the other flavors. Before reaching for the salt, balance the dish with a low-calorie, low-sodium acid.
- How Culinary Acids Work
 - Acids highlight the sweet and salty aspects of the food, cut through the fat, and counterbalance the bitter qualities.
 - Using an acid can create a balance of flavors that will make your dishes more delicious and satisfying.

CLASS DISCUSSION PROMPT

Question: Thinking back on the Exploring the Five Basic Tastes activity, how did adding lemon juice change the flavors of the endive, salt, and sugar?

Possible Answer: Answers will vary.

DISCUSS

- When to Add Culinary Acids
 - Acid can be added to a dish either at the beginning to build a foundation or at the end to add a bright note and enhance the meal's freshness.
 - When building a foundation, consider adding a small amount of vinegar or citrus juice to the dish as it cooks. When finishing a dish, add a squeeze of lemon or a splash of vinegar to brighten the flavors and add a pop of freshness.
- Types of Culinary Acids
 - Child nutrition professionals can use different types of acids to add flavor to their dishes without relying on sodium. Here are some examples of culinary acids you can use:
 - Citrus juice
 - Lemon, lime, and orange juice can add a tangy and bright flavor to dishes.
 - Yogurt and sour cream
 - Adding yogurt or sour cream to sauces, dressings, or as a condiment can add a creamy and tangy flavor.
 - Tomato
 - Tomatoes contain natural acids that can enhance the flavor of dishes.
 - Fermented food
 - Foods like kimchi, sauerkraut, and pickles contain beneficial bacteria that can add a tangy and sour flavor to dishes.
 - Vinegar
 - Different types of vinegar, such as balsamic, apple cider, and rice vinegar, can add a sour and acidic taste to foods.
 - For more information on the types of vinegar and their uses, refer to the **Vinegar Types and Uses** handout.
 - These culinary acids can help child nutrition professionals create flavorful, healthy, low-sodium meals for children.

CLASS DISCUSSION PROMPT

Question: How do you use culinary acids in your recipes at work?

Possible Answer: Answers will vary.

KEY MESSAGES

- Incorporating culinary acids into your cooking can create flavorful and nutritious meals that everyone will enjoy. Remember, before reaching for the salt, consider adding an acid to balance the flavors of your dish.
- Use culinary acids to enhance the sweetness and saltiness, cut through the fat, and counterbalance the bitterness in your meals.

INSTRUCTOR'S NOTE:

Ask if there are any questions.

HANDOUT: VINEGAR TYPES AND USES

Culinary Quick Bites

FLAVOR ENHANCEMENT

CULINARY ACIDS

Citrus Juice



The acid in citrus juice works well to add a fresh taste to foods. Citrus zest, while not an acid, adds the fruit's true flavor and aroma to food.

Types of Vinegar



Distilled or White:
Most common, high acidity. Used for making pickles, salad dressings, ketchup, and sloppy joes.



White Wine:
Low acidity with a slight sweetness. Lighter flavor than distilled. Used for salad dressings.



Red Wine:
Low acidity with a slight sweetness. Lighter flavor than distilled vinegar. Used for salad dressings.



Cider:
Tart and sweeter than many. Used for salad dressings, braised meat (pork) dishes, marinades.



Rice:
Low acid, sweet flavor. Used for salad dressings, dipping sauces, and marinades. May also be used for making sushi rice.



Balsamic:
Wide range of styles and acidity levels. Vinegar that has sweet and almost syrupy-like qualities. Popular for making salad dressings and some marinades.

DEMONSTRATION: LAYERING FLAVORS

[20 MINUTES]

TIME	TOPIC	TASK	MATERIALS
CULINARY ACIDS			
OBJECTIVE: Recognize how to use food items, herbs, spices, and culinary acids to layer flavor.			
20 Minutes	Demonstration	○ Demonstrate how to layer flavors in a recipe	○ Training Manual ○ Recipe: Chicken Tortilla Soup

DEMONSTRATION OVERVIEW

- The instructor will cook a small batch of chicken tortilla soup to demonstrate how to build flavors through the cooking process.
- During the demonstration, participants will observe how the concepts covered in the training come together to create a flavorful dish. Chicken tortilla soup encompasses the five basic tastes using aromatic vegetables, herbs and spices, and culinary acid.

INSTRUCTOR'S NOTE:

Prior to the demonstration, prepare all ingredients and gather all equipment needed to complete the demonstration, highlighting sound mise en place practices.

Utilize the handout: **Demonstration Skills for Trainers** from the Culinary Training and Facilitation lesson. This will be helpful during chef demonstrations.

(See **Chicken Tortilla Soup Recipe** and **Demo Checklist** for ingredients and supplies.)

