Healthy Cuisine for Kids
HealthierUS School Challenge Cooks Training

Healthy Cooking Techniques for School Meals

Limiting fat, sugar, and salt in healthy cooking

The Dietary Guidelines for Americans recommends that Americans reduce the amount of solid fat, sugar and sodium in the diet. The HealthierUS School models the recommendations of the Dietary Guidelines by adopting the criteria of the School Meals Initiative (SMI) for reducing total fat, saturated fat, and *trans* fat, and limiting sodium.

The SMI and HealthierUS School Challenge (HUSSC) criteria require that menus meet nutrition standards.

Averaged over a school week, meals must meet

–30% or less total calories from fat

–10% or less saturated fat

–Not to exceed 100 mg of cholesterol at lunch

–Not to exceed 1500 mg of sodium

Additionally, the HUSSC criteria require schools to limit sodium and sugar in competitive foods. We will discuss the competitive food criteria in our last session on menu planning.

Food purchasing, preparation and recipe modification are methods that can be used to moderate fat, saturated fat, cholesterol, sodium and sugar and increase nutrient content. How food is purchased, prepared and processed significantly affects its nutrient content. You can incorporate healthy practices in purchasing, recipes and preparation in many different ways including:

1. Doing more scratch cooking that allows you to control the amount of sodium, fat and sugar in recipes;
2. Requesting lower fat, sodium, and sugar in processed foods and canned foods, (read and compare food labels);
3. Select a healthy cooking method, (frying to baking, using spray oils);
4. Reduce or eliminate an ingredient, (eliminating fat in products and using seasonings and marinades for flavor);
5. Substitute an ingredient, (applesauce to replace some of the oil or margarine in baked goods);
6. Add ingredients to increase nutritional value, (e.g., adding carrots or spinach to salads to boost nutrients).

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Healthy Purchasing Ideas for limiting fat

Many convenience and heat and serve items are used in school meals to reduce preparation time. It's important to work with your vendor to compare foods in order to select healthier options for your menu. Some ideas to put into practice for purchasing healthier foods include:

- ✓ Talk with your vendor about specifying limits on total fat, saturated fat, and *trans* fat, in food.
- ✓ Compare food labels and ingredient lists of similar foods to select healthier options.
- ✓ Replace high fat products like hot dogs, deli meat, and other processed foods with lower fat options.
- ✓ Purchase low-fat precooked breaded meats, fish, and poultry.
- ✓ Offer reduced-fat or non-fat salad dressings with tossed salads.
- ✓ Use portion-packs for smaller containers of low-fat dressings and condiments.

Nutrition Facts Label: How much fat is in an item?

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving

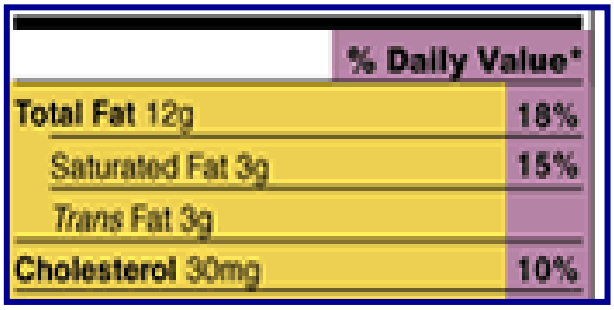
Calories 250	Calories from Fat 110
	% Daily Value*
Total Fat 12g	
Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Enriched Macaroni Product (Durum Wheat Flour, Wheat Flour, Niacin, Ferrous Sulfate (Iron), Thiamin Mononitrate (Vitamin B1), Riboflavin (Vitamin B2), Folic Acid), Cheese Sauce Mix (Whey, Milkfat, Milk Protein Concentrate, Salt, Sodium Tripolyphosphate, Contains Less than 2% Of Citric Acid, Lactic Acid, Sodium Phosphate, Calcium Phosphate, Milk, Yellow 5, Yellow 6, Enzymes, Cheese Culture).

Contains wheat and milk.



	% Daily Value*
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%

Read the nutrition facts label to find out how much fat is in an item.

Manufactures can claim a food is "low" in cholesterol, saturated fat, and *trans* fat if the product contains:

- 20mg or less of cholesterol/serving
- 2g or less of saturated fat/serving
- Less than .5g of trans fat/serving

Read the ingredient list.

If a food contains "partially hydrogenated vegetable oil" or "shortening" as an ingredient then the product is likely to contain *trans* fats.

