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Sodium Reduction VILT Series

Identifying Low-Sodium Food Products and Menu Planning Strategies to Meet Meal Pattern Requirements

Participant's Workbook

Sodium Reduction VILT Series: Identifying Low-Sodium Food Products and Menu Planning Strategies to Meet Meal Pattern Requirements

Participant's Workbook

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PURPOSE

Improve the operation of child nutrition programs through research, education and training, and information dissemination.

VISION

Lead the nation in providing research, education, and resources to promote excellence in child nutrition programs.

MISSION

Provide relevant research-based information and services that advance the continuous improvement of child nutrition programs.

Disclaimer

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SHAKING IT UP! WORKSHEETS

The Shaking It Up! sodium resources provide tangible, practical guidance for school nutrition professionals to implement sodium reduction best practices and strategies in their school foodservice operations. The worksheets provide a deep dive into a sodium reduction topic and related strategies, feature scenarios or school success stories to demonstrate sodium reduction best practices, and include activities to test and reinforce key concepts.

Featured worksheets:

- Scoping Out Sodium in School Menus
- Sodium Swaps: Utilizing Product Substitution
- Strategies, Tips, and Tricks to Reduce Sodium and Enhance Flavor
- Mindfully Seasoning Your Menus
- Weighted Nutrient Analysis of Sodium
- Setting Weekly and Daily Sodium Goals

Shaking It Up!
SMALL CHANGES LEAD TO BIG FLAVORS

SCOPING OUT SODIUM IN SCHOOL MENUS

As a school nutrition operator, you play an important role in reducing sodium intake among our children. Best known as a component of table salt (chemical name: sodium chloride), sodium is an essential nutrient that our bodies need in certain amounts. However, most Americans—including children—consume too much sodium, about 3,400 milligrams (mg) per day! Children consume sodium throughout the day from multiple foods and locations, including school cafeterias.

Table salt is made up of 40% sodium and 60% chloride.

The *Dietary Guidelines for Americans, 2020–2025,* recommends that adults and high school-age students limit their sodium consumption to less than 2,300 mg (approximately one teaspoon of salt) per day. Younger children should consume even less! Too much dietary sodium can lead to chronic illnesses, such as stroke and heart disease.

Small amounts of sodium are naturally found in foods, but most sodium comes from salt added during food processing and preparation. Identifying foods or dishes that are typically high in sodium can help you quickly examine the frequency of high-sodium menu offerings throughout the week. Understanding how to apply the sodium information provided on the Nutrition Facts label will help you seek out lower-sodium versions of high sodium menu items when developing your menu.

SNEAKY SOURCES OF SODIUM

According to the Centers for Disease Control and Prevention (CDC), almost half (48%) of the sodium in children's diets come from the following foods or mixed dishes:

- Breads, rolls, and tortillas
- Burritos and tacos
- Cheese
- Deli/cured meats (luncheon/sandwich meat, ham, and sausage)
- Pizza
- Poultry (chicken patties, nuggets, and tenders)
- Sandwiches (hamburgers, hot dogs, and sub sandwiches)
- Snack foods (crackers, chips, pretzels/snack mix, and popcorn)
- Soups

Additional sneaky sources of sodium often found in school menus include:

- Corn dogs
- Flavored milk*
- Pickles and olives
- Potato products (mashed potatoes, oven-baked fries, potato wedges, and tater tots)
- Ready-to-eat cereals
- Salad dressings (ranch, Italian, and French), mayonnaise, and soy/teriyaki sauce
- Tomato-based sauces and condiments (spaghetti sauce, marinara sauce, ketchup, and salsa)

**Additional sodium is added to flavored milk during processing.*

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Limiting the frequency of high-sodium menu items served within a weekly menu will help you meet the weekly sodium limits.

Consider the following lunch menu:

1 Circle or highlight sneaky sources of sodium you notice on the menu. Which items could be served less frequently?

2 Next, let's look at the menu items categorically, keeping in mind we only have a one-week menu (versus a cycle menu) and do not know the actual sodium quantities.

Monday	Tuesday	Wednesday	Thursday	Friday
Main Entrée				
Turkey and Cheese Sandwich	Chicken and Cheese Tortilla	Chicken Nuggets	French Toast Sticks Sausage Patty	Beef Teriyaki Dipper Fried Rice
Vegetables				
French Fries Broccoli Tossed Salad	Mexicali Corn Refried Beans Tossed Salad	Mashed Potatoes Carrot Sticks Tossed Salad	Sweet Potato Fries Carrot Raisin Salad Tossed Salad	Celery Chinese-Style Veggies Tossed Salad
Fruit				
Apples Bananas Peaches	Apples Bananas Pears	Apples Bananas Fruit Cocktail	Apples Bananas Oranges	Apples Bananas Peaches
Condiments				
Ketchup Mustard Salad Dressing	Ketchup Mustard Salad Dressing	Ketchup Mustard Salad Dressing	Syrup Salad Dressing	Salad Dressing
Milk				
Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain

Main Entrée:
The turkey and cheese sandwich, chicken and cheese tortilla, and chicken nuggets are all sneaky sources of sodium.

- Limit your highest sodium entrée menu items to two per week.
- Pair high sodium entrées with lower-sodium versions or entrées. For example, offer another option with the turkey and cheese sandwich on Monday—a turkey sandwich without cheese. Serving a lower-sodium alternate version or second entrée is another avenue in which to lower the sodium average for the day.

Vegetables:
Three potato products—French fries, mashed potatoes, and sweet potato fries—are provided on this menu!

- Offer potato products only once or twice per week. Consider offering another fresh, frozen, or low sodium canned vegetable as an alternative.

Fruit:
Naturally low in sodium, fruit will be among the lowest sodium items offered on any menu.

- Increasing the amount and variety of fruit offered may help offset the consumption of higher-sodium items.

Condiments:
The sodium from ketchup and salad dressing can add up quickly! Is ketchup necessary on Tuesday?

- Only provide a condiment when it is intended to go with a specific menu item. Consider limiting condiment packets or self-service of condiments.

Milk:
On average, flavored milk provides about 50% more sodium than unflavored milk.

- Consider removing flavored milk from the menu or reducing the frequency in which it is served.

Compare this menu to the menu on the previous page. Bolded menu items indicate a product substitution or an addition to the menu. Menu items with a strike-through were removed from the menu. Limiting the frequency of high sodium items can take various forms.

To identify and limit the highest sodium entrées to two per week, the cycle menu and sodium amounts are needed. However, some minor adjustments to this week's entrées helped lower its sodium average.

Monday	Tuesday	Wednesday	Thursday	Friday
Main Entrée				
Turkey and Cheese Sandwich	**Build-Your-Own Taco**	Chicken Nuggets	French Toast Sticks Sausage Patty or **Omelet**	Beef Teriyaki Dipper Fried Rice
Alternate Entrée				
Turkey Sandwich	Turkey Sandwich	Turkey Sandwich	Turkey Sandwich	Turkey Sandwich
Vegetables				
Roasted Root Veggies Broccoli Tossed Salad	Mexicali Corn Refried Beans Tossed Salad	Mashed Potatoes Carrot Sticks Tossed Salad	Sweet Potato Fries Carrot Raisin Salad Tossed Salad	Celery Chinese-Style Veggies Tossed Salad
Fruit				
Apples Bananas Peaches **Mixed Berry Cup**	Apples Bananas Pears **Strawberries**	Apples Bananas Fruit Cocktail **Pineapple Chunks**	Apples Bananas Oranges **Mixed Berry Cup**	Apples Bananas Peaches **Strawberries**
Condiments				
~~Ketchup~~ Mustard Salad Dressing	~~Ketchup~~ Mustard Salad Dressing	Ketchup Mustard Salad Dressing	Syrup Salad Dressing	Salad Dressing
Milk				
Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	~~Milk, 1% Chocolate~~ Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	~~Milk, 1% Chocolate~~ Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain

Main Entrée:
A build-your-own taco was substituted for the chicken and cheese tortilla. Allowing students to choose their own toppings can also help lower sodium intake.

An omelet was added as a lower-sodium alternative to the sausage patty.

Alternate Entrée:
Adding one or more lower-sodium alternative entrées, such as a turkey sandwich (without cheese), is another avenue to reduce the frequency of consumption of high-sodium entrées. You could offer the same or a unique alternative entrée daily.

Vegetables:
Potato products generally contain more sodium than other vegetable options and are frequently served with condiments. On Monday, French fries were substituted with roasted root vegetables to reduce the number of potato products on the weekly menu. This substitution also allowed for the removal of ketchup from the menu that day.

Fruit:
The variety of fruit on the menu was increased to encourage students to select it as a meal component. More students selecting fruit may help displace the consumption of higher-sodium items.

Condiments:
Ketchup was removed from Tuesday's menu as it was not paired with a specific menu item. You can review previous production records "number of portions served" to help justify the removal of condiments from the menu.

Milk:
Chocolate milk was removed from the menu on Tuesday and Thursday. If you are considering removing flavored milk from your menu or reducing the frequency in which it is served, garnering support from your Local Wellness Committee may prove helpful. Open communication explaining "why" with students and parents is strongly encouraged.