Inform participants that the recipe is for demonstration purposes only and is not a standardized recipe. If they would like to adopt the recipe, they are welcome to but are encouraged to use the USDA Recipe Standardization Guide for Schools to aid in the standardization of the recipe.

DEMONSTRATE/DISCUSS

- The purpose of the demonstration is to work through the process of layering flavors.
- Layering flavors is the process of combining different ingredients or seasonings in a dish so that each component contributes a distinct taste and aroma to create a complex and balanced overall flavor.
- Building flavors gradually enhances the taste and creates depth. Start with the foundation or base flavor and add complementary or contrasting flavors on top of it. The result is a harmonious blend of flavors that can make the dish more enjoyable and satisfying to eat.
- We will do this by cooking a small batch of chicken tortilla soup.
- Demonstrate how to build flavors through the cooking process by cooking a batch of chicken tortilla soup.
 - During the demonstration, describe each step to complete the recipe and how the dish's flavors develop through the cooking process.

INSTRUCTIONS

- 1. Step 1: Sweat the onion in cooking fat.** Sweating helps draw the moisture out of the onion and breaks down the cell walls.
 - The goal is to break down the cell walls of the onion and allow the flavor to escape into the cooking vessel, imparting its flavor.
 - Cooking the onion also draws out the natural sugars.
 - We will add a little bit of salt, seasoning the dish as we go.
 - For some foods, you may want to caramelize the onion, developing a deep, sweet, and rich flavor. Slowly cooking onions over low heat breaks down their natural sugars, resulting in caramelized onions with a sweet, golden-brown color and rich, mellow flavor.
 - For this recipe, we only sweat the onions, cooking them until they turn translucent and not allowing them to brown.
- 2. Step 2: Sweat the garlic.** Sweating garlic is similar to sweating onions.
 - We do not want to brown the garlic, as it will become bitter and acrid (or unpleasantly pungent) in flavor.
- 3. Step 3: Add spice blend.** Adding the spice blend to the cooking fat allows the dried herbs and spices to break down and release their flavor into the cooking fat.
 - You can smell the spice blend blooming as it cooks, releasing the flavonoids into the cooking fat.
 - Avoid burning the spice blend, as it will become bitter.
- 4. Step 4: Add cilantro stems to the cooking vessel.**
 - The stems are hardy and can hold up to the cooking application.
 - Using the stems of the herbs early in the cooking process is a great way to develop flavor and minimize waste.
 - You do not want to use a bunch of stems to garnish, so this is a good way to repurpose an item that would be wasted.

5. Step 5: Add tomato paste. Allow it to cook down just a little to pick up the flavor in the vessel and impart its own sweetness to the dish.

- Do not let it brown in this recipe. For some recipes, like a chili or beef stew, you may want to let it brown and caramelize a little, developing another layer of deep rich flavor, an umami punch.

6. Step 6: Deglaze the pan.

- Deglazing is the process of adding liquid to the pan after you have cooked down the aromatics. The process allows all the little bits of food stuck to the pan to be pulled back into the dish, developing more flavor. Common deglazing liquids include water, vinegar, citrus juice, stocks and broths, and cider.
- The little bits of food and spices that cook on the vessel's surface are called fond.
- To remove the fond, start with a small addition of liquid, scrape all the fond off the bottom and sides of the vessel, and reduce the liquid, allowing the flavor to incorporate or combine. Simmering a liquid at a gentle boil concentrates flavors and evaporates water, resulting in a reduced liquid.

7. Step 7: Add the remaining liquids, chicken product, and beans. Bring the soup to a quick boil and then drop it to a simmer, allowing the flavors to combine.

8. Step 8: Add a little stock to the cornmeal. Mix together to begin breaking down the grain.

- Cornmeal acts as a thickening agent.
- Some soups may call for cornstarch as a thickening agent, but it does not have much flavor. Cornmeal, however, has lots of flavor and will give the soup the flavor that is so desirable in chicken tortilla soups.

INSTRUCTOR'S NOTE:

Before Step 9 (adding the lime juice), have participants taste the soup. Then add the juice and have them try it again, asking them to describe the difference in flavor.

9. Step 9: Add a little fresh lime juice.

- Fresh lime juice brightens it up.

10. Step 10: Garnish the soup with cilantro leaves and a small dollop of sour cream and serve.

- Cilantro adds another bright, citrusy flavor to the dish. Sour cream adds a slight tang and helps cut through some of the spice in the soup, calming the chilies.
- Portion a small serving of soup for each participant and garnish it with cilantro and sour cream.