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Healthy Preparation Ideas for Limiting Fat

There are many simple steps to reduce or omit fat in recipes and food preparation. Preparing food from scratch helps to control the amount of fat used in food preparation. Some ideas to put into practice to reduce fat include:

Modifying Recipes for less fat

- Substitute, reduce, or omit fat
- Substitute whole or 2% milk with 1% low-fat or skim milk
- Substitute regular cheese with reduced-fat or low fat cheese
- Substitute dried fruits, applesauce, mashed sweet potatoes, and pumpkin for part of the fat in baked goods
- Substitute reduced-fat mayonnaise and other low-fat dressings for regular dressings in recipes and for condiments used for sandwiches and salads.

Preparing Fruits and Vegetables for less fat

- Steam vegetables without added fat. Use just in time cooking to retain flavor and nutrients.
- Season vegetables with herbs and spices to add flavor without fat.
- Do not use fatback or other animal fat to season vegetables.
- Steam, boil or bake vegetables instead of frying.
- Make condiments, dressings and sauces to keep the fat to a minimum.

Preparation methods to reduce fat

- Trim fat from meat before and after cooking.
- Use low fat ground beef, pork or ground turkey for main dish recipes.
- Roast meat, poultry and fish on a rack so the fat will drain off.
- Chill meat or poultry broth until the fat becomes solid. Spoon off the fat before using the broth.
- Use fats and oils sparingly in food preparation.
- Use pan sprays for coating food or cookware.
- Bake, broil, roast, grill, sauté, or microwave foods instead of frying.
- Brown ground beef and drain and season the meat; use for meat sauce, tacos and casseroles.
- To make low-fat gravy, combine flour with fat-free broth. Mix cornstarch and skim milk to prepare a “low-fat cream sauce” for pasta or vegetables.
- Use the right ladle and scoop to ensure proper portions.

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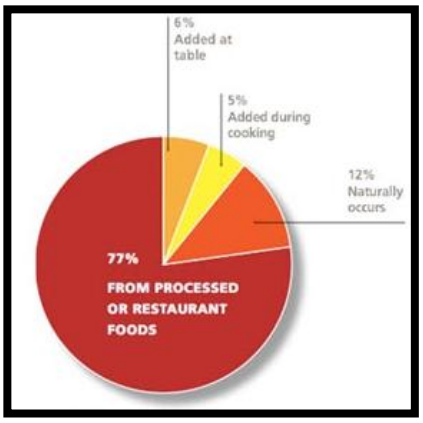
A Closer Look at Sodium

The Dietary Guidelines for Americans recommends that both adults and children get less than 2,300 mg of sodium (about a teaspoon of salt) each day. We consume more sodium than needed—about double the daily-recommended amount!

- Eating less salt is one of the single best ways to prevent high blood pressure, heart attacks and strokes.
- Most sodium comes from processed foods such as canned vegetables, soups, luncheon meats, and frozen entrees. (Figure 1).
- Gradually reducing salt and sodium will help students learn to enjoy foods for their natural tastes.



Comparison Chart of Sodium in Common Foods Served

Food	*Serving Size*	*Sodium (mg)*
Fresh Green Beans	½ cup	**2 mg**
Canned Green Beans, Low-Sodium	½ cup	**140 mg**
Canned Green Beans (drained)	½ cup	**178 mg**
Baked Potato	1 each	**16 mg**
Sweet Potatoes, Yams, canned	2/3 cup	**35 mg**
Potato Wedges, zero trans fat	½ cup	**20 mg**
No Mix Mashed Potatoes	½ cup	**242 mg**
Chicken Breast (no skin)	1 each	**127 mg**
Chicken Nuggets, Frozen	3.75 oz.	**490 mg**

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Using Less Sodium in Preparation and Purchasing

Preparation Methods to Reduce Sodium

- Add salt during the cooking process than just at the end. This allows for deeper flavor extraction.
- Start with smaller amounts of salt and taste test before adding more salt to the recipe.
- Use herbs, spices and other seasonings in place of salt to add flavor to recipes.
- Try using less salt or omit salt from pasta, rice, beans and packaged foods.
- Season vegetables with herbs, spices or low sodium broth instead of salt.
- When serving ready-made foods such as soups, meats and main dishes, check the sodium content and select those lower in sodium.
- Go easy on condiments such as soy sauce, ketchup, mustard, pickles and olives—they can add a lot of salt to your food.
- Make your own soups, sauces and dressings to control the amount of salt added to the recipe.

Purchasing for Less Sodium

- Serve more fresh foods and fewer processed foods. Use fresh fruits and vegetables that are naturally low in sodium.
- Talk with vendors about offering lower sodium products for purchase.
- Compare the sodium content on food labels for similar foods. Foods that are low in sodium contain less than 140mg (about 5% of the Daily Value) of sodium per serving.
- Purchase herbs and seasoning powders, rather than salt.