FINDING SODIUM IN THE NUTRITION FACTS LABEL

Now that you recognize food products that may be high in sodium, let's review where sodium amounts can be found to identify food products that are lower in sodium. Sodium and other nutrition information are located on the **Nutrition Facts label**, which is usually placed on the outermost packaging of a food product. If the Nutrition Facts label is not readily available, nutrient information can be found with a food product's specification sheet or the manufacturer's label.

After you find the Nutrition Facts label, locate the **Serving size** in the serving information near the top of the label and **Sodium** in the list of nutrients. The sodium amount listed refers to the amount of sodium contained in one serving of the product (milligrams of sodium per serving of product).

Nutrition Facts

177 servings per container

Serving size 5 Pieces (77g)

Amount Per Serving

Calories 140

	% Daily Value*
Total Fat 6g	8%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 50mg	17%
Sodium 250mg	11%
Total Carbohydrate 3g	1%
Dietary Fiber 0g	0%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 19g	38%

Now you try!

Sometimes the Nutrition Facts label doesn't reflect the actual serving size of the food product used in a school nutrition program. When this occurs, it's important to know how to calculate accurate nutrient amounts.

For example, if a high school lunch program operator wanted to serve six (6) chicken nuggets instead of five (5), how would they use the Nutrition Facts label provided on this page to calculate the total amount of sodium in six (6) nuggets?

STEP 1:

Calculate the amount of sodium per nugget

Amount of sodium ÷ Number of pieces per serving = Amount of sodium per piece

250 mg sodium ÷ 5 nuggets = 50 mg of sodium per nugget

STEP 2:

Multiply the amount of sodium per nugget by the new serving size

Amount of sodium per piece x New number of pieces per serving = Amount of sodium per serving

50 mg sodium per nugget x 6 nuggets per serving = **300 mg of sodium per serving**

Please visit the FDA's *What's New with the Nutrition Facts Label* to learn more about the new Nutrition Facts label!

RESEARCHING HIGH-SODIUM MENU ITEMS

Finding lower-sodium versions of high sodium menu items is another approach you can use to reduce the total amount of sodium in your school menu. The variability or range of sodium in high sodium menu items is typically quite large. You can utilize vendors' catalogs, food databases, and engage in general market research to determine where your menu items fall within the sodium range of other like items.

Check out *FoodData Central*, the USDA food composition database.

Use the following menu template to investigate your high sodium menu items' sodium content:

1. Write in a typical weekly menu.

2. Circle menu items known to be higher in sodium.

   Note the sodium content value for each high sodium menu item.

3. Scan the market to see if lower-sodium versions of your circled menu items are available.

4. If lower-sodium versions of your menu items are available, consider product substitution. Check out the worksheet *Sodium Swaps: Utilizing Product Substitution* to learn more about finding lower-sodium products and recipes for school menus.

Monday	Tuesday	Wednesday	Thursday	Friday
Main Entrée				
Vegetables				
Fruit				
Condiments				
Milk				

Adjusting the frequency in which high sodium menu items are served and finding lower-sodium versions of existing menu items are small changes that can make a big difference in your weekly sodium total!

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10/04/2024

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SODIUM SWAPS: UTILIZING PRODUCT SUBSTITUTION

As a school nutrition operator, you are probably familiar with the menu items that contribute the most sodium on a daily and weekly basis. A best practice to reduce the amount of sodium in a school nutrition program's menu is to use **product substitution**. It involves exchanging one menu item with another, generally within the same meal pattern component. Using product substitution to replace higher-sodium food products with lower-sodium versions can make a big difference in the weekly sodium total, even if the reductions are small. Understanding sodium nutrient label claims and identifying foods and condiments that are typically lower in sodium can help you utilize product substitution to the fullest extent possible.

SODIUM LABEL NUTRIENT CLAIMS

When searching for lower-sodium versions of food products, you may come across terms such as *Low Sodium* or *Sodium Free*. These terms are known as **nutrient claims**. The U.S. Food and Drug Administration (FDA) regulates the nutrient claims that food manufacturers can use to describe their products and put on food labels.

The FDA defines six (6) claims that may be used to indicate the amount of sodium in a food product. You can use these claims to quickly identify food products that ***may*** offer lower-sodium versions of the food products you currently use.

FDA-APPROVED SODIUM LABEL CLAIMS

What It Says	What It Means
Sodium Free/Salt Free	Less than 5 mg of sodium per serving
Very Low Sodium	35 mg of sodium or less per serving
Low Sodium	140 mg of sodium or less per serving
Reduced Sodium	At least 25% less sodium than the regular product
Light in Sodium/Lightly Salted	At least 50% less sodium than the regular product
No Salt Added/Unsalted	No salt is added during processing – but these products may not be salt/sodium-free unless stated. The label must declare, "This is not a sodium-free food" on the information panel if the food is not "sodium free."

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FINDING THE LOWEST-SODIUM PRODUCT

Do not fully rely on a label claim to guarantee you have the lowest-sodium version of a product. For example, a *Reduced Sodium* product may not necessarily be *Low Sodium*. Recall that a product labeled *Reduced Sodium* has at least 25% less sodium than the regular product; a product labeled *Low Sodium* contains 140 mg of sodium or less per serving.

The following example illustrates the importance of reading the actual sodium amounts listed on Nutrition Facts labels.

A serving of the ***Reduced Sodium*** **black beans** (210 mg of sodium) has about 54% less sodium than a serving of **regular black beans** (460 mg sodium)! However, at 210 mg of sodium per serving, it is not considered a *Low Sodium* product.

A serving of ***Low Sodium*** **black beans** (130 mg of sodium) has significantly less sodium than a serving of ***Reduced Sodium*** **black beans** (210 mg of sodium).

REGULAR SODIUM BLACK BEANS

Nutrition Facts

3 servings per container

Serving size 1/2 Cup (130g)

Amount Per Serving

Calories 100

	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 460mg	20%
Total Carbohydrate 20g	7%
Dietary Fiber 5g	18%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 7g	14%
Vitamin D 0mcg	0%
Calcium 40mg	4%
Iron 1.5mg	8%
Potassium 450mg	10%

*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.

REDUCED SODIUM BLACK BEANS

Nutrition Facts

3 servings per container

Serving size 1/2 Cup (130g)

Amount Per Serving

Calories 110

	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 210mg	9%
Total Carbohydrate 20g	7%
Dietary Fiber 5g	18%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 7g	14%
Vitamin D 0mcg	0%
Calcium 40mg	4%
Iron 1.6mg	8%
Potassium 470mg	10%

*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.

LOW SODIUM BLACK BEANS

Nutrition Facts

3 servings per container

Serving size 1/2 Cup (130g)

Amount Per Serving

Calories 110

	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 130mg	6%
Total Carbohydrate 20g	7%
Dietary Fiber 5g	18%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 7g	14%
Vitamin D 0mcg	0%
Calcium 80mg	6%
Iron 1.6mg	8%
Potassium 480mg	10%

*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.

The nutrient content found on these Nutrition Facts labels for regular, Reduced Sodium, and Low Sodium black beans are for educational purposes only. The nutrient content of canned black beans varies by manufacturer formulation and brand.

TAKE ACTION TO COMPARE!

Compare Nutrition Facts labels of similar products among the same brand and between different brands to find the lowest-sodium version. Keep in mind that the sodium level of a food product that fits the menu of one school district may not fit the menu of another school district, based on overall menu offerings and student preferences.

CHOOSING LOWER-SODIUM FOODS AND CONDIMENTS

The following table lists food products and condiments that are typically lower in sodium. Incorporating more of these foods in your menu, as well as scratch or speed-scratch food preparation, will help you reduce your weekly sodium totals.

LOWER-SODIUM FOODS BY MEAL PATTERN COMPONENT	
Fruit	• Most fresh, frozen, and canned fruit is naturally sodium-free or very low in sodium.
Vegetables	• Fresh or frozen vegetables are naturally low in sodium. Use lower-sodium condiments to add a boost of flavor. The *Culinary Institute of Child Nutrition* (CICN) offers many flavor enhancement ideas. • Only choose canned vegetables labeled *Low Sodium* or *No Salt Added*. • Avoid prepackaged vegetable dishes with sauce.
Grains	• Whole grains (e.g., brown rice, barley, quinoa) and pasta are naturally lower in sodium than more processed grain products, such as bread, rolls, bagels, and tortillas.
Meats/Meat Alternates	• Fresh meat is the lowest-sodium variety of meat; avoid meat injected with or packaged in a saline or sodium solution. Check out ICN's *Food Safety Resources* for meat storage and preparation tips. • Boiled eggs are low in sodium if no salt is added. • Choose canned beans labeled *Low Sodium* or *No Salt Added*. • Use "unbreaded" meat products – they are lower in sodium than "breaded" options. • Select lower-sodium varieties of cheese. Swiss, Monterey Jack, cheddar, and mozzarella cheeses are lower in sodium than processed cheeses, like American.
Milk	• Plain, white milk is lower in sodium than flavored milk (e.g., chocolate).

