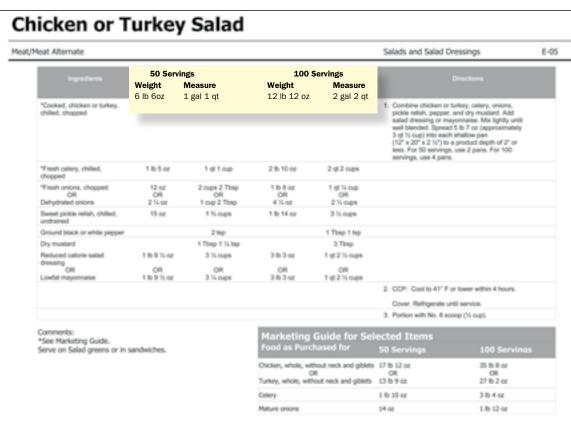
Recipe Adjustment – Method 1 (Factor Method)

Each recipe lists the quantities you will need to produce 50 and 100 servings. However, to meet your specific needs, you may need to adjust the number of servings. To help you do this, formulated steps and a worksheet are provided on the following pages.





Let us convert an actual recipe from the collection.

We will begin by describing the proper method to use. Then we will go through each step in two examples, using the recipe for Chicken or Turkey Salad (E-05). In one example, we will **reduce** the recipe yield. In the other, we will **increase** it.

To adjust the yield of a USDA standardized recipe, use the following method:

On page 26 you will find a blank recipe conversion sheet to use in converting entire USDA recipes.

Step 1: Determine the total y	rield of the origin	al recipe. Multiply the original number	er of portions by the c	original portion size.
original number of portions	Х	original portion size	=	original yield
Step 2: Determine the total r	new yield. Multipl	ly the total number of portions you wa	ant by the desired port	tion size.
desired number of portions	X	desired portion size	=	total new yield
Step 3: Determine the "multi	plying factor." D	Divide the total new yield by the original	al yield.	
total new yield	÷	original yield	=	multiplying factor
Step 4: Determine the new q	uantity of each i	ngredient. Multiply each ingredient by	the multiplying facto	r.
multiplying factor	Х	original quantity (of each ingredient)	=	new quantity

Now let us convert a recipe from the collection in these two examples: Example 1: Reducing a Standardized Recipe

Using the recipe for Chicken or Turkey Salad (E-05), we are going to **reduce** the yield from 100 to 80 servings. The individual portion size will remain 3.49 ounces.

In the following calculation, we use fresh celery as a sample ingredient. The original recipe calls for a quantity of 42 ounces of fresh celery, chopped, for 100 servings.

1. What is the total yield of the original recipe?

100	Χ	3.49 oz	=	349 oz	
original number of portions		original portion size		original yield	
. What is the total new yield?					
80	Χ	3.49 oz	=	279.2 oz	
desired number of portions		desired portion size		total new yield	
279.2 oz	÷	349 07	=	0.80	
279 2 07		349 oz	=	0.00	
total new yield factor		original yield		0.80 multiplying facto	
	30 servings?				
total new yield factor	30 servings? X		=	multiplying facto 33.6 oz	

On page 22, you will find a completed conversion worksheet showing the conversion for the entire recipe.

Recipe Adjustment – Method 1 (Factor Method)

continued

Example 2: Increasing a Standardized Recipe

Using the recipe for Chicken or Turkey Salad (E-05) we are going to **increase** the yield from 100 to 125 servings. The individual portion size will remain 3.49 ounces.

In the following example, we use fresh celery, chopped, as a sample ingredient.

The original recipe calls for 42 ounces of fresh celery, chopped, for 100 servings.

1. What is the total yield of the original recipe?

100	Χ	3.49 oz	3.49 oz =	
original number portions		original portion size		original yield
2. What is the total new yield?	?			
125	Χ	3.49 oz	=	436.25 oz
desired number of portions		desired portion size		total new yield
3. What is the multiplying facto	r?			
436.5 oz	÷	349 oz	=	1.25
total new yield		original yield factor		multiplying factor

4. What is the quantity needed for 125 servings?

1.25	Χ	42 oz celery	=	52.5 oz
multiplying factor		original quantity		new quantity

On page 24, you will find a completed conversion worksheet showing the conversion for the entire recipe.

