



# Evaluating Recipes

*This section is intended to be a resource for Child and Adult Care Food Program personnel who desire detailed information on evaluating recipes for crediting purposes.*

## Tips for Evaluating a Recipe

To determine whether a recipe can be credited and how it contributes to the meal pattern, the recipe must provide specific information about its ingredients. For example, a recipe should state:

- 1-15 oz can of fruit cocktail, not 1 can of fruit cocktail
- 3 cups cooked rice, not 3 cups rice
- ½ cup finely or coarsely chopped onions, not 1 small onion

## Abbreviations

- tsp or t . . . . . teaspoon
- Tbsp or T . . . . . tablespoon
- c . . . . . cup
- oz. . . . . ounce
- fl oz. . . . . fluid ounce
- lb or #. . . . . pound
- pt . . . . . pint
- qt . . . . . quart
- gal . . . . . gallon
- wt. . . . . weight
- No. . . . . number
- pkg . . . . . package
- °F. . . . . degrees Fahrenheit
- g . . . . . gram
- mg . . . . . milligram
- L . . . . . liter
- mL . . . . . milliliter

## Common Measures and Equivalents

- 3 tsp = 1 T
- 2 T = 1/8 c
- 4 T = 1/4 c
- 5-1/3 T = 1/3 c
- 8 T = 1/2 c
- 16 T = 1 c
- 1 oz = 28.3 g
- 4 oz = 1/4 lb
- 8 oz = 1/2 lb
- 12 oz = 3/4 lb
- 16 oz = 1 lb
- 1 lb = 454 g
- 2 c = 1/2 qt
- 4 c = 1 qt
- 8 c = 1/2 gal
- 1 pt = 2 c
- 2 pt = 1 qt
- 2 qt = 1/2 gal
- 4 qt = 1 gal

On the following pages is a table of weights of one cup of commonly used ingredients. This chart is helpful for determining the crediting of many homemade foods. To find the weight of a fraction of one cup, follow the directions in the table below.

Multiply the weight of one cup by:	To find the weight of:
0.75	3/4 cup
0.66	2/3 cup
0.50	1/2 cup
0.33	1/3 cup
0.25	1/4 cup
0.12	1/8 cup



### Weights of One Cup of Commonly Used Ingredients

The use of company or product names does not imply approval or endorsement of products by the USDA. Product names are given only for clarification.

Food Item	Type	Weight of One Cup (grams)
barley	uncooked	195
	cooked	162
breadcrumbs	fine, dry	107
	soft	43
bulgur	uncooked	140
	cooked	182
cereals	all-bran	61
	bran buds	75
	Cheerios™	28
	corn chex	29
	corn flakes, crushed	80
	corn flakes, whole	29
	puffed rice	13
	rice chex	33
	rice krispies	27
	wheaties	32
	cornmeal, enriched, uncooked	yellow, degerminated
yellow, stone-ground		132
cracker crumbs	graham	84
	snack, round	80
flour, cake	unsifted, dipped	119
	unsifted, spooned	111
	sifted, spooned	99
flour, rice, brown	unsifted, spooned	158
flour, rice, white	unsifted, spooned	149
flour, rye, dark	unstirred, spooned	128
	stirred, spooned	127



### Weights of One Cup of Commonly Used Ingredients

The use of company or product names does not imply approval or endorsement of products by the USDA. Product names are given only for clarification.

Food Item	Type	Weight of One Cup (grams)
flour, rye, light	unstirred, spooned	101
	stirred, spooned	88
flour, wheat, all-purpose	unsifted, dipped	143
	unsifted, spooned	126
	sifted, spooned	116
flour, wheat, bread	unsifted, dipped	136
	unsifted, spooned	123
	sifted, spooned	117
flour, wheat, self-rising	unsifted, dipped	130
	unsifted, spooned	127
	sifted, spooned	106
flour, whole-wheat	stirred, spooned	120
germ, wheat	spooned	115
oat bran*	raw	93
	cooked	220
oats, rolled, quick	uncooked	73
	ground	109
oats, rolled, regular	uncooked	75
wheat bran*	untoasted	60
	toasted	84

Taken from: *Average Weight of a Measured Cup of Various Foods*, Home Economics Research Report No. 41, USDA.

\*Pennington, Jean A. T. *Food Values of Portions Commonly Used*, Sixteenth Edition, 1994.





## Determining the Number of Grains/Breads Servings in a Recipe

Determining the number of grains/breads servings in a recipe is an important step in assuring that the meals you serve are nutritious and meet Federal meal pattern requirements. One serving of grains/breads must contain **14.75 grams** of whole-grain meal, bran, germ or enriched flour. For crediting other types of dry, whole-grain cereal in a recipe, **25 grams** is used as the equivalent of one grains/breads serving.

