



## HEALTHY CUISINE FOR KIDS

A PUBLICATION FOR CHILD NUTRITION PROFESSIONALS FROM THE NATIONAL FOOD SERVICE MANAGEMENT INSTITUTE

### OVERVIEW

Providing healthier school meals that meet the nutrition recommendations in the Dietary Guidelines for Americans (DGA) is widely recognized as an important measure in improving the health and well-being of the nation's children. The United States Department of Agriculture's (USDA) School Meals Initiative for Healthy Children provides the framework needed for schools to implement the DGA in school meals. Various training opportunities have been made available to schools in recent months. These training programs were designed to help school foodservice professionals follow the nutrition principles of variety, balance, and moderation as they apply to foods and certain nutrients in school meals.

Key to the success of providing healthier school meals is an understanding of the DGA as they apply to children and adolescents, and the interpretation of these principles into preparing meals that appeal to the taste and visual preferences of student customers. As part of the National Food Service Management Institute's (NFSMI) efforts to support the School Meals Initiative for Healthy Children, the Division of Education and Training developed the Healthy Cuisine for Kids Workshop. This three-day train-the-trainer program provides hands-on food preparation experiences that support the nutrition principles in the DGA.

### BENEFITS OF HEALTHY CUISINE FOR KIDS

It is well documented that children who eat nutritionally sound diets, both in terms of nutrient balance and energy intake appropriate for growth and proper development, are less likely to be sick. They enjoy better general health. If children are sick, they may miss school more often. Children who eat breakfast, either at home or at school, do better in class. Their attention span is greater. Children do not cope well with transient hunger and perform below their potential in class when hungry. Schools without breakfast programs have experienced higher daily attendance when breakfast programs were initiated.

The long-term health benefits of adequate and optimum nutrition are believed to be great. It is reasonable to assume that a healthful lifestyle designed to prevent chronic diseases related to diet should start early in life. The implementation of the DGA in school meals is consistent with the idea that the DGA are appropriate for all Americans over two years of age.

### DEFINING HEALTHY CUISINE FOR KIDS

What is a healthier school meal? It is important to acknowledge and applaud the many child nutrition programs across the country that already serve nutritious, acceptable meals to students. The DGA have been the yard stick for measuring success in those programs since they were first introduced. Even before the first edition in 1980, many schools served nutritionally sound meals. However, not all school meals meet the standard established by the DGA. Healthy cuisine for kids at school promotes the development of healthy eating habits meant to last a lifetime.

Besides the DGA, there are other guiding principles for planning healthful meals for children. The Recommended Dietary Allowances (RDA) are the framework for planning meals that provide key nutrients such as protein, calcium, iron, vitamins A and C, and the calories children need daily.

While the RDA provide a close-up view of meal planning at the nutrient level, the Food Guide Pyramid (FGP) allows the menu planner a broader conceptual framework for planning healthful school meals. Following the recommended number of servings from the five food groups ensures that meal planning follows the basic principles in the DGA. Selecting a variety of foods within each food grouping in the recommended amounts (*based on age*), moderating the use of fats and sugars, and making other lower fat selections (*ie., low-fat milk instead of whole milk*) can result in diets that meet the nutrition principles in the DGA. The FGP encourages planning food intake over an entire day, as opposed to one meal at a time. This gives a greater opportunity to plan realistically, based on how children really eat. Planning school meals for an entire week to meet the recommendations allows for greater flexibility in types of food offered. The menu planner can balance higher fat menu choices against lower fat ones and plan a higher fat lunch one day with a lower fat lunch another day during the same week as strategies the menu planner can use.

### TRANSLATING THE DIETARY GUIDELINES INTO HEALTHY CUISINE FOR KIDS

Through the School Meals Initiative for Healthy Children, the DGA may be implemented using Nutrient Standard Menus (NuMenus), Assisted Nutrient Standard Menus (*Assisted NuMenus*), Food Based Menus, the traditional food pattern, and other acceptable means. The following requirements are common to each of the menu planning systems in school lunch and school breakfast programs. When averaged over a school week (3 to 7 days): cholesterol and sodium levels should decrease, dietary fiber should increase, total fat will be 30 percent or less of total calories offered, saturated fat will be 10 percent or less of total calories offered, lunch will meet one-third of the RDA, and breakfast will meet one-fourth of the RDA.