11. Facilitate a group discussion about the flavors.
 - Advise participants to avoid getting cilantro or sour cream on the spoon as they take their first bite. Focus on tasting the soup's flavor by itself. On their subsequent bites, incorporate the cilantro and then the sour cream.
12. Take a few moments to discuss the flavors and how each component adds or detracts from the others.

CLASS DISCUSSION PROMPT

Question: Why do people taste things differently? Why does the same flavor seem different to different people?

Possible Answers:

- Personal preference
- Illness (a cold may block taste receptors)
- Lifestyle (smokers may have reduced taste sensory)
- Anatomy (each person is unique)

KEY MESSAGES

- Applying the techniques used in the demonstration will help you develop flavorful recipes for your students. Work with your team's recipe developer(s) and menu planner(s) to identify ways you can enhance the flavor by modifying or creating recipes that are high in flavor.

RECIPE: CHICKEN TORTILLA SOUP

Chicken Tortilla Soup - For Demo



General Information

ACTIVE

Recipe # 1334106
 Category Lunch Entree
 Source Local

Chix Tortilla Soup
 Serving Size 10 10 oz
 Yield 10.00

Ingredients

Name	Quantity	Quantity
Spices, chili powder	3/4 tsp.	2
Spices, Cumin, Ground, 6/16oz shaker, US Foods, 207822	1/4 tsp.	
Spices, garlic powder	1/4 tsp.	
Spices, oregano, dried	1/2 tsp. ground	
Spices, paprika	1/2 tsp. (inactive)	
Spices, onion powder	1/2 tsp.	
Salt, Kosher, Fine Ground, 12/3#, Monarch 169468	1/4 tsp.	
Spices, pepper, black	1/8 tsp. ground	
Oil, Vegetable	2 tbsp.	
Onions, yellow, 3/8" diced, 4/5#, US Foods, 44998	4 oz.	
Garlic, minced	1 oz.	
Tomato Paste, No Salt Added, Canned	1 tbsp., 1 1/2 tsp.	
Tomatoes, Diced, No Salt Added, Canned	12 oz.	
Soup, stock, chicken, home-prepared	2 qt.	
Chicken, Unseasoned Strips, Cooked, Frozen	1 lbs., 4 oz.	
Black Beans, Low Sodium , 6/ #10 Cans, 100.25/4.6 oz., .50V, Bush's Beans, 1885	10 oz.	
Corn, Whole Kernel, No Salt Added, Canned	11 oz.	
Water, tap	3 tbsp.	
Corn Meal, Yellow, Degerminated, Gold Medal, 1/25lb, General Mills, 58401000	2 tbsp.	
Lime juice, raw	2 fl oz	
Coriander (cilantro) leaves, raw	1/4 c.	
Sour cream, fat free	4 oz.	

Preparation Instructions

HACCP Process: #2 - Same Day Service

Nutrition Facts

Serving Size 10 10 oz (395 gm)	
Amount Per Serving	% Daily Value*
Calories	300.242
Total Fat 12.030 gm	18.508 %
Saturated Fat 2.649 gm	13.243 %
Trans Fat 0.000* gm	
Cholesterol 68.339 mg	22.78 %
Sodium 664.150 mg	27.673 %
Total Carbohydrate 29.916 gm	9.972 %
Dietary Fiber 2.766 gm	11.066 %
Total Sugars 6.316 gm	
Includes 0.000* of Added Sugars	
Protein 19.707 gm	39.414 %
Vitamin A 357.003* iu	7.14 %
Vitamin C 9.417* mg	15.694 %
Vitamin D 0.000* mcg	
Calcium 55.291* mg	5.529 %
Iron 1.593* mg	8.849 %
Potassium 351.462* mg	7.478 %
Saturated Fat % of Calories	23.837%

Demonstration: Layering Flavors

Prep List:

Measure all ingredients and stage for production.

Thaw chicken strips (overnight, under refrigeration)

Drain and rinse beans and corn- reserve

Dice onions- reserve

Mince garlic- reserve

Rough chop cilantro leaves and mince stems- reserve for garnish and cooking.

Juice Limes- reserve

For Spice Mix- Combine listed seasonings to create a spice blend- reserve

Heat the cooking vessel to medium heat

Add listed oil, heat until oil is hot and a shimmer forms

Add onions and 1/8 tsp salt, and sauté (stir frequently) until tender and translucent- about 3-5 minutes.

NOTE: Sauté time may be longer for larger batches

Once the onions are tender and translucent, add the listed garlic, constantly stirring, until the garlic is fragrant approx. 1-3 minutes.

Add listed seasoning mix- stir into onions and garlic.

Cook for 2-3 minutes allowing spices to bloom- do not burn.

