

Portion Size Study Instructions

Complete a portion size study when:

- You are serving a food item that does not fit nicely in a portion-measuring utensil and need to determine the number of pieces needed to credit as the desired portion size (e.g. fresh fruits and vegetables).
- Tongs are used as the serving utensil (note: tongs are not a portion-measuring utensil).
- Crediting information is provided as a weight and the item is served with a portion-measuring utensil that measures volume (e.g. taco meat, potato products, etc.).
 - This could also apply when serving sliced deli meat and the number of slices to serve must be determined.

Where and how often to complete a portion size study:

- Complete a study at each individual school when the food item is processed in the kitchen (e.g. cut, sliced, diced, cooked). Examples include whole melons, cucumbers, unsliced deli meat, etc.
- Complete a study district-wide when the food item is not processed further in each kitchen. Examples include grapes, baby carrots, cherry tomatoes, taco meat, pre-sliced deli meat, etc.
- Changes in size or thickness of purchased product warrant a new portion size study.

Portion size study procedures:

- Determine the desired portion size needed for the intended crediting towards meal pattern requirements.
- Select Method 1, 2 or 3 below and follow the procedures outlined in the examples.
- Fill out the [Portion Size Study Template](#) for each study conducted. A total of six samples should be measured by two people (e.g. two individuals could each measure three samples). All fields on the template should be completed.

Original documentation showing method and procedures used to determine portion size must be completed and maintained at food service operation. The DPI SNT will review documentation during the School Food Authority's (SFA) next Administrative Review (AR).

Method 1: Using weight calculated from the [USDA Food Buying Guide \(FBG\)](#) to determine the correct amount.

Example 1: Determining the number of carrots needed to provide a 1/4 cup portion (crediting as 1/4 cup red/orange vegetable).

- Use the FBG to determine the weight of a 1/4 cup portion.

Meal Component	Vegetables
Category	Red/Orange Vegetables
Subcategory	CARROTS
Food As Purchased, AP	Carrots, fresh Baby, Ready-to-use
Purchase Unit	Pound
Servings per Purchase Unit, EP	12.90
Serving Size per Meal Contribution	1/4 cup raw vegetable
Purchase Units for 100 Servings	7.80
Additional Information	1 lb AP = 1 lb (about 3-1/8 cups) ready-to-serve raw carrots
Footnote	

- a. Using the Servings per Purchase Unit information
This tells us that there are 12.9 quarter cup servings per pound (16 oz).

$$\frac{12.9 \left(\frac{1}{4} \text{ cup serving}\right)}{16 \text{ oz}} = \frac{1 \left(\frac{1}{4} \text{ cup serving}\right)}{X}$$

Solve for X: $(1 [1/4 \text{ cup serving}] \times 16 \text{ oz}) \div 12.9 (1/4 \text{ cup serving}) = 1.24 \text{ oz per } 1/4 \text{ cup}$

- b. Using the Additional information section
There are 3 1/8 cups (3.125 cups) per pound (16 oz).

$$\frac{3.125 \text{ cups}}{16 \text{ oz}} = \frac{0.25 \text{ cups}}{X}$$

Solve for X: $(0.25 \text{ cups} \times 16 \text{ oz}) \div 3.125 \text{ cups} = 1.28 \text{ oz per } 1/4 \text{ cup}$

Either weight may be used, calculations must be documented and saved.

- After determining the weight, place the carrots on the scale one at a time until you reach the calculated weight. This should be done a total of six times by two people. If the number of carrots needed to reach the calculated weight is between two numbers (e.g. 4 carrots is less than the calculated weight and 5 carrots exceeds the weight), you would round **UP** since 4 carrots would not provide the full 1/4 cup serving. Take the average of the six samples to determine the number of carrots needed for a 1/4 cup portion.
- Document the results on the [Portion Size Study Template](#).

Method used:		
<input checked="" type="checkbox"/> Weight – weight needed for desired portion size: <u>1.24 oz</u>		
<input type="checkbox"/> Volume – portioning utensil to be used: _____		
Sample #	Who portioned this sample?	Amount needed for desired portion size OR Weight of portion
1	Jessica	4
2	Jessica	3
3	Jessica	4
4	Tony	5
5	Tony	4
6	Tony	4
Total from all six samples =		24
Average for desired portion size (Total ÷ 6) =		4

Method 2: Using volume (dicing and filling a portion-measuring utensil) to determine the correct amount. When using this method, taking photos to keep with the documentation is strongly encouraged.