Enhancing the Flavor of Healthy School Meals with Seasonings

Benefits of Using Seasonings:

- Improve the quality and enhance the flavor of foods served to students
- Improve the appeal of foods. For school foodservice, it is crucial to continually find ways to keep our customers pleased with the meals offered. Seasonings can play an important role in accomplishing this goal.
- Improve healthfulness of foods. As salt, fat, and sugar are reduced in school menus to meet the Dietary Guidelines goals, seasonings enhance and replace lost flavors.

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Basic Principles of Seasonings:

The general term spices typically refer to spices, herbs, and dried vegetables used for seasoning. Here are five different methods to effectively enhance the flavoring of foods.

1. **Spices** are the roots, bark, seeds, flower, buds, and fruits of aromatic plants, which can enhance the nature sweetness of foods and are important for developing different flavors. *Refer to the Culinary Techniques for Healthy School Meals Spices handout for examples, taste descriptions, and ideas for use.*

2. **Herbs** are the flavorful leaves and stems of certain plants that provide color and a range of distinctive flavors. *Refer to the Culinary Techniques for Healthy School Meals Herbs handout for examples, taste descriptions, and ideas for use.*

3. **Seasoning foods.** Bell peppers, carrots, celery, garlic, lean smoked meats, leeks, onion, shallots, and hot chili pepper (jalapeno pepper) and pepper varieties are examples of foods that can be used to enhance the flavor of recipes.

4. **Other additional seasonings** include juices, orange and lemon zest, meat bases, vegetable stock, olive oil, hot sauce, low sodium soy sauce, Worcestershire sauce, and sesame seed oil.

5. **Preparation Techniques and Processes.** Preparation techniques including browning, caramelizing, and roasting. Processes used to enhance flavor include:
   - **Marinating**: Submerging food in a mixture of ingredients, basting or brushing the food while being cooked, or putting a dry or wet rub on the food prior to cooking.
   - **Reduction**: Reducing enhances flavor through concentration. A liquid is reduced by boiling away some of the liquid. Reduce fruit juice concentrate by decreasing the amount of water before it is added to a recipe.
   - **Infusion**: Infuse (steep) herbs and spices in vinegars, oils, stocks, and juice to enhance the flavor before the liquids are used in a recipe.

Helpful Tips

Purchase garlic, onion, and celery powders or granules instead of garlic, onion, or celery salt, which contain more sodium.

If purchasing seasoning mixes, select combinations that do not contain monosodium glutamate (MSG) or salt as the primary ingredient.

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General Rules for Enhancing Flavor During Food Prep:

- Start small! Always add a small amount of seasoning and increase until the product has an acceptable taste and aroma. It is best to start with ¼ teaspoon per pint or pound of food product. When using garlic powder or pepper, start with 1/8 teaspoon.
- Use two times as much of a fresh herb or spice as of the dried form (2 tsp. fresh basil = 1 tsp. dried basil)
- Use twice as much of a dried leaf herb as of the ground form (1/2 tsp. dried thyme leaves = ¼ tsp. ground thyme).
- It is generally adequate to use a total of 1-3 Tablespoons herbs and spices per 50 portions of a recipe. In general, double the spices and herbs in a recipe when increasing from 50-100 servings. Increase spices and herbs by 25% for each additional 100 servings.

Storing Herbs and Spices:

Fresh Herbs: Loosely wrap fresh herb bouquets in film wrap or put into containers and put in refrigerator to prevent spoilage. Individual leaves should be wrapped in a paper towel or place in a food-safe plastic bag. Fresh herbs should keep up to four days in the refrigerator.

Dried Herbs and Seasonings: Store in a cool, dark, dry, place in an air-tight container because the oils that provide the flavor breakdown faster when exposed to air, light, and warm temperatures. Always record the delivery date on all spices. Dried spices and herbs retain their flavor and aroma for six months to a year. Discard dried spices and herbs that develop a "flat" aroma.

Adapted from National Food Service Management Institute's Culinary Techniques For Healthy School Meals: Seasoning

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A Closer Look at Added Sugar

✓ Strong evidence shows that children and adolescents who consume more sugar-sweetened beverages have high body weight compared to those who drink less.

✓ Added sugars from foods and beverages provide excess calories and few essential nutrients to the diet and often replace foods that are nutrient dense.

✓ The Dietary Guidelines recommend that we choose foods and drinks with **little or no *added* sugars.**

- *Drink water instead of sugary drinks*
- *Select fruit for dessert*
- *Choose 100% fruit juice instead of fruit-flavored drinks*

Major Sources of Added Sugars in Children's Diets

☐ ***Sugary drinks like soda, teas, sports drinks, fruitades , and punch account for more than 33% of all added sugar consumed.***

☐ ***Cakes, cookies, pies and other sugary desserts.***

☐ ***Candy***

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Ingredient List

Ingredient list can be used to find out whether a food or beverage contains added sugars. Ingredients are listed in order of weight; that is, the ingredient with the greatest contribution to the product weight is listed first and the ingredient contribution the least is listed last. Use the ingredient list to determine whether foods contain added sugars.