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NuMenu requires the analysis of menus and recipes for nutrient content to meet the nutrition recommendations above. All procedures for planning, purchasing, preparation, and service must be standardized and followed accurately for meals to consistently meet the guidelines. Assisted NuMenu is a plan available to facilities that wish to use nutrient standard menu planning, but do not have computers or technical support to conduct the analysis. Assistance can come from state agencies, regional offices, or qualified consultants. It requires the preapproval of menus, recipes, and other specifications by the state agency.

The Food Based Menu system is similar to the traditional food pattern in that the meal components are the same—milk, meat or meat alternate, vegetables/fruits, and grains/breads. The new plan provides for an increase in the total vegetable/fruit and grains/breads over a week. Grain-based desserts may be occasionally incorporated into the reimbursable meal. In NuMenu and Assisted NuMenu any food and combination of foods may be planned without regard to food groups or minimum serving sizes as in the Food Based Menus. (*Foods of minimal nutritional value are the exception and the rule still applies in all systems.*) Offering choices and the offer vs. serve option are also a part of healthy cuisine for kids.

## FOOD MUST BE ACCEPTABLE TO STUDENTS IN FLAVOR AND APPEARANCE

No matter how nutrient-rich and healthful school meals are, if the students will not eat them, the goal of good nutrition is not met. School meals must meet the taste preferences of student customers. Foodservice personnel can encourage favorable food attitudes and good eating habits by serving properly prepared, flavorful foods students like in a pleasant, unhurried environment.

To serve healthy cuisine for kids, consider the following:

- senses of taste, smell, touch, sight, and hearing determine food acceptability;
- people eat with their eyes first—food should look good to be acceptable;
- good food also has a pleasing aroma;
- food flavors should appeal to students' taste;
- new foods are accepted better if introduced gradually and along with old favorites;
- popular, high-quality nutritious products is the goal; know what students like—if students are asked, they will give their opinions;
- food should be FUN; students are interested in FUN, and the cultural and individual differences among students should be understood and respected.

Changing the fat, sodium, and sugar content of school meals may lead to difficulties in getting children to accept the foods offered. There are ways to prepare foods that taste good without using a lot of fat, sodium-containing ingredients, and sugars. Because high-fat foods are more satisfying, it is important to provide filling, lower fat foods so that children will not feel hungry soon after eating lunch at school. Hungry children cannot do their best in class. The goal is for students to start eating more breads, fruits, vegetables, lean meats, and low-fat dairy products to satisfy hunger. Children will also get more of the vitamins and minerals they need. These are important nutrients they may not have been getting with a diet high in fat and sugar.

Because the long-term goal is that school meals will average 30 percent

The *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* specifically challenge school nutrition programs in the following objective:

"Increase to at least 90 percent the proportions of school lunch and breakfast services and child care food services with menus that are consistent with the nutrition principles in the *Dietary Guidelines for Americans*." (*Baseline data were available in 1993.*)

School foodservice personnel, and particularly cafeteria managers are, to a large extent, the gatekeepers to school children's food supply. Although meal planning in many schools already incorporates the principles in the DGA, such planning should be universal. It is especially important that school meals provide choices that include low fat foods, vegetables, fruits and whole-grain products. New foods may need to be introduced gradually to increase their acceptance by students. At the midcourse review in 1995, completed just before USDA initiated the School Meals Initiative for Healthy Children, research revealed that only 1 percent of schools offered lunches providing an average of 30 percent or less of calories from fat. It will be exciting to see the expected improvement in meals when the final evaluations of the objectives are conducted in the year 2000.

of calories from fat in 90 percent of menus, some meals can be higher in fat than others. When the principles of moderation and balance are followed, there is a place on the menu for customers' favorites. One goal of the Healthy Cuisine for Kids Workshop is to show how to reduce the total fat in menus without losing flavor. Make changes gradually until students are comfortable with lower-fat meals. USDA has prepared cycle menus that are planned according to these principles. *Figure 1* shows one week in a cycle of five weekly menus planned to meet the DGA's recommendations and the taste expectations of students.

