

## APPENDIX A. EATING PATTERNS

### Appendix A-1: The DASH Eating Plan at 1,600-, 2,000-, 2,600-, and 3,100-Calorie Levels<sup>a</sup>

The DASH eating plan is based on 1,600, 2,000, 2,600 and 3,100 calories. The number of daily servings in a food group vary depending on caloric needs (see Table 3 on page 12 to determine caloric needs). This chart can aid in planning menus and food selection in restaurants and grocery stores.

**Note:** Table updated to reflect 2006 DASH Eating Plan.

Food Groups	1,600 Calories	2,000 Calories	2,600 Calories	3,100 Calories	Serving Sizes	Examples and Notes	Significance of Each Food Group to the DASH Eating Plan
Grains <sup>b</sup>	6 servings	6–8 servings	10–11 servings	12–13 servings	1 slice bread, 1 oz dry cereal <sup>c</sup> , ½ cup cooked rice, pasta, or cereal	Whole wheat bread, English muffin, pita bread, bagel, cereals, grits, oatmeal, crackers, unsalted pretzels, and popcorn	Major sources of energy and fiber
Vegetables	3–4 servings	4–5 servings	5–6 servings	6 servings	1 cup raw leafy vegetable ½ cup cut-up raw or cooked vegetable ½ cup vegetable juice	Tomatoes, potatoes, carrots, green peas, squash, broccoli, turnip greens, collards, kale, spinach, artichokes, green beans, lima beans, sweetpotatoes	Rich sources of potassium, magnesium, and fiber
Fruits	4 servings	4–5 servings	5–6 servings	6 servings	1 medium fruit ¼ cup dried fruit ½ cup fresh, frozen, or canned fruit ½ cup fruit juice	Apricots, bananas, dates, grapes, oranges, orange juice, grapefruit, grapefruit juice, mangoes, melons, peaches, pineapples, prunes, raisins, strawberries, tangerines	Important sources of potassium, magnesium, and fiber
Fat-free or low-fat milk and milk products	2–3 servings	2–3 servings	3 servings	3–4 servings	1 cup milk 1 cup yogurt 1½ oz cheese	Fat-free or low-fat milk or buttermilk, fat-free or low-fat regular or frozen yogurt, fat-free, low-fat, or reduced fat cheese	Major sources of calcium and protein

## Appendix A-1: Continued

Food Groups	1,600 Calories	2,000 Calories	2,600 Calories	3,100 Calories	Serving Sizes	Examples and Notes	Significance of Each Food Group to the DASH Eating Plan
<b>Lean meats, poultry, and fish</b>	3–4 servings	6 or less servings	6 servings	6–9 servings	1 oz cooked meats, poultry, or fish 1 egg <sup>d</sup>	Select only lean; trim away visible fats; broil, roast, or boil instead of frying; remove skin from poultry	Rich sources of protein and magnesium
<b>Nuts, seeds, and legumes</b>	3 servings/ week	4–5 servings/ week	1 serving	1 serving	1/3 cup or 1 1/2 oz nuts 2 Tbsp peanut butter 2 Tbsp or 1/2 oz seeds 1/2 cup cooked dry beans or peas	Almonds, filberts, mixed nuts, peanuts, walnuts, sunflower seeds, kidney beans, lentils	Rich sources of energy, magnesium, potassium, protein, and fiber
<b>Fat and oils<sup>e</sup></b>	2 servings	2–3 servings	3 servings	4 servings	1 tsp soft margarine 1 Tbsp mayonnaise 2 Tbsp salad dressing 1 tsp vegetable oil	Soft margarine, low-fat mayonnaise, light salad dressing, vegetable oil (such as olive, corn, canola, or safflower)	The DASH study had 27 percent of calories as fat (low in saturated fat), including fat in or added to foods
<b>Sweets and added sugars</b>	0 servings	5 or less servings/ week	2 or less servings	2 or less servings	1 Tbsp sugar 1 Tbsp jelly or jam 1/2 cup sorbet and ices 8 oz lemonade	Maple syrup, sugar, jelly, jam, fruit-flavored gelatin, hard candy, fruit punch, sorbet and ices	Sweets should be low in fat

<sup>a</sup> www.nhlbi.nih.gov; Karanja NM et al. *JADA* 8:S19–27, 1999.