Lower-Sodium Condiments

Use herbs, spices, seasonings, and condiments to enhance the flavors of lower-sodium foods.

- To season or flavor food, use:
  - Fresh or dried herbs and spices or salt-free seasoning mixes
  - Chopped aromatic vegetables (e.g., garlic, ginger, carrots, celery, onions, peppers)
  - Lemon or lime juice
- On the salad bar line, offer:
  - Fresh salsa
  - Flavored vinegars
  - Simple salad dressings (e.g., vinegar and oil)

The *CICN* provides a number of resources and trainings regarding flavor enhancement – check out the trainings on made from scratch salad dressings and condiments, fresh herbs, and spice blends.

Child Nutrition Recipe Box
Healthy Recipes for Child Nutrition Professionals

The *Child Nutrition Recipe Box* (CNRB) provides many delicious, standardized recipes that are lower-sodium alternatives to prepackaged items. Many of the recipes feature the use of herbs, spices, and other low sodium seasonings.

CICN CULINARY INSTITUTE OF CHILD NUTRITION

The *Culinary Institute of Child Nutrition* (CICN) provides trainings and resources to increase the culinary skills of school nutrition operators in support of preparing and serving kid-approved, healthy school meals.

PRACTICING PRODUCT SUBSTITUTION

This popular lunch menu offers many opportunities in which product substitution and other sodium-reduction practices can be utilized to lower the total amount of sodium.

LUNCH MENU	PRODUCT SUBSTITUTION AND OTHER SODIUM-REDUCTION PRACTICES
Spaghetti with Tomato Sauce	• Look for a lower-sodium tomato sauce; add flavor with oregano, basil, and garlic. • Consider making your own sauce in house.
Garlic Bread	• Look for lower-sodium versions of garlic bread. • Consider making your own garlic bread (choose a lower-sodium bread; make garlic spread with your own recipe).
Turkey and Cheese Sandwich	• Look for lower-sodium versions of turkey, cheese, bread, and condiments. • Offer two versions of the sandwich – one with cheese, one without. • Limit the size and number of condiment packets offered.
Tossed Salad	• Look for lower-sodium salad dressings. • Make your own vinegar and oil dressings. • Find lower-sodium alternatives to salad toppings (e.g., croutons, bacon bits).
Mixed Veggies	• Consider using fresh or frozen vegetables instead of canned, even if low sodium; flavor with herbs, spices, or salt-free flavoring mixes. • Incorporate a "Flavor Station" in your cafeteria where students can add herbs and spices to season foods to their liking.
Fruit Cocktail	• Provide more fresh, frozen, or canned fruit, which is naturally low in sodium.
Milk	• Consider offering flavored milk less often or not at all. • Place plain, white milk front and center to make it the easiest option for students to select.

Now it is your turn! Select one of your own weekly menus and explore how you can use product substitution to lower its overall sodium content. Start with small, manageable changes you can begin working on today, such as looking for lower-sodium versions of existing high-sodium menu items. Also, consider larger changes that you can work on throughout the school year, such as identifying heat-and-serve and convenience food menu offerings that could be made with a recipe.

Menu Items	Possible Substitutions

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Shaking It Up!
MALL CHANGES LEAD TO BIG FLAVORS

STRATEGIES, TIPS, AND TRICKS TO REDUCE SODIUM AND ENHANCE FLAVOR

In school nutrition programs, reducing the sodium content of a menu takes time. Recipes, food products, and menu items must be evaluated, revised, or replaced with lower-sodium versions, while maintaining student acceptability. For example, identifying higher-sodium products and ingredients allows you to replace items or balance your menu with lower-sodium options. This small step can lead to a big reduction in your weekly sodium average. Incorporating a variety of flavor enhancers and cooking techniques can help increase the flavor and reduce the need for high sodium products. Take it one strategy, tip, and trick at a time!

STRATEGIES TO REDUCE SODIUM

Look for lower-sodium versions of products in each procurement cycle (the process of selecting vendors and purchasing goods and services from them). Follow the steps outlined in ICN's *Working With Your Procurement Partners* worksheet to engage with brokers and vendors to help you find lower-sodium versions of products, or alternative lower-sodium foods similar to those on your current menu.

Keep in mind that recipes may need to be re-standardized if certain ingredients are substituted. Always test and standardize a recipe to the specific ingredients and equipment used in your food service operation. Follow the steps outlined in the *USDA Recipe Standardization Guide for School Nutrition Programs*. Remember to test new products and recipes with students for acceptability before making menu changes.

ICN's *Developing, Implementing, and Assessing Menu Surveys* and *Planning, Implementing, and Assessing Taste-Test Surveys* tip sheets provide ideas on implementing menu and taste test surveys.

Take a menu item inventory. Review your heat-and-serve and convenience food products to evaluate which can be transformed into speed-scratch recipes with little effect on labor. ICN's worksheet, *Popular Speed-Scratch Menu Items*, might give you some ideas! Aim to replace one high sodium menu item at a time with a speed-scratch recipe, with a possible goal of one or two per school year. Be sure to evaluate the recipes' labor and food costs to guarantee successful implementation.

Balance the use of high sodium ingredients and products. When developing a menu, be mindful of higher-sodium ingredients, such as cheese. Rather than removing the cheese, consider balancing higher-sodium options with lower-sodium options. For example, when offering burgers, give students a choice between a hamburger and a cheeseburger to reduce the overall amount of cheese consumed. When serving a high sodium menu item such as pizza, balance the menu with fresh fruits and vegetables, which are naturally low in sodium.

ICN's worksheets, *Setting Weekly and Daily Sodium Goals* and *Weighted Nutrient Analysis of Sodium*, provide more tips for balancing the sodium in your menus to meet the sodium limits.

Incorporate more fruits and vegetables. In addition to adding more whole fruits and vegetables as sides to your daily and weekly menu, consider adding more produce and low sodium legumes to mixed-dish recipes. For example, instead of:

- Heat-and-serve mac-and-cheese, add broccoli for "*Mac-n-Trees*"
- Heat-and-serve all-meat chili, add no or low sodium beans to increase the yield, or add a plant-based meat/meat alternate (M/MA)

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After modifying a recipe, you need to re-calculate how the menu item credits to the meal pattern. Use *Appendix A: Recipe Analysis Workbook* in the *Food Buying Guide for Child Nutrition Programs* to determine the meal pattern contribution for your recipes. After creating a USDA eAuthentication account, you can also access the Recipe Analysis Workbook via the *Food Buying Guide Interactive Web-Based Tool* or *Mobile App*.

The *Child Nutrition Recipe Box* is a great resource to find standardized recipes that include the desired ingredients.

Focus on flavor. Salt enhances the flavor of food. When revising a recipe to reduce sodium, do not remove or reduce salt without replacing it with flavor from spices, herbs, or culinary acids, which are naturally low in sodium. Use the following ideas for flavor development:

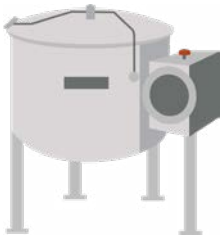
- Purchase unseasoned, pre-cooked products that you can add flavor to, which allows you to control the amount of sodium, customize your menus, and make them appealing to your students. Unseasoned, pre-cooked products are helpful for menu development and inventory control because they can be cross-utilized in different recipes. Some examples include:
  - Flavor unseasoned cooked or raw ground beef with a sodium-free taco spice blend for taco meat or a lower-sodium tomato sauce for sloppy joe's.
  - Spice up unseasoned frozen baked potato wedges with sodium-free Ranch or Cajun spice blends.
  - Add a blend of fresh or dried herbs to a pre-cooked roasted chicken to make an herb-roasted chicken.
- Add fresh herbs as a garnish to entrées. Cilantro and parsley are generally affordable for schools to buy in bulk and are easy to grow in a school garden!
- Consider adding culinary acids, such as vinegar and citrus (lemon, lime, and pineapple juices), to brighten and highlight the natural flavors of the food without adding any additional sodium. Add a squeeze of lime juice to taco meat or a splash of vinegar to beans.

Always taste the food when developing flavors to ensure proper seasoning amounts and acceptability. This is an important part of the product evaluation phase of standardizing a recipe.

ICN's *Mindfully Seasoning Your Menus* worksheet provides ideas of how to build a flavorful menu by purchasing or creating lower-sodium or sodium-free seasonings, condiments, sauces, and spice blends.

The Culinary Institute of Child Nutrition (CICN) provides *iBites Recipe Videos*, which feature how to use spices, herbs, and culinary acids, as well as a set of *Herbs and Spices Posters*, found on ICN's *Shaking It Up!* website under "Other Resources." The posters feature how to use dried spices, dried and fresh herbs, and spice blends. The Spice Blends poster features 12 different spice blend recipes you can create.

Cooking techniques that maximize flavor development. The following simple cooking techniques and strategies, in combination with seasoning, help develop flavor.