Add minced cilantro stems and stir.

Add tomato paste- cook for 2-3 minutes to cook the raw flavor out of the product.

Add diced tomato and liquid

Add stock

Bring to a boil, reduce to a simmer

Add Chicken, Beans, and Corn

Allow simmering

Mix cornmeal with water to create a slurry.

Add to pot of cooking liquid- bring to a slight boil, stirring constantly, reducing to simmer, stirring occasionally.

Prior to service, add lime juice and stir- it into the soup.

Portion into 4 oz portion cups or small soup bowls

* Indicates missing Nutrient Information.

^ Indicates user added nutrient.

The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

WARNING: TRANS FAT VALUES ARE PROVIDED FOR INFORMATION PURPOSES ONLY. NOT FOR MONITORING PURPOSES.

WRAP UP

(10 MINUTES)

TIME	TOPIC	TASK	MATERIALS
WRAP UP			
10 Minutes	Review the training	<ul style="list-style-type: none"> ○ Review the training ○ Discuss implementation of skills 	<ul style="list-style-type: none"> ○ Training Manual ○ Handout: Application Action Plan ○ Handout: Reflections

DEMONSTRATE/DISCUSS

- Today, we discussed important concepts related to culinary skills and the many benefits associated with flavor development.
- We have discussed the following:
 - The five basic tastes
 - Types of aromatic vegetables
 - The role of aromatic vegetables in cooking and how they contribute to the flavor of dishes
 - The types of fresh and dried herbs and spices
 - How to use herbs and spices to develop flavor
 - The uses of culinary acids in enhancing flavor
 - How to use herbs, spices, and culinary acids to layer flavors
- Thank you for your participation during the training today. I hope you found it beneficial and gained knowledge and skills that will assist you in preparing and serving meals for the students in your program.
- We know that learning is always enhanced if we are given a chance to relate personally to the material and how we might apply it.

ACTION PLANNING

- Direct participants to the **Application Action Plan** worksheet. Give participants about 5 minutes to fill in the answers for the three sections on the worksheet:
 - List the most useful knowledge and/or skills you gained during this training.
 - What are some steps you can take to apply what you have learned?
 - What barriers do you think you might face when trying to apply what you have learned at your job?

CLASS DISCUSSION PROMPT

Now that we have concluded our final lesson, are there any questions?

- Spend 5 minutes (more if time allows) allowing participants to share what they wrote in their **Application Action Plan**, and as a group, offer suggestions for eliminating any perceived barriers they mention.
- Encourage participants to jot down ideas they may want to “borrow” from each other as they share their thoughts.
- Encourage participants to network and stay connected to share success stories and offer support.
- Encourage participants to spend some time thinking through what they have learned in this lesson. They can write some of their reflections in the **Reflections** page so they can come back to these thoughts later.

The ICN has numerous other training resources available online at www.theicn.org, including access to the Child Nutrition Recipe Box, Child Nutrition Sharing Site, Culinary Institute of Child Nutrition resources, and the ICN Help Desk for further technical assistance.

APPLICATION ACTION PLAN

List the most useful knowledge and/or skills you gained during this training.

What are some steps you can take to apply what you have learned?

What barriers do you think you might face at your job when trying to apply what you have learned at this training?

CONCLUSION

(10 MINUTES)

TIME	TOPIC	TASK	MATERIALS
WRAP UP			
10 Minutes	Training Evaluation	<ul style="list-style-type: none"> ○ Conduct Training Evaluation ○ Conclude the training 	<ul style="list-style-type: none"> ○ Training Manual ○ Training Evaluation QR code

DISCUSS

- Congratulate participants for completing the training.
- Remind the participants to implement their new knowledge and skills through their action plans.
- Ask participants to complete an evaluation of the training.

DEMONSTRATE/DISCUSS

- Facilitate a question-and-answer session.
- Allow participants to ask questions and provide answers.
- If a question is state-specific, direct participants to their State agency.
- If a question needs further attention, direct participants to the ICN Help Desk.
- Thank you for your participation today. Please visit the [ICN website](http://www.theicn.org) (www.theicn.org) for future training needs. ICN has several online trainings available through the ICN iLearn system.

INSTRUCTOR'S NOTE:

Thank the participants and the host site (if applicable) and conclude the training.

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APPENDIX

CULINARY TERMS

A la carte – Food items that can be purchased as separate items rather than part of a reimbursable meal

Acidulation – The process of adding citric or acetic acid to water, used to preserve color, to clean aluminum, or to soak kidneys and game.

