

## WHY CONTROLLING PORTION SIZE IS IMPORTANT

Portion control deals with the specific amount of food served to each person and is a major concern of school nutrition program staff. Portion control is important in school food service programs because it helps to:

- Provide the correct serving size to meet nutritional needs and meal pattern requirements
- control waste
- control cost

Regulations for Child Nutrition Programs administered by the United States Department of Agriculture Food Nutrition Service (USDA FNS) are based on the most current Dietary Guidelines for Americans. Meals served in the National School Breakfast and Lunch programs are required to meet a specific meal pattern, which provides a minimum serving size for each food item. Therefore, it is important that each child receive the minimum serving size required by regulations to meet his/her nutritional needs.

Federal reimbursement can be withheld from the school when required amounts of food are not served. Therefore, the individual who serves the food plays an important role in making sure that students get the correct amount of nutritious food and in fulfilling the school's contract with the Mississippi Department of Education and the federal government.

Portion control plays a part throughout food service production. It is practiced not only on the serving line but during meal planning, purchasing, and meal preparation.

Portion control begins when the menu is planned and the food is purchased. The menu planner determines the portion size of each food item that is needed to meet the meal pattern and the portion size that will provide a reasonable amount of food. Planning and serving excessive size portions result in food waste. Planning and serving portions that are too small result in dissatisfied customers. After portion sizes and number of servings are determined, the food order is placed based on the menu planner's decisions. If, however, the server is not told the planned portion size, or if the server does not serve the planned portions, the amount of food prepared will not be correct.

Another critical time for food service personnel to practice good portion control is during food preparation. Standardized recipes indicate the expected yield, but if the recipe is not followed exactly or if the product is overcooked, the recipe will not yield enough portions of the size indicated. Although the *USDA Food Buying Guide For School Food Service* shows that a #10 can of whole kernel corn will yield 39.6 heated 1/4 cup servings, the yield will be less if the corn is overcooked.

The most obvious time that portion control is used is when the food is served. Controlling portions on the serving line must begin with telling the servers about the portion size that was planned and prepared. Five minutes prior to serving time all servers should be assembled to discuss the portions to serve for each menu item. At this time a sample lunch tray with the correct portions should be shown.

### *Appropriate Portion Size*

When the menu planner makes decisions about portion size, several things must be considered in addition to meeting the meal pattern. Common sense can guide you about the portion size of certain foods. For instance, although four tablespoons of peanut butter provide the meat/meat alternate requirement, it is not suggested that four tablespoons of peanut butter be used on one sandwich for the total serving of meat/meat alternate. It is too much filling for one sandwich. The food itself affects the appropriate size serving. When serving peanut butter, it is suggested, unless the menu includes two peanut butter sandwiches, that a second food should be used to meet part of the meat/meat alternate requirement.

Additional things that affect the portion size include the popularity of the food, the combination of foods, and the age of the student being served. If the food is an unfamiliar item, it is more appropriate to plan a smaller size serving until it is more acceptable to students. The richness or lightness of a food also affects the portion size. A menu which might be served with turkey would include a larger serving of fresh fruit than dressing and gravy since dressing and gravy are richer foods and higher in fat. The meal pattern recommends smaller portion sizes for younger

students and larger portions for older students because, generally speaking, older students need more nutrients and more calories.

Food items served to each child should appear ample. Everyone likes to feel that his/her meal is equal to those served to others and that the portions are worth the price of the food.

Several conditions may affect the appearance of portion size, such as the size and type of the container, the food arrangement, the use of garnish or sauce, the quantity of other foods served, and the characteristics of the foods themselves. One half cup serving of fruit appears to be more generous if served in a small fruit dish than if served in a larger soup bowl. When placing foods on the school tray, small portions appear more generous when served in the smaller compartments of the lunch tray.

### *Controlling Costs*

Costs are a constant concern in the food industry; daily price changes make the manager's job a real challenge. The individual responsible for food purchasing can better control food costs when the portion size is decided before placing the market order. The buyer needs to know the serving size for each food item in the meal and the number of servings a purchase unit of food will yield. For instance, one pound of hamburger will not yield eight two-ounce servings of meat although there are sixteen ounces in a pound. Waste from the fat in meat, bone in poultry, and the peelings, pits, and inedible parts of fresh produce must be considered when planning a specific number of portions from foods purchased. The Food Buying Guide for Child Nutrition Programs is based on actual yields.

