APPENDICES

SMI Road to Success

APPENDIX A

Scientific Research Indicating Trends in Children's Health and Diet

CURRENT SCIENTIFIC RESEARCH INDICATES THESE AND OTHER TRENDS IN CHILDREN'S HEALTH:

- Childhood obesity has reached epidemic proportions. The percentage of children who are overweight has more than doubled since 1970, and the percentage among adolescents has tripled.[1]
- More than 10 percent of younger pre-school children between ages two and five were overweight in 2003, up from 7 percent in 1994.[2]
- These overweight children are at a greater risk for psychological disorders such as decreased self-esteem and depression, and their suffering goes beyond teasing and taunts.[3]
- Overweight children and adolescents are more likely to become obese adults, increasing their risk for chronic diseases later in life.
- Type 2 diabetes, which is closely linked to overweight, has skyrocketed among children and adolescents over the past decade. Childhood obesity has also been associated with increased rates of high cholesterol and high blood pressure among children.
- The long-term complications can be devastating. Untreated, diabetes can lead to blindness, kidney failure, leg amputations, stroke, heart disease, and early death.
- The former U.S. Surgeon General David Satcher warned that overweight and obesity, left unabated, might soon cause as much preventable disease and death as cigarette smoking.

CURRENT TRENDS IN CHILDREN'S DIETS ARE ALSO ALARMING:

- Only 2 percent of school-aged children meet the Food Guidance System recommendations for all five food groups. Less than one in five children eat the recommended amount of fruits or vegetables. The vast majority of children consume too much fat and sodium.[4]
- Mean calcium intakes by females ages 9 to 13 and 14 to 18 (years of age) are very low –65 and 54 percent of Adequate Intake based on the Dietary Reference Intake.[5]
- Children's consumption of soda increased by 40 percent from 1989-1991 to 1994-1996. Milk product consumption dropped significantly during this period. The decrease in milk product consumption may be related to the decrease in calcium intake for some subgroups.[6]
- Children with unhealthy eating patterns tend to maintain those unhealthy habits into adulthood.

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1 Ogden, CL, Flegal, KM, Carroll MD, and Johnson CL. Prevalence and Trends in Overweight Among U.S. Children and Adolescents, 1999-2000. JAMA 2002 288 (14): 1728-1732.
2 US HHS Press Office. HHS, USDA Takes Next Step in Obesity Fight, Press Release, October 2002.
3 Sanjay Gupta, M.D., Why Adolescent Obesity Can Have Grim Consequences, TIME, May 2002.
4 U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis, Nutrition and Evaluation, Changes in Children's *Diets: 1989-1991 to 1994-1996,* CN-01-CD2, by Phil Gleason and Carol Suitor. Alexandria, VA: 2001. Available online at **www.fns.usda.gov/oane/default.htm.**
5 Ibid.
6 U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis, Nutrition and Evaluation, *Children's Diets in the Mid-1990s: Dietary Intake and Its Relationship with School Meal Participation,* CN-01-CD1, by Phil Gleason and Carol Suitor. Alexandria, VA: 2001. Available online at **www.fns.usda.gov/oane/default.htm.**

SCHOOL LUNCH PATTERNS

TRADITIONAL FOOD-BASED MENU PLANNING – Meal Pattern

FOOD COMPONENTS AND FOOD ITEMS	MINIMUM QUANTITIES				RECOMMENDED QUANTITIES
	GROUP I AGES 1 and 2 PRESCHOOL	GROUP II AGES 3 and 4 PRESCHOOL	GROUP III AGES 5-8 GRADES K-3	GROUP IV AGE 9 AND OLDER GRADES 4-12	GROUP V AGE 12 AND OLDER GRADES 7-12
Milk, fluid (as a beverage)	6 fl oz (3/4 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Meat or Meat Alternate[1, 2, 3, 4, 5] (quantity of the edible portion as served):					
Lean meat, poultry, or fish	1 oz	1-1/2 oz	1-1/2 oz	2 oz	3 oz
Alternate protein products[3]	1 oz	1-1/2 oz	1-1/2 oz	2 oz	3 oz
Cheese	1 oz	1-1/2 oz	1-1/2 oz	2 oz	3 oz
Egg (large)	1/2 large egg	3/4 large egg	3/4 large egg	1 large egg	1-1/2 large eggs
Cooked dry beans or peas[4]	1/4 cup	3/8 cup	3/8 cup	1/2 cup	3/4 cup
Peanut butter or other nut or seed butters	2 Tbsp	3 Tbsp	3 Tbsp	4 Tbsp	6 Tbsp
Yogurt, plain or flavored, unsweetened or sweetened - commercially prepared	4 oz or 1/2 cup	6 oz or 3/4 cup	6 oz or 3/4 cup	8 oz or 1 cup	12 oz or 1-1/2 cups
The following may be used to meet no more than 50% of the requirement and must be used in combination with any of the above: Peanuts, soynuts, tree nuts, or seeds, as listed in program guidance, or an equivalent quantity of any combination of the above meat/meat alternate (1 oz of nuts/seeds=1 oz of cooked lean meat, poultry, or fish)[5]	1/2 oz = 50%[5]	3/4 oz = 50%[5]	3/4 oz = 50%	1 oz = 50%	1-1/2 oz = 50%
Vegetable or Fruit[4, 6] Two or more servings of different vegetables, fruits, or both	1/2 cup	1/2 cup	1/2 cup	3/4 cup	3/4 cup
Grains/Breads[7] (Servings per week): Must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ. A serving is a slice of bread or an equivalent serving of biscuits, rolls, etc., or 1/2 cup of cooked rice, macaroni, noodles, other pasta products, or cereal grains.	5 per week[8]–minimum of 1/2 per day	8 per week[8]–minimum of 1 per day	8 per week[8]–minimum of 1 per day	8 per week[8]–minimum of 1 per day	10 per week[8]–minimum of 1 per day

[1] Must be served in the main dish or the main dish plus only one other menu item.
[2] Enriched macaroni with fortified protein may be used to meet part of the meat or meat alternate requirement.
[3] Alternate protein products must meet the requirements in Appendix A of 7 CFR Part 210.
[4] Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal.
[5] Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.
[6] No more than one-half of the total requirement may be met with full-strength fruit or vegetable juice.
[7] Enriched macaroni with fortified protein may be used as a meat alternate or as a grains/breads item, but not as both components in the same meal.
[8] For the purposes of this chart, a week equals 5 school days.

SCHOOL LUNCH PATTERNS

ENHANCED FOOD-BASED MENU PLANNING — Meal Pattern

	MINIMUM REQUIREMENTS				OPTION FOR
FOOD COMPONENTS AND FOOD ITEMS	**AGES 1 and 2**	**PRESCHOOL**	**GRADES K-6**	**GRADES 7-12**	**GRADES K-3**
Milk, fluid (as a beverage)	6 fl oz (3/4 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Meat or Meat Alternate[1, 2, 3, 4, 5] (quantity of the edible portion as served):					
Lean meat, poultry, or fish	1 oz	1-1/2 oz	2 oz	2 oz	1-1/2 oz
Alternate protein products[3]	1 oz	1-1/2 oz	2 oz	2 oz	1-1/2 oz
Cheese	1 oz	1-1/2 oz	2 oz	2 oz	1-1/2 oz
Egg (large)	1/2 large egg	3/4 large egg	1 large egg	1 large egg	3/4 large egg
Cooked dry beans or peas[4]	1/4 cup	3/8 cup	1/2 cup	1/2 cup	3/8 cup
Peanut butter or other nut or seed butters	2 Tbsp	3 Tbsp	4 Tbsp	4 Tbsp	3 Tbsp
Yogurt, plain or flavored, unsweetened, or sweetened – commercially prepared	4 oz or 1/2 cup	6 oz or 3/4 cup	8 oz or 1 cup	8 oz or 1 cup	6 oz or 3/4 cup
The following may be used to meet no more than 50% of the requirement and must be used in combination with any of the above: Peanuts, soynuts, tree nuts, or seeds, as listed in program guidance, or an equivalent quantity of any combination of the above meat/meat alternate (1 oz of nuts/seeds = 1 oz of cooked lean meat, poultry, or fish).[5]	1/2 oz = 50%[5]	3/4 oz = 50%[5]	1 oz = 50%	1 oz = 50%	3/4 oz = 50%
Vegetable or Fruit[4,6] Two or more servings of different vegetables, fruits, or both	1/2 cup	1/2 cup	3/4 cup plus an extra 1/2 cup over a week	1 cup	3/4 cup
Grains/Breads[7] (Servings per week): Must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ. A serving is a slice of bread or an equivalent serving of biscuits, rolls, etc., or 1/2 cup of cooked rice, macaroni, noodles, other pasta products, or cereal grains.	5 per week[8] – minimum of 1/2 per day	8 per week[8] – minimum of 1 per day	12 per week[8] – minimum of 1 per day[9]	15 per week[8] – minimum of 1 per day[9]	10 per week[8] – minimum of 1 per day[9]

[1] Must be served in the main dish or the main dish plus only one other menu item.
[2] Enriched macaroni with fortified protein may be used to meet part of the meat or meat alternate requirement.
[3] Alternate protein products must meet requirements in Appendix A of 7 CFR Part 210.
[4] Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal.
[5] Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.
[6] No more than one-half of the total requirement may be met with full-strength fruit or vegetable juice.
[7] Enriched macaroni with fortified protein may be used as a meat alternate or as a grains/breads item, but not as both components in the same meal.
[8] For the purposes of this chart, a week equals 5 school days.
[9] OUp to one grains/breads serving per day may be a grain-based dessert.