When additional calories are needed in low-fat meals, they can best be supplied by increasing the amount of complex carbohydrates offered. Complex carbohydrates provide calories without adding fat to the meal. Food sources include pasta, bread, rice, and legumes. Unless the recipe is loaded with fatty ingredients, these foods are excellent sources of calories, vitamins, minerals, protein, and fiber (*especially whole grains and legumes*). Some suggestions for increasing calories in a school meal without adding excess fat include: serve more rolls, bread, and give double servings; double the serving of pasta, potatoes, or rice; offer additional starchy vegetables such as peas, corn, and beans; add more fruit; add a grain dessert occasionally; and allow students to serve themselves all the vegetables they want.

Keep in mind that many traditional desserts do not qualify as healthful desserts because they are high in fat and sugar (*simple carbohydrates*) and low in vitamins and minerals. USDA has said that school meals should only contain sugar in moderation, echoing the recommendation in the DGA. When children eat lots of sugary foods, they may not have room left for more nutritious foods. However, for very active children with high caloric needs, sugars can be an additional source of calories. Grain-based desserts include fruit crisps, fruit muffins, whole grain cookies (*Figure 2*), and rice pudding.

Fiber in school meals can be increased in several ways. Menus can be planned with more servings of whole-grain cereals, such as hot

# HEALTHY CUISINE FOR KIDS TRAINING

As part of USDA's School Meals Initiative for Healthy Children, the Healthy Cuisine for Kids Workshop is designed to give managers and cooks the knowledge and skills necessary to implement the nutrition principles outlined in the DGA in school nutrition programs. NFSMI developed the Healthy Cuisine's for Kids Workshop program as a hands-on training opportunity designed for the front-line school foodservice employee—the child nutrition team member who is responsible on a daily basis for seeing that the food served is healthful and appealing to the student customer.

The training focuses on food preparation that will ensure meals served meet the DGA and be an example of healthy eating practices for students. Preparing healthy cuisine for kids begins with menu planning and food purchasing, but the nutrient profile of the meals served depends greatly on the methods of foods preparation selected. Modifying the amount of fat, sodium, and sugar included in food preparation requires new and different ways of doing things. Preparing additional fruits, vegetables, and grains in appealing student-acceptable ways is a challenge. The Healthy Cuisine for Kids Workshop provides an opportunity for participants to observe a professional chef demonstrating new food preparation techniques and an opportunity to try their hands at using those techniques.

Essential to the success of serving healthy cuisine for kids that is lower in fat, sodium, and sugar is the use of flavor enhancers to improve the acceptability of school meals. Understanding flavors and the use of flavoring ingredients is the business of the professional chef. Involving a chef in the training adds an exciting dimension to the workshop. Chefs who are familiar with the nutritional and operational concerns of child nutrition programs are needed.

Local chef organizations can provide the names of individuals who are willing to participate as training team members. Other team members for the Healthy Cuisine for Kids Workshop include trainers who understand nutrition and are familiar with the day-to-day operations of child nutrition programs.

The Healthy Cuisine for Kids Workshop training materials include the Trainer's Manual, Participant's Manual, and Recipe Booklet. The Breakfast Lunch Training video series *Healthy Cooking for Kids* and *On the Road to Professional Food Preparation* provide an overview of basic food preparation and cooking techniques.

Recipes were selected for the workshop to achieve the learning objectives of mastering the nutrition concepts and food preparation skills needed to provide healthier school meals. Recipes spotlight a variety of grains, legumes, pastas, fresh fruits and vegetables, and grain-based desserts. Meats and poultry are prepared using lower-fat cooking methods such as dry sauté, braising, stir-frying, and roasting.

Recipes also were selected to incorporate fundamental culinary skills to help give a sense of professionalism to the training. *Mis en place* (task organization), weighing and measuring skills, proper use of standardized recipes, strict attention to safety and sanitation are the working elements of the hands-on experiences.