Cooking Technique*	Definition	Equipment	When to Add Seasoning	Recipe Examples
Roasting	A high heat cooking method in the oven	Oven 	Before	*Harvest Delight* *Herb Roasted Potatoes*
Sautéing	A dry heat cooking method; uses a small amount of oil	Tilt skillet preferred; can be done in the oven 	During	*Chicken Fajitas* *Collard Greens*
Stir-frying	A high heat cooking method in a lightly oiled pan (such as a wok) while stirring continuously	Tilt skillet preferred; can be done in the oven 	During	*Chicken Stir Fry* *Chinese-Style Vegetables*
Steaming	A moist heat cooking method that uses hot water vapors	Steamer or "combi" oven in a 2" perforated pan preferred; can also use a tilt skillet or oven  	After	*Honey Carrot Coins*

*Check out ICN's *Roasting Vegetables* *Manager's Corner* lesson plan and the *Cooking Methods and Recipes* videos for an overview of different cooking techniques.

TIPS AND TRICKS FOR USING LOWER-SODIUM PRODUCTS

As you consider incorporating lower-sodium products into your menu, below are a few tips and tricks to consider. ALWAYS taste test new products and recipes with your students!

Product	Lower-Sodium Options	Tips and Tricks
Bread/buns	• Lower-sodium bread/ buns	• Season lower-sodium bread/buns with garlic powder to mimic a salty flavor. • Add variety to bread/buns by seasoning with Italian herbs and spices or other dried herbs to create visual appeal and enhance flavor.
Breaded and seasoned meats/poultry	• Lower-sodium breaded, unseasoned meat/poultry • Unbreaded meat/poultry • Pre-made fresh burgers or chicken	• Reduce the use of seasoned or breaded chicken products to streamline inventory and control sodium. • Let students add low sodium sauces to unbreaded chicken to customize flavor (sriracha ranch, BBQ ranch, etc.). • Buy unseasoned chicken strips and season with sodium-free spice blends.
Canned beans	• Low sodium or no-salt-added canned beans • Individually quick-frozen (IQF) or dried beans	• Generally, it is a good practice to rinse and drain canned beans to reduce the sodium. However, some recipes require the bean liquid, so be sure to read the recipe first. • If purchasing no-salt-added canned beans, they may need to be cooked longer for a creamier and softer consistency.
Canned tomato products	• Low sodium or no-salt-added canned tomato products	• Enhance flavor with herbs, spices, and acids. For example, you can customize plain, crushed tomatoes with a salt-free Italian or pizza seasoning for a low sodium pizza sauce.
Canned vegetables	• Low sodium canned vegetables • Fresh or IQF vegetables; quality and appearance are better!	• For the best flavor and nutrient content, purchase fresh produce in season. • Drain and rinse canned vegetables to reduce sodium. • When steaming, always thaw frozen vegetables to help preserve food quality. • Consider roasting vegetables for added flavor. Avoid thawing frozen vegetables before roasting them to help maintain their crisp texture and quality.
Cheese	• Lower-sodium cheese	• Swiss, Monterey Jack, cheddar, and mozzarella cheeses are lower in sodium than processed cheeses, such as American. • Pair cheese with ingredients lower in sodium, such as fresh fruits and vegetables. • Make cheese available as an accompaniment to sandwiches or burgers only
Condiments	• Lower-sodium condiments	• Make your sauces/dips in-house. Look for other flavors to replace the salt: herbs, spices, and acids. • Offer and limit condiment packets vs. using self-serve dispensers.
Deli/cured meats	• Lower-sodium deli/ cured meats • Freshly cooked meats	• Purchase lower-sodium deli/cured meats. • Offer sandwiches that use whole meat products (meatballs, diced chicken, chicken strips, shredded chicken, turkey roast, pulled pork, and plant-based options). • Reduce the meat in a sandwich by half and replace with another creditable meat/ meat alternate, such as hummus.
Salad dressings	• Speed-scratch	• Make your own salad dressings. Start with the most popular, like ranch. Once the ranch recipe production is successful, and the students have accepted the new flavor profile, customize and introduce other flavors (BBQ ranch, salsa ranch, sriracha ranch).

Soups	• Lower-sodium soups
	• Speed-scratch
		• Implement speed-scratch versions for sodium control.
		  ◦ Use low sodium or no-salt-added broth or soup base.
		  ◦ Use water and season with fresh or dried herbs to add flavor.

ACTIVITY: SLASH THE SALT AND FOCUS ON FLAVOR

Using the information in this worksheet, think about how you can lower the sodium content and improve the taste of a chicken fajita recipe. Begin by reviewing the main ingredient list of a chicken fajita recipe provided in the left-hand column. Then, list the ingredients you would change or add to the recipe to lower the sodium content in the middle column. Last, list the culinary techniques you would use to enhance the recipe's flavor in the right-hand column.

Chicken Fajita Recipe Ingredients	Ingredients to Change or Add to Reduce Sodium	Culinary Techniques to Enhance Flavor
Fajita chicken strips, frozen, cooked	***Unseasoned chicken strips***	***Incorporate a sodium-free spice blend***
Green peppers		
Onions		
Canned corn		
Canned tomatoes		
Canned salsa		
Flour tortillas		

Now, check out this *Chicken Fajitas - USDA Recipes for Schools*. Review how herbs, spices, culinary acids, and culinary techniques are used to reduce sodium and enhance the flavor of this recipe in the example below.

The recipe features lower-sodium, unseasoned chicken strips.

A sodium-free spice blend jazzes up the chicken!

Frozen corn adds a fresh flavor without the salt.

No-added-salt tomatoes and low sodium salsa keeps the sodium in

Fresh squeezed lime juice adds a spritz of acid that brightens flavors.

Fresh peppers and onions are sautéed for added flavor.

Consider adding affordable fresh herbs, such as fresh cilantro, to increase presentation appeal and add flavor.

Chicken Fajitas

NSLP/SBP CREDITING INFORMATION

One fajita provides 2 oz eq meat, ⅛ cup starchy vegetable, ⅛ cup additional vegetable, and 1 oz eq grains.

Ingredients	100 servings	
	Weight	Measure
Frozen chicken strips, cooked, thawed	13 lb	3 gal 2 qt
Ground black or white pepper		2 Tbsp 2 tsp
Garlic powder		2 Tbsp 2 tsp
Chili powder		¼ cup
Ground cumin		¼ cup
Dried oregano		1 Tbsp 1 tsp
Ancho chili powder	3 ½ oz	¾ cup
Fresh green bell peppers, diced	1 lb	3 cups
Fresh onions, diced	1 lb 8 oz	1 qt ½ cup 3 Tbsp
Frozen corn, thawed, drained	4 lb 8 oz	3 qt ¼ cup 3 Tbsp 2 tsp
Canned no-salt-added diced tomatoes, drained	2 lb	3 ¼ cups 3 Tbsp 1 tsp (approx. ¼ No. 10 can)
Canned low sodium salsa	2 lb	3 ¾ cups (approx. ¼ No. 10 can)
Sugar		¼ cup
Canola oil		1 cup
Paprika		1 Tbsp 1 tsp
Fresh limes	8 each	8 each
Whole-grain tortillas, 8"	9 lb 6 oz	100 each (1 oz each)

Directions

1. Combine chicken, pepper, garlic powder, chili powder, cumin, oregano, and ancho chili powder in a large bowl. Stir well. Cover tightly. Allow chicken mixture to marinate for 12–24 hours. **Critical Control Point: Cool to 41 °F or lower within 4 hours. Critical Control Point: Hold at 41 °F or below.**
2. Place marinated chicken in a large stock pot. Cook uncovered over medium–high heat for 2 minutes. **Critical Control Point: Heat to 165 °F or higher for at least 15 seconds.** Set aside for Step 6.
3. In a medium stock pot, add peppers and onions. Cook uncovered over medium–high heat until onions are translucent. Set aside for Step 6.
4. In a medium stock pot, add corn, tomatoes, salsa, sugar, oil, paprika, and lime juice. Simmer uncovered for 5 minutes. Stir occasionally. Set aside for Step 6.
5. Combine chicken, peppers, onions, and corn mixture in a large bowl. Toss well.
6. Using a rounded No. 8 scoop, portion ½ cup 2 ⅓ tsp (about 4 ⅓ oz) chicken mixture on a tortilla. Spread filling on half of tortilla, and fold in other half like a taco. Place 25 fajitas on each steam table pan (12" x 20" x 2 ½"). For 100 servings, use 4 pans. **Critical Control Point: Hold for hot service at 135 °F or higher.**
7. Serve 1 fajita.

***ALWAYS test and standardize a recipe to your specific ingredients and equipment**. Follow the steps outlined in the *USDA Recipe Standardization Guide for School Nutrition Programs*.

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Shaking It Up!
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WEIGHTED NUTRIENT ANALYSIS OF SODIUM

It is important to know how much sodium is in your menu. Making small changes to reduce sodium in your menus will ultimately decrease the daily weighted sodium and weekly sodium averages. Weighted nutrient analysis is a great tool to ensure your menus meet the National School Lunch Program (NSLP) and School Breakfast Program (SBP) dietary specifications. Read more to learn how the daily weighted sodium total and weekly sodium average are calculated.