SCHOOL **BREAKFAST** PATTERNS

TRADITIONAL FOOD-BASED MENU PLANNING ALTERNATIVE — Meal Pattern

	MINIMUM REQUIREMENTS		
FOOD COMPONENTS AND FOOD ITEMS	**AGES 1 and 2**	**PRESCHOOL**	**GRADES K-12**
Milk (Fluid) (As a beverage, on cereal, or both)	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)
Juice/Fruit/Vegetable Fruit and/or vegetable; or full-strength fruit juice or vegetable juice	1/4 cup	1/2 cup	1/2 cup
SELECT ONE SERVING FROM EACH OF THE FOLLOWING COMPONENTS; TWO FROM ONE COMPONENT; OR AN EQUIVALENT COMBINATION1:			
Grains/Breads[2]			
Whole-grain or enriched bread	1/2 slice	1/2 slice	1 slice
Whole-grain or enriched biscuit, roll, muffin, etc.	1/2 serving	1/2 serving	1 serving
Whole-grain, enriched, or fortified cereal	1/4 cup or 1/3 oz	1/3 cup or 1/2 oz	3/4 cup or 1 oz
Meat or Meat Alternate[3, 4, 5]			
Lean meat/poultry or fish	1/2 oz	1/2 oz	1 oz
Alternate protein products[3]	1/2 oz	1/2 oz	1 oz
Cheese	1/2 oz	1/2 oz	1 oz
Egg (large)	1/2 large egg	1/2 large egg	1/2 large egg
Peanut butter or other nut or seed butters	1 Tbsp	1 Tbsp	2 Tbsp
Cooked dry beans and peas	2 Tbsp	2 Tbsp	4 Tbsp
Nuts and/or seeds (as listed in program guidance)[4, 5]	1/2 oz[5]	1/2 oz[5]	1 oz
Yogurt, plain or flavored, unsweetened, or sweetened – commercially prepared	2 oz or 1/4 cup	2 oz or 1/4 cup	4 oz or 1/2 cup

[1] Minimum servings for meat/meat alternate = 0.25 ounce and for grains/breads = 1/4 serving.
[2] Grains/Breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ.
[3] Alternate protein products must meet requirements in Appendix A 7 CFR Part 220.
[4] No more than 1 ounce of nuts and/or seeds may be served in any one breakfast.
[5] Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.

SCHOOL **BREAKFAST** PATTERNS

ENHANCED FOOD-BASED MENU PLANNING ALTERNATIVE — Meal Pattern

FOOD COMPONENTS AND FOOD ITEMS	MINIMUM REQUIREMENTS			
	REQUIRED FOR			OPTION FOR
	AGES 1 and 2	PRESCHOOL	GRADES K-12	GRADES 7-12
Milk (Fluid) (As a beverage, on cereal, or both)	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Juice/Fruit/Vegetable Fruit and/or vegetable; or full-strength fruit juice or vegetable juice	1/4 cup	1/2 cup	1/2 cup	1/2 cup
SELECT ONE SERVING FROM EACH OF THE FOLLOWING COMPONENTS; OR TWO FROM ONE COMPONENT; OR AN EQUIVALENT COMBINATION[1]				
Grains/Breads[2]				
Whole-grain or enriched bread	1/2 slice	1/2 slice	1 slice	1 slice
Whole-grain or enriched biscuit, roll, muffin, etc.	1/2 serving	1/2 serving	1 serving	1 serving
Whole-grain, enriched, or fortified cereal	1/4 cup or 1/3 oz	1/3 cup or 1/2 oz	3/4 cup or 1 oz	3/4 cup or 1 oz - Plus an additional serving of one of the Grains/Breads above.
Meat or Meat Alternate[3, 4, 5]				
Lean meat/poultry or fish	1/2 oz	1/2 oz	1 oz	1 oz
Alternate protein products[3]	1/2 oz	1/2 oz	1 oz	1 oz
Cheese	1/2 oz	1/2 oz	1 oz	1 oz
Egg (large)	1/2 large egg	1/2 large egg	1/2 large egg	1/2 large egg
Peanut butter or other nut or seed butters	1 Tbsp	1 Tbsp	2 Tbsp	2 Tbsp
Cooked dry beans and peas	2 Tbsp	2 Tbsp	4 Tbsp	4 Tbsp
Nuts and/or seeds (as listed in program guidance)[4, 5]	1/2 oz[5]	1/2 oz[5]	1 oz	1 oz
Yogurt, plain or flavored, unsweetened, or sweetened – commercially prepared	2 oz or 1/4 cup	2 oz or 1/4 cup	4 oz or 1/2 cup	4 oz or 1/2 cup

[1] Minimum servings for meat/meat alternate = 0.25 ounce and for grains/breads = 1/4 serving.
[2] Grains/Breads must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ.
[3] Alternate protein products must meet requirements in Appendix A of 7 CFR Part 220.
[4] No more than 1 ounce of nuts and/or seeds may be served in any one breakfast.
[5] Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.

APPENDIX F

Nutrient Standard Menu Planning/Assisted Nutrient Standard Menu Planning Requirements for Lunch and Breakfast

Menus planned under the NSMP/ANSMP approach must meet two requirements:

1) When averaged over the school week, school lunches and school breakfasts must meet the specific age- or grade-based nutrient standards as defined in 7 CFR Parts 210.10 and 220.8; and

2) At a minimum, planned menus must contain the menu items as summarized below. Additional menu items may need to be added in order to meet nutrient standards and/or to increase variety.

MINIMUM REQUIRED MENU ITEMS FOR NUTRIENT STANDARD MENU PLANNING

	MINIMUM AMOUNTS	
Menu Items	*Lunch*	*Breakfast*
Entrée	1 serving	None
Other menu item(s) (side dishes)	1 serving	2 servings
Fluid milk	1 serving	1 serving

APPENDIX G-1

Grains/Breads Requirement for Food-Based Menu Planning Approaches

TRADITIONAL FOOD-BASED MENU PLANNING APPROACH

The requirement for the grains/bread is based upon the minimum number of daily servings plus a required number of total servings over a five-day school week. Schools serving lunch six or seven days per week should increase the weekly quantity by approximately 20 percent for each additional day. Schools operating less than five days may decrease the weekly quantity by approximately 20 percent for each day less than five.

Tip for RCCIs: *For grains/breads calculations other than a five-day week, the number of servings would be proportionally increased or decreased by rounding up to the nearest ¼ serving as indicated in the following chart.*

Lunch Daily and Weekly Requirements for Grains/Breads

	AGES 1 AND 2	AGES 3 AND 4	GRADES K-3	GRADES 4-12	GRADES 7-12 (OPTIONAL)
Number of school days in the week	Minimum of ½ serving per day with total number of servings per week as indicated by number of days of operation	Minimum of 1 serving per day with total number of servings per week as indicated by number of days of operation	Minimum of 1 serving per day with total number of servings per week as indicated by number of days of operation	Minimum of 1 serving per day with total number of servings per week as indicated by number of days of operation	Minimum of 1 serving per day with total number of servings per week as indicated by number of days of operation
Five days	5	8	8	8	10
Seven days	7	11 ¼	11 ¼	11 ¼	14
Six days	6	9 ¾	9 ¾	9 ¾	12
Four days	4	6 ½	6 ½	6 ½	8
Three days	3	5	5	5	6
Two days	2	3 ¼	3 ¼	3 ¼	4
One day	1	1 ¾	1 ¾	1 ¾	2

APPENDIX G-2

Grains/Breads Requirement for Food-Based Menu Planning Approaches

ENHANCED FOOD-BASED MENU PLANNING APPROACH

The requirement for the grains/breads is based upon the minimum number of daily servings plus a required number of total servings over a five-day school week. Schools serving lunch six or seven days per week should increase the weekly quantity by approximately 20 percent for each additional day. Schools operating less than five days may decrease the weekly quantity by approximately 20 percent for each day less than five.