The Healthy Cuisine for Kids Workshop can be summed up by saying, the key to preparing healthier foods and meals for students is the understanding of basic culinary fundamentals of preparing foods that look and taste good. Providing healthy cuisine is a rewarding challenge when students eat better and develop good food habits that are essential to a healthier lifestyle.

**FIGURE 4**

**VEGETABLE SEASONING CHART**

FLAVOR ENHANCERS	VEGETABLES	FLAVOR ENHANCERS	VEGETABLES
Allspice	Winter squash, sweet potatoes	Mace	Cauliflower
Basil	Cabbage, carrots, green peas, spinach, tomatoes	Marjoram	Broccoli, carrots, cauliflower, green peas, spinach, zucchini
Caraway	Beets, cabbage, cauliflower, green beans, wax beans, zucchini	Mint	Carrots, green peas, spinach
Cardamom	Winter squash, sweet potatoes	Mustard seed	Cabbage
Celery seed	Cabbage, carrots, cauliflower, celery, sauerkraut, tomatoes	Nutmeg	Celery, spinach, winter squash
Chili powder	Corn, tomatoes	Onion powder	Cabbage, green beans
Cinnamon	Beets, carrots, sweet potatoes, onions, tomatoes	Oregano	Green peas, tomatoes, zucchini
Curry	Cabbage, celery, lima beans	Parsley	Tomatoes, corn
Dill seed	Beets, cabbage, carrots, cauliflower, celery, green beans, green peas, wax beans	Rosemary	Cauliflower, spinach, turnips
Garlic powder	Green leafy vegetables, tomatoes	Red pepper	Celery
Lemon juice	Green leafy vegetables, broccoli, cauliflower	Sage	Green beans, onions, tomatoes, wax beans
		Tarragon	Cauliflower
		Thyme	Carrots, celery
		Vinegar	Green leafy vegetables



# FIGURE 1

## SAMPLE MENU

LUNCH MENU FOR GRADES 7-12 • WEEK 5 OF A 5-WEEK CYCLE MENU				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Chilled Pineapple Chunks	Vegetable Lasagna	Nachos with Beans	Beef Vegetable Soup	Orange Juice
Vegetable Egg Roll	Italian Bread	OR	Crackers	Cheese Pizza
Sweet and Sour Sauce	Margarine	French-Dipped	Salad Bar	Bread Sticks
Steamed Rice	OR	Roast Beef Au Jus	w/ Assorted Dressings	w/ Marinara Sauce
OR	American Sub	on Vienna Bread	OR	OR
Turkey Club Bagel	Sandwich	Oven-Fried Potato	Pasta Bar	Honey Lemon Chicken
Mayonnaise	Mustard/Mayonnaise	Wedges/Catsup	w/ Tomato Sauce	Brown Rice Pilaf
Broccoli and	Carrot/Celery Sticks	Tossed Salad	Broccoli/Carrots	Seasoned Green Beans
Cauliflower Polonaise	Creamy Vegetable Dip	Ranch Dressing	Cauliflower	Whole-Wheat
Peanut Butter Bar	Peach Crisp	Strawberry-Banana	Parmesan Cheese	Sugar Cookies
Variety Milk	Variety Milk	Fruited Gelatin	Whole-wheat Roll	Variety Milk
		Variety Milk	Margarine	
			Fruit Juice Bar	
			or Sherbet	
			Variety Milk	

## WEEKLY MENU NUTRIENT ANALYSIS

MENU AVERAGE	CALS	MG CHOL	MG SODIUM	G FIBER	MG IRON	MG CALCIUM	RE VIT-A	MG VIT-C	G PROTEIN	G CARB	G TOTAL FAT	G SATURATED FAT
Cycle Week 5	812	70	1507	8.41	6.04	617.18	797	53.08	38.35	111.15	25.49	8.77
% of Calories									18.88%	54.76%	28.26%	9.73%
Nutrient Standard (Grades 7-12—Lunch)	819				4.50	400	300	18.11	16.06		<30%	<10
% of Nutrient Standard (Grades 7-12—Lunch)	99%				134%	154%	266%	293%				

SOURCE: USDA (1996). *Assisted NuMenus: A Resource Guide for School Food Service Professionals*