NUTRIENT ANALYSIS

In the NSLP and SBP, nutrients in foods can be calculated by a nutrient analysis—the process of calculating the nutritional content of food. The purpose of a nutrient analysis is to determine compliance with regulatory requirements for calories, saturated fat, and sodium, and to monitor levels of these dietary components in school meals. The nutrient analysis of menus averaged over a week is compared to the required nutrient standards for the age/grade group served.

The nutrient analysis of the offered menu must be based on weighted averages. A *weighted nutrient analysis* is the calculation that averages the nutrient content of all foods offered as part of the reimbursable meals. Food items are included based on portion sizes and serving amounts, and are weighted based on their proportionate contribution to the meals offered. This means that food items offered more frequently are weighted more heavily than those not offered as frequently.

ICN's *Setting Weekly and Daily Sodium Goals* worksheet provides information on how to set goals to meet the sodium limits.

WEIGHTED NUTRIENT ANALYSIS OF SODIUM

Weighted nutrient analysis can be used as a tool to balance sodium within a daily and weekly menu. For example, it can help you see how pairing higher-sodium entrées with fresh and/or frozen fruits and vegetables instead of canned produce or mixed side dishes can reduce the sodium contribution of that particular menu. Weighted nutrient analysis can also help you balance sodium by pairing higher-sodium entrées with popular lower-sodium entrées. This helps reduce the sodium contribution of higher-sodium entrées and also provides students the choice of lower-sodium options.

The weighted nutrient analysis can highlight where you can prepare and serve condiments and where you can make changes in products.

CALCULATING A WEIGHTED NUTRIENT ANALYSIS OF SODIUM FOR A WEEKLY MENU

To calculate a weighted nutrient analysis of a breakfast or lunch weekly menu, you need the following:

- The **estimated feeding figure** and the **number of servings** and **portion size** for each menu item offered.
- **Nutrient (sodium) information** for each menu item offered, including condiments, and any *extra foods, for each age/grade group.

**Noncreditable (extra foods)* are foods offered with a reimbursable meal that do not credit toward any food component (e.g., ice cream).

Conduct separate analyses for breakfast and lunch menus, as well as for each established USDA age/grade group.

Nutrition Facts

Serving Size	1 Tbsp (17g)
Amount Per Serving	
Calories	**20**
	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 180mg	8%
Total Carbohydrate 5g	2%
Dietary Fiber 0g	0%

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STEP 1: Calculate the Daily Weighted Sodium Total

Let's look at an example by calculating the weighted sodium total for a sample daily menu.

On Monday, you plan to offer the **Menu Items** *(column 1)* listed in the table below, and you estimate that 100 middle school students *(feeding figure)* will go through the serving line. Follow the steps below using the table to calculate the weighted sodium average of the menu.

STEP 1A: For each **Menu Item** *(column 1)*, determine the amount of **Sodium (mg) per Serving** *(column 2)* and the **Number of Servings Offered** *(column 3)*.

STEP 1B: Multiply the amount of **Sodium (mg) per Serving** *(column 2)* by the **Number of Servings Offered** *(column 3)* to calculate the **Total Sodium (mg) of Each Menu Item** *(column 4)*.

1	2		3		4
Menu Items	**Sodium (mg) per Serving**	**X**	**Number of Servings Offered**	**=**	**Total Sodium (mg) of Each Menu Item**
Spaghetti w/ Meat Sauce (USDA Recipe)	293	X	85	=	24,905
WG Garlic Bread	184	X	75	=	13,800
Tuscan Grilled Cheese Sandwich (USDA Recipe)	301	X	15	=	4,515
Baked Beans (USDA Recipe)	183	X	15	=	2,745
Garden Salad	29	X	50	=	1,450
Garlicky Green Beans	3	X	35	=	105
Mandarin Oranges	0	X	75	=	0
Fresh Apples	0	X	10	=	0
Ranch Dressing (USDA Recipe)	181	X	50	=	9,050
Milk, Chocolate, 1%	130	X	85	=	11,050
Milk, Plain, 1%	105	X	5	=	525
Milk, Plain, Skim	105	X	5	=	+ 525
			Total Sodium (mg) for the Menu	=	68,670

STEP 1C: Determine the **Total Sodium (mg) for the Menu** by adding the **Total Sodium (mg) of Each Menu Item** *(column 4)*.

STEP 1D: Divide the **Total Sodium for the Menu** by the *feeding figure*.

68,670 mg ÷ 100 students = 686.7 mg

The weighted sodium total for this menu = 686.7 mg.

STEP 2: Calculate the Weekly Weighted Sodium Average

Calculate the weekly sodium average:

(from the example in Step 1) Day 1 = 686.7 mg
Day 2 = 988.9 mg
Day 3 = 843.6 mg
Day 4 = 1,041.9 mg
Day 5 = 1,069.4 mg

STEP 2A: Add the daily weighted sodium totals:

686.7 mg + 988.9 mg + 843.6 mg + 1,041.9 mg + 1,069.4 mg = 4,630.5 mg

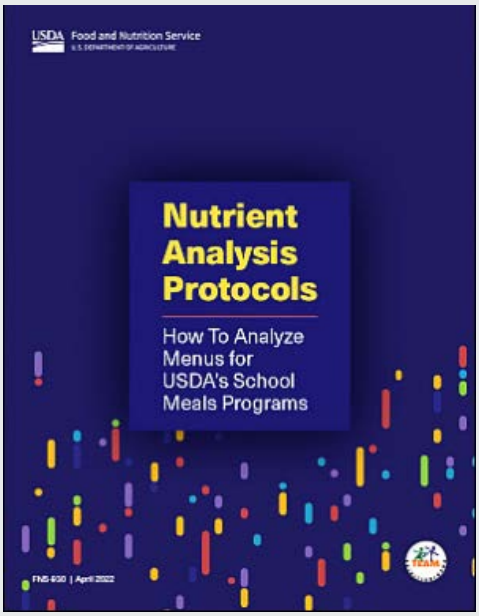
STEP 2B: Divide the sum by the number of menu days in the analysis:

4,630.5 mg ÷ 5 days = 926.1 mg

The weekly sodium average = 926.1 mg.

USDA-APPROVED NUTRIENT ANALYSIS SOFTWARE

- State agencies must use USDA-approved software when conducting a nutrient analysis as part of the Administrative Review process. For School Food Authorities (SFAs) that choose to conduct nutrient analysis, only USDA-approved software is considered an allowable cost to the nonprofit school food service account. Many of the USDA Approved Nutrient Analysis Software are also approved for menu planning (certification of compliance).
- Nutrient analysis of menus by SFAs is not required. However, many SFAs choose to conduct nutrient analysis as a program management option.
- USDA's Nutrient Analysis Protocols: How to Analyze Menus for USDA's School Meal Programs (NAP Manual) provides technical guidance for State agency or school nutrition professionals on calculating accurate nutrient analyses of school menus using their software. If you have nutrient analysis software, the nutrient analysis will be calculated for you. These steps and examples can help explain how a nutrient analysis is done. This manual is useful for guidance and understanding the process.



WEIGHTED SODIUM ANALYSIS EXAMPLE

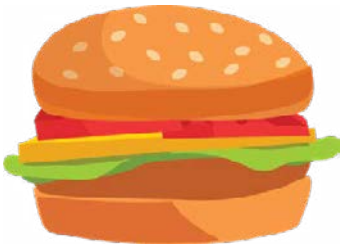
A popular menu item, burgers, provides an opportunity to showcase how a small change can help reduce sodium within a daily menu.

Scenario: *In years past, a cheeseburger on a whole grain-rich bun (630 mg of sodium) was planned as the only entrée on a particular menu. One hundred students typically went through the serving line, and 90 selected the cheeseburger.*

*To reduce sodium, the menu planner decided to provide a build-your-own burger bar, offering plain hamburgers with a whole grain-rich bun (396 mg of sodium), American cheese (234 mg of sodium), and an assortment of *condiments and fresh toppings. After trialing the burger bar several times, the menu planner utilized their production records to plan 90 plain hamburgers, 75 slices of cheese, and an assortment of condiments and fresh toppings.*

Let's examine how removing the cheese from the entrée and providing it as an optional accompaniment reduced the total sodium of the following menu items:

Old Menu



Cheeseburger:

630 mg of sodium x 90 planned servings = 56,700 mg of sodium

56,700 mg of sodium ÷ 100 *(feeding figure)* = 567 mg of sodium

New Menu

Hamburger: 396 mg of sodium x 90 planned servings = 35,640 mg of sodium

American cheese: 234 mg of sodium x 75 planned servings = 17,550 mg of sodium

35,640 mg of sodium (Hamburger)
+17,550 mg of sodium (American cheese)
53,190 mg of sodium

53,190 mg sodium ÷ 100 (feeding figure) = 531.9 mg of sodium

The weighted sodium contribution of the cheeseburger was 567 mg.

The weighted sodium contribution of the hamburger and American cheese offered separately is approximately 532 mg.

The new menu reduced the sodium content by 567 mg - 532 mg = 35 mg of sodium.

