



Appendixes

Food Buying Guide for Child Nutrition Programs

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Instructions: How to use the Recipe Analysis Workbook

The Recipe Analysis Workbook is a tool used to determine the expected meal pattern contribution and crediting statement for a recipe. The Recipe Analysis Workbook consists of a worksheet for each meal component. The worksheets, in hard copy format, are located at the end of this Appendix, Figures 1a-1g. This workbook is a tool for calculating the meal pattern contribution of a recipe's ingredients toward the vegetables (expressed in subgroups), fruits, meats/meat alternates, and grains components of the Federal meal pattern requirements. The fluid milk component is not included. The Recipe Analysis Workbook is also available in a spreadsheet format upon request to the CNP-NTAB mailbox at cnptab@fns.usda.gov and an interactive, web-based Recipe Analysis Workbook is available at <https://foodbuyingguide.fns.usda.gov>. Use of this workbook in the spreadsheet or web-based format is recommended to obtain the maximum benefit; however, the examples in this appendix are tailored to both the spreadsheet and hard copy format for your convenience.

Determining meal pattern contributions for recipes is an important step in ensuring that meals served are nutritious and meet Federal meal pattern requirements. The Recipe Analysis Workbook provides the specifics for determining the meal pattern contribution of a recipe served in the National School Lunch Program (NSLP) and School Breakfast Program (SBP). The information may also be used to determine the meal pattern contribution of recipes served in the Child and Adult Care Food Program (CACFP), Summer Food Service Program (SFSP), and NSLP Afterschool Snack Service. The total amount from each of the vegetable subgroups can be combined to determine the vegetables component for the CACFP meal pattern.

The total amount from the fruit and vegetable subgroups can be combined to determine the vegetables/fruits component for the SFSP and NSLP Afterschool Snack Service. While the SFSP and NSLP Afterschool Snack Service are not required to calculate grain items using ounce equivalents, ounce equivalents may be used.

The following text outlines steps for completing the Recipe Analysis Workbook. Note, if your recipe does not contain an ingredient for a component, you will not complete that worksheet.

Tips for Completing the Workbook:

- Use a calculator.
- Record calculations out to four decimal places without rounding.

Steps to complete the Recipe Analysis Workbook (Figures 1a-1g)

1. Recipe Name

Record the name of the recipe at the top of each worksheet.

2. Servings per Recipe

At the top of each worksheet, record the total number of servings a recipe yields. This number will be the same for each of the component worksheets. For example, if your recipe yields 100 servings, enter "100" in this space.

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3. Recipe Number

If your recipe is numbered, record the number at the top of each worksheet, otherwise, leave it blank.

4. Serving size

Record the serving amount per portion (e.g. 1/2 cup, 1 piece, 1 sandwich, 3/4 cup, etc.) on each worksheet.

5. Ingredients

In Column (a), list the creditable recipe ingredients as found in the Food Buying Guide For Child Nutrition Programs (FBG) on each applicable meal component worksheet. If an exact match is not available, choose a food item in the FBG that closely matches your recipe ingredient. Do not list ingredients that do not contribute to a meal component, such as oils, spices, and herbs.

6. Quantity of Ingredient

In Column (b), record the weight or volume measure of each ingredient in the same unit of measure as the purchase unit listed in the FBG. The quantity specified on the worksheet must be in the same unit as specified under "Purchase Unit," Column 2 of the FBG. For example, when the purchase unit in Column 2 of the FBG is listed in pounds, convert the ounces of your ingredient to the decimal equivalent of a pound and record this number. (See "Decimal Weight Equivalents" Table 5 on page I-24 in the FBG).

See Page A-31 for instructions on completing the grains component.

7. Preparation Yield

In Column (c), record the preparation yield factor for the ingredient that is provided in "Additional Information," Column 6 of the FBG. The preparation yield factor should only be used when a recipe ingredient needs to be converted to match the form of the item as listed under "Food As Purchased," Column 1 of the FBG.

For example, a recipe contains 10 pounds of eggplant, raw, pared, cubed but the FBG only provides data for eggplant, fresh whole in the "Food As Purchased," Column 1.

Convert the weight of the eggplant, raw, pared, cubed to the weight of eggplant, fresh whole to determine the amount of eggplant to purchase.

In the FBG, "Additional Information," Column 6 for eggplant, fresh whole states, "1 lb AP = 0.81 lb ready-to-cook eggplant," meaning that 1 lb as purchased fresh, whole eggplant yields 0.81 lb of ready-to-cook eggplant after it has been peeled and cubed.

Record the 0.81 preparation yield factor in Column (c).

If several options are available in "Additional Information," Column 6, choose the yield data that most closely matches the form of the recipe ingredient.