The careless server who gives each child a larger serving than was planned increases the food costs as well as increases the chance for food waste. As an example, although serving 1/2 cup instead of 1/4 cup may increase the cost of one serving only 10 cents, the per serving cost of 10 cents multiplied by 500 students would increase the cost of one food item on the menu by \$50 for one day. If all five food items cost \$50 more each day than planned, the cost would increase by \$250 for one day and by \$1,250 for one week or \$5,000 per month. Therefore, the server is a key individual in

(continued from Controlling Costs)

providing students with the nutrients they need and in helping the school operate economically.

In every phase of portion control—planning, purchasing, preparing, and portioning—attention to detail is important. Most important of all is working together with other members of the school food service staff toward a common goal: serving a meal that meets the nutritional requirements at a fair price with minimum hassle. Following correct portion control guidelines will allow a food service employee to reach this goal.

**Equipment and Procedures for Portioning**

Food is portioned in one of four ways: by cutting, measuring, weighing, or counting. Each recipe in Mississippi Recipes for Success (MRS) lists the serving size and meal pattern contribution toward the meal pattern.

**Cutting**

Cutting is dividing a food into uniform servings. Meat loaf, lasagna, cornbread, and fruit gelatin are examples of menu items that are portioned by cutting. Recipe directions tell the size pan to use, how much of the product to put into each pan, and the size serving to cut. Adjustments in the portion size need to be made if a different pan from the size specified in the recipe is substituted.

Examples:

1. For 100 servings, pour 9 pounds 13 ounces (1 1/4 gallons) batter into 1 sheet pan 18 x 26 x 1
2. For 100 servings cut sheet pan 10 x 10
3. 1 slice (3/4 inch thick) provides 2 oz. eq. of lean meat
4. 1 slice, 2 x 2 inches, provides 1/2 cup fruit

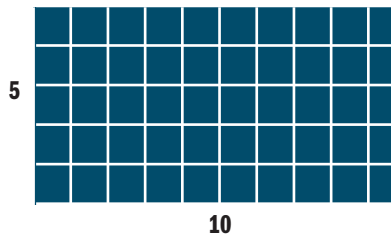
Cutting into portion sizes is sometimes done before the food is cooked. Biscuits are an example of food that is portioned during preparation. Recipe directions need to be carefully followed so the yield will be accurate. For example, when making biscuits, the dough should be rolled and cut according to the directions so the yield will be as planned.

**APPROXIMATE DIMENSIONS OF SERVING SIZES FROM DIFFERENT PAN SIZES**

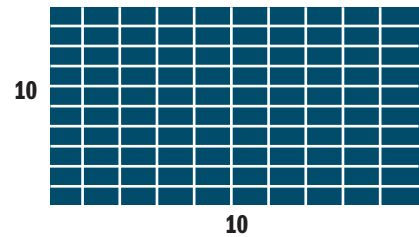
PAN	APPROX. SIZE	NUMBER AND APPROX. SIZE SERVINGS PER PAN		
		25	50	100
Baking or Steamtable	12" x 20" x 2 1/2"	2" x 3 3/4"	2" x 2"	—
Sheet or Bun	18"x 26" x 1"	3 1/4" x 5"	3 1/4" x 2 1/2"	1 3/4" x 2 1/2"

**CUTTING DIAGRAMS FOR PORTIONING**

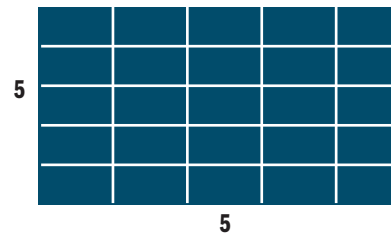
FOR 50 SERVINGS CUT 5 X 10



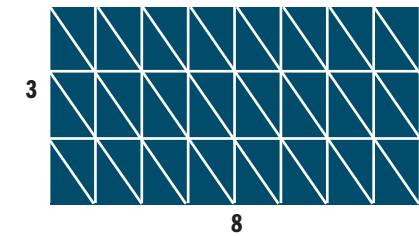
FOR 100 SERVINGS CUT 10 X 10



FOR 25 SERVINGS CUT 5 X 5



FOR 48 SERVINGS CUT 3 X 8 THEN DIAGONALLY



**MEASURING**

Measuring is another way to practice portion control. Measuring the food as it is served gives a planned amount for each serving. Tools used to portion by measuring are scoops, ladles, and spoodles.