**To simplify this activity, we only analyzed the sodium contribution from the cheeseburger (with whole grain-rich bun), hamburger (with whole grain-rich bun), and American cheese. Any condiments and fresh toppings offered will also need to be included in the weighted sodium analysis.*

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MINDFULLY SEASONING YOUR MENUS

Enhancing the flavors of your menu is essential to maintaining student acceptability while lowering sodium content. Build a flavorful menu that is low in sodium by purchasing or creating lower-sodium or sodium-free seasonings, condiments, sauces, and spice blends.

CONDIMENTS, SAUCES, AND SEASONINGS

Lower-sodium condiments, sauces, seasonings, and spice blends are fantastic complements to the variety of cuisines offered in today's school nutrition programs. They allow you to add flavorful variety to your menu while using many of the same core ingredients. For example, seasonings can transform the rice on your menu into Spanish or Mexican rice, cilantro-lime rice, or Asian-style stir-fried rice. However, condiments, sauces, and seasonings can also be a hidden source of sodium. The following strategies will assist you in adding flavor to your menu while keeping sodium in check.

CONDIMENTS AND SAUCES

Condiments are here to stay, from the classic ketchup and mustard, to the always popular ranch dressing, and the hot sauces students often request. As students are exposed to more diverse cuisines and sauces, they are interested in pairing those sauces with other foods. Think about the different types of condiments and sauces in your cycle menu. Review the table below and check the condiments and sauces you currently offer.

Condiments and Sauces			
☐ BBQ sauce	☐ Buffalo sauce	☐ Cheese sauce	☐ Chili sauce
☐ Curry	☐ Dipping sauce	☐ French dressing	☐ Guacamole
☐ Hoisin sauce	☐ Honey mustard	☐ Italian dressing	☐ Ketchup
☐ Mandarin sauce	☐ Marinara sauce	☐ Mayonnaise	☐ Mustard
☐ Ranch dressing	☐ Salsa	☐ Sweet-and-sour sauce	☐ Soy sauce
☐ Sriracha sauce	☐ Szechuan sauce	☐ Taco sauce	☐ Teriyaki sauce
☐ Tomato-based sauces	☐ Other:	☐ Other:	☐ Other:

Consider the condiments and sauces you currently offer and answer the following questions:

Are lower-sodium versions available for purchase?
- Identify the sodium levels of your current condiments and sauces.
- Conduct market research to identify potential lower-sodium versions.

NO

Can you create a lower-sodium version using a recipe?

To get started, check out the recipes listed on the following page.

YES

Discuss your menu needs with your vendors.

Review ICN's *Working With Your Procurement Partners* worksheet to learn more about working with your vendors to procure lower-sodium products.

Condiment and Sauce Recipes*	
Child Nutrition Recipe Box (CNRB)	*Healthy School Recipes*
Creamy Dip for Fresh Vegetables	Classic Roasted Red Pepper Hummus
Ranch Dressing	Cucumber Tzatziki
Stir-Fry Sauce	Pesto (Nut Free)
Teriyaki Sauce	Peanut Butter Vanilla Yogurt Dip
Tomato Sauce	Southwestern Black Bean Dip
White Sauce	Tangy BBQ Sauce
**Only a sample of the condiment and sauce recipes available on the CNRB and Healthy School Recipes websites are listed above. Explore each website for additional ideas.*	

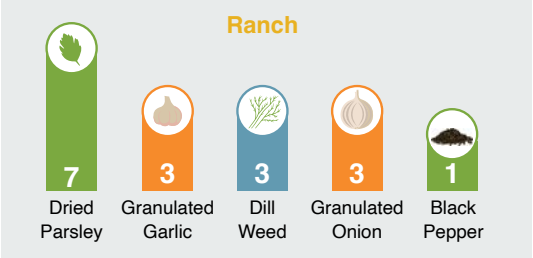
SEASONINGS AND SPICE BLENDS

Seasonings, such as garlic salt, taco, and chili seasoning, are often used to flavor meats, vegetables, rice, and beans. Consider reducing the use of these items or substituting seasonings with lower-sodium or sodium-free options:

- Purchase lower-sodium or sodium-free versions of seasonings.
- Purchase or make your own "spice blends"—spices and/or herbs with no added salt.
- Replace garlic salt with chopped garlic or garlic powder.
- Replace onion salt with fresh or frozen chopped onions, onion powder, or dried onions.

The *Culinary Institute of Child Nutrition* (CICN) provides a set of Herbs and Spices Posters, found on ICN's *Shaking It Up!* website under "Other Resources." The posters illustrate methods for using dried spices, dried and fresh herbs, and spice blends. The Spice Blends poster features 12 different spice blend recipes. Each spice blend recipe consists of ingredients with a "part" that references the ratio of each ingredient in the recipe. Using ratios allows you to determine the overall yield of the seasoning mix.

For example, the Ranch spice blend recipe calls for seven parts dried parsley; three parts each granulated garlic, dill weed, and granulated onion; and one part black pepper. You determine the measure you want one part to represent. If one part = ¼ cup, multiply the number of parts for each ingredient by ¼ cup to determine the yield for each ingredient.



Dried parsley	7 parts	¼ c + ¼ c + ¼ c + ¼ c + ¼ c + ¼ c + ¼ c	1 ¾ c
Granulated garlic	3 parts	¼ c + ¼ c + ¼ c	¾ c
Dill weed	3 parts	¼ c + ¼ c + ¼ c	¾ c
Granulated onion	3 parts	¼ c + ¼ c + ¼ c	¾ c
Black pepper	1 part	¼ c	¼ c
		Yield:	4 ¼ c

EVALUATING SEASONING PACKETS

Seasoning your menu items without a purchased seasoning packet might seem daunting. However, take a detailed look at the packets you are using—you might be surprised by their ingredients! Follow the steps below and fill out the table with the requested information.

1 **Choose any two purchased seasoning packet blends from your inventory.**
Write the names of the seasonings.

2 **Locate the Nutrition Facts label for each packet.**
Document the amount of sodium per serving.

3 **Read each packet's ingredient list.**
Ingredients are listed in descending order from greatest to smallest amount (by weight). In the order listed, write the names of the herb and spice ingredients. Be aware that the manufacturer may use language such as "other spices" for any herbs and spices present in minimal quantities. Do not include the names of food or color additives.

Seasoning Packet #1		
Name:		
Sodium amount/serving:	mg	mg
Ingredients:		

4 **Evaluate the seasoning packet ingredients.** Can these herbs and spices be purchased individually to make your own lower- or sodium-free seasoning blend? Utilize CICN's *Spice Blends poster* to help you determine specific ingredient ratios. You can get the same flavor using a blend of spices without adding salt.

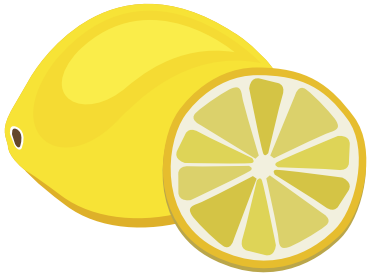
Healthy School Recipes also provides some spice blend recipes!

FLAVOR STATIONS

A flavor station can be a creative avenue for students to customize their trays and add as little or as much flavor as they desire. Flavor stations are available from several manufacturers, OR you can create your own. A station can be assembled at the end of your serving line or elsewhere in the cafeteria—any place that is easy for students to access. Some schools have success with shaker containers, while others prefer providing individual portion packets. You can include spices, spice blends, seasonings, condiments, and fresh items (when appropriate). The choices offered at a middle or high school may differ from those provided at an elementary school, but that's okay!

Your flavor station should accommodate your menu. Consider the following:

- Dried herbs and spices, such as oregano, red pepper flakes, and cinnamon
- Spice blends, including BBQ, chili, jerk, and ranch (review CICN's *Spice Blends poster* for 12 different spice blend recipes you can create on your own)
- Lower-sodium hot sauces, such as chili, hot pepper vinegar, and sriracha sauces
- Dipping sauces such as BBQ, buffalo, honey mustard, and ranch made from lower-sodium recipes
- Fresh ingredients, such as lime and lemon slices and herbs



MEETING STUDENT DEMAND

How can you meet the demand for condiments, sauces, and seasonings AND limit the sodium? Here are some ideas to consider:

- Purchase lower-sodium versions.
- Offer and limit condiment packets vs. using self-serve dispensers.
- Utilize spice blends in your recipes and at flavor stations.
- Save money and make your own in-house "special sauces." Adjust the flavor profiles to your students' taste preferences and give them creative names, such as "Tiger's Tangy Teriyaki" or "Roaring Ranch."
- Visit local restaurants to survey their menus and specials. Bring back ideas to create a lower-sodium version of these products for your schools.

Enhance the flavors of your menu with lower-sodium or sodium-free condiments, sauces, seasonings, and spice blends.

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Shaking It Up!
SMALL CHANGES LEAD TO BIG FLAVORS

SETTING WEEKLY AND DAILY SODIUM GOALS

On April 25, 2024, USDA published the Final Rule, "*Child Nutrition Programs: Meal Patterns Consistent with the 2020-2025 Dietary Guidelines for Americans*". This rule finalizes long-term school nutrition requirements based on the goals of the *Dietary Guidelines for Americans, 2020-2025*. Among the requirements is a single sodium reduction in the school lunch and breakfast programs. Evaluating daily weighted sodium totals and weekly averages can help balance menus and set daily goals to meet the limits.