<sup>b</sup> Whole grains are recommended for most grain servings to meet fiber recommendations.

<sup>c</sup> Equals 1/2–1 1/4 cups, depending on cereal type. Check the product's Nutrition Facts Label.

<sup>d</sup> Since eggs are high in cholesterol, limit egg yolk intake to no more than 4 per week; 2 egg whites have the same protein content as 1 oz of meat.

<sup>e</sup> Fat content changes serving counts for fats and oils: For example, 1 Tbsp of regular salad dressing equals 1 serving; 1 Tbsp of a low-fat dressing equals 1/2 serving; 1 Tbsp of a fat-free dressing equals 0 servings.

## Appendix A-2. USDA Food Guide

The suggested amounts of food to consume from the basic food groups, subgroups, and oils to meet recommended nutrient intakes at 12 different calorie levels. Nutrient and energy contributions from each group are calculated according to the nutrient-dense forms of foods in each group (e.g., lean meats and fat-free milk). The table also shows the discretionary calorie allowance that can be accommodated within each calorie level, in addition to the suggested amounts of nutrient-dense forms of foods in each group.

Daily Amount of Food From Each Group (vegetable subgroup amounts are per week)												
Calorie Level	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
Food Group <sup>1</sup>	Food group amounts shown in cup (c) or ounce-equivalents (oz-eq), with number of servings (srv) in parentheses when it differs from the other units. See note for quantity equivalents for foods in each group. <sup>2</sup> Oils are shown in grams (g).											
Fruits	1 c (2 srv)	1 c (2 srv)	1.5 c (3 srv)	1.5 c (3 srv)	1.5 c (3 srv)	2 c (4 srv)	2 c (4 srv)	2 c (4 srv)	2 c (4 srv)	2.5 c (5 srv)	2.5 c (5 srv)	2.5 c (5 srv)
Vegetables <sup>3</sup>	1 c (2 srv)	1.5 c (3 srv)	1.5 c (3 srv)	2 c (4 srv)	2.5 c (5 srv)	2.5 c (5 srv)	3 c (6 srv)	3 c (6 srv)	3.5 c (7 srv)	3.5 c (7 srv)	4 c (8 srv)	4 c (8 srv)
Dark green veg.	1 c/wk	1.5 c/wk	1.5 c/wk	2 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk
Orange veg.	.5 c/wk	1 c/wk	1 c/wk	1.5 c/wk	2 c/wk	2 c/wk	2 c/wk	2 c/wk	2.5 c/wk	2.5 c/wk	2.5 c/wk	2.5 c/wk
Legumes	.5 c/wk	1 c/wk	1 c/wk	2.5 c/wk	3 c/wk	3 c/wk	3 c/wk	3 c/wk	3.5 c/wk	3.5 c/wk	3.5 c/wk	3.5 c/wk
Starchy veg.	1.5 c/wk	2.5 c/wk	2.5 c/wk	2.5 c/wk	3 c/wk	3 c/wk	6 c/wk	6 c/wk	7 c/wk	7 c/wk	9 c/wk	9 c/wk
Other veg.	3.5 c/wk	4.5 c/wk	4.5 c/wk	5.5 c/wk	6.5 c/wk	6.5 c/wk	7 c/wk	7 c/wk	8.5 c/wk	8.5 c/wk	10 c/wk	10 c/wk
Grains <sup>4</sup>	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	6 oz-eq	6 oz-eq	7 oz-eq	8 oz-eq	9 oz-eq	10 oz-eq	10 oz-eq	10 oz-eq
Whole grains	1.5	2	2.5	3	3	3	3.5	4	4.5	5	5	5
Other grains	1.5	2	2.5	2	3	3	3.5	4	4.5	5	5	5
Lean meat and beans	2 oz-eq	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	5.5 oz-eq	6 oz-eq	6.5 oz-eq	6.5 oz-eq	7 oz-eq	7 oz-eq	7 oz-eq
Milk	2 c	2 c	2 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c	3 c
Oils <sup>5</sup>	15 g	17 g	17 g	22 g	24 g	27 g	29 g	31 g	34 g	36 g	44 g	51g
Discretionary calorie allowance <sup>6</sup>	165	171	171	132	195	267	290	362	410	426	512	648