To determine the number of grains/breads servings in a recipe, follow the steps below. On the next page, there is an example recipe that was evaluated following these steps.

1. Under Ingredients-A, list any oatmeal, cornmeal, whole-grain bran, germ or enriched flour used in the recipe. List the quantity of these ingredients under Quantity. Use the chart on page 1 in this section to convert fractions to decimal values.
2. Under Ingredients-B, list any other dry, whole-grain cereal ingredients used in the recipe. List the quantity of these ingredients under Quantity. Use the chart on page 1 in this section to convert fractions to decimal values.
3. Use the chart, "Weights of One Cup of Commonly Used Ingredients," from this section to determine the gram weight of each ingredient listed. Record this under Grams Per Cup.
4. Multiply the Quantity (1 and 2) by the Grams Per Cup (3) to determine the Total Gram Weight of the ingredients.
5. Divide the Total Gram Weight (4) by the factor indicated to determine the Grains/Breads Contribution.
6. Add all values under Grains/Breads Contribution (5) to determine the Total Grains/Breads Contributions.
7. Divide the Total Grains/Breads Contributions (6) by the number of servings in the recipe to determine the Grains/Breads per Serving of Recipe. Round down to the nearest 1/4 of a serving (7).

Ingredients-A	Quantity		Grams Per Cup	=	Total Gram Weight	÷		=	Grains/Breads Contribution
<u>          (1)</u>	<u>          (1)</u>	x	<u>          (3)</u>	=	<u>          (4)</u>	÷	14.75	=	<u>          (5)</u>
<u>          (1)</u>	<u>          (1)</u>	x	<u>          (3)</u>	=	<u>          (4)</u>	÷	14.75	=	<u>          (5)</u>
<u>          (1)</u>	<u>          (1)</u>	x	<u>          (3)</u>	=	<u>          (4)</u>	÷	14.75	=	<u>          (5)</u>

Ingredients-B	Quantity		Grams Per Cup	=	Total Gram Weight	÷		=	Grains/Breads Contribution
<u>          (2)</u>	<u>          (2)</u>	x	<u>          (3)</u>	=	<u>          (4)</u>	÷	25	=	<u>          (5)</u>
<u>          (2)</u>	<u>          (2)</u>	x	<u>          (3)</u>	=	<u>          (4)</u>	÷	25	=	<u>          (5)</u>
<u>          (2)</u>	<u>          (2)</u>	x	<u>          (3)</u>	=	<u>          (4)</u>	÷	25	=	<u>          (5)</u>

Total Grains/Breads Contribution           (6)  
 ÷ Total Number of Servings             
 Grains/Breads Per Serving of Recipe           (7)



## Evaluating Oatmeal Raisin Cookies

3/4 cup sugar  
 2 Tbsp margarine or butter  
 1 large egg  
 2 Tbsp low-fat milk  
 1/4 cup canned applesauce  
 3/4 cup all-purpose flour  
 1/4 tsp baking soda  
 1/2 tsp ground cinnamon  
 1/8 tsp ground nutmeg  
 1 1/4 cups quick oats  
 1/2 cup raisins

1. Cream sugar and margarine or butter until smooth.
2. Slowly add egg. Mix on medium speed for one minute.
3. Add milk and applesauce. Mix for one minute.
4. In a small bowl, combine flour, baking soda, cinnamon and nutmeg.
5. Gradually add dry ingredients to the creamed mixture. Mix on low speed.
6. Portion dough by rounded spoonfuls onto a lightly greased cookie sheet.
7. Bake for 10-13 minutes until lightly browned. Cool on a wire

1. Under Ingredients-A, list any oatmeal, cornmeal, whole-grain, bran, germ or enriched flour used in the recipe. List the quantity of these ingredients under Quantity. Use the chart on page 1 in this section to convert fractions to decimal values.
2. Under Ingredients-B, list any other dry, whole-grain cereal ingredients used in the recipe. List the quantity of these ingredients under Quantity. Use the chart on page 1 in this section to convert fractions to decimal values.
3. Use the chart, "Weights of One Cup of Commonly Used Ingredients," from this section to determine the gram weight of each ingredient listed. Record this under Grams Per Cup.
4. Multiply the Quantity (1 or 2) by the Grams Per Cup (3) to determine the Total Gram Weight of the ingredients.
5. Divide the Total Gram Weight (4) by the factor indicated to determine the Grains/Breads Contribution.
6. Add all values under Grains/Breads Contribution (5) to determine the Total Grains/Breads Contributions.
7. Divide the Total Grains/Breads Contributions (6) by the number of servings in the recipe to determine the Grains/Breads per Serving of Recipe. Round down to the nearest 1/4 of a serving (7).