Additives – Substances added to many foods to prevent spoilage or to improve appearance, texture, flavor, or nutrition; they might be synthetic materials copied from nature or naturally occurring substances

Aerate – To incorporate air into a mixture by sifting or mixing

Al Dente – Italian term meaning “to the tooth”; used to describe mainly pasta that is cooked until a slight resistance when bitten into

Aroma – The sensations of smell as interpreted by the brain

Aromatics – Plant ingredients, such as onion, garlic, herbs, and spices, used to enhance the flavor and fragrance of food

Back-loading spices – Adding seasoning and spice at or near the end of the cooking process

Bake/Roast – Dry-heat cooking method in which foods are surrounded by hot, dry air in a closed environment

Baste – To moisten foods using their natural juices periodically during cooking

Batch cook – Prepare a menu item in small amounts, so it will be at its peak quality when placed on the service line

Blanching – To briefly submerge in simmering water, boiling water, or fat to assist in the preparation of foods

Blend – The process of combining two or more ingredients so that they lose their individual characteristics and become smooth and uniform

Blooming – A cooking technique where spices are gently heated in oil or fat to intensify their flavors and aromas

Boil – The cooking of food by immersion in water that has been heated to near its boiling point (212 °F or 100 °C)

Bound salad – A salad comprised of cooked meats, poultry, fish, shellfish, pasta, or potatoes combined with a dressing

Braise – A combination-cooking method that first sears the food at a high temperature then finishes it in a covered pot at a low temperature while sitting in some amount of liquid

Broil – A method of cooking using direct heat, which is much like grilling except that the heat source is over the food instead of under it

Brown –The process of partially cooking the surface of meat to help remove excess fat and give the meat a brown color crust and flavor through various browning reactions; ground meat will frequently be browned prior to adding other ingredients and completing the cooking process

Brunoise – The finest dice and is derived from the julienne

Calorie – A measure of energy

Caramelize – The process of browning sugar in the presence of heat

Carryover cooking – When food retains heat and continues to cook even after being removed from the source of heat

Chef knife – A large, general-purpose kitchen knife, usually 8” to 10” long, that has a blade curving upward along its length and ending in a narrow point

Chiffonade – A preparation of finely sliced or shredded leafy vegetables or herbs

Chop – To cut into pieces of roughly the same size

Coagulation – The irreversible transformation of proteins from a liquid or semi-liquid state to a drier, solid state

Coring – The process of removing the seeds or pit from fruit or vegetable

Cross-contact – Occurs when an allergen accidentally transfers from one food to another food or from a food contact surface to a food that does not contain the allergen

Cross-contamination – The transfer of pathogens such as bacteria, viruses, and parasites from hand-to-food, food-to-food, or equipment and contact surfaces-to-food (You are probably most familiar with this type of contamination.)

Culinary acid – A substance that neutralizes a base (alkaline) in a liquid solution; includes foods like citrus juice, vinegar, and wine that have a sour or sharp flavor; acids have a P.H. of less than 7

Danger zone – The temperature range in which bacteria grow rapidly—41 °F to 135 °F; bacteria can double in number in as little as 20 minutes

Degrease – To remove the fat from the surface of a hot liquid such as a sauce, soup, or stew, also known as defatting or fat trimming

Dice – To cut ingredients into small cubes (1/8” for small or fine, 1/4” for medium, 3/4” for large is standard)

Dietary Guidelines for Americans – Provides information to help Americans make healthy food choices; based on the current body of nutrition science, the Dietary Guidelines is a go-to resource for policymakers, public health professionals, and other experts working to improve the health of individuals, families, and communities across the nation

Dredging – To coat a food item in flour or ground crumbs prior to frying or sautéing

Dry heat cooking – Cooking with the circulation of hot air or direct contact to transfer heat to food without the use of moisture, steam, broth, water, or any type of liquid; methods include grilling, pan-frying, broiling, baking, and deep-fat frying

Emulsion – A uniform mixture of two unmixable liquids, such as oil and water, are forced into a uniform distribution

Enzymatic browning – An oxidation (see Oxidation) reaction that takes place in some foods, mostly fruit and vegetables, causing the food to turn brown

Evaporation – Heated water that is turned into a gas and vaporizes

Fabrication – The process of slicing and dicing food, often used to describe slicing or dicing fresh fruits and vegetables

Fat – One of the basic nutrients used by the body to provide energy; also provides flavor to food and gives a feeling of fullness

Fiber – A plant-based nutrient that is sometimes called roughage or bulk; a type of carbohydrate but, unlike other carbs, cannot be broken down into digestible sugar molecules

FIFO – An inventory system that ensures that items that are purchased first are used first. When new items arrive, they must be placed behind the older items on the storage shelves, cooler, or freezer

Flavonoids – Plant pigments that dissolve readily in water, found in red, purple, and white vegetables such as blueberries, red cabbage, and beets

Flavor – The sensory impression of a food or other substance, determined mainly by the chemical senses of taste and smell

Fold – The process of blending a light ingredient, such as beaten egg whites, into a heavier ingredient by lifting from underneath with a spatula or spoon

Front-loading spices – Adding seasoning and spice at or near the beginning of the cooking process

Garnish – An edible decoration or accompaniment to a prepared dish to increase eye appeal

Grate – The process of transforming solid, firm food items into small pieces by rubbing the item against a grating instrument.