Tip for RCCI's: *For grains/breads calculations other than a five-day week, the number of servings would be proportionally increased or decreased by rounding up to the nearest ¼ serving as indicated in the following chart.*

Lunch Daily and Weekly Requirements for Grains/Breads

	AGES 1 AND 2	PRESCHOOL	GRADES K-6	GRADES 7-12	GRADES K-3 (OPTIONAL)
Number of school days in the week	Minimum of ½ serving per day with total number of servings per week as indicated by number of days of operation	Minimum of 1 serving per day with total number of servings per week as indicated by number of days of operation	Minimum of 1 serving per day with total number of servings per week as indicated by number of days of operation	Minimum of 1 serving per day with total number of servings per week as indicated by number of days of operation	Minimum of 1 serving per day with total number of servings per week as indicated by number of days of operation
Five days	5	8	12	15	10
Seven days	7	11¼	17	21	14
Six days	6	9 ¾	14 ½	18	12
Four days	4	6 ½	9 ¾	12	8
Three days	3	5	7 ¼	9	6
Two days	2	3 ¼	5	6	4
One day	1	1 ¾	2 ½	3	2

Sample of a Child Nutrition (CN) Label

Source: U.S. Department of Agriculture, Food and Nutrition Services, Child Nutrition Division, Technical Assistance Section.

APPENDIX I

Sample Product Formulation Statement (Product Analysis) for Meat/Meat Alternate (M/MA) Products

(Place information on company letterhead with signature of a legally authorized representative of the company.)

Product Name:_____ Code No.:_____

Manufacturer:_____

Case/Pack/Count/Portion/Size:_____

List variety(ies) and cuts of meat used in product:_____

Total weight (per portion) of uncooked product:_____

Weight of raw meat per portion (List each variety separately):_____

Percent of fat in raw meat (List fat in each variety separately):_____

Weight/measure (as appropriate) of meat alternate(s) (specify MA used):_____

*If MA is an APP, specify the source (e.g., soy,whey), type (e.g., flour, isolate, concentrate), and percent of protein in APP as purchased:

_____

*Weight of dry APP in one portion of product:_____

*Weight of water (liquid) to fully hydrate dry APP in one portion of product:_____

*Percent protein contained in the fully hydrated or formulated APP:_____

Total weight (per portion) of product as purchased:_____

I certify that the above information is true and correct and that a_____ounce serving of the above product (ready for serving) contains_____ounces of equivalent cooked lean meat/meat alternate when prepared according to directions.

I further certify that any APP used in this product conforms to Food and Nutrition Service regulations (7 CFR Parts 210, 220, 225 or 226, Appendix A).

_____

SIGNATURE TITLE

_____ _____ _____

PRINTED NAME DATE PHONE NUMBER

APPENDIX J

Nutrition Facts Label

Nutrition Facts

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

Amount Per Serving

Calories 260 — Calories from Fat 120

	% Daily Value*
Total Fat 13g	**20%**
Saturated Fat 5g	**25%**
Trans Fat 2g	
Cholesterol 30mg	**10%**
Sodium 660mg	**28%**
Total Carbohydrate 31g	**10%**
Dietary Fiber 0g	**0%**
Sugars 5g	
Protein 5g	

Vitamin A 4% • Vitamin C 2%

Calcium 15% • 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

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

For more information on the Nutrition Facts Label, visit the Food and Drug Administration (FDA) website at **www.cfsan.fda.gov/~dms/foodlab.html.**

APPENDIX K

Manufacturer's Data Submission Form

1. Product Identification

PRODUCT NAME: _____

Brand _____

Product code _____

List CN Label number if appropriate _____

Is this product in the Child Nutrition (CN) Database? _____

CN DATABASE = Yes _____ No _____

2. Package Size and Servings per Package

Package Size = _____ grams _____ lbs. _____ fl. oz.

Standard Serving Size = _____

Number of Servings per Package = _____

3. Basis for Nutrient Data

Nutrient data is being given: (Check one) _____ As Served _____ As Purchased

Analysis is based on: (Check one) _____ Per Serving _____ 100 grams

Weight per serving = _____ grams

4. Individual Values of Nutrients and Dietary Components

If you *do not* have information on a nutrient, write "M" or "missing." If this product *does not contain* a particular nutrient, write "0."

Calories	_____ kcal	Protein	_____ grams
Total fat	_____ grams	Saturated fat	_____ grams
Carbohydrates	_____ grams	Sodium	_____ milligrams
Total dietary fiber	_____ grams	Cholesterol	_____ milligrams

Calcium _____ milligrams *-or-* _____ % DV (Daily Value)

Iron _____ milligrams *-or-* _____ % DV

Vitamin C _____ milligrams *-or-* _____ % DV

Vitamin A _____ IU *-or-* _____ RE *-or-* _____ % DV

IU = International Units, RE = Retinol Equivalents

5. Fat and Moisture Gain/Loss

When this product is prepared, there is a:

Fat change (+/-) _____ % Moisture change (+/-) _____ %

6. Special Instructions for Preparation (if appropriate)

To prepare this product, the manufacturer recommends: _____

Source: U.S. Department of Agriculture, Food and Nutrition Service, *A Menu Planner for Healthy School Meals,* 1998, 201-202

How to fill out the Manufacturer's Data Submission:

USDA has developed this standardized form to help schools obtain information on foods they will be serving to children. They will use this information to develop recipes, analyze menus for nutritional value, and prepare products for lunch or breakfast.

1. Product Identification: List name of product (and brand, if appropriate). Also list product code if possible. If you know the product has a CN Label number, list that as well. Check yes or no for CN Database.

2. Package Size and Servings Per Package: Write in package size as appropriate in grams, pounds, or fluid ounces. Indicate standard serving size and number of servings per package.

3. Basis for Nutrient Data: Indicate with a check mark whether you are submitting nutrient data for this product on an "As Served" or "As Purchased" basis. Use the "As Served" basis for any food that does not have: (1) any ingredients added in preparation or (2) any fat absorbed during preparation.

Use the "As Purchased" basis for any food that: (1) has ingredients added in preparation (such as milk, eggs, and oil added to baked product mixes); (2) is prepared by frying; (3) can be prepared in varying ways (for example, a food that can be baked or fried); or (4) gains or loses moisture/fat during preparation.

In addition, indicate whether nutrient analysis is based on 100 grams or per serving. Also indicate weight per serving.

4. Individual Values of Nutrients and Dietary Components: Please fill out completely, leaving no lines blank. (1) If you have information on a nutrient, write the specific value in the unit of measurement indicated. (2) If you do not have information on a nutrient, write "M" or "missing." (3) If this product does not contain a particular nutrient, write "0."

5. Fat and Moisture Gain/Loss: If you checked "As Purchased" above, also fill in this section if there is a fat or moisture change during preparation.

(Fat may be gained or lost in cooking some foods, thereby changing the foods' nutrient value. Methods of preparation such as breading, frying, or baking affect this fat gain or loss. For example, chicken baked in the oven will lose fat during cooking, while batter-coated or breaded chicken that is deep fried will gain fat. If fat is absorbed or gained, fat grams and calories from fat will be increased. If fat is lost, fat grams and calories from fat will be decreased.)

6. Instructions for Preparation: If appropriate, indicate instructions such as: ingredients to be added, cooking methods, cooking time, and cooking temperature.

Source: U.S. Department of Agriculture, Food and Nutrition Service, A Menu Planner for Healthy School Meals, 1998, 201-202.

APPENDIX L

Sample Food Substitution Form

MENU SUBSTITUTION FORM				
Date when need for substitution is known	**Food or menu item to be changed**	**Substitution**	**Approved by**	**Date of substitution**

SOURCES OF NUTRIENTS

APPENDIX M

Food Sources of Vitamin A

Food sources of vitamin A ranked by International Units (IU). All foods listed are ≥ 20% (1000 IU (of the Daily Value (DV)) of 5000 IU for vitamin A. The DVs are used on the Nutrition Facts Label and are based on a 2,000 calorie diet.

Food Item	Serving Size	Vitamin A (IU)
Sweet potato, cooked, baked in skin	1 potato (146 grams)	28,058
Sweet potato, cooked, boiled, without skin	1 potato (156 grams)	24,554
Carrots, frozen, cooked, drained	½ cup	12,137
Sweet potato, canned, vacuum pack	½ cup	10,179
Pumpkin, canned	¼ cup	9,532
Kale, cooked, drained	½ cup	8,854
Carrots, canned, drained	½ cup	8,154
Collards, cooked, boiled, drained	½ cup	7,709
Carrots, raw	½ cup	6,620
Dandelion greens, cooked, boiled, drained	½ cup	5,207
Vegetables, mixed, canned, drained	¼ cup	4,746
Spinach, cooked, boiled, drained	¼ cup	4,717
Mustard greens, cooked, boiled, drained	½ cup	4,426
Cabbage, Chinese (pak-choi), cooked, boiled, drained	½ cup	3,612
Turnip greens, cooked, boiled, drained	¼ cup	2,745
Cantaloupe, raw	½ cup	2,706
Squash, winter, all varieties, cooked, baked	¼ cup	2,677
Cantaloupe, raw	1/8 melon	2,334
Lettuce, green leaf, raw	½ cup	2,074
Apricots, canned juice pack, with skin, solids and liquids	½ cup	2,063
Soup, bean with ham, canned, chunky, ready-to-serve, commercial	½ cup	1,976
Vegetable juice cocktail, canned	4 fl. oz.	1,885
Peas, green, frozen, cooked, drained	½ cup	1,680
Lettuce, cos or romaine, raw	½ cup	1,626
Apricots, canned, heavy syrup pack, solids and liquids	½ cup	1,587
Broccoli, cooked, boiled, drained	½ cup	1,535
Grapefruit, raw, pink and red	½ grapefruit	1,415
Spinach, raw	½ cup	1,407
Plums, canned purple, juice pack, solids and liquids	½ cup	1272
Apricots, dried, sulfured, uncooked	10 halves	1,261
Peppers, sweet, red, raw	¼ cup	1,167
Tangerines (mandarin oranges), canned, light syrup pack	½ cup	1,059

Source: Adapted from the Agricultural Research Service (ARS) Nutrient Database for Standard Reference, Release 17.

