

Evaluating Recipes

This section is intended to be a resource for Child and Adult Care Food Program personnel who want 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
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	16 oz = 1 lb
2 T = 1/8 c	1 lb = 454 g
4 T = 1/4 c	2 c = 1/2 qt
5-1/3 T = 1/3 c	4 c = 1 qt
8 T = 1/2 c	1 pt = 2 c
16 T = 1 c	4 c = 1 qt
1 oz = 28.3 g	2 pt = 1 qt
4oz = 1/4 lb	2 qt = 1/2 gal
8 oz = 1/2 lb	4 qt = 1 gal
12 oz = 3/4 lb	

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
0.125	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	151
	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
oat bran*	raw	120
oats, rolled, quick	cooked	115
	uncooked	93
	ground	220
oats, rolled, regular	uncooked	73
wheat bran*	untoasted	109
	toasted	75
		60

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 I 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. Use the quantity of these Ingredients under Quantity. Use the chart on page I 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 $\frac{1}{4}$ of a serving (7).

Ingredients-A	Quantity	Grams Per Cup	Total Gram Weight	Grains/Breads Contribution
(1)	(1) x	(3)	= (4) / 14.75	= (5)
(1)	(1) x	(3)	= (4) / 14.75	= (5)
(1)	(1) x	(3)	= (4) / 14.75	= (5)
Total Grains/breads contribution (6)				
Total Number of Servings				
Grains/Breads Per Serving of Recipe (7)				

Ingredients-A	Quantity	Grams Per Cup	Total Gram Weight	Grains/Breads Contribution
(1)	(2) x	(3)	= (4) / 25	= (5)
(1)	(2) x	(3)	= (4) / 25	= (5)
(1)	(2) x	(3)	= (4) / 25	= (5)
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 1/4 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 rack.
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- 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 I in this section to convert fractions to decimal values.
- Under Ingredients-B, list any other dry, whole-grain cereal Ingredients used in the recipe. Use the quantity of these Ingredients under Quantity. Use the chart on page I in this section to convert fractions to decimal values.
- 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.
- Multiply the Quantity (1 and 2) by the Grams Per Cup (3) to determine the Total Gram Weight of the ingredients.
- Divide the Total Gram Weight (4) by the factor indicated to determine the Grains/Breads Contribution.
- Add all values under Grains/Breads Contribution (5) to determine the Total Grains/Breads Contributions.
- 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	
flour (1)	.75 cups (1)	x	126 (3)	=	94.5 (4)	/	14.75	= 6.4 (5)
oatmeal (1)	1.25 cups(1)	x	73 (3)	=	91.25 (4)	/	14.75	= 6.2 (5)
(1)	(1)	x	(3)	=	(4)	/	14.75	= (5)
Ingredients-A	Quantity		Grams Per Cup	=	Total Gram Weight		Grains/Breads Contribution	
(1)	(2)	x	(3)	=	(4)	/	25	= (5)
(1)	(2)	x	(3)	=	(4)	/	25	= (5)
(1)	(2)	x	(3)	=	(4)	/	25	= (5)
Total Grains/breads contribution							12.6	(6)
Total Number of Servings							24	.
Grains/Breads Per Serving of Recipe							.5	(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)
ground beef	1 pound	11.5 ounces			
elbow macaroni	8 ounces			19	
tomato sauce	2-8 ounce cans		7.6		
cheese, grated	1/2 cup	2 ounces			
green pepper, chopped	1/4 cup		1		
onion, chopped	1/4 cup		1		
	Total	13.5 ounces	9.6-1/4 cup servings	19 servings	
	Calculations	13.5 / 1.5 = 9			
	Number of Servings (3-5 year olds)	9-1 1/2 ounce servings	9-1/4 cup servings	19-half-slice equivalents	

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.

Recipe Analysis Worksheet

Ingredients	Amount	Meat/Meat Alternate	Fruit/Vegetable (1/4 cup)	Grains/Breads (1/2 slice bread or equivalent)	Milk (served as a beverage)
	Total				
	Calculations				
	Number of Servings (3-5 year olds)				

1. List all the ingredients in the left hand column and the amount of each ingredient in the second column.
2. 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 (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 1/4 slice bread equivalents.
3. 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.
4. 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.

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.

Meat/Meat Alternates

Meat/Meat Alternates	Amount as Purchased	Yield after Preparation	Number of 1.5 ounce Servings or Equivalent
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	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 oz	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

Grains/Breads

Grains/Breads	Amount Uncooked	Number of 1/4 Cup Servings
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 cooked	13
rice, uncooked (white, enriched)	1 pound dry = 7.5 cups cooked	70
spaghetti, uncooked	1 pound	21 (cooked al dente)

Vegetables		
Vegetable	Amount Raw	Number of 1/4 Cup Servings
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

*Numbers are approximate

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		11
blackberries, frozen	1 pound, thawed, sugar added	9
blueberries, fresh		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
	1/2 orange	1
peaches, fresh	1 pound	11
	1/2 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