Honing Steel – A kitchen tool that is mounted on the handle is a rounded stick-like rod—typically made from steel, ceramic, or diamond-coated steel. They are commonly used to straighten the edge of a knife as it is dragged along the rod from heel to tip in a downward slicing motion.

Julienne – A culinary knife cut in which the food item is cut into long thin strips, similar to matchsticks

Knead – A method of mixing pliable dough by stretching, folding, and pushing in order to form gluten in the flour

Maillard reaction – A chemical reaction between an amino acid and a reducing sugar, usually requiring the addition of heat; like caramelization, it is a form of non-enzymatic browning

Marinade – A liquid, such as vinegar or oil, with spices or other flavorings added to it that is made for the purpose of soaking a food in it to add flavor or to tenderize

Marinate – The process of soaking foods in seasoned and acidic liquid before cooking for hours or days, adding flavor to the food

Melt – To become altered from a solid to a liquid state, usually by heat

Mince – To cut into very small pieces where uniformity or shape is not important

Mirepoix – A French term used to describe a combination of chopped flavorful vegetables used to flavor stocks, soups, braises, and stews; contains two parts onion to one part each of celery and carrot

Mise en place – Meaning “everything in place”; refers to the preparation and organization of ingredients and equipment

Mix – To combine, join, blend, or put together two or more things

Moist heat cooking – Cooking with water, other liquid, or steam to transfer heat to food; methods include poaching, simmering, boiling, braising, stewing, pot roasting, and steaming

Nutrient analysis – Calculated nutrient content of foods, recipes, and/or menus

Nutrient dense – Food that is high in nutrients but relatively low in calories; contains vitamins, minerals, complex carbohydrates, lean protein, and healthy fats

Nutrients – A substance used by an organism to survive, grow, and reproduce

Oxidation – A chemical reaction that takes place in some foods, mostly fruit and vegetables, causing the food to turn brown

Parboiling – To partially cook a portion of food in simmering/boiling water; similar to blanching but cooked for longer

Parcooking – Partially cooking food by any cooking method

Paring knife – A thin-bladed knife intended for coring and paring (peeling) fruit such as apples as well as slicing small ingredients; it is majorly used for detailed and controlled cutting

Pasteurization – The process of heating foods, such as milk, cheese, yogurt, beer, fruit ciders, wine, and other foods to a temperature high enough and for a sufficient period of time to destroy harmful micro-organisms

Peel – The outer skin or rind of a fruit and vegetable; this outer skin will generally be removed and discarded before the vegetable is used, but there are occasions when it is left on; the peel on a fruit is also often removed, but depending on its use, it may be required to remain on the flesh of the fruit

Pilaf – A savory rice dish in which the rice is browned in oil or butter before it is cooked in liquid; cooked in just enough liquid so that all of the liquid is absorbed; contains various seasonings and generally includes chopped vegetables

Poach – A method in which items are cooked gently in liquid at 160 °F to 180 °F

Portion – Also known as serving size; a standardized amount of food served

Purée – Cooked food, usually vegetables, fruits, or legumes that has been ground, pressed, blended, or sieved to the consistency of a creamy paste or liquid

Reduce – The process of thickening and intensifying the flavor of a liquid mixture such as a soup, sauce, wine, or juice by simmering or boiling; as the food cooks, the liquid evaporates, leaving the cooking vessel and decreasing the total volume of liquid

Render – To transform solid fat into liquid form by use of heat

Rondelle – A type of cut that creates round or oval, flat pieces by cutting a cylindrical vegetable crosswise

Roux – A mixture of fat (especially butter) and flour used as a thickening agent in the making of sauces

Sauté – To cook food quickly over relatively high heat, literally meaning “to jump” as the food does when placed in a hot pan

Score – To make shallow cuts in the surface of meat, fish, bread, or cakes; has several purposes, such as decorating the food, tenderizing, aiding in the absorption of flavor when marinating, and allowing fat to drain from meat while cooking; trays of baked items such as cornbread may be scored to indicate where the item should be cut without actually cutting it