This is the completed worksheet for the conversion shown in Example 1 (page 19).

Recipe Conversion Worksheet

Recipe Title: Chicken or Turkey Salad	(E-05)	Multiplying Factor	0.80
Number of Portions (Old Yield)	100	Number of Portions (New Yield)	80
Ounces/Portion (Old Yield)	3.49	Ounces/Portion (New Yield)	3.49
Total Recipe Yield (oz)	349	Total New Recipe Yield (oz)	279.2

Ingredient	Old Quantity (from Recipe)	Old Quantity	Times	Multiplying Factor	Equals	New Quantity	New Quantity (to be on Recipe)
Cooked chicken or turkey, chopped	12 lb 12 oz	204 oz	Х	0.80	II	163.2 oz	10 lb 3 1/4 oz
Fresh celery, chopped	2 lb 10 oz	42 oz	х	0.80	=	33.6 oz	2 lb 1 3/4 oz
Fresh onions, chopped	1 lb 8 oz	24 oz	Х	0.80	=	19.2 oz	1 lb 3 1/4 oz
Sweet pickel relish	1 lb 14 oz	30 oz	х	0.80	=	24.0 oz	1 lb 8 oz
Ground pepper	1 Tbsp 1 tsp	4 tsp	х	0.80	=	3.2 tsp	1 Tbsp 1/4 tsp
Dry mustard	3 Tbsp	9 tsp	х	0.80	=	7.2 tsp	2 Tbsp 1 1/4 tsp
Reduced calorie salad dressing	1 qt 2 1/2 cups	6.5 cups	х	0.80	=	5.2 cups	1 qt 1 1/4 cups

This is the completed worksheet for the conversion shown in Example 2 (page 20).

Recipe Conversion Worksheet

Recipe Title: Chicken or Turkey Sa	lad (E-05)	Multiplying Factor	1.25
Number of Portions (Old Yield)	100	Number of Portions (New Yield)	125
Ounces/Portion (Old Yield)	3.49	Ounces/Portion (New Yield)	3.49
Total Recipe Yield (oz)	349	Total New Recipe Yield (oz)	436.25

Ingredient	Old Quantity (from Recipe)	Old Quantity	Times	Multiplying Factor	Equals	New Quantity	New Quantity (to be on Recipe)
Cooked chicken or turkey, chopped	12 lb 12 oz	204 oz	х	1.25	=	255 oz	15 lb 15 oz
Fresh celery, chopped	2 lb 10 oz	42 oz	х	1.25	=	52.5 oz	3 lb 4 1/2 oz
Fresh onions, chopped	1 lb 8 oz	24 oz	Х	1.25	=	30.0 oz	1 lb 14 oz
Sweet pickel relish	1 lb 14 oz	30 oz	х	1.25	=	37.5 oz	2 lb 5 1/2 oz
Ground pepper	1 Tbsp 1 tsp	4 tsp	Х	1.25	=	5 tsp	1 Tbsp 2 tsp
Dry mustard	3 Tbsp	9 tsp	х	1.25	=	11.25 tsp	3 Tbsp 2 1/4 tsp
Reduced calorie salad dressing	1 qt 2 1/2 cups	6.5 cups	х	1.25	=	8.125 cups	2 qt 1/8 cup

	Recipe	Conversio	n Wo	rksheet			
Recipe Title:			Multiplying Factor				
Ingredient	Old Quantity (from Recipe)	Old Quantity	Times	Multiplying Factor	Equals	New Quantity	New Quantity (to be on Recipe)
			х		=		
			х		=		
			х		=		
			х		=		
			х		=		
			х		=		
			х		=		
			х		=		
			х		=		

,		

Nonstandardized Recipes:

As we have already seen, the total yield of each of the recipes has already been calculated and is indicated on the recipe. However, there may be times when you want to use this same method to adjust the yield of a nonstandardized recipe. In these instances, you may need to do some extra calculations.