## Notes for Appendix A-2:

<sup>1</sup> Food items included in each group and subgroup:

Fruits	All fresh, frozen, canned, and dried fruits and fruit juices: for example, oranges and orange juice, apples and apple juice, bananas, grapes, melons, berries, raisins. In developing the food patterns, only fruits and juices with no added sugars or fats were used. <i>See note 6 on discretionary calories if products with added sugars or fats are consumed.</i>
Vegetables	In developing the food patterns, only vegetables with no added fats or sugars were used. <i>See note 6 on discretionary calories if products with added fats or sugars are consumed.</i>
• Dark green vegetables	All fresh, frozen, and canned dark green vegetables, cooked or raw: for example, broccoli; spinach; romaine; collard, turnip, and mustard greens.
• Orange vegetables	All fresh, frozen, and canned orange and deep yellow vegetables, cooked or raw: for example, carrots, sweetpotatoes, winter squash, and pumpkin.
• Legumes (dry beans and peas)	All cooked dry beans and peas and soybean products: for example, pinto beans, kidney beans, lentils, chickpeas, tofu. (See comment under meat and beans group about counting legumes in the vegetable or the meat and beans group.)
• Starchy vegetables	All fresh, frozen, and canned starchy vegetables: for example, white potatoes, corn, green peas.
• Other vegetables	All fresh, frozen, and canned other vegetables, cooked or raw: for example, tomatoes, tomato juice, lettuce, green beans, onions.
Grains	In developing the food patterns, only grains in low-fat and low-sugar forms were used. <i>See note 6 on discretionary calories if products that are higher in fat and/or added sugars are consumed.</i>
• Whole grains	All whole-grain products and whole grains used as ingredients: for example, whole-wheat and rye breads, whole-grain cereals and crackers, oatmeal, and brown rice.
• Other grains	All refined grain products and refined grains used as ingredients: for example, white breads, enriched grain cereals and crackers, enriched pasta, white rice.
Meat, poultry, fish, dry beans, eggs, and nuts (meat & beans)	All meat, poultry, fish, dry beans and peas, eggs, nuts, seeds. Most choices should be lean or low-fat. <i>See note 6 on discretionary calories if higher fat products are consumed.</i> Dry beans and peas and soybean products are considered part of this group as well as the vegetable group, but should be counted in one group only.
Milk, yogurt, and cheese (milk)	All milks, yogurts, frozen yogurts, dairy desserts, cheeses (except cream cheese), including lactose-free and lactose-reduced products. Most choices should be fat-free or low-fat. In developing the food patterns, only fat-free milk was used. <i>See note 6 on discretionary calories if low-fat, reduced-fat, or whole milk or milk products—or milk products that contain added sugars are consumed.</i> Calcium-fortified soy beverages are an option for those who want a non-dairy calcium source.

<sup>2</sup> Quantity equivalents for each food group:

Grains	The following each count as 1 ounce-equivalent (1 serving) of grains: ½ cup cooked rice, pasta, or cooked cereal; 1 ounce dry pasta or rice; 1 slice bread; 1 small muffin (1 oz); 1 cup ready-to-eat cereal flakes.
Fruits and vegetables	The following each count as 1 cup (2 servings) of fruits or vegetables: 1 cup cut-up raw or cooked fruit or vegetable, 1 cup fruit or vegetable juice, 2 cups leafy salad greens.
Meat and beans	The following each count as 1 ounce-equivalent: 1 ounce lean meat, poultry, or fish; 1 egg; ¼ cup cooked dry beans or tofu; 1 Tbsp peanut butter; ½ ounce nuts or seeds.
Milk	The following each count as 1 cup (1 serving) of milk: 1 cup milk or yogurt, 1½ ounces natural cheese such as Cheddar cheese or 2 ounces processed cheese. Discretionary calories must be counted for all choices, except fat-free milk.