Scratch-based food preparation – Utilizes multiple culinary techniques within a recipe while prioritizing the incorporation of ingredients as close to their original state as possible to produce student-approved menu items

Seasoning – An ingredient added to a dish that intensifies the flavors of other ingredients

Shred – A method of cutting food into thin slices or pieces using a sharp knife, food processor, or grater. Shred cooked meat by pulling apart into strips using forks

Simmer – To maintain the temperature of a liquid just below boiling; also a cooking method in which items are cooked in a simmering liquid

Slice – To cut, generally across the grain, into thin pieces that are consistent in thickness; will most often range from 1/16” to 3/8” in thickness

Slurry – A thickening mixture that is made up of equal parts flour and water that is prepared for use in making soups, stews, and sauces

Sofrito – In Italy, sofrito is called soffritto (or, if raw, battuto) and is a combination of three ingredients: onion, carrot, and celery, with a ratio of two parts onion to one part carrot and celery

Spatula – A hand-held tool that is used for lifting, flipping, or spreading

Speed-scratch food preparation – Incorporates value-added food products with additional ingredients, utilizing minimal production steps, to produce student-approved menu items

Spice – A seed, fruit, root, bark, or other plant substance primarily used for flavoring, coloring, or preserving food

Standardized recipe – A recipe that has been tried, adapted, and retried several times for use by a given foodservice operation, and it has been found to produce the same quality results and yield every time the exact procedures are used

Steam – A cooking process that places foods above, not in, water that is boiling or hot enough to produce steam that cooks the foods with moist hot air (vapors)

Stew – A cooking technique that calls for the main ingredient to be cut into bite-sized pieces, either stewed or blanched, and then cooked in a flavorful liquid that may be thickened with flour or roux

Stir-fry – A cooking method traditionally performed in a wok; foods are cut into small pieces and stirred or tossed frequently as they cook

Stock – A flavorful liquid prepared by simmering bones and/or vegetables in water with aromatics until their flavor is extracted; used as a base for soups, sauces, and other preparations

Strain – To remove undesirable particles from a liquid, to separate liquid from other solids, or to separate various contents from other contents, such as removing smaller particles from larger particles

Sweat – To cook, usually covered, without browning over low heat to encourage flavors to be extracted from vegetables and spices

Tare – Reset an electronic or spring-style scale to zero, also known as “zero the scale,” and may be used to weigh ingredients without weighing the container

Time standard – A recipe that has been tried, adapted, and retried several times for use by a given foodservice operation, and it has been found to produce the same quality results and yield every time the exact procedures are used

Toast – Browning food by exposure to dry heat

Toss – To mix the ingredients of a food dish, such as salads and pasta, by using a light lift and drop method

Trinity – A combination of aromatic vegetables, including onion, celery, and green bell pepper.

Umami – The name for the taste sensation produced by the free glutamates commonly found in fermented and aged foods

Whetstone – A fine-grained stone that sharpens knives when the blade is drawn across the coarse surface of the stone at a 22° angle

Whip – To beat food with a mixer to incorporate air and produce volume, often used to create heavy or whipping cream, salad dressings, or sauces

Work simplification – The process of finding the easiest and most efficient way to do a job

Yield – The amount of product resulting in the completion of the preparation process

Zest – To cut the zest, or the colorful part of the skin that contains oils and provides aroma and flavor, away from the fruit

INSTRUCTOR'S PREPARATION GUIDE

The preparation guide is designed to help the instructor prepare for each food/cooking activity. The narrative in the training manual provides more detail.

For all demonstrations, please have your mise en place staged for quick access as you work through the various demonstrations. Time is limited, so being fully prepared before beginning the demos is essential.

NOTE: Please use the same knife and cutting board (as appropriate) throughout the training. A chef knife and cutting board are listed in most of the demo prep guides; using a new knife and board each time is not required. Clean, as appropriate, between tasks.

Emphasize the need to follow the site's recipes upon returning to work throughout the demos. Recommend the participants work with their menu planners and recipe developers to adjust the site's recipes (if needed) based on the lessons learned during the demonstrations.

The recipes used during the demos are for demonstration purposes only. They are not nutritionally analyzed nor credited for use in the National School Lunch Program (NSLP)/School Breakfast Program (SBP)/Child and Adult Food Care Program (CACFP).