Food Sources of Vitamin C

All foods in this list contain 8 milligrams (mg) or more of vitamin C, which meets 20% of the nutrient target for school lunch (grades 4-12).

Food	Serving Size	Vitamin C (mg)
Peppers, sweet, red, raw	¼ cup	56
Oranges, raw, all commercial varieties	1 medium	70
Peaches, frozen, sliced, sweetened	¼ cup	59
Peppers, sweet, red, cooked, boiled, drained	¼ cup	58
Strawberries, frozen, sweetened, sliced	½ cup	53
Strawberries, raw	½ cup	49
Papayas, raw	¼ papaya	47
Cranberry juice cocktail, bottled	4 fl. oz.	54
Kohlrabi, cooked, boiled, drained	½ cup	45
Orange juice, canned, unsweetened	4 fl. oz.	43
Orange juice, chilled, includes from concentrate	4 fl. oz.	41
Broccoli, frozen, chopped, boiled	½ cup	37
Kiwi fruit (Chinese gooseberries), fresh	½ medium	35
Vegetable juice cocktail, canned	4 fl. oz.	34
Tomato soup, canned, prepared with equal amount of water	½ cup	33
Peppers, sweet, green, raw	¼ cup	30
Melons, cantaloupe, raw	½ cup	29
Sweet potato, cooked, baked in skin	1 potato	29
Melons, honeydew, raw	1/8 melon	28
Kale, cooked, boiled, drained	½ cup	27
Peppers, hot chili, green, raw	¼ pepper	27
Melons, cantaloupe, raw	1/8 melon	25
Peppers, sweet, green, cooked, boiled, drained	¼ cup	25
Watermelon, raw	1 wedge (10 oz)	23
Asparagus, frozen, cooked, boiled	½ cup	22
Cabbage, Chinese (pak-choi), cooked, boiled	¼ cup	22
Collards, frozen, chopped, boiled	½ cup	22
Tangerines (mandarin oranges), raw	1 tangerine	22
Tomato juice, canned	4 fl. oz.	22
Raspberries, frozen, red, sweetened	½ cup	21
Broccoli, raw	¼ cup	20
Grapefruit, raw, white	¼ grapefruit	20
Turnip greens, cooked, boiled	½ cup	20
Potatoes, white, flesh and skin, baked	1 potato (7 oz)	19
Brussels sprouts, frozen, cooked, boiled	¼ cup	18
Mustard greens, cooked, boiled	½ cup	18
Turnip greens, cooked, boiled	½ cup	18
Peppers, hot chili, red, raw	¼ pepper	16
Asparagus, frozen, cooked, boiled	4 spears	15
Cabbage, cooked, boiled	½ cup	15
Melons, honeydew, raw	½ cup	15
Soybeans, green, cooked, boiled	½ cup	15

Food Sources of Vitamin C (continued)

Food	Serving Size	Vitamin C (mg)
Spinach, canned, drained solids	½ cup	15
Cauliflower, frozen, cooked, boiled	¼ cup	14
Grapefruit sections, canned, light syrup pack, sol. & liquid	¼ cup	14
Pineapple, raw, all varieties	¼ cup	14
Pineapple juice, canned, unsweetened	4 fl. oz.	13
Tomato products, canned, puree	¼ cup	13
Cauliflower, raw	¼ cup	12
Mangos, raw	¼ cup	12
Pineapple, canned, juice pack, solids and liquids	½ cup	12
Potato salad, school-prepared	½ cup	12
Tangerines (mandarin oranges), canned	¼ cup	12
Lima beans, immature seeds, frozen, cooked	½ cup	11
Potatoes, white, mashed, dehydrated, prepared from flakes without milk, whole milk and butter added	½ cup	11
Potatoes, white, mashed, school-prepared	½ cup	11
Sweet potato, canned, syrup pack, drained solids	½ cup	11
Tomatoes, red, ripe, raw, chopped	½ cup	11
Banana	Medium	10
Cabbage, red, raw	¼ cup	10
Coleslaw, school-prepared	¼ cup	10
Dandelion greens, cooked, boiled, drained	½ cup	10
Pimento, canned	1 tbsp.	10
Potatoes, hash-brown, school-prepared	½ cup	10
Squash, summer, all varieties, raw	½ cup	10
Squash, winter, all varieties, cooked, baked	½ cup	10
Carambola (starfruit), raw	¼ cup	09
Corn, sweet, yellow, canned	½ cup	09
Grapes, red or green (such as Thompson seedless), raw	½ cup	09
Sauerkraut, canned, solids and liquids	¼ cup	09
Tomato products, canned, sauce	½ cup	09
Tomatoes, cherry, red, ripe, raw	4 cherry tomatoes	09
Lemon juice, canned or bottled	2 tbsp.	08
Peas, green, canned, regular pack	½ cup	08
Peas, green, frozen, cooked, boiled	¼ cup	08
Potato wedges, frozen, commodity	½ cup	08
Refried beans, canned (includes commodity)	½ cup	08
Rutabagas, cooked, boiled	¼ cup	08

Source: Adapted from the Agricultural Research Service (ARS) Nutrient Database for Standard Reference, Release 17.

APPENDIX M

Food Sources of Calcium

Good Food Sources of Calcium

All foods listed in this chart are ≥ 20% (200 milligrams) of the Daily Value (DV) of 1000 milligrams (mg) for calcium. The DVs are used on the Food and Drug Administration Nutrition Facts Label and are based on a 2,000-calorie diet. A food that contains 200 mg. or more of calcium contributes a substantial amount of calcium to the diet and is used here to define a good source.

Food Item	Serving Size	Calcium (Mg)
Yogurt, plain, skim milk	8-oz container	452
Yogurt, plain, low-fat	8-oz container	415
Yogurt, fruit, low-fat	8-oz container	345
Cheese, ricotta, part skim milk	½ cup	335
Milk, nonfat, fluid	1 cup	306
Milk, fluid, 2% milkfat	1 cup	285
Milk, whole, 3.25% milkfat	1 cup	276
Yogurt, plain, whole milk	8-oz container	275
Cheese, ricotta, whole milk	½ cup	255
Cheese, includes cheddar, mozzarella (part-skim), muenster and provolone	1 oz	204 - 214
Cereal, ready-to-eat, fortified	1 oz	236 - 1043

Food Sources of Calcium (continued)

Other Food Sources of Calcium

All foods listed in this chart contain less than 200 milligrams of calcium. When these foods are used in combination with foods high in calcium and/or other foods in this list, they can assist schools in reaching the nutrition standard for calcium.

Food Item	Serving Size	Calcium (Mg)
Collards, frozen, chopped, cooked boiled, drained	½ cup	179
Cornbread, prepared from recipe, made with low-fat (2%) milk	1 piece (2 oz)	162
Spinach, frozen, boiled, cooked, drained	½ cup	146
Soybeans, green, cooked, boiled, drained	½ cup	131
Seeds, sesame butter, tahini,	2 tbsp	128
Turnip greens, frozen, cooked, boiled, drained	½ cup	125
Fish, salmon, pink, canned, solids with bone and liquid	2 oz	119
Cowpeas (Blackeyes), immature seeds (not dried) cooked, boiled, drained	½ cup	106
Frozen yogurt, soft-serve	½ cup	103
Cereal, oats, instant, fortified, plain, prepared with water	1 packet	99
English muffins, plain, enriched, with calcium propionate	1 muffin	99
Beans, white, mature seeds, canned	½ cup	91
Kale, frozen, cooked, boiled, drained	½ cup	90
Okra, frozen, cooked, boiled, drained	½ cup	89
Soybeans, mature, cooked, boiled	½ cup	88
Ice cream, vanilla	½ cup	84
Cabbage, Chinese (pak-choi), cooked, boiled, drained	½ cup	79
Cheese, processed, American	1 oz	78
Waffles, plain, frozen, ready-to-eat	1 waffle (33 g)	77
Fish, ocean perch, Atlantic, cooked, dry heat	2 oz	76
Cereal, cream of wheat, regular, cooked with water	2/3 cup	75
Beans, baked, canned, with pork and tomato sauce	½ cup	71
Dandelion greens, cooked, boiled, drained	½ cup	71
Cheese, cottage, creamed	½ cup	70
Nuts, almonds	1 oz (24 nuts)	70

Source: Adapted from the Agricultural Research Service (ARS) Nutrient Database for Standard Reference, Release 17.