For example, in working with nonstandardized recipes, it is a good idea to confirm the total yield of the recipe by adding together the quantities of all ingredients used.

In addition, you may need to convert all of the quantities to ounces before you can calculate the total yield. For your convenience, this manual includes a chart with basic units of measure and their equivalencies on page 36.



Recipe Adjustment – Method 2 (Conversion Charts)

Using the following conversion charts (Ounce Chart, Pound and Ounce Chart, and Volume Measures Chart), it is simple to adjust ingredient weight and volume measures in recipes for the number of servings needed.

To Use the Conversion Charts for Changing the Numbers of Servings in a Quantity Recipe by Weight or Volume:

- Determine how many servings are needed.
 Use the conversion charts only if the number of servings needed is evenly divisible by 25 (e.g., 50, 75, 100, etc.).
 Otherwise, use Recipe Adjustment –
 Method 1 (Factor Method) on page 26 to determine amounts needed.
- Find the column headed "Base 100 servings" and move down the column to the weight or volume listed in the 100serving recipe.

3. On the same horizontal line, move to the appropriate column for the new number of servings:

For new servings more than 100, such as 200, 300, 400, etc., move to the right. Write this number down.

For new servings less than 100, such as 75, 50, or 25, move to the left. Write this number down.

For new servings greater than 100 that are not divisible by 100, such as 125, 250, 375, etc., you will move to the left for the portion less than 100 and then move to the right for the hundreds portion and add both figures together.

Conversion Chart for Changing the Number of Servings in a Quantity Recipe by Weight

Example: A 100-serving recipe calls for 4 ounces of a particular ingredient. 325 servings are needed. On the Ounce Chart, find the column headed "Base 100 servings" and move down to the space marked "4 oz." Then, move horizontally to the right to the column headed "300 servings," which shows that "12 oz" is the quantity needed for 300 servings. Next, move across to the left on the same horizontal line to the column headed "25 servings," which shows that "1 oz" is the quantity needed for 25 servings.

The 1 oz plus the 12 oz = 13 oz, which is the amount of the ingredient needed for 325 servings.

Conversion Chart for Changing the Size of a Quantity Recipe by Volume (Measure)

Example: A 100-serving recipe calls for 1/3 cup of a particular ingredient. 325 servings are needed. On the Volume Measure Chart, find the column headed "Base 100 servings" and move down to the space marked "1/3 cup." Then, move horizontally to the right to the column headed "300 servings," which shows that 1 cup is the quantity needed for 300 servings. Next, move to the left on the same horizontal line to the column headed "25 servings," which shows that 1 1/3 Tbsp is the quantity needed for 25 servings. The 1 1/3 Tbsp plus the 1 cup = 1 cup 1 1/3 Tbsp, which is the amount of the ingredient needed for 325 servings.