CHEF ACTIVITY AND DEMO GUIDE

Activity Name: Exploring the Five Basic Tastes

PREPARATION NOTES

Prior to the training, set up each participant (24 total) with a plate with the following items:

- 2–3 endive leaves
- Small amount of kosher salt
- Sugar packet
- Lemon wedge
- 2–3 Parmesan shavings

INGREDIENTS

- Endive
- Salt
- Sugar
- Lemon
- Parmesan

EQUIPMENT

- Chef knife – 1
- Cutting board – 1
- Small paper plate or bowl – 24

Activity Name: Creating Spice Blends

PREPARATION NOTES

Set up 6 work areas (or tables), each with 1 mixing bowl, 1 whisk, and 1 set of measuring spoons. Place the assorted herbs and spices in a central location for all groups to access. Release groups one at a time to access the herbs and spices once they have their spice blend and ratios picked out.

INGREDIENTS

- Allspice
- Black pepper
- Cayenne
- Chili powder
- Coriander
- Cumin
- Dill, dried
- Garlic, granulated
- Ginger, ground
- Ground sage
- Mustard
- Onion powder
- Oregano, dried
- Paprika
- Parsley, dried
- Rosemary, dried
- Thyme, dried

EQUIPMENT

- Mixing bowl – 6
- Measuring spoons – 6
- Whisk – 6

Demo Name: Layering Flavors

PREPARATION NOTES

Review the recipe and prepare your mise en place before the training. Stage the ingredients in an easily accessible cold storage location (if possible). Follow the step-by-step narrative on how to make the soup. During the demo, talk through each step, ask if there are questions, and be engaging.

INGREDIENTS

- Refer to the recipe

EQUIPMENT

- Double burner – 1
- Extension cord (if needed)
- 4 qt stock pot – 1
- High-temp spatula – 1
- 4 fl oz ladle – 1
- Chef knife – 1
- Cutting board – 1
- Small bowls for tasting
- Spoons for tasting

EQUIPMENT CHECKLIST

INSTRUCTOR'S NOTE:

At least 4 weeks prior to the training, contact the site coordinator to ensure the equipment is available. If any equipment is unavailable on-site, ask the site coordinator if it is possible to borrow equipment from another kitchen. Then, if any equipment is still unavailable, coordinate with the Institute of Child Nutrition to ship missing equipment as needed. Clean and return the ICN's equipment after the training using the shipping label provided with the equipment.

EQUIPMENT	TOTAL	CONFIRM EQUIPMENT IS PRESENT	USE THIS SPACE TO ADD COMMENTS IF EQUIPMENT/SUPPLIES ARE NOT AVAILABLE. PLEASE INCLUDE ANY EQUIPMENT SUBSTITUTIONS USED.
APPLIANCES			
Double burner (from ICN)	1		
POTS & PANS			
Stockpot, 4 qt	1		
SMALL KITCHEN TOOLS			
Measuring spoon set	6		
Chef knife	1		
Cutting board	1		
High-temp spatula	1		
Strainer/colander	1		
Mixing bowls	6		
Whisk	6		
Can opener	1		
Ladle, 4 fl oz	1		
MISCELLANEOUS			
Extension cord	1		

SHOPPING LIST**INSTRUCTOR'S NOTE:**

If certain ingredients are unavailable where you are training, use your best culinary judgment to find an alternative.

FOOD	TOTAL NEEDED	INVENTORY FROM PRIOR WORKSHOP	PURCHASED
PRODUCE			
Endive	12 head		
Lemon	6 ea		
Lime	8 ea		
Garlic	1 head		
Onion	1 large		
COOLER			
Cheese, Parmesan, shaved	1 container		
Sour cream, nonfat	1 small unit		
FRESH HERBS			
Cilantro	1 bunch		
FREEZER			
Chicken strips, unseasoned, unbreaded	2 lb		
DISPOSABLES			
Portion cups w/ lids	1 pack		
Small paper plates or bowls, spoons	48		
CANNED/DRY GOODS			
Beans, black	2 cans		
Canola	1 small unit		
Corn, kernel, low-sodium	2 cans		
Cornmeal	1 small unit		
Salt, kosher	1 small unit		
Stock, chicken, low-sodium	3 qt		
Sugar, packets	1 small unit		
Tomato, diced, canned, low-sodium	2 cans		
Tomato paste, low-sodium	1 can		

FOOD	TOTAL NEEDED	INVENTORY FROM PRIOR WORKSHOP	PURCHASED
DRIED HERBS AND SPICES (PURCHASE IN QUANTITIES LARGE ENOUGH TO CONDUCT THE SPICE BLENDS ACTIVITY)			
Allspice			
Cayenne			
Chili powder			
Coriander			
Cumin, ground			
Dill			
Garlic, granulated			
Ginger, ground			
Mustard			
Onion powder			
Oregano			
Paprika			
Parsley			
Pepper, black			
Rosemary			
Sage, ground			
Thyme			



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