Food Sources of Iron

All foods in this list contain 0.8 mg or more of iron, which meets 20% of the nutrient target for school lunch (grades 4-12).

Food Item	Serving Size	Iron (Mg)
Soybeans, mature cooked, boiled	½ cup	4.4
Beans, baked, canned, with pork and tomato sauce	½ cup	4.0
Beans, white, mature seeds, canned	½ cup	4.0
Beef, liver, cooked	2 oz	3.5
Molasses, blackstrap	1 tbsp	3.5
Lentils, mature seeds, cooked, boiled	½ cup	3.3
Spinach, cooked, drained	½ cup	3.2
Beans, kidney, red, mature seeds, cooked	½ cup	2.6
Chickpeas (garbanzo beans), mature seeds, cooked	½ cup	2.4
Soybeans, green, cooked	½ cup	2.3
Beans, navy, mature seeds, cooked	½ cup	2.2
Lima beans, large, mature seed, dried, cooked	½ cup	2.2
Cake, gingerbread, from recipe	1 piece	2.1
Refried beans, canned (includes USDA commodity)	½ cup	2.0
Cereals ready-to-eat	1 cup	2 -22
Beans, great northern, mature seeds, cooked	½ cup	1.9
Potato, baked, flesh and skin	1 medium	1.9
Rolls, hard (includes Kaiser)	1 roll	1.9
Beans, black, mature seeds, cooked	½ cup	1.8
Beans, pinto, mature seeds, cooked boiled	½ cup	1.8
Beef, chuck, blade roast, braised	2 oz	1.8
Lima beans, immature seeds, frozen, baby or fordhook, cooked	½ cup	1.8
Biscuits, plain or buttermilk, prepared from recipe	2-1/2” biscuit	1.7
Cherries, sour, red, canned, water pack, solids and liquids (includes USDA commodity)	½ cup	1.7
Sauerkraut, canned, solids and liquids	½ cup	1.7
Bread, cornbread, from recipe, made with low-fat milk	1 piece	1.6
Bread, pita, white, enriched	6-1/2” pita	1.6
Peas, green, cooked	½ cup	1.6
Turnip greens, frozen, cooked, boiled	½ cup	1.6
Beans, baked, canned, plain or vegetarian	½ cup	1.5
Beef, round bottom round, braised	2 oz	1.5
Beets, canned	½ cup	1.5
Beef, ground, 80% lean meat/ 20% fat, patty, broiled	2 oz	1.4
Pizza, cheese, regular crust, frozen	1 serving	1.4
Rolls, hamburger or hotdog, plain	1 roll	1.4
Asparagus, canned, drained solids	4 spears	1.3
Noodles, egg, cooked, enriched	½ cup	1.3
Peas, split, mature seeds, cooked	½ cup	1.3
Turkey, all classes, dark meat, roasted	2 oz	1.3
Cowpeas, common (black-eyed, crowder, southern), mature seeds, canned	½ cup	1.2
Collards, cooked	½ cup	1.1

Food Sources of Iron (continued)

Food Item	Serving Size	Iron (Mg)
Pizza, meat and vegetable, regular crust, frozen	1 serving	1.1
Pork, fresh, shoulder, arm picnic, braised	2 oz	1.1
Sweet potato, canned	½ cup	1.1
Tomato products, canned, puree	¼ cup	1.1
Tortillas, read-to-bake or fry, flour	1 tortilla	1.1
Fish fillet, battered or breaded, and fried	2 oz	1.0
Fish, tuna salad	½ cup	1.0
Muffins, corn, dry mix, prepared	1 muffin	1.0
Plums, canned, purple, heavy syrup pack, solids and liquids	½ cup	1.0
Rice, white, long-grain or regular, parboiled, enriched	½ cup	1.0
Tomato products, canned, paste	2 tbsp	1.0
Tomato sauce for pasta, spaghetti/marinara, ready-to serve	½ cup	1.0
Turkey, ground, cooked	2 oz	1.0
Bread, mixed-grain (includes whole-grain, 7-grain)	1 slice	0.9
Bread, pumpernickel	1 slice	0.9
Bread, rye	1 slice	0.9
Bread, white, commercially prepared (includes soft bread crumbs)	1 slice	0.9
Bread, whole-wheat, commercially prepared	1 slice	0.9
Brussels sprouts, cooked, boiled,	½ cup	0.9
Chicken, broilers or fryers, breast, roasted	½ breast	0.9
Crackers, matzo, plain	1 matzo	0.9
Fish, tuna, light canned in water, drained	2 oz	0.9
Macaroni, cooked, enriched	½ cup	0.9
Muffins, blueberry, commercially prepared	1 muffin	0.9
Rolls,dinner,plain,commercially prepared	1 roll	0.9
Spaghetti, cooked, enriched	½ cup	0.9
Tomatoes, red, ripe, canned, stewed	¼ cup	0.9
Tomato soup, canned, prepared with equal volume water	½ cup	0.9
Turkey roast, boneless, light and dark meat, roasted	1 oz light and 1 oz dark	0.9
Vegetables, mixed canned	½ cup	0.9
Bread, wheat (includes wheat berry)	1 slice	0.8
Chicken, broilers or fryers, dark meat, meat only, roasted	2 oz	0.8
Fish, catfish, channel, cooked, breaded and fried	2 oz	0.8
Fish, haddock, cooked	2 oz	0.8
Frankfurter, chicken or beef	1 frank	0.8
Potato salad, school-prepared	½ cup	0.8
Raspberries, frozen, red, sweetened	½ cup	0.8
Strawberries, frozen, sweetened, sliced	½ cup	0.8
Sweet potato, cooked, baked	1 medium	0.8
Spaghetti, whole-wheat, cooked	½ cup	0.7

Source: Adapted from the Agricultural Research Service (ARS) Nutrient Database for Standard Reference, Release 17.

APPENDIX M

Food Sources of Dietary Fiber

Good Food Sources of Dietary Fiber

All foods listed in the following chart are ≥ 10% (2.5 grams) of the Daily Value (DV) of 25 grams. The DVs are used on the Nutrition Facts Label and are based on a 2000-calorie diet. A food with 2.5 grams of dietary fiber contributes a substantial amount of dietary fiber to the diet and is used here to define a good source.

Food Item	Serving Size	Dietary Fiber (grams)
Peas, split, mature seeds, cooked, boiled	½ cup	8.2
Refried beans, canned (includes USDA commodity)	½ cup	6.7
Soup, bean with ham, canned, chunky, ready-to-serve, commercial	½ cup	5.6
Raspberries, frozen, red, sweetened	½ cup	5.5
Papayas, raw	1 papaya	5.5
Sweet potato, cooked, baked in skin	1 potato (5 oz)	4.8
Artichokes, cooked, boiled, drained	½ cup	4.5
Potato, baked flesh and skin	1 potato (7 oz)	4.4
Pear, asian, raw	1 pear (small)	4.4
Bulgur, cooked	½ cup	4.1
Beans, kidney, red, mature seeds, canned	¼ cup	4.1
Raspberries, raw	½ cup	4.0
Cowpeas (blackeyes, crowder, southern, mature seeds, cooked, boiled	1/2 cup	4.0
Lentils, mature seeds, cooked, boiled	¼ cup	3.9
Beans, pinto, mature seeds, cooked, boiled	¼ cup	3.9
Blackberries, raw	½ cup	3.8
Beans, black, mature seeds, cooked, boiled	¼ cup	3.8
Figs, dried	2 figs	3.7
Pumpkin, canned	½ cup	3.6
Peas, green, canned, regular pack, drained	½ cup	3.5
Nuts, almonds	1 oz (24 nuts)	3.3
Dates, deglet noor	5 dates	3.3
Beans, kidney, red, mature seeds, cooked, boiled	¼ cup	3.3
Apple, raw, with skin	1 medium	3.3
Peaches, dried, sulfured, uncooked	3 halves	3.2
Brussels sprouts, frozen, cooked, boiled, drained	½ cup	3.2
Beans, white, mature seeds, canned	¼ cup	3.2
Banana, raw	1 medium	3.1
Beans, great northern, mature seeds, cooked, boiled.	¼ cup	3.1
Sauerkraut, canned, solids and liquids	½ cup	3.0
Prunes (dried plums), uncooked	5 prunes	3.0
Lima beans, large mature seeds, canned	¼ cup	3.0
Sweet potato, canned, syrup packed, drained solids	½ cup	3.0
Seeds, sunflower seed kernels, dry roasted	¼ cup	2.9
Nuts, pistachio nuts, dry roasted	1 oz (47 nuts)	2.9
Apples, dried, sulfured, uncooked	5 rings	2.8
Peanuts, all types, oil-roasted	1 oz	2.7
Nuts, pecans	1 oz (20 halves)	2.7
Nuts, hazelnuts or filberts	1 oz	2.7
Collards, frozen, chopped, cooked, boiled	½ cup	2.7

Food Sources of Dietary Fiber (continued)

Food Item	Serving Size	Dietary Fiber (grams)
Chickpeas (garbanzo beans), mature seeds, canned	¼ cup	2.7
Peanut butter, chunk style	2 tbsp	2.6
Okra, frozen, cooked, boiled, drained	½ cup	2.6
Nuts, mixed dry or oil roasted, with peanuts	1 oz	2.6
Cereal, oat, regular, quick, and instant, cooked with water	2/3 cup	2.6
Broccoli, cooked boiled,drained	½ cup	2.6
Blueberries, frozen, sweetened	½ cup	2.6
Beans, baked, canned, plain or vegetarian	¼ cup	2.6
Apricots, dried, sulfured, uncooked	10 halves	2.6
Lima beans, immature seeds, frozen, fordhook, cooked, boiled	¼ cup	2.5
Crackers, rye, wafers, plain	1 wafer	2.5
Cauliflower, frozen, cooked, boiled, drained	½ cup	2.5
Carambola (starfish), raw	1 fruit	2.5
Carrots, cooked, boiled, drained	½ cup	2.4
Cereal, ready-to-eat, bran and/or whole grain	1 oz	2.2 - 8.0

Other Food Sources of Dietary Fiber

All foods listed in the following chart contain less than 2.5 grams of dietary fiber but can contribute substantial dietary fiber when used in combination with other such foods.