Recipe Adjustment – Method 2 (Conversion Charts) continued

Ounce Chart

25 servings	50 servings	75 servings	Base 100 servings	200 servings	300 servings	400 servings	500 servings	600 servings	700 servings	800 servings
-	-	1/4 oz	1/4 oz	1/2 oz	3/4 oz	1 oz	1 1/4 oz	1 1/2 oz	1 3/4 oz	2 oz
-	1/4 oz	3/8 oz	1/2 oz	1 oz	1 1/2 oz	2 oz	2 1/2 oz	3 oz	3 1/2 oz	4 oz
-	3/8 oz	5/8 oz	3/4 oz	1 1/2 oz	2 1/4 oz	3 oz	3 3/4 oz	4 1/2 oz	5 1/4 oz	6 oz
1/4 oz	1/2 oz	3/4 oz	1 oz	2 oz	3 oz	4 oz	5 oz	6 oz	7 oz	8 oz
1/2 oz	1 oz	1 1/2 oz	2 oz	4 oz	6 oz	8 oz	10 oz	12 oz	14 oz	1 lb
3/4 oz	1 1/2 oz	2 1/4 oz	3 oz	6 oz	9 oz	12 oz	15 oz	1lb 2oz	1lb 5oz	1lb 8oz
1 oz	2 oz	3 oz	4 oz	8 oz	12 oz	1 lb	1lb 4oz	1lb 8oz	1lb 12oz	2 lb
1 1/4 oz	2 1/2 oz	3 3/4 oz	5 oz	10 oz	15 oz	1lb 4oz	1lb 9oz	1lb 14oz	2lb 3oz	2lb 8oz
1 1/2 oz	3 oz	4 1/2 oz	6 oz	12 oz	1lb 2 oz	1lb 8oz	1lb 14oz	2lb 4oz	2lb 10oz	3 lb
1 3/4 oz	3 1/2 oz	5 1/4 oz	7 oz	14 oz	1lb 5oz	1lb 12oz	2lb 3oz	2lb 10oz	3lb 1oz	3lb 8oz
2 oz	4 oz	6 oz	8 oz	1 lb	1lb 8oz	2 lb	2lb 8oz	3 lb	3lb 8oz	4 lb
2 1/4 oz	4 1/2 oz	6 3/4 oz	9 oz	1lb 2oz	1lb 11oz	2lb 4oz	2lb 13oz	3lb 6oz	3lb 15oz	4lb 8oz
2 1/2 oz	5 oz	7 1/2 oz	10 oz	1lb 4oz	1lb 14oz	2lb 8oz	3lb 2oz	3lb 12oz	4lb 6oz	5 lb
2 3/4 oz	5 1/2 oz	8 1/4 oz	11 oz	1lb 6oz	2lb 1oz	2lb 12oz	3lb 7oz	4lb 2oz	4lb 13oz	5lb 8oz
3 oz	6 oz	9 oz	12 oz	1lb 8oz	2lb 4oz	3 lb	3lb 12oz	4lb 8oz	5lb 4oz	6 lb
3 1/4 oz	6 1/2 oz	9 3/4 oz	13 oz	1lb 10oz	2lb 7oz	3lb 4oz	4lb 1oz	4lb 14oz	5lb 11oz	6lb 8oz
3 1/2 oz	7 oz	10 1/2 oz	14 oz	1lb 12oz	2lb 10oz	3lb 8oz	4lb 6oz	5lb 4oz	6lb 2oz	7 lb
3 3/4 oz	7 1/2 oz	11 1/4 oz	15 oz	1lb 14oz	2lb 13oz	3lb 12oz	4lb 11oz	5lb 10oz	6lb 9oz	7lb 8oz