Examples of Added Sugars on Ingredient Lists

- ***Brown Sugar***
- ***Corn syrup***
- ***Corn syrup solids***
- ***Dextrin***
- ***Fructose***
- ***High-fructose corn syrup***
- ***Honey***
- ***Invert sugar***
- ***Lactose***
- ***Maltose***
- ***Malt syrup***
- ***Molasses***
- ***Pancake syrup***
- ***Raw sugar***
- ***Sucrose***
- ***Sugar***

Limit the Use of

- ***Sugary Drinks***
- ***Food prepared in syrups***
- ***Condiments containing sugar***
- ***Pre-sweetened cereals.***

Reducing Added Sugar in Menus and Recipes

Modify Menus

✓ Serve healthy fruit desserts as they are nature's sweets

✓ Offer smaller portions of desserts

✓ Serve fruits packed in light syrup or natural juice

- ✓ Serve quick breads such as pumpkin, sweet potato, banana, carrot, instead of high-sugar cakes or cookies

Modify Recipes by

- ✓ Use ¼ to ½ less sugar in traditional recipes for cookies, muffins, and quick breads. Make reductions by no more than one-fourth at a time.
- ✓ Use sweet spices, such as vanilla, allspice, nutmeg, cinnamon, or ginger in baked goods.
- ✓ Use standardized recipes that already have been modified with less sugar.

Standardized recipes

Standardized recipes are those that have been tried, adapted, and retried. Therefore, they produce the same results and yield every time when the same instructions, ingredients, and equipment are used. A standardized recipe states exact measures, ingredients and methods for preparation. Using standardized recipes result in consistent food products that produce the same quality, yield and nutrient analysis every time the recipe is followed exactly.

Important Considerations
Well-managed Child Nutrition Programs use standardized recipes to ensure:

Quality

Yield

Accurate Nutrient Analysis

Advantages of Using Standardized Recipes:
Quality control

Ensures that the product will be the same quality each time it is prepared. Our customers need to know that the products they like will always live up to their expectations each time they are selected.

Portion control

Ensures the same portion each time the recipe is prepared. All customers will receive the same portion of food and production will not be too much or too little.

No substitutions

When the total quantity of yield is known, we are less likely to run out of a food item and have to make last minute substitutions or have excessive leftovers.

Cost control

With specified ingredients, quantities and consistent yield, food cost can be predetermined and controlled.

Time savings

When employees are familiar with a recipe because it is followed correctly each time, time is saved. A standardized recipe doesn't require the cook to take time to make unnecessary decisions about ingredients, etc.

Inventory control

Because a standardized recipe specifies the ingredients and quantities for the required yield, the managers can order exactly what is needed.

Nutrient Information

An accurate nutritional analysis is available each time the recipe is prepared.

Consistent results

Anyone with basic cooking skills can produce consistent results. A recipe is considered standardized only after it has been tried and evaluated for quality, and any necessary adaptations or adjustments have been made.

Steps in Using a Recipe

Every cook should follow these steps when using a recipe to stay organized, save time and maintain quality standards.

1. Read the complete recipe carefully.
2. Understand all terms and definitions. For clarification, ask your supervisor.
3. Check the yield, temperature and cooking time.
4. Assemble, in order of use, all the tools, utensils and equipment needed.
5. Do the necessary pre-preparation steps, such as greasing pans, washing and cutting vegetables, preheating the oven, etc.
6. Use calibrated scales to measure large amounts (more than 1 ounce) of dry ingredients
7. Use liquid volume measures correctly.
8. Follow recipe instructions, record modifications, record prep and cooking times.
9. Portion and serve product as indicated on recipe.

Challenge Recipes to Reduce Fat and Sodium

Pacer Zinger
470 mg sodium, 21% fat

Another kids favorite! This recipe is lower fat and sodium. With the addition of commodity chicken and black beans you have not only reduced fat and sodium but increase fiber. Easy to prepare, this Mexican recipe appeals to kids taste!

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Chic Penne
526 mg Sodium, 16% fat

Not typically found at your local fast food restaurant, this whole-wheat pasta dish is bright and fun with fresh broccoli, chicken and melted cheese. With a little spice of black pepper, this main dish is anything but ordinary.

Additional Handouts for this Session

Ethnic Combo and Rubs
NFSMI Basics At a Glance
Dietary Fact Sheets for Fat, Cholesterol, Sodium, Trans Fat