Food Item	Serving Size	Dietary Fiber (grams)
Pears, canned, drained	2 halves	2.4
Nectarines, raw	1 nectarine (136 g)	2.3
Nuts, macadamia nuts, dry roasted	1 oz (10-12 nuts)	2.3
Peanuts, all types, dry-roasted	1 oz (approx 28)	2.3
Sweet potato, canned, vacuum pack	½ cup	2.3
Bread, pumpernickel	1 slice (32 g)	2.1
Apricots, canned	½ cup	2.0
Bagels, cinnamon-raisin	1 bagel (4 Åg)	2.0
Beans, snap, green, frozen, cooked, boiled, drained	½ cup	2.0
Bread, rye	1 slice (32 g)	1.9
Bread, whole-wheat, commercial	1 slice (28 g)	1.9
Mushrooms, canned, drained solids	½ cup	1.9
Noodles, egg, spinach, cooked, enriched	½ cup	1.9
Blueberries, raw	½ cup	1.8
Plantains, cooked	½ cup	1.8
Rice, brown, cooked	1/2 cup	1.8
Bread, mixed-grain (includes whole-grain, 7-grain)	1 slice (26g)	1.7
Crackers, whole-wheat	4 crackers (16 g)	1.7
Strawberries, raw	½ cup	1.6
Tortillas, ready-to-cook, corn	1 tortilla (32 g)	1.6
Apple sauce, canned,	½ cup	1.5
Dandelion greens, cooked, boiled, drained	½ cup	1.5
English muffin, plain, enriched, with calcium propionate	1 muffin	1.5
Mangos, raw	½ cup	1.5
Tangerines (mandarin oranges), raw	1 tangerine (84 g)	1.5
Wild rice, cooked	½ cup	1.5

Source: Adapted from the Agricultural Research Service (ARS) Nutrient Database for Standard Reference, Release 17

APPENDIX N

Menu Planning Practices for Healthy School Meals

Increase the variety of entrees offered.

- ✓ Plan more school-prepared items.
- ✓ Choose more low-fat, low-sodium products.
- ✓ Use low-fat cheeses, dairy products, and lower-fat meats.
- ✓ Explore the possibility of offering entrée salads or a salad bar.
- ✓ Where choices are not offered, limit processed meats/meat alternates that have not been modified to reduce fat and/or sodium to once a week.

Plan more fresh fruits and vegetables on your menu each day.

- ✓ Increase the amounts and variety of fruits and vegetables offered. Fruits and vegetables differ in nutrient content.
- ✓ Offer a dark green or deep orange vegetable or fruit three to four times a week.
- ✓ Plan a vitamin C-rich vegetable or fruit daily.
- ✓ Offer fruit with more potassium often, such as bananas, prunes, prune juice, dried peaches, dried apricots, cantaloupe, honeydew melon, and orange juice.
- ✓ Offer fruit often as snacks if you provide reimbursable snacks for an afterschool program.
- ✓ Frequently offer fresh vegetable salads or fresh vegetables with a low-fat dip, such as low-fat salad dressings, yogurt, or hummus.
- ✓ Offer cut-up fruit or dried fruit as a topping for yogurt.
- ✓ Frequently offer fresh fruits using a variety of presentations, such as orange smiles, apple wedges, fresh fruit cups, red and green grape combos, and banana halves.

Plan at least one menu item containing a whole grain each day.

- ✓ Plan a variety of breads and bread alternates such as whole-wheat breads, multigrain breads, whole-wheat pasta, and brown or wild rice.
- ✓ Increase the variety of cooked and ready-to-eat cereals offered at breakfast.
- ✓ Offer school-made bread, replacing most of the white flour with whole-wheat flour. Start with one-third whole-wheat flour and gradually increase until the whole-wheat is greater than 50 percent. Some schools report success with increasing the whole-wheat flour to 80 percent. More leavening ingredients and liquid may be required as the percentage of whole-wheat flour increases.

Plan at least one serving of cooked dried beans or peas each week.

- ✓ Offer more cooked dried beans and peas.
- ✓ Explore the great variety available such as black beans, Great Northern beans, red kidney beans, lima beans (mature), Navy beans, pinto beans, black-eyed peas, lentils, split peas, and garbanzo beans (also called chick peas), all of which can be offered in salad bars; as a vegetable such as Boston baked beans; made into soups; served as frijoles with Mexican food menu items; served as beans and rice in some parts of the country; and red kidney beans or pinto beans added to chili as part of the meat/meat alternate component. Beans can be ground prior to adding chili for greater student acceptability. Garbanzo beans or chick peas can be made into hummus as a vegetable dipper.

Menu Planning Practices for Healthy School Meals (continued)

Offer as many healthy alternate choices as your operation allows.

- ✓ Reduce the number of times French fries are offered. Offer baked potatoes or seasoned baked potato wedges more often.
- ✓ Offer low-fat sour cream, low-fat or nonfat yogurt for a topping in place of sour cream.
- ✓ Offer low-fat salad dressings in addition to regular salad dressing.

Where choices are not offered, offer no more than one high-fat menu item per meal.

Before placing new food products on your menus, obtain nutrition information about the item.

- ✓ Check for type(s) and quantity of fat and the amounts of sodium and/or sugar in the item.

Offer and promote unflavored skim milk or unflavored 1 percent low-fat milk at each meal.

- ✓ If flavored milk, such as chocolate or strawberry milk, is offered, use only 1 percent low-fat (or lower).

APPENDIX O

Milk Fat Comparison Chart

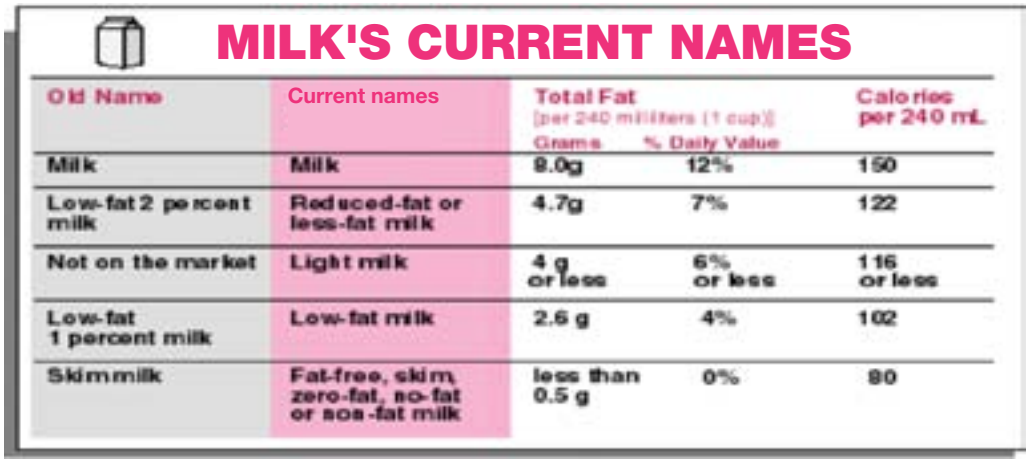
Starting Jan. 1, 1998, the labeling of fat-reduced milk products was required to follow the same requirements the Food and Drug Administration (FDA) established years ago for the labeling of just about every other food reduced in fat.

These products are now bound by the "general standard" for nutritionally modified standardized foods. This means the nutrients that lower-fat milk products provide, other than fat, must be at least equal to full-fat milk before vitamins A and D are added.

The changes do not affect lower-fat yogurt products. FDA decided to keep the standards of identity for the time being to further consider manufacturers' concerns about fortifying yogurt with vitamin A, a nutrient found in full-fat yogurt.

FDA, along with the milk industry and nutrition educators, believes the label changes will give consumers more accurate, useful information about milk. Because claims on milk labels will be consistent with claims on other foods, consumers will know, for example, that "low-fat" milk (formerly known as 1 percent milk) will be similar in fat content to "low-fat" cookies. (Both can provide no more than 3 grams of fat per serving. The serving size for each is listed on their label's Nutrition Facts panel.)