Recipe Adjustment – Method 2 (Conversion Charts) continued

Pound and Ounce Chart

25 servings	50 servings	75 servings	Base 100 servings	200 servings	300 servings	400 servings	500 servings	600 servings	700 servings	800 servings
4 oz	8 oz	12 oz	1 lb	2 lb	3 lb	4 lb	5 lb	6 lb	7 lb	8 lb
5 oz	10 oz	15 oz	1lb 4oz	2lb 8oz	3lb 12oz	5 lb	6lb 4oz	7lb 8oz	8lb 12oz	10 lb
6 oz	12 oz	1lb 2oz	1lb 8oz	3 lb	4lb 8oz	6 lb	7lb 8oz	9 lb	10lb 8oz	12 lb
7 oz	14 oz	1lb 5oz	1lb 12oz	3lb 8oz	5lb 4oz	7 lb	8lb 12oz	10lb 8oz	12lb 4oz	14 lb
8 oz	1 lb	1lb 8oz	2 lb	4 lb	6 lb	8 lb	10 lb	12 lb	14 lb	16 lb
9 oz	1lb 2oz	1lb 11oz	2lb 4oz	4lb 8oz	6lb 12oz	9 lb	11lb 4oz	13lb 8oz	15lb 12oz	18 lb
10 oz	1lb 4oz	1lb 14oz	2lb 8oz	5 lb	7lb 8oz	10 lb	12lb 8oz	15 lb	17lb 8oz	20 lb
11 oz	1lb 6oz	2lb 1oz	2lb 12oz	5lb 8oz	8lb 4oz	11 lb	13lb 12oz	16lb 8oz	19lb 4oz	22 lb
12 oz	1lb 8oz	2lb 4oz	3 lb	6 lb	9 lb	12 lb	15 lb	18 lb	21 lb	24 lb
13 oz	1lb 10oz	2lb 7oz	3lb 4oz	6lb 8oz	9lb 12oz	13 lb	16lb 4oz	19lb 8oz	22lb 12oz	26 lb
14 oz	1lb 12oz	2lb 10oz	3lb 8oz	7 lb	10lb 8oz	14 lb	17lb 8oz	21 lb	24lb 8oz	28 lb
15 oz	1lb 14oz	2lb 13oz	3lb 12oz	7lb 8oz	11lb 4oz	15 lb	18lb 12oz	22lb 8oz	26lb 4oz	30 lb
1 lb	2 lb	3 lb	4 lb	8 lb	12 lb	16 lb	20 lb	24 lb	28 lb	32 lb
1lb 1oz	2lb 2oz	3lb 3oz	4lb 4oz	8lb 8oz	12lb 12oz	17 lb	21lb 4oz	25lb 8oz	29lb 12oz	34 lb
1lb 2 oz	2lb 4oz	3lb 6oz	4lb 8oz	9 lb	13lb 8oz	18 lb	22lb 8oz	27 lb	31lb 8oz	36 lb
1lb 3oz	2lb 6oz	3lb 9oz	4lb 12oz	9lb 8oz	14lb 4oz	19 lb	23lb 12oz	28lb 8oz	33lb 4oz	38 lb
1lb 4oz	2lb 8oz	3lb 12oz	5 lb	10 lb	15 lb	20 lb	25 lb	30 lb	35 lb	40 lb
1lb 5oz	2lb 10oz	3lb 15oz	5lb 4oz	10lb 8oz	15lb 12oz	21 lb	26lb 4oz	31lb 8oz	36lb 12oz	42 lb
1lb 6oz	2lb 12oz	4lb 2oz	5lb 8oz	11 lb	16lb 8oz	22 lb	27lb 8oz	33 lb	38lb 8oz	44 lb
1lb 7oz	2lb 14oz	4lb 5oz	5lb 12oz	11lb 8oz	17lb 4oz	23 lb	28lb 12oz	34lb 8oz	40lb 4oz	46 lb
1lb 8oz	3 lb	4lb 8oz	6 lb	12 lb	18 lb	24 lb	30 lb	36 lb	42 lb	48 lb
1lb 12oz	3lb 8oz	5lb 4oz	7 lb	14 lb	21 lb	28 lb	35 lb	42 lb	49 lb	56 lb
2 lb	4 lb	6 lb	8 lb	16 lb	24 lb	32 lb	40 lb	48 lb	56 lb	64 lb
2lb 4oz	4lb 8oz	6lb 12oz	9 lb	18 lb	27 lb	36 lb	45 lb	54 lb	63 lb	72 lb
2lb 8oz	5 lb	7lb 8oz	10 lb	20 lb	30 lb	40 lb	50 lb	60 lb	70 lb	80 lb
3 lb	6 lb	9 lb	12 lb	24 lb	36 lb	48 lb	60 lb	72 lb	84 lb	96 lb
3lb 12oz	7lb 8oz	11lb 4oz	15 lb	30 lb	45 lb	60 lb	75 lb	90 lb	105 lb	120 lb
5 lb	10 lb	15 lb	20 lb	40 lb	60 lb	80 lb	100 lb	120 lb	140 lb	160 lb