**Scoops**

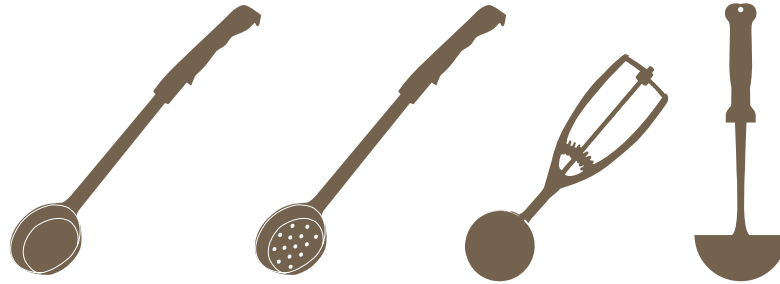
- The size of the scoop is shown by the number imprinted on the metal strip that moves across the bowl of the scoop (the vein) or on the flange on the handle.
- This number indicates how many of that size scoop will fill one quart.  
Example: The #8 scoop holds 1/2 cup and it takes eight #8 scoops to fill 1 quart.
- Scoops can be purchased for use in the right hand, left hand or adaptable for either hand.
- Scoops are used to serve foods such as vegetables, baked beans, beef stew, and tuna salad. They are also used to pre-portion muffins, cookies, pancakes, and meat patties during preparation.
- Level foods such as peanut butter or whipped potatoes by scraping against side of the can or bowl.
- Vegetables such as corn, peas, and green beans are lifted by the scoop with a small amount of juice. The scoop must be level or above to assure minimum portion size.
- A useful idea for scoops used to serve foods surrounded by juice is to have small holes drilled in the bowl of the scoop to allow the liquid to drain.

**Ladles**

- Heavy aluminum ladles are appropriate for serving stews, soups, gravies, and sauces.
- Fill the ladle to level.

**Spoodles**

- Spoodles are appropriate for serving stews, vegetables, fruits, and main dishes.
- Spoodles may be solid, slotted, or perforated.
- Fill the spoodle to level.



SPOODLE

PERFORATED SPOODLE

SCOOP

LADLE

**SCOOPS (DISHERS)**

SIZE	LEVEL MEASURE
6	2/3 cup
8	1/2 cup
10	3/8 cup
12	1/3 cup
16	1/4 cup
20	3 1/3 Tbsp
24	2 2/3 Tbsp
30	2 Tbsp
40	1 Tbsp
50	3 3/4 tsp
60	3 1/4 tsp
70	2 3/4 tsp
100	2 tsp