# FIGURE 2

## WHOLE WHEAT COOKIES

### INGREDIENTS

Margarine or butter	12 oz	Baking powder	1 Tbsp
Sugar	1 lb 8 oz	Baking soda	1 1/2 tsp
Frozen whole eggs, thawed	6 oz	Salt	1 1/2 tsp
or		Ground nutmeg	1 tsp
Fresh large eggs	3 each	Ground cinnamon	1 tsp
Vanilla	1 Tbsp	Sugar	4 oz
Low-fat milk	3/8 cup	Ground cinnamon	2 tsp
Whole wheat flour	1 lb 13 oz		

### NUTRIENT PER PORTION

Calories	173	Cholesterol	15 mg	Sodium	207 mg
Protein	3 g	Vitamin A	75 RE/251 IU	Dietary Fiber	2 g
Carbohydrate	28 g	Vitamin C	0 mg		
Total Fat	6.2 g	Iron	0.8 mg		
Saturated Fat	1.3 g	Calcium	30 mg		

### INSTRUCTIONS

- Cream margarine or butter and sugar in mixer, using a paddle attachment on medium speed for 10 minutes.
- Add eggs, vanilla, and milk. Mix for 1 minute or until smooth. Scrape down sides of the bowl.
- Mix all dry ingredients. Add gradually to the creamed mixture. Mix for 1 minute or until well blended. Scrape down sides of the bowl.
- Portion with a No. 30 scoop (4x5) on lightly greased or paper lined 18"x26"x1" sheet pans.
- Combine sugar and cinnamon in a spice shaker and sprinkle over cookies.
- To bake: Conventional Oven—375°F, 12 minutes; Convection Oven—350°F, 16 minutes. Bake until light brown.

SOURCE: USDA (1996). *A Tool Kit for Healthy School Meals: Recipes and Training Materials*

# FIGURE 3

## HERBED BROCCOLI AND CAULIFLOWER POLANAISE

### INGREDIENTS

Margarine or butter, melted	8 oz	White pepper	1/2 tsp
Lemon juice	1/4 cup	Onion salt	2 tsp
Onions, 1/4" diced	5 oz	Parmesan Cheese, grated	4 oz
or		Dry bread crumbs	10 oz
Dried onions	1/4 cup	Frozen broccoli spears	6 lb 4 oz
Dried basil leaves	1 Tbsp	Frozen cauliflower	6 lb 4 oz
Dried parsley	2 Tbsp		

### NUTRIENT PER PORTION

Calories	97	Cholesterol	2 mg	Sodium	216 mg
Protein	5 g	Vitamin A	125 RE/927 IU	Dietary Fiber	3 g
Carbohydrates	10 g	Vitamin C	54 mg		
Total Fat	5.0 g	Iron	1.1 mg		
Saturated Fat	1.3 g	Calcium	82 mg		

### INSTRUCTIONS

- Heat margarine or butter in a stock pot until browned.
- Turn off heat and add lemon juice.
- Add fresh or rehydrated onions, basil, parsley, white pepper, onion, salt, Parmesan cheese, and bread crumbs to the margarine or butter. Mix, then set aside. Place broccoli and cauliflower in separate 12"x20"x2.5" steam table pans. Steam each pan in low-pressure steamer for 6 minutes or until vegetables are tender. Drain water from pans.
- Combine 2 lb 13 oz of cooked broccoli and 2 lb 13 oz of cooked cauliflower in each steam table pan.
- Sprinkle 2 cups of bread crumb mixture over each pan of vegetables before serving.
- Each pan serves 25.

SOURCE: USDA (1996). *A Tool Kit for Healthy School Meals: Recipes and Training Materials*



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oatmeal; bran flakes, raisin bran, or wheat flakes; whole-wheat bread, oatmeal bread, multigrain bread, bran bread, graham crackers, and whole-wheat bagels; fresh fruit or dried fruits for dessert or snacks; fruits and vegetables with their peels; and more cooked or canned dry beans, split peas, and lentils as a separate item or in mixtures such as soups, stews, and salads.