The goal of the labeling changes was to help consumers select milk products that can help them lower their fat and saturated fat intakes to recommended levels. Considering that 8 fluid ounces of full-fat milk provides 26 percent of the Daily Value for saturated fat, while fat-free milk provides none, switching from full-fat to fat-free milk can drop saturated fat intake considerably. It's an easy way to lower-fat intake—it doesn't take a lot of time—no preparation skills are needed. A report of a school intervention in an inner-city, primarily Latino, school district in the city of New York involved switching from whole milk to 1% low-fat milk in 6 elementary school cafeterias. Based on the results of this switch, a 25 percent reduction in calories from saturated fat occurred, with no other dietary changes.



MILK'S CURRENT NAMES

Old Name	Current names	Total Fat (per 240 milliliters (1 cup)) Grams	% Daily Value	Calories per 240 mL
Milk	Milk	8.0g	12%	150
Low-fat 2 percent milk	Reduced-fat or less-fat milk	4.7g	7%	122
Not on the market	Light milk	4 g or less	6% or less	116 or less
Low-fat 1 percent milk	Low-fat milk	2.6 g	4%	102
Skim milk	Fat-free, skim, zero-fat, no-fat or non-fat milk	less than 0.5 g	0%	80

2 percent milk is now known as "reduced-fat" instead of "low-fat."

1 percent milk remains "low-fat."

Skim retained its name or is known as fat-free, zero-fat, or non-fat milk.

APPENDIX P

Discussion on Types and Examples of Dietary Fat

Types of Fat

Saturated Fats

Saturated fats increase the risk for coronary heart disease by raising the blood cholesterol. Saturated fats are hard (solid) at room temperature. They are generally from animal sources, e.g., high-fat dairy products (like cheese, butter, whole milk, cream, and regular ice cream), fatty fresh and processed meats (such as sausage and hot dogs), the skin and fat of poultry, and lard. However, there are some plant sources, e.g., tropical oils (coconut, palm, palm kernel) of saturated fats.

Trans Fatty Acids

In recent years, the nutrition and medical community have turned their attention to another type of fat that has been strongly linked with the development of coronary heart disease. *Trans* fatty acids, also known as *trans* fats, are found in many processed foods including vegetable shortenings, some margarines, crackers, cookies, and snack foods. *Trans* fatty acids are produced by a process called partial hydrogenation, which involves heating liquid vegetable oils to make them solid. Hydrogenation increases the shelf life and flavor stability of these oils and the foods that contain them. Today it is believed that *trans* fatty acids tend to raise blood cholesterol to a greater degree than saturated fats.

Based on recent studies linking *trans* fatty acids to coronary heart disease, the Food and Drug Administration (FDA) now requires *trans* fat information to be added to the nutrition facts labels on foods.

Unsaturated Fats

Unsaturated fats, which include polyunsaturated and monounsaturated fats, do not raise blood cholesterol. They are found in vegetable oils, most nuts, olives, avocados, and fatty fish like salmon. Polyunsaturated fat is liquid at room temperature. Examples are:

- *Polyunsaturated* – soybean, safflower, canola, corn and cottonseed oils, many kinds of nuts, oils (omega-3 fatty acids) in cold water fish such as salmon, albacore tuna, and mackerel.
- *Monounsaturated* – olive, canola, sunflower and peanut oils, olives and peanut butter.

No fat is 100-percent saturated or unsaturated.

APPENDIX Q

Purchasing Practices for Healthy School Meals

Milk and Dairy Products

- ✓ Purchase low-fat and/or skim fluid milk fortified with vitamins A and D.
- ✓ Purchase low-fat or non-fat yogurt fortified with vitamins A and D.
- ✓ Whole milk may contain either 3.3 percent or 3.7 percent fat. Know the percent of fat in the milk you purchase.
- ✓ Purchase low-fat cheeses such as part-skim mozzarella and low-fat or fat-free dairy products.
- ✓ Purchase ice cream less frequently. Offer ice milk, sherbet, low-fat or non-fat frozen yogurt, or frozen fruit juice bars (not frozen fruit-flavored bars, which are considered foods of minimal nutritional value (FMNV)).

Condiments

- ✓ Purchase reduced-fat/reduced-sodium salad dressings and mayonnaise, as appropriate, or make your own using less oil and salt. Allow students to taste-test these products for acceptability prior to purchase.

Meat/Meat Alternates and Entrées

- ✓ Purchase reduced-fat/reduced-sodium meats and meat alternates when available.
- ✓ Purchase ground poultry (without skin, approximately 11 percent fat) to mix 50-50 with lean ground beef.
- ✓ Purchase cold cuts, deli meats, and hot dogs with no more than 3 grams of fat per ounce.
- ✓ Purchase water-packed tuna fish instead of oil-packed.
- ✓ Limit the purchase of convenience items that are pre-fried in fat during processing.
- ✓ Taste-test lower-fat, lower-sodium convenience items prior to purchasing. Ask students, faculty, and foodservice staff to participate in the taste testing to identify acceptable products.
- ✓ Request vendors provide nutrition information for all products purchased. Use this information to compare nutrient information on various products to determine if lower-fat items would be acceptable.

Wechsler, H, Basch, C, Zybert, P and Shea, S. Promoting the selection of low-fat milk in elementary school cafeterias in an inner-city Latino community: evaluation of an intervention. Amer J of Public Health. 88:3, 1998, pp. 427-433

Purchasing Practices for Healthy School Meals (continued)

Fruits and Vegetables

- ✓ Purchase fruits canned in light syrup or natural fruit juices instead of heavy syrup.
- ✓ Purchase fresh fruits, where feasible, to substitute for canned fruits.
- ✓ Purchase fresh and frozen vegetables, when feasible, to substitute for canned vegetables, which are high in sodium.
- ✓ Purchase oven-ready fries, instead of fries for deep-fat frying. Check and compare the fat content of the oven-ready fries to the deep-fat frying fries. Many times, the oven-ready fries have been processed with a coating of oil to make them brown, resulting in a high fat content.

Oils and Fats

- ✓ Purchase items that have been prepared/processed with unsaturated vegetable oils. Avoid products made with coconut or palm oils, which are very saturated fats.
- ✓ Purchase polyunsaturated and/or monounsaturated oils, such as canola, corn, cottonseed, olive, peanut, safflower, soybean, or sunflower oils.
- ✓ Do not purchase lard, a very saturated fat.
- ✓ For highest polyunsaturation, purchase margarines with the first ingredient being liquid, e.g., liquid corn oil.
- ✓ Avoid hydrogenated oils/fats (*trans* fats)
- ✓ A label with hydrogenated oil among its ingredients has increased saturation over the liquid counterpart, e.g., partially hydrogenated soybean oil.
- ✓ Soft style margarines are less hydrogenated (less saturated) than stick margarines.

Grains and Breads

- ✓ Specify whole grain as the primary ingredient.
- ✓ If schools bake their own breads, gradually increase the amount of whole-wheat flour in the basic roll or bread recipe. Start with 1/3 whole-wheat flour, then gradually increase from school year to school year as student increase acceptability.

Seasonings

- ✓ Purchase garlic, onion, and celery powders or granules, not garlic onion or celery salts, which have more sodium. Purchase seasoning mixes that do not contain monosodium glutamate (MSG) or salt or where salt is the primary ingredient.

APPENDIX R

Food Preparation Practices for Healthy School Meals

Train all foodservice staff in food preparation techniques that guarantee food quality, limit calories from fat, and keep sodium in moderation while providing the calories and nutrients that children need to develop healthy bodies and minds.

To reduce fat

- ✓ Trim visible fat from raw meats before cooking.
- ✓ Cook meat on rack or drain fat from cooked meat (put in colander to drain or use a meat baster to remove fat).
- ✓ Chill meats, meat drippings, soups, stews, and sauces, when appropriate, so fats will solidify and can be easily removed.
- ✓ Limit deep-fat and pan frying; bake, broil, or steam foods instead. When using precooked breaded meats, poultry, or fish, oven bake instead of frying them.
- ✓ When deep-fat fried foods are offered, select an unsaturated fat and carefully follow correct temperature, time, and draining procedures.
- ✓ Modify recipes by reducing the amount of butter, margarine, oil, or shortening called for in the recipe, as appropriate. Reduce amounts of butter/margarine used for seasoning; do not use bacon grease, lard, or salt pork.
- ✓ Use non-stick cooking spray or parchment paper to reduce the amount of fat needed to prevent baked products from sticking.
  When serving fried fish or fried potatoes, offer low-fat condiments (e.g., lemon wedges, malt vinegar, catsup, sweet and sour sauce) instead of tartar sauce or other high-fat sauces.
- ✓ Use skim milk or non-fat dry milk in place of whole milk or cream in recipes when possible. Use plain yogurt instead of sour cream.
- ✓ In preparing items such as potato salad, carrot-raisin salad, chicken salad, etc., replace a portion of the mayonnaise-type salad dressing with plain, low-fat, or non-fat yogurt.
- ✓ Reduce the amount of salad dressing you use on tossed or mixed salad.