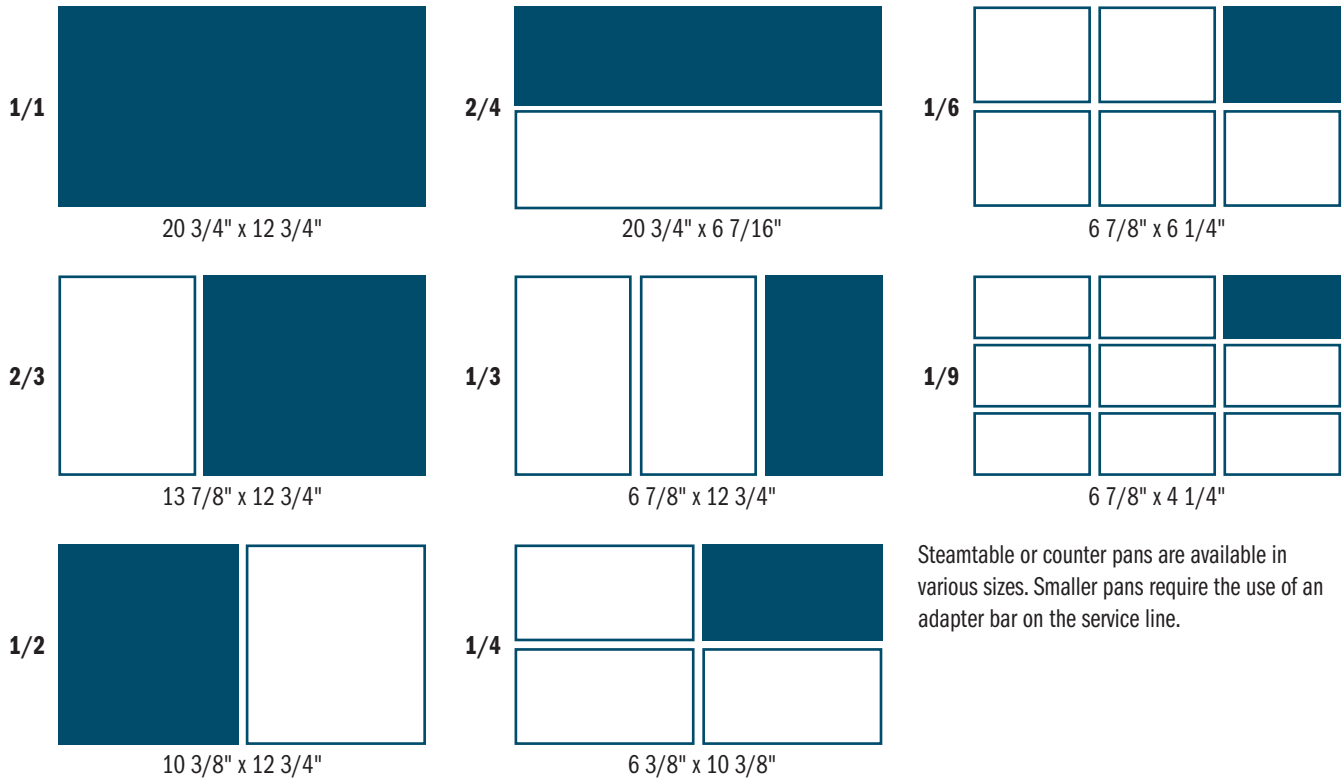
**LADLES & PORTION SERVERS**

LADLE FL OZ	APPROX. MEASURE	PORTION SERVER (FL OZ)
1 oz	1/8 cup	1 oz
2 oz	1/4 cup	2 oz
3 oz	3/8 cup	3 oz
4 oz	1/2 cup	4 oz
6 oz	3/4 cup	6 oz
8 oz	1 cup	8 oz
12 oz	1 1/2 cups	----

**MEASURING SPOODLES**

SIZE	LEVEL MEASURE
2 oz	1/4 cup
3 oz	3/8 cup
4 oz	1/2 cup
6 oz	3/4 cup
8 oz	1 cup

## PAN SIZES



Steamtable or counter pans are available in various sizes. Smaller pans require the use of an adapter bar on the service line.

The steamtable pan capacity chart on the next page shows the approximate capacity in volume measure of common sizes of steamtable pans, and the approximate number of servings that can be obtained from various sizes of portioning utensils. The information in the chart is based on a full size, half size and third size 12" x 20", straight-sized steamtable pan filled to the brim. Pan depths are for 2 1/2", 4", and 6" steamtable pans.

Measures given in the chart are approximate and may vary according to manufacturer's specifications, pan fill, and type of food. Pans made by different companies may have slightly different total capacities. If used for transporting food, the steamtable pans will have lids and might not be filled to the brim. The number of servings may vary according to the type of food

being served. Some foods cling to the bottom and sides of the pan, reducing the number of servings.

Use the chart as a guide to help estimate the number of steamtable pans needed for the serving period, and to approximate the yield of a full steamtable pan.

## STEAMTABLE PAN CAPACITY

Pan capacities were figured on pans filled to 1/2-inch from the top of the rim.  
The number of portions in the yield was rounded to the next lower portion.