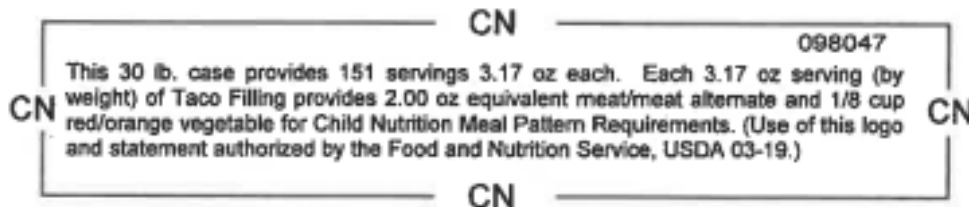
Example 2: Determining the number of carrots needed to provide a 1/4 cup portion (crediting as 1/4 cup red/orange vegetable).

1. Count the number of carrots as they are diced and put into a 1/4 cup measuring cup or 2 fl oz spoodle until full. This should be done a total of six times by two people. If the number of carrots is not a whole number (e.g. 4 carrots and part of a 5th carrot), you would round UP since 4 carrots would not provide the full 1/4 cup serving. Take the average of the six samples to determine the number of carrots needed for 1/4 cup.
2. Document the results on the [Portion Size Study template](#).

Method used:		
<input type="checkbox"/> Weight – weight needed for desired portion size: _____		
<input checked="" type="checkbox"/> Volume – portioning utensil to be used: <u>1/4 cup measuring cup</u>		
Sample #	Who portioned this sample?	Amount needed for desired portion size OR Weight of portion
1	Jessica	4
2	Jessica	3
3	Jessica	4
4	Tony	5
5	Tony	4
6	Tony	4
Total from all six samples =		24
Average for desired portion size (Total ÷ 6) =		4

Method 3: Using weight from crediting documentation (Child Nutrition Label or Product Formulation Statement) to determine the correct volume (portion-measuring utensil).

Example 3: Determining the correct portion-measuring utensil to provide 3.17 oz taco filling (to credit as 2 oz eq meat/meat alternate).



1. Using a scale, weigh out 3.17 oz of taco filling.
2. Find the portion-measuring utensil that would best fit this amount of taco filling. This may involve some trial and error.

3. Take the portion-measuring utensil and measure out a *full, level* scoop, then weigh the contents.
 - a. If the weight of the portion is at least 3.17 oz, proceed with completing the Portion Size Study.
 - b. If the weight of the portion is less than 3.17 oz, try a larger portion-measuring utensil.
 - c. If the weight of the portion is significantly more than 3.17 oz, try a smaller portion-measuring utensil.
4. Once the correct portion-measuring utensil has been determined, have two people measure out a total of six samples and document the weights on the [Portion Size Study template](#). Take the average of the six samples to verify the weight of the portion provided by the portion-measuring utensil.

Note: When completing the Portion Size Study template for this method, **both** weight and volume should be marked under method used. Document the weight needed from the crediting documentation and the portion-measuring utensil being used to conduct the study. In the last column, document the weight of each sample.

Method used:		
<input checked="" type="checkbox"/> Weight – weight needed for desired portion size: <u>3.17 oz</u>		
<input checked="" type="checkbox"/> Volume – portioning utensil to be used: <u>#10 scoop (3/8 cup)</u>		
Sample #	Who portioned this sample?	Amount needed for desired portion size OR Weight of portion
1	Jessica	3.2 oz
2	Jessica	3.5 oz
3	Jessica	3.3 oz
4	Tony	3.3 oz
5	Tony	3.1 oz
6	Tony	3.3 oz
Total from all six samples =		19.6 oz
Average for desired portion size (Total ÷ 6) =		3.26 oz

Portion Size Study Template

Product Name & Description:	
Desired Portion Size:	
Names of Individuals Conducting the Study:	
Date:	

Method used:		
<input type="checkbox"/> Weight - weight needed for desired portion size: _____		
<input type="checkbox"/> Volume - portion-measuring utensil to be used: _____		
Sample #	Who portioned this sample?	Amount needed for desired portion size OR Weight of portion
1		
2		
3		
4		
5		
6		
Total from all six samples =		
Average for desired portion size (Total ÷ 6) =		

Signatures of Individuals Conducting the Study:	

**Maintain this documentation as proof of crediting for this specific product.
It should be provided upon request during an Administrative Review.**