<sup>3</sup> Explanation of vegetable subgroup amounts: Vegetable subgroup amounts are shown in this table as weekly amounts, because it would be difficult for consumers to select foods from each subgroup daily. A daily amount that is one-seventh of the weekly amount listed is used in calculations of nutrient and energy levels in each pattern.

<sup>4</sup> Explanation of grain subgroup amounts: The whole grain subgroup amounts shown in this table represent at least three 1-ounce servings and one-half of the total amount as whole grains for all calorie levels of 1,600 and above. This is the minimum suggested amount of whole grains to consume as part of the food patterns. More whole grains up to all of the grains recommended may be selected, with offsetting decreases in the amounts of other (enriched) grains. In patterns designed for younger children (1,000, 1,200, and 1,400 calories), one-half of the total amount of grains is shown as whole grains.

<sup>5</sup> Explanation of oils: Oils (including soft margarine with zero *trans* fat) shown in this table represent the amounts that are added to foods during processing, cooking, or at the table. Oils and soft margarines include vegetable oils and soft vegetable oil table spreads that have no *trans* fats. The amounts of oils listed in this table are not considered to be part of discretionary calories because they are a major source of the vitamin E and polyunsaturated fatty acids, including the essential fatty acids, in the food pattern. In contrast, solid fats are listed separately in the discretionary calorie table (appendix A-3) because, compared with oils, they are higher in saturated fatty acids and lower in vitamin E and polyunsaturated and monounsaturated fatty acids, including essential fatty acids. The amounts of each type of fat in the food intake pattern were based on 60% oils and/or soft margarines with no *trans* fats and 40% solid fat. The amounts in typical American diets are about 42% oils or soft margarines and about 58% solid fats.

<sup>6</sup> Explanation of discretionary calorie allowance: The discretionary calorie allowance is the remaining amount of calories in each food pattern after selecting the specified number of nutrient-dense forms of foods in each food group. The number of discretionary calories assumes that food items in each food group are selected in nutrient-dense forms (that is, forms that are fat-free or low-fat and that contain no added sugars). Solid fat and sugar calories always need to be counted as discretionary calories, as in the following examples:

- The fat in low-fat, reduced fat, or whole milk or milk products or cheese and the sugar and fat in chocolate milk, ice cream, pudding, etc.
- The fat in higher fat meats (e.g., ground beef with more than 5% fat by weight, poultry with skin, higher fat luncheon meats, sausages)
- The sugars added to fruits and fruit juices with added sugars or fruits canned in syrup
- The added fat and/or sugars in vegetables prepared with added fat or sugars
- The added fats and/or sugars in grain products containing higher levels of fats and/or sugars (e.g., sweetened cereals, higher fat crackers, pies and other pastries, cakes, cookies)

Total discretionary calories should be limited to the amounts shown in the table at each calorie level. The number of discretionary calories is lower in the 1,600-calorie pattern than in the 1,000-, 1,200-, and 1,400-calorie patterns. These lower calorie patterns are designed to meet the nutrient needs of children 2 to 8 years old. The nutrient goals for the 1,600-calorie pattern are set to meet the needs of adult women, which are higher and require that more calories be used in selections from the basic food groups. Additional information about discretionary calories, including an example of the division of these calories between solid fats and added sugars, is provided in appendix A-3.

### Appendix A-3. Discretionary Calorie Allowance in the USDA Food Guide

The discretionary calorie allowance is the remaining amount of calories in each calorie level after nutrient-dense forms of foods in each food group are selected. This table shows the number of discretionary calories remaining in each calorie level if nutrient-dense foods are selected. Those trying to lose weight may choose not to use discretionary calories. For those wanting to maintain their weight, discretionary calories may be used to increase the amount of food selected from each food group; to consume foods that are not in the lowest fat form (such as 2% milk or medium-fat meat) or that contain added sugars; to add oil, fat, or sugars to foods; or to consume alcohol. The table shows an example of how these calories may be divided between solid fats and added sugars.