SODIUM LIMITS

The average sodium content of meals offered over the week must meet the weekly sodium limit for each age/grade group.

National School Lunch Program Sodium Limits		
Age/Grade Group	**Current Sodium Limit: In place through June 30, 2027**	**Sodium Limit: Must be implemented by July 1, 2027**
Grades K–5	≤ 1,110	≤ 935
Grades 6–8	≤ 1,225	≤ 1,035
Grades 9–12	≤ 1,280	≤ 1,080

School Breakfast Program Sodium Limits		
Age/Grade Group	**Current Sodium Limit: In place through June 30, 2027**	**Sodium Limit: Must be implemented by July 1, 2027**
Grades K–5	≤ 540	≤ 485
Grades 6–8	≤ 600	≤ 535
Grades 9–12	≤ 640	≤ 570

The sodium limits explained:

- For the next three school years, until June 30, 2027, schools will maintain current sodium limits (Sodium Target 1A for lunch and Sodium Target 1 for breakfast).
- Beginning July 1, 2027, schools will implement an approximate 15 percent reduction for lunch and an approximate 10 percent reduction for breakfast from current sodium limits.

To set achievable sodium reduction goals to meet the limits, identify current **daily weighted sodium totals** and **weekly averages** for breakfast and lunch. A **weighted sodium analysis** considers the number of students that select each menu item when calculating sodium totals for each daily menu.

Refer to ICN's *Weighted Nutrient Analysis of Sodium* worksheet for more information on how to make those calculations. The worksheet walks through an example of how to calculate the weighted sodium total for each daily menu included in the analysis and how to average the weighted sodium total for the week.

USDA's *Nutrient Analysis Protocols: How to Analyze Menus for USDA's School Meals Programs (NAP Manual)* provides technical guidance on calculating accurate nutrient analyses of school menus using software.

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DAILY WEIGHTED SODIUM TOTALS AND WEEKLY AVERAGES ACTIVITY

Using a USDA-approved nutrient analysis program or a spreadsheet, calculate and record the daily weighted sodium totals and weekly averages for four consecutive weeks of your lunch menus in the ***Daily Weighted Sodium Totals and Weekly Averages Table*** below. Then, calculate and record the difference between the weekly averages and your age/grade group's limit in the "Over/Under (+/-)" column.

Step 1

Calculate the **weighted sodium total** for each lunch menu included in the weekly analysis.

Daily Weighted Sodium Totals and Weekly Averages Table

Week	Monday Sodium (mg)	Tuesday Sodium (mg)	Wednesday Sodium (mg)	Thursday Sodium (mg)	Friday Sodium (mg)	Weekly Sodium (mg) Average	Sodium (mg) Limit	Over/Under (+ / -)
*Example	1,260	1,100	1,055	1,205	1,085	1,141	≤ 1,110	+31
**The provided example shows the daily weighted sodium totals and the weekly average for a K-5 elementary school lunch program. They compared their weekly sodium average to the current limit.*								
1								
2								
3								
4								

Step 2

Calculate the **weekly sodium average (mg)**.

Example:

1,260 mg + 1,100 mg + 1,055 mg + 1,205 mg + 1,085 mg = 5,705 mg

5,705 mg ÷ 5 days = 1,141 mg

Step 3

Calculate the difference between the **weekly sodium average** and the **sodium limit**.

Example:

1,141 mg - 1,110 mg = 31 mg

This menu's weekly sodium average is 31 mg above the weekly limit.

WEEKLY AND DAILY SODIUM GOALS

Now that you know your weekly sodium averages, you can set weekly and daily sodium goals.

WEEKLY AVERAGE SODIUM GOALS

Your weekly average sodium goal is pre-determined by the sodium limit. Upon calculating your weekly averages and comparing them to the sodium limit, identify which, if any, are above the limit. You must evaluate the daily sodium totals for any weeks above the limit.

DAILY SODIUM TOTAL GOALS

For any week you identified above the limit, you must look closely at its daily sodium totals. How many daily menus are **at or below the limit** that week? How many daily menus are **above the limit** that week?

In the example below, the weekly sodium average is 31 mg above the limit. Upon evaluating this week's daily weighted sodium totals, we can see that Monday's and Thursday's menus are above the weekly sodium limit.

Daily Weighted Sodium Totals and Weekly Averages Table

Week	Monday Sodium (mg)	Tuesday Sodium (mg)	Wednesday Sodium (mg)	Thursday Sodium (mg)	Friday Sodium (mg)	Weekly Sodium (mg) Average	Sodium (mg) Limit	Over/Under (+ / -)
*Example	1,260	1,100	1,055	1,205	1,085	1,141	≤ 1,100	+31

**The provided example shows the daily weighted sodium totals and the weekly average for a K-5 elementary school lunch program. They compared their weekly sodium average to the current limit.*

To reach your sodium reduction goals for daily menus **above the limit**, carefully evaluate the sodium content of the menu items, especially entrées and condiments.

- Are there lower-sodium products you could substitute for current products?
  - Use sodium nutrient claims (e.g., Low Sodium, Reduced Sodium) to quickly identify food products that may offer lower-sodium versions of the food products you currently use.
  - Compare Nutrition Facts labels of similar products among the same brand and between different brands to find the lowest-sodium version.
- Are all of the condiments offered with each menu necessary?
  - Limit condiment packets or self-service of condiments and creating your own lower-sodium versions in-house.
  - To season or flavor food, use fresh or dried herbs and spices or salt-free seasoning mixes, chopped aromatic vegetables (e.g., garlic, ginger, carrots, celery, onions, peppers), or lemon or lime juice.
- Would using more fresh fruits, vegetables, and meats reduce the sodium content of your menu?
  - Most fresh, frozen, and canned fruit is naturally sodium-free or very low in sodium.
  - Fresh or frozen vegetables are naturally low in sodium. Only choose canned vegetables or canned beans labeled Low Sodium or No Salt Added.
  - Fresh meat is the lowest-sodium variety of meat; avoid meat injected with or packaged in a saline or sodium solution.

- Have you considered replacing any heat-and-serve entrees with a scratch or speed-scratch recipe?
  - Scratch and speed-scratch food preparation provides more control over the ingredients you choose to use in a recipe. This, in turn, allows you to better manage the nutritional content (including sodium) of your menu items.

Refer to ICN's *Scoping Out Sodium in School Menus, Sodium Swaps: Utilizing Product Substitution, Principles of Speed-Scratch Food Preparation, Strategies, Tips, and Tricks to Reduce Sodium and Increase Flavor,* and *Mindfully Seasoning Your Menus* worksheets located on the *Shaking It Up!* website for additional ideas of how to reduce your daily menu sodium totals.

FOOD PRODUCT SODIUM GOALS

In addition to balancing your weekly menus and evaluating daily menu sodium totals to help you stay below the weekly sodium target, consider setting food product sodium goals. In 2021, the U.S. Food and Drug Administration (FDA) released *Guidance for Industry: Voluntary Sodium Reduction Goals* to spur the food industry to reduce sodium and make more no-salt-added, low-sodium, and reduced-sodium products available. You are encouraged to evaluate the sodium content, unit price, and meal contribution of each product that makes up your menu and recipes and compare it to potential new lower-sodium products each procurement cycle.

The goal for each food product that makes up your menu is to reduce the sodium to be able to easily plan menus within the regulations. When you are ready to procure lower-sodium products, you must include sodium nutrition standards within your product specifications.

Learn more about procuring lower-sodium products and how to write nutrition standards that limit sodium in ICN's *Working With Your Procurement Partners* and *Writing Product Specifications That Limit Sodium* worksheets.

FOOD PRODUCT SODIUM REDUCTION GOAL EXAMPLE

Year 1	Year 2	Year 3
ABC Ranch Dressing 370 mg sodium/serving	XYZ Ranch Dressing 280 mg sodium/serving	Scratch–made Ranch Dressing 180 mg sodium/serving

Identify your current daily weighted sodium totals and weekly averages to set achievable sodium reduction goals to meet the limits.