Ingredients-A	Quantity		Grams Per Cup	=	Total Gram Weight	÷	14.75	=	Grains/Breads Contribution
<i>flour</i> (1)	<i>.75 cup</i> (1)	x	<i>126</i> (3)	=	<i>94.5</i> (4)	÷	14.75	=	<i>6.4</i> (5)
<i>oatmeal</i> (1)	<i>1.25 cups</i> (1)	x	<i>73</i> (3)	=	<i>91.25</i> (4)	÷	14.75	=	<i>6.2</i> (5)
_____ (1)	_____ (1)	x	_____ (3)	=	_____ (4)	÷	14.75	=	_____ (5)
Ingredients-B	Quantity		Grams Per Cup	=	Total Gram Weight	÷	25	=	Grains/Breads Contribution
_____ (2)	_____ (2)	x	_____ (3)	=	_____ (4)	÷	25	=	_____ (5)
_____ (2)	_____ (2)	x	_____ (3)	=	_____ (4)	÷	25	=	_____ (5)
_____ (2)	_____ (2)	x	_____ (3)	=	_____ (4)	÷	25	=	_____ (5)
									Total Grains/Breads Contribution
									<i>12.6</i> (6)
									÷ Total Number of Servings
									<i>24</i>
									Grains/Breads Per Serving of Recipe
									<i>.5</i> (7)

*One cookie provides 1/2 grains/breads serving for ages 6-12 or 1 grains/breads serving for ages 3-5.*



## Recipe Analysis

The following worksheet was used to determine the crediting and yield of a chili mac recipe for children three through five years of age. A blank worksheet appears on the next page.

Ingredients	Amount	Meat/Meat Alternate	Fruit/Vegetable (1/4 cup)	Grains/Breads (1/2 slice bread or equivalent)	Milk (served as a beverage)
<i>ground beef</i>	<i>1 pound</i>	<i>11.5 ounces</i>			
<i>elbow macaroni</i>	<i>8 ounces</i>			<i>19</i>	
<i>tomato sauce</i>	<i>2-8 ounce cans</i>		<i>7.6</i>		
<i>cheese, grated</i>	<i>1/2 cup</i>	<i>2 ounces</i>			
<i>green pepper, chopped</i>	<i>1/4 cup</i>		<i>1</i>		
<i>onion, chopped</i>	<i>1/4 cup</i>		<i>1</i>		
	Total	<i>13.5 ounces</i>	<i>9.6</i> <i>1 1/4 cup servings</i>	<i>19 servings</i>	
	Calculations	<i>13.5 ÷ 1.5 = 9</i>			
	Number of Servings (3-5 year olds)	<i>9</i> <i>1-1 1/2 ounce servings</i>	<i>9</i> <i>1 1/4 cup servings</i>	<i>19 half slice equivalents</i>	

### Instructions:

- List all the ingredients in the left hand column and the amount of each ingredient in the second column.
- Find meat/meat alternate and fruit/vegetable ingredients under Common Food Yields in this section or in the Food Buying Guide for Child Nutrition Programs 2001 (PA-1331). Record the yield of meat/meat alternate in ounces and the yield of fruit/vegetable in 1/4 cup servings. Determine the yield of grains/breads using the chart in the Crediting Foods section or follow the steps outlined in Determining the Number of Grains/Breads Servings in a Recipe found in this section. Record the yield of grains/breads in 1/2 slice bread equivalents.
- Determine the number of 1.5 ounce meat/meat alternate servings for children 3-5 years old by dividing the total by 1.5. Divide the total by 2 to find number of 2 ounce servings provided for children 6-12 years old.
- Round the total for fruit/vegetables and grains/breads down to the nearest whole number of servings.

**It is recommended that recipes that include foods from more than two food groups be credited for no more than two different meal components.**

Crediting **meat/meat alternate** and **fruit/vegetable**: The maximum number of servings that can be provided is nine because the recipe yields nine servings of meat/meat alternate and fruit/vegetable.

Crediting **meat/meat alternate** and **grains/breads**: The maximum number of servings that can be provided is nine because the recipe yields nine servings of meat/meat alternate.

Crediting **fruit/vegetable** and **grains/breads**: The maximum number of servings that can be provided is nine because the recipe yields nine servings of fruit/vegetable.





## Common Food Yields

The following are common ingredients used in recipes served in day care homes and child care centers. Yields and servings correspond to required amounts for 3-5 year olds for lunch or supper. Number of servings is rounded down to the nearest whole number.