Recipe Adjustment – Method 2 (Conversion Charts) continued

Volume Measures Chart

25 servings	50 servings	75 servings	Base 100 servings	200 servings	300 servings	400 servings
1/4 tsp	1/2 tsp	3/4 tsp	1 tsp	2 tsp	1 Tbsp	1 1/3 Tbsp
(1/4 tsp)	5/8 tsp	(1 tsp)	1 1/4 tsp	2 1/2 tsp	1 Tbsp 3/4 tsp	1 2/3 Tbsp
3/8 tsp	3/4 tsp	1 1/8 tsp	1 1/2 tsp	1 Tbsp	1 1/2 Tbsp	2 Tbsp
(1/2 tsp)	7/8 tsp	(1 1/4 tsp)	1 3/4 tsp	1 Tbsp 1/2 tsp	1 Tbsp 2 1/4 tsp	2 1/3 Tbsp
1/2 tsp	1 tsp	1 1/2 tsp	2 tsp	1 1/3 Tbsp	2 Tbsp	2 2/3 Tbsp
(1/2 tsp)	1 1/8 tsp	(1 3/4 tsp)	2 1/4 tsp	1 1/2 Tbsp	2 1/3 Tbsp	3 Tbsp
5/8 tsp	1 1/4 tsp	1 7/8 tsp	2 1/2 tsp	1 2/3 Tbsp	2 1/2 Tbsp	3 1/3 Tbsp
(3/4 tsp)	1 3/8 tsp	(2 tsp)	2 3/4 tsp	1 Tbsp 2 1/2 tsp	2 2/3 Tbsp	3 2/3 Tbsp
3/4 tsp	1 1/2 tsp	2 1/4 tsp	1 Tbsp	2 Tbsp	3 Tbsp	1/4 cup
1 1/2 tsp	1 Tbsp	1 1/2 Tbsp	2 Tbsp	1/4 cup	1/4 cup 2 Tbsp	1/2 cup
2 1/4 tsp	1 1/2 Tbsp	2 Tbsp 3/4 tsp	3 Tbsp	1/4 cup 2 Tbsp	1/2 cup 1 Tbsp	3/4 cup
1 Tbsp	2 Tbsp	3 Tbsp	1/4 cup	1/2 cup	3/4 cup	1 cup
1 1/3 Tbsp	2 2/3 Tbsp	1/4 cup	1/3 cup	2/3 cup	1 cup	1 1/3 cups
2 Tbsp	1/4 cup	1/4 cup 2 Tbsp	1/2 cup	1 cup	1 1/2 cups	2 cups
2 2/3 Tbsp	1/3 cup	1/2 cup	2/3 cup	1 1/3 cups	2 cups	2 2/3 cups
3 Tbsp	1/4 cup 2 Tbsp	1/2 cup 1 Tbsp	3/4 cup	1 1/2 cups	2 1/4 cups	3 cups
1/4 cup	1/2 cup	3/4 cup	1 cup	2 cups	3 cups	1 qt
1/2 cup	1 cup	1 1/2 cups	2 cups	1 qt	1 1/2 qt	2 qt
3/4 cup	1 1/2 cups	2 1/4 cups	3 cups	1 1/2 qt	2 1/4 qt	3 qt
1 cup	2 cups	3 cups	1 qt	2 qt	3 qt	1 gal
2 cups	1 qt	1 1/2 qt	2 qt	1 gal	1 1/2 gal	2 gal
3 cups	1 1/2 qt	2 1/4 qt	3 qt	1 1/2 gal	2 1/4 gal	3 gal
1 qt	2 qt	3 qt	1 gal	2 gal	3 gal	4 gal
2 qt	1 gal	1 1/2 gal	2 gal	4 gal	6 gal	8 gal
3 qt	1 1/2 gal	2 1/4 gal	3 gal	6 gal	9 gal	12 gal
1 gal	2 gal	3 gal	4 gal	8 gal	12 gal	16 gal
1 1/4 gal	2 1/2 gal	3 3/4 gal	5 gal	10 gal	15 gal	20 gal
1 1/2 gal	3 gal	4 1/2 gal	6 gal	12 gal	18 gal	24 gal

NOTE: Amounts in parentheses are approximate.