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ADDITIONAL RESOURCES

RESOURCE TITLE	LINK
Shaking It Up: Small Changes Lead to Big Flavors	https://theicn.org/shaking-it-up/
Scoping Out Sodium in School Menus	https://theicn.org/resources/1611/worksheets/122602/scoping-out-sodium-in-school-menus.pdf
Sodium Swaps: Utilizing Product Substitution	https://theicn.org/resources/1611/worksheets/122601/sodium-swaps-utilizing-product-substitution.pdf
Strategies, Tips, and Tricks to Reduce Sodium and Enhance Flavor	https://theicn.org/resources/2343/worksheets/125067/strategies-tips-and-tricks-to-reduce-sodium-and-enhance-flavor.pdf
Mindfully Seasoning Your Menus	https://theicn.org/resources/2343/worksheets/124790/mindfully-seasoning-your-menus.pdf
Weighted Nutrient Analysis of Sodium	https://theicn.org/resources/1611/worksheets/126119/weighted-nutrient-analysis-of-sodium.pdf
Setting Weekly and Daily Sodium Goals	https://theicn.org/resources/1611/worksheets/125388/setting-weekly-and-daily-sodium-goals-2.pdf
ICN's Ground Rules for Training	https://theicn.org/icn-resources-a-z/ground-rules-for-training-mini-posters/
Nutrition Standards in the National School Lunch and School Breakfast Programs (77 FR 4088)	https://www.federalregister.gov/documents/2012/01/26/2012-1010/nutrition-standards-in-the-national-school-lunch-and-school-breakfast-programs
Transitional Standards for Milk, Whole Grains, and Sodium (87 FR 6984)	https://www.federalregister.gov/documents/2022/02/07/2022-02327/child-nutrition-programs-transitional-standards-for-milk-whole-grains-and-sodium
Successful Approaches to Reduce Sodium in School Meals	https://www.fns.usda.gov/nslp/successful-approaches-reduce-sodium-school-meals-study
What's New With the Nutrition Facts Label?	https://www.fda.gov/media/135197/download
Child Nutrition Programs: Meal Patterns Consistent With the 2020-2025 Dietary Guidelines for Americans, 7 C.F.R § 210, 215, 220, 225, 226 (2024).	https://www.federalregister.gov/documents/2024/04/25/2024-08098/child-nutrition-programs-meal-patterns-consistent-with-the-2020-2025-dietary-guidelines-for
Culinary Institute of Child Nutrition (CICN)	http://www.theicn.org/cicn
Child Nutrition Recipe Box (CNRB)	https://theicn.org/cnrb/
Team Nutrition Recipes	https://www.fns.usda.gov/tn/team-nutrition-recipes

RESOURCE TITLE	LINK
FoodData Central	https://fdc.nal.usda.gov/
Chicken Fajitas - USDA Recipes for Schools	https://theicn.org/cnrb/recipes-for-schools-main-dishes/chicken-fajitas/
Working With Your Procurement Partners	https://theicn.org/resources/1616/worksheets/123831/working-with-your-procurement-partners.pdf
Herbs and Spices posters	https://theicn.org/resources/wpfdcat/1938/cicn-herbs-and-spices-posters
Nutrient Analysis Protocols: How to Analyze Menus for USDA's School Meals Programs	https://www.fns.usda.gov/tn/Nutrient-Analysis-Protocols-Manual
Writing Product Specifications That Limit Sodium	https://theicn.org/resources/1616/worksheets/123177/writing-specifications-that-limit-sodium.pdf

Adjusting Portion Size Handout

Sometimes the Nutrition Facts label doesn't reflect the actual serving size of the food product used in a school nutrition program. When this occurs, it's important to know how to calculate accurate nutrient amounts.

The scenario: a high school lunch program operator wanted to serve six (6) chicken nuggets instead of five (5), how would they use the Nutrition Facts label provided on this page to calculate the total amount of sodium in six (6) nuggets?

Nutrition Facts

177 servings per container

Serving size **5 Pieces (77g)**

Amount Per Serving

Calories **140**

	% Daily Value*
Total Fat 6g	**8%**
Saturated Fat 1.5g	**8%**
Trans Fat 0g	
Cholesterol 50mg	**17%**
Sodium 250mg	**11%**
Total Carbohydrate 3g	**1%**
Dietary Fiber 0g	**0%**
Total Sugars 0g	
Includes 0g Added Sugars	**0%**
Protein 19g	**38%**

Step 1: Calculate the amount of sodium per nugget

Amount of sodium ÷ Number of pieces per serving = Amount of sodium per piece

Step 2: Multiply the amount of sodium per nugget by the new serving size

Amount of sodium per piece x New number of pieces per serving =

Amount of sodium per serving

Slash the Salt and Focus on Flavor Handout

Think about how you can lower the sodium content and improve the taste of a chicken fajita recipe. Begin by reviewing the main ingredient list of a chicken fajita recipe provided in the left-hand column. Then, list the ingredients you would change or add to the recipe to lower the sodium content in the middle column. Last, list the culinary techniques you would use to enhance the recipe's flavor in the right-hand column.

CHICKEN FAJITA RECIPE INGREDIENTS	INGREDIENTS TO CHANGE OR ADD TO REDUCE SODIUM	CULINARY TECHNIQUES TO ENHANCE FLAVOR
EX: Fajita chicken strips, frozen, cooked	Unseasoned chicken strips	Incorporate a sodium-free spice blend
Green peppers		
Onions		
Canned corn		
Canned tomatoes		
Canned salsa		
Flour tortillas		

Sodium Limits Handout

AGE/GRADE GROUPS	BREAKFAST SODIUM (MG) SY 2023–2024 TARGET 1	LUNCH SODIUM (MG) TARGET 1 A THROUGH SY 2025-2026
K–5		
6–8		
9–12		

Weighted Analysis Example Handout

A popular menu item, burgers, provides an opportunity to showcase how weighted nutrient analysis can help you balance offerings within a daily menu.

Scenario: In years past, a cheeseburger on a whole grain-rich bun (630 mg of sodium) was planned as the only entrée on a particular menu. One hundred students typically went through the serving line, and 90 selected the cheeseburger.

To reduce sodium, the menu planner decided to provide a build-your-own burger bar, offering plain hamburgers with a whole grain-rich bun (396 mg of sodium), American cheese (234 mg of sodium), and an assortment of condiments and fresh toppings. After trialing the burger bar several times, the menu planner utilized their production records to plan 90 plain hamburgers, 75 slices of cheese, and the servings for an assortment of condiments and fresh toppings.

Let's examine how removing the cheese from the entrée and providing it as an optional accompaniment reduced the total sodium (mg) of the following menu items:

Old Menu

- Cheeseburger:
  - ____ mg of sodium x ____ planned servings = ____ mg of sodium
  - ____ mg of sodium ÷ ____ (feeding figure) = ____ mg of sodium

New Menu

- Hamburger:
  - ____ mg of sodium x ____ planned servings = ____ mg of sodium
- American cheese:
  - ____ mg of sodium x ____ planned servings = ____ mg of sodium
- Separate:
  - ____ mg of sodium (Hamburger) + ____ mg of sodium (American cheese) = ____ mg sodium
  - ____ mg sodium ÷ ____ (feeding figure) = ____ mg of sodium

Compare the total mg of sodium for both options. Which is lower?

Sodium Reduction Practice Handout

Identify ways to decrease the sodium content of the menu. Review the lunch menu, and circle or highlight sneaky sources of sodium you notice on the menu. Which items could be served less frequently? What items could you add to the menu? What are other changes that could lower the sodium content?

Monday	Tuesday	Wednesday	Thursday	Friday
Main Entrée				
Turkey and Cheese Sandwich	Chicken and Cheese Tortilla	Chicken Nuggets	French Toast Sticks Sausage Patty	Beef Teriyaki Dipper Fried Rice
Vegetables				
French Fries Broccoli Tossed Salad	Mexicali Corn Refried Beans Tossed Salad	Mashed Potatoes Carrot Sticks Tossed Salad	Sweet Potato Fries Carrot Raisin Salad Tossed Salad	Celery Chinese-Style Veggies Tossed Salad
Fruit				
Apples Bananas Peaches	Apples Bananas Pears	Apples Bananas Fruit Cocktail	Apples Bananas Oranges	Apples Bananas Peaches
Condiments				
Ketchup Mustard Salad Dressing	Ketchup Mustard Salad Dressing	Ketchup Mustard Salad Dressing	Syrup Salad Dressing	Salad Dressing
Milk				
Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain	Milk, 1% Chocolate Milk, 1% Plain Milk, Skim Plain

Sodium Reduction Strategies:

SMART Goals Handout

A SMART goal is specific, measurable, achievable, relevant, and time-bound.

"S" stands for specific. State exactly what you want to accomplish. Ask yourself these questions:

- What do I want to accomplish?
- When will this happen?
- Where will this happen?
- Why am I setting this goal?

"M" stands for measurable. How will you evaluate whether or not you have met your goal? Ask yourself these questions:

- How much?
- How many?
- How will I know it's accomplished?
- What is the goal line?

"A" stands for achievable. Is your goal something you can accomplish? Ask yourself these questions:

- Am I prepared to make the commitment necessary to reach my target?
- Am I willing to make major changes in my routine and work environment?
- Do I need approval before major changes can be made?
- Is there a more achievable goal that I would be willing to work toward?

"R" stands for relevant. How does this goal align with your job responsibilities? Think about these questions:

- Do I have the resources I need?
- Does it make sense for my program?
- Does it align with my job responsibilities and staff needs?

"T" stands for time-bound. What timeframe would create a sense of urgency? Ask yourself:

- What can I do today to reach my goal?
- What can I do a week from now?
- What can I do a month from now?

To learn more about effective goal setting, visit *https://theicn.docebosaas.com* to enroll in our Effective Goals Setting Using SMART Goals iLearn course.

Action Plan

Instructions: Using the knowledge and skills you learned, complete the following 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 from this training?

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