<b>Meat/Meat Alternates</b>			
<b>Meat/Meat Alternate</b>	<b>Amount as Purchased</b>	<b>Yield after Preparation</b>	<b>Number of 1.5 ounce Servings or Equivalent</b>
beef, ground (no more than 26% fat)	1 pound	11.5 oz	7
cheese	1 pound	16 oz	10
cheese spread, processed cheese food	1 pound	16 oz (2 oz = 1 oz meat alt)	5
chicken, boneless	1 pound	11.2 oz	7
chicken with bone	1 pound	7.04 oz	4
cottage cheese	1 cup	1 cup	2 (3/8 cup)
dry beans	1 pound	5.9 cups	15 (3/8 cup)
ham, boneless	1 pound	9.28 oz	6
pork, ground (no more than 26% fat)	1 pound	11.5 oz	7
tuna	1 - 6.0 oz can	5.26 oz	3
turkey, ground	1 pound	11.2 oz	7

<b>Grains/Breads</b>		
<b>Grains/Breads</b>	<b>Amount Uncooked</b>	<b>Number of 1/4 Cup Servings</b>
egg noodles, uncooked	1 pound	40 (cooked)
elbow macaroni, uncooked	1 pound	39 (cooked)
lasagna noodles, uncooked	1 pound	28 (cooked)
rice, uncooked (white, enriched)	1 cup dry = 3.25 cups cooked)	13
rice, uncooked (white, enriched)	1 pound dry = 7.5 cups cooked)	30
spaghetti, uncooked	1 pound	21 (al dente)



<b>Vegetables</b>		
<b>Vegetable</b>	<b>Amount Raw</b>	<b>Number of 1/4 Cup Servings</b>
broccoli, fresh or frozen	1 pound	9
carrots	3 sticks (4" x 1/2")*	1
celery, fresh	1 pound, chopped 3 sticks (1/2" x 4")*	12 1
corn, canned, whole kernel (liquid pack, drained)	15 1/4 oz (No. 300 can) 106 oz (No. 10 can)	5 40
corn, frozen, whole kernel	1 pound	11
cucumber, fresh	4 slices (1/8" thick)*	1
green beans, canned, cut, drained, heated	14 1/2 oz (No. 300 can)	5
green beans, frozen, cut	1 pound	11
kidney beans, canned	15 1/2 oz (No. 300 can)	5
lettuce, iceberg	1 piece (4-1/4" x 4-1/4")*	1
peas, canned, drained (unheated for salad)	15 1/4 oz (No. 300 can)	5
peas, frozen	1 pound	9
potatoes, fresh, white	1 pound	8
potatoes, frozen, hashed brown	1 pound	7
potatoes, frozen, tater tots or rounds	1 pound	12
tomatoes, canned	14 1/2 oz (No. 300)	6
Tomatoes, fresh, cherry	3 cherry tomatoes*	1
tomatoes, fresh	1 pound, diced 4 slices (1/8" thick)*	11 8
tomato paste	12 oz (1 T = 1/4 c sauce)	20
tomato puree	16 oz (2 T = 1/4 c sauce)	14
tomato sauce	15 oz	6
tomato soup (condensed)	1 can (10-3/4 oz)	2



## Evaluating Recipes

Fruits		
Fruit	Amount Raw	Number of 1/4 cup servings
apples, fresh	1 pound, raw, cored, peeled	11
	1 pound, raw, cored, unpeeled	14
bananas, fresh	1 pound, sliced	6
blackberries, fresh	1 pound	11
blackberries, frozen	1 pound, thawed, sugar added	9
blueberries, fresh	1 pound	11
blueberries, individual frozen	1 pound, thawed, unsweetened	11
cantaloupe, fresh, cubed or diced	1 pound	5
cherries, sweet, fresh	1 pound	8
	7 cherries*	1
cherries, frozen	1 pound	7 (drained fruit)
dates, dehydrated, pitted	1 pound	11
grapes, fresh, seedless	1 pound	10
	7 large grapes*	1
honeydew melon, fresh, cubed	1 pound	4
oranges, fresh, 138 count	1 pound	6
	½ orange	1
peaches, fresh	1 pound	11
	½ peach	1
raisins	1 pound	12
	1.3 oz - 1.5 oz package	1
raspberries, fresh	1 pound	12
strawberries, fresh	1 pound	10
strawberries, frozen	1 pound	7
watermelon, fresh	1 pound	6

\*Numbers are approximate.

Sources: Food Buying Guide for Child Nutrition Programs, 2001

Grains/Breads Instruction, FNS Instruction 783-1 Rev 2

Crediting Foods in the Child and Adult Care Food Program, USDA, Food and Nutrition Service,  
Mid-Atlantic Region, January 1998