PAN SIZE (INCHES)	DEPTH (INCHES)	CAPACITY QUART = CUPS	PORTION SIZE		YIELD NO. PORTIONS
			SCOOP SIZE	SCOOP NO.	
FULL SIZE 12" x 20"	2 1/2"	7 1/2 qt = 30 c	1/4 c	#16	120
			1/3 c	#12	90
			3/8 c	#10	80
			1/2 c	#8	60
FULL SIZE 12" x 20"	4"	13 qt = 52 c	1/4 c	#16	208
			1/3 c	#12	156
			3/8 c	#10	138
			1/2 c	#8	104
FULL SIZE 12" x 20"	6"	19 1/2 qt = 78 c	1/4 c	#16	312
			1/3 c	#12	234
			3/8 c	#10	208
			1/2 c	#8	156
			1 c	8 oz ladle	78
HALF SIZE 12" x 10"	2 1/2"	3 3/4 qt = 15 c	1/4 c	#16	60
			1/3 c	#12	45
			3/8 c	#10	40
			1/2 c	#8	30
HALF SIZE 12" x 10"	4"	6 1/2 qt = 26 c	1/4 c	#16	104
			1/3 c	#12	78
			3/8 c	#10	69
			1/2 c	#8	52
HALF SIZE 12" x 10"	6"	9 3/4 qt = 39 c	1/4 c	#16	156
			1/3 c	#12	117
			3/8 c	#10	104
			1/2 c	#8	78
			1 c	8 oz ladle	39
THIRD SIZE 12" x 6 7/8"	2 1/2"	3 2/5 qt = 9 3/5 c	1/8 c	2 T	76
			1/4 c	#16	38
			1/3 c	#12	28
			3/8 c	#10	25
			1/2 c	#8	19
THIRD SIZE 12" x 6 7/8"	4"	3 7/8 qt = 15 1/2 c	1/8 c	2 T	124
			1/4 c	#16	62
			1/3 c	#12	46
			3/8 c	#10	41
			1/2 c	#8	31

### Weighing

Food is portioned by weighing with a scale. Since the meat/meat alternate component of the school lunch pattern is stated in weight, all school kitchens should have access to portion scales. Sliced ham, turkey, and cheese are examples of food often portioned by weighing. Loaves of homemade bread and rolls are conveniently portioned by weighing during preparation. Hamburger patties can be portioned by weighing. When using the slicer to control portion weight, a spot check should be taken periodically.

### Counting

Food is portioned by counting items such as pieces of chicken, nuggets, rolls, biscuits, pieces of fruit, cookies and crackers. Items may be packaged or portioned ahead to save time in the serving process.

Counting the number of items in a pan or serving container is another aid to portioning and managing the serving of food. Some food is served directly from bun pans or steamtable pans on the lunch tray.

During food preparation, the same number of servings of food should be placed in each pan. This helps the server or manager quickly calculate the number of servings left at any point during the serving time. If rolls are baked 50 per pan and there are 2 pans left after half the students are served, the server can multiply 2 (pans) x 50 (rolls) to find there are 100 rolls ready to serve. This is much quicker and more efficient than counting 100 rolls.

Some foods are cooked in one pan and then several pans of food are put together in a larger pan before serving. Food from the same number of pans should be placed in each larger pan. If cookies are baked 35 per pan, and cookies from 8 pans are placed in each larger serving pan, the food service employee can quickly count  $8 \times 35 = 280$  cookies per serving pan. If there are 4 larger pans of cookies placed in the serving line, then  $4 \times 280 = 1,120$  cookies ready to serve.

An alert food service employee should check the accuracy of portion control by checking the total number of pans available before meal service begins. During the service of the meal he/she should spot check. When one-half of the customers have been served, one-half of the food should have been served.

## COMMON CAN AND JAR SIZES

CAN SIZE	CANS PER CASE	AVERAGE NET WEIGHT OR FLUID MEASURE PER CAN	AVERAGE VOLUME PER CAN	PRINCIPLE PRODUCTS
#10	6 cans per case	6 pounds (96 ounces) to 7 pounds, 5 ounces (117 ounces)	12 cups to 13 2/3 cups	Institutional size: fruits, vegetables, some other foods
#3 Cyl	12 cans per case	51 ounces (3 pounds, 3 ounces) or 46 fluid ounces (1 quart, 14 fluid ounces)	5 3/4 cups	Institutional size: condensed soups, some vegetables, meat and poultry products, fruit and vegetable juices