To reduce salt or sodium

- ✓ Modify recipes by reducing the amount of salt, soy sauce, Worcestershire sauce, and other salty condiments as appropriate. Omit monosodium glutamate (MSG) from recipes.
- ✓ Do not add salt to canned vegetables.
- ✓ Lightly salt fresh and frozen vegetables and entrees. Gradually reduce the amount of salt as low as the students will accept.
- ✓ Experiment with herbs, spices, and lemon for seasonings to use in place of salt.
- ✓ Reduce or eliminate the salt in the cooking water when cooking rice or pasta, if these foods will be served with a sauce or gravy or in a casserole.

Food Preparation Practices for Healthy School Meals (continued)

To increase fiber

✓ Leave edible peels/skins on fruits and vegetables (e.g., use unpeeled apple in salads and fruit cups, leave potatoes unpeeled) for added fiber.

✓ Add whole-wheat flour to baked items such as rolls, cookies, etc.

To retain nutrients

✓ Cook vegetables in small batches until only tender-crisp. Do not hold longer than 20 minutes to retain nutrients, flavor, and color.

Develop and use standardized recipes

✓ Every recipe that you use in your kitchens must be standardized. This includes all recipes that have more than one ingredient.

The U.S. Department of Agriculture defines a standardized recipe as one that:

- Is tried, adapted and retried several times for use by a given foodservice operation.
- Produces the same good results and yield every time by using the exact same procedure, same type of equipment, and same quantity and quality of ingredients.

Use the following procedures to monitor the use of standardized recipes:

✓ Determine if the correct recipe is being used that was planned for the menu.

✓ Examine the ingredients that have been used to ensure that the recipe is prepared as planned.

✓ Check the quantity or yield that was prepared for the site.

✓ Determine if there are leftovers and the reason for overproduction.

✓ Observe portioning to ensure the correct serving utensil is used.

✓ Examine the kitchen setting and equipment needed to prepare the recipe.

✓ Make following standardized recipes one of the criteria for performance evaluation. This indicates the SFA's priorities.

APPENDIX S

Meal Service Practices for Healthy School Meals & Ideas for Program Promotion and Improvement

Meal Service Practices

- ✓ Work with school superintendent, principal, PTA or PTO, and/or other appropriate groups to ensure that students have sufficient time to select and consume a healthful meal.
- ✓ Ensure that low-fat and skim milk are available throughout the entire lunch period.
- ✓ Check temperature of milk to make sure it is cold and acceptable to students.
- ✓ Place skim and low-fat milks toward the front of the milk cabinet to facilitate their selection.
- ✓ Merchandise foods to encourage consumption of low-fat menu items.
- ✓ If a la carte food items are sold at all, make sure they are reflective of SMI, i.e., healthy choices.
- ✓ Offer meals that incorporate principles of good menu planning, including variety and a good balance of colors, shapes, textures, temperatures, flavors.
- ✓ Plan attractive garnishes for steam table pans or individual pre-portioned foods.
- ✓ To ensure student appeal, conduct taste tests of new recipes and commercially prepared food products.

Ideas for Program Promotion and Improvement

- ✓ Promote healthful meal choices in menus and on the serving line.
- ✓ Model good eating habits and a positive attitude toward healthy foods.
- ✓ Promote good nutrition to teachers and school staff and enlist their support in modeling positive attitudes toward healthy eating.
- ✓ Provide nutrition education to students, parents, teachers, and/or food service staff, as appropriate.
- ✓ Include nutrition information on menus sent home to parents.

APPENDIX T

Team Nutrition School Enrollment Form

Our Team Nutrition School Leader is:

❑ Ms. ❑ Mrs. ❑ Mr. ❑ Other

First Name _____ Last name _____

Title _____ School's Name _____

Total Enrollment _____ Grades Taught _____

School District _____ School County _____

School Address _____

_____

City _____ State _____ Zip Code _____

Telephone ( ) _____ Fax ( ) _____

E-Mail Address _____

Please check one or more of the appropriate grade ranges:

❑ P (Preschool) Pre-K ❑ E (Elementary) K-5/6 ❑ M (Middle) 6/7-8 ❑ H (High) 9-12

We agree to:

- Support USDA's Team Nutrition goal and values.
- Demonstrate a commitment to help students meet the *Dietary Guidelines for Americans.*
- Designate a Team Nutrition School Leader who will establish a school team.
- Distribute Team Nutrition materials to teachers, students, and parents.
- Involve teachers, students, parents, foodservice personnel, and the community in interactive and entertaining nutrition education activities.
- Participate in the National School Lunch Program.
- Demonstrate a well-run Child Nutrition Program.
- Share successful strategies and programs with other schools.

We certify our school does not have any oustanding overclaims or significant program violations in our school meals programs.

_____ _____

SCHOOL PRINCIPAL, PRINTED NAME SCHOOL FOODSERVICE MANAGER, PRINTED NAME

_____ _____

SIGNATURE SIGNATURE

_____ _____

DATE DATE

Fax to:
Team Nutrition (703) 305-2549

Mail to:
Team Nutrition
3101 Park Center Drive, Room 632
Alexandria, VA 22302

APPENDIX U

CHECKLIST OF DOCUMENTS NEEDED FOR AN SMI REVIEW

School Name:	Period of Analysis:	
Source Documents	**Complete**	**Additional Data Needed**
Menus (for the school week being reviewed)		
Choices indicated		
Menu changes or substitutions indicated (dated)		
Production Records (for the school week being reviewed)		
Site name, meal date, and menu type (breakfast or lunch)		
Forecasted number of meals by age/grade group		
All planned menu items, including milk types and desserts		
All condiments used as a complement to the reimbursable meal (e.g., mustard, salad dressing, margarine, etc.)		
Recipes or food products used including form of food (e.g., canned, frozen, dried, halves, slices, etc.)		
Brand names and product code numbers of commercially processed foods		
Serving sizes for each age/grade group of each menu item or food item served, including condiments		
Number of portions planned for each menu item, by age/grade group		
Total amount of food prepared for the planned number of servings (e.g., number of servings, pounds, cans, etc.)		
Number of leftovers and substitutions (serving size or portion amount)		
Number of portions and serving sizes for adult meals		
Number of reimbursable meals served (for each age/grade group)		
Number of planned a la carte items (if recorded on production records)		
Number of meals served that contain substituted foods in order to accommodate special dietary needs (if applicable)		
Recipes (for any menu item indicated on production records that contains more than one ingredient)		
Yield (includes serving size and number of servings)		
List all ingredients; including form, packing medium, and fat content		
Correct measures, weights and/or pack size		
Include preparation procedures		

Checklist of Documents Needed for an SMI Review (continued)

School Name:	Period of Analysis:	
Source Documents	**Complete**	**Additional Data Needed**
Nutrition/food component information for commercially processed food items		
Nutrition Facts label or equivalent information from manufacturer		
Child Nutrition (CN) labels and/or Product Formulation Statements if using a food-based menu planning approach		
Printout of nutrient analysis for review week of menus and recipes (required for NSMP/ANSMP)		
Indication that re-analysis is warranted	❑ Yes ❑ No	

APPENDIX V

NSMP/ANSMP – Structuring Meals for Healthy Choices

	3-MENU ITEM MEAL	4-MENU ITEM MEAL	5-MENU ITEM MEAL
Entrée:	*Choose 1:* Baked Fish Nuggets with Macaroni & Cheese and Garlic Bread Sausage Pizza with Broccoli Spears Vegetarian Chili with Pinto Beans & Bread Sticks	*Choose 1:* Baked Fish Nuggets with Garlic Bread Sausage Pizza Vegetarian Chili with Bread Sticks	*Choose 1:* Baked Fish Nuggets Sausage Pizza Vegetarian Chili
Side-dishes	**Group 1:** *Choose 1* Orange Slices & Brownie Garden Salad with Dressing & Grapes Coleslaw & Raisin Cup	**Group 1:** *Choose 1* Broccoli Spears Cole Slaw Pinto Beans Garden Salad with Dressing Grapes Orange Slices **Group 2:** *Choose 1* Macaroni & Cheese Banana Half Raisin Cup Brownie	**Group 1:** *Choose 2* Broccoli Spears Cole Slaw Pinto Beans Garden Salad with Dressing Grapes Orange Slices **Group 2:** *Choose 1* Garlic Bread Bread Stick Macaroni & Cheese Brownie Banana Half Raisin Cup
Milk:	*Choose 1:* Fat-free Milk Low-fat Milk	*Choose 1:* Fat-free Milk Low-fat Milk	*Choose 1:* Fat-free Milk Low-fat Milk
Number of Menu Items Required for OVS:	This is a 3-menu item meal. Students must select a minimum of two items.	This is a 4-menu item meal. Students must select a minimum of two items.	This is a 5-menu item meal. Students must select a minimum of three items.

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