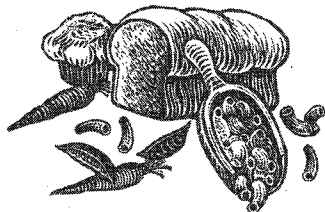
The DGA recommend a moderate intake of sodium. USDA has recommended that all school meals be planned and prepared so that children do not get too much sodium. Because children are generally used to eating more sodium than they need for good health, the task of reducing

sodium in the school lunch may be a challenge. Students' favorite condiments add flavor and interest to school meals; however, some are high in sodium. Select and purchase lower sodium condiments. Students enjoy the taste of salt, but salt is the greatest contributor of sodium in a typical meal. Reducing the salt in foods will change their flavor. As alternatives to salt and salty ingredients, herbs and spices enhance the natural flavors of foods without adding sodium to the meal. For example, a blend of garlic and onion powder, paprika, and a small amount of salt sprinkled onto oven fries or baked potato wedges is a great lower sodium substitute for salt alone.

## GRAINS, LEGUMES, FRUITS, VEGETABLES, MEATS AND MEAT ALTERNATES

Meat (including red meats, poultry, and fish) has occupied the center of the plate in the school lunch. With greater interest in healthier eating, the perception of what is healthful is changing. Meats are excellent nutrition choices when lean cuts, portion control, and lower-fat preparations are considered. The foundation of a healthful diet also includes consuming more plant products—including grains, cereals, fruits, and vegetables. These foods provide a variety of nutrients including complex carbohydrates (*starch and fiber*). Increasing these basic ingredients in menus can lead to exciting, tasty meals. The creative use of the wide variety of grain products available to school foodservice today will enhance lower fat menus with great flavors and textures. Children like grain products (*ie., pasta, bread, pizza*). Build the menu around their favorites and introduce new types of grains and product forms (*eg., bagels, muffins, foccacia*). Challenge young tastes with whole grains and exotic (*yet easy to prepare*) dishes such as couscous. Ethnic theme meals make great opportunities to introduce these new and different foods in a fun way. Grains, pastas, and legumes can be used in nearly every menu category.

Proper preparation of vegetables and fruits may lead to greater selection by students. Overcooked vegetables and fruits suffer from mushy texture, poor flavor, and color and nutrient loss. Proper selection, purchasing, handling, and preparation of vegetables will enhance the taste, presentation, and nutritional value. Bring out the best flavors in vegetables by adding seasonings as in the Broccoli and Cauliflower Polonaise (*Figure 3*). Other flavorful ingredients may be added to make vegetables more appealing to students without the addition of fat or sodium-containing ingredients. Try some of the suggestions found in the USDA's *Quantity Recipes for School Food Service* (*Figure 4*).



## PREPARING HEALTHY CUISINE FOR KIDS BEGINS WITH MENU PLANNING AND FOOD PURCHASING, BUT THE NUTRIENT PROFILE OF THE MEALS SERVED DEPENDS GREATLY ON THE METHODS OF FOODS PREPARATION SELECTED.

### CULINARY TECHNIQUES FOR HEALTHY CUISINE FOR KIDS

The application of culinary principles to food handling, cooking techniques, flavor enhancement, and presentation can be the key to success in getting students to accept and enjoy healthful school meals. Basic kitchen skills and culinary techniques of flavor enhancement and preparation can be learned. Changing the way food is cooked is easy if the school foodservice assistant is willing to try new methods and adequate training is available. Changing the way the food looks and tastes will require educating the customer as well. Making small changes over time, while providing an opportunity for customers to taste test new items, will hasten acceptance. The goal of healthy cuisine is to develop healthy food habits for life, not just to meet the nutrition recommendations of the program.

The foodservice assistant should be encouraged to explore new techniques and flavors when standardizing new recipes and modifying existing ones. Adding herbs and spices and using low-fat cooking methods add new dimensions to school menus. Starting with the youngest students and persisting with efforts to reeducate young palates are essential to long-term success. Healthy cuisine for kids is not for the faint of heart. Saying "*we tried that once and the kids would not eat it*" can be an easy way to resist change. Adopting a positive approach to the challenge of changing how meals are planned and prepared goes a long way to assuring success with the production staff and the students who are the customers.