Discretionary calories that remain at each calorie level												
Food Guide calorie level	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
Discretionary calories <sup>1</sup>	165	171	171	132	195	267	290	362	410	426	512	648
Example of division of discretionary calories: Solid fats are shown in grams (g); added sugars in grams (g) and teaspoons (tsp).												
Solid fats <sup>2</sup>	11 g	14 g	14 g	11 g	15 g	18 g	19 g	22 g	24 g	24 g	29 g	34 g
Added sugars <sup>3</sup>	20 g (5 tsp)	16 g (4 tsp)	16 g (4 tsp)	12 g (3 tsp)	20 g (5 tsp)	32 g (8 tsp)	36 g (9 tsp)	48 g (12 tsp)	56 g (14 tsp)	60 g (15 tsp)	72g (18 tsp)	96 g (24 tsp)

<sup>1</sup> Discretionary calories: In developing the Food Guide, food items in nutrient-dense forms (that is, forms that are fat-free or low-fat and that contain no added sugars) were used. The number of discretionary calories assumes that food items in each food group are selected in nutrient-dense forms. Solid fat and sugar calories always need to be counted as discretionary calories, as in the following examples:

The fat in low-fat, reduced fat, or whole milk or milk products or cheese and the sugar and fat in chocolate milk, ice cream, pudding, etc.

The fat in higher fat meats (e.g., ground beef with more than 5% fat by weight, poultry with skin, higher fat luncheon meats, sausages)

The sugars added to fruits and fruit juices with added sugars or fruits canned in syrup

The added fat and/or sugars in vegetables prepared with added fat or sugars

The added fats and/or sugars in grain products containing higher levels of fats and/or sugars (e.g., sweetened cereals, higher fat crackers, pies and other pastries, cakes, cookies)

Total discretionary calories should be limited to the amounts shown in the table at each calorie level. The number of discretionary calories is lower in the 1,600 calorie pattern than in the 1,000, 1,200, and 1,400-calorie patterns. These lower calorie patterns are designed to meet the nutrient needs of children 2 to 8 years old. The nutrient goals for the 1,600 calorie pattern are set to meet the needs of adult women, which are higher and require that more calories be used in selections from the basic food groups. The calories assigned to discretionary calories may be used to increase intake from the basic food groups; to select foods from these groups that are higher in fat or with added sugars; to add oils, solid fats, or sugars to foods or beverages; or to consume alcohol. See note 2 on limits for solid fats.

<sup>2</sup> Solid fats: Amounts of solid fats listed in the table represent about 7 to 8% of calories from saturated fat. Foods in each food group are represented in their lowest fat forms, such as fat-free milk and skinless chicken. Solid fats shown in this table represent the amounts of fats that may be added in cooking or at the table, and fats consumed when higher fat items are selected from the food groups (e.g., whole milk instead of fat-free milk, chicken with skin, or cookies instead of bread), without exceeding the recommended limits on saturated fat intake. Solid fats include meat and poultry fats eaten either as part of the meat or poultry product or separately; milk fat such as that in whole milk, cheese, and butter; shortenings used in baked products; and hard margarines.

Solid fats and oils are separated because their fatty acid compositions differ. Solid fats are higher in saturated fatty acids, and commonly consumed oils and soft margarines with no *trans* fats are higher in vitamin E and polyunsaturated and monounsaturated fatty acids, including essential fatty acids. Oils listed in appendix A-2 are not considered to be part of the discretionary calorie allowance because they are a major source of the essential fatty acids and vitamin E in the food pattern.

The gram weights for solid fats are the amounts of these products that can be included in the pattern and are not identical to the amount of lipids in these items, because some products (margarines, butter) contain water or other ingredients, in addition to lipids.

<sup>3</sup> Added sugars: Added sugars are the sugars and syrups added to foods and beverages in processing or preparation, not the naturally occurring sugars in fruits or milk. The amounts of added sugars suggested in the example are NOT specific recommendations for amounts of added sugars to consume, but rather represent the amounts that can be included at each calorie level without over-consuming calories. The suggested amounts of added sugars may be helpful as part of the Food Guide to allow for some sweetened foods or beverages, without exceeding energy needs. This use of added sugars as a calorie balance requires two assumptions: (1) that selections are made from all food groups in accordance with the suggested amounts and (2) that additional fats are used in the amounts shown, which, together with the fats in the core food groups, represent about 27-30% of calories from fat.