8. Calculated Quantity to Purchase

In Column (d), record the answer from dividing the number in Column (b) by the number in Column (c). Continuing with the eggplant example above, the calculation is as follows:

- Record 10 lb in Column (b), "Quantity of Ingredient"
- Record 0.81 lb in Column (c), "Preparation Yield Column 6 in FBG"
- Divide: $10 \text{ lb} \div 0.81 \text{ lb} = 12.3456 \text{ lb}$

- Record “12.3456” in Column (d), “Calculated Quantity to Purchase”
- 12.3456 lb of fresh, whole eggplant needs to be purchased for the recipe in order to yield 10 lb of eggplant, raw, pared, cubed.

For other examples using “Additional Information,” Column 6 yield data, see calculation examples from Method 3 on pages I-47 through I-49 of the FBG. You may also refer to Appendix B: How to Use Column 6 in the FBG for further information on determining yields of prepared/ready-to-serve/ready-to-cook ingredients.

9. Servings per Purchase Unit

In Column (e), record the number of servings per purchase unit of the ingredient. This information is found in “Servings per Purchase Unit,” Column 3 of the FBG. The number of servings per purchase unit varies for different preparation methods or forms of the ingredients as served. Therefore, you should pay particular attention to the description of the food as served when selecting the number of servings per purchase unit to use in the calculation. The description of the form of the food should most closely match that of the food after preparation and as it is served. For example, if a recipe ingredient is Cauliflower, fresh, florets, ready-to-use and the cauliflower is then cooked when preparing the recipe, use the information in “Servings per Purchase Unit,” Column 3 of the FBG for cooked, drained vegetable florets, which is 14.1.

10. Totals

In Column (f), record the answer of Column (b) multiplied by Column (e) OR Column (d) multiplied by Column (e), if a preparation yield factor is used. After calculating this amount for each ingredient, add the amounts together and enter the sum in the Totals space at the bottom of each worksheet.

To finish the remaining calculations, see the following specific instructions for a complete example of each meal component.

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Completing Meal Component Worksheets

Now that we have covered the basics of using the Recipe Analysis Workbook, let's practice with the following recipe examples. Ingredients listed below in red are creditable and contribute to the meal pattern requirements.

Porcupine Sliders (turkey burgers), 50 servings

Ingredients	Weight	Measure
Water		3-1/2 cups
Brown rice, long grain, regular, dry	9-1/2 oz	1-1/2 cups
Canola oil		2 Tbsp
Fresh onions, diced	6 oz	1-1/4 cups
Fresh celery, diced	14 oz	3 cups
Fresh garlic, minced	2-1/2 oz	1/4 cup
Raw ground turkey, lean	6 lb 15-1/2 oz	3 qt 2 cups
Liquid, whole egg		2-1/2 cups
Dried cranberries, chopped	12 oz	2-1/2 cups
Fresh baby spinach, chopped	10 oz	2 qt
Worcestershire sauce		2 Tbsp
Salt		1 Tbsp
Ground black pepper		1 Tbsp 1 tsp
Ground white pepper		1/2 tsp
Mini whole grain rolls (1 oz each)		50



Harvest Delight (vegetable and fruit side dish), 50 servings

Ingredients	Weight	Measure
Fresh carrots, 1/4" slices	3 lb	2 qt 2 cups
Fresh sweet potatoes, peeled, cubed 1"	3 lb	1 qt 2 cups
Fresh butternut squash, peeled, cubed 1/2"	3 lb	1 qt 2-2/3 cups
Fresh red onions, diced	1 lb	3 cups 2 Tbsp
Extra virgin olive oil		2/3 cup
Sea salt		2 tsp
Fresh green apples, peeled, cubed 1/2"	4 lb	3 qt 2-2/3 cups
Fresh thyme, finely chopped		3 Tbsp
Fresh oregano, finely chopped		3 Tbsp
Fresh sage, finely chopped		3 Tbsp
Fresh rosemary, finely chopped		2 Tbsp
Minced garlic		2 Tbsp 1 tsp
Maple syrup		1/4 cup 1 Tbsp
Fresh spinach, coarsely chopped	11 oz	1 qt 2 cups
Dried cranberries, finely chopped	2 oz	1/3 cup



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Confetti Soup (vegetable, bean and turkey ham soup), 50 servings

Ingredients	Weight	Measure
Canola oil		1/4 cup 1 Tbsp
Fresh onions, diced	1 lb 14 oz	1 qt 2 cups
Fresh celery, diced	1 lb 14 oz	1 qt 2 cups
Fresh carrots, diced	1 lb 14 oz	1 qt 2 cups
Salt		1 Tbsp 1 tsp
Ground black pepper		1 Tbsp 1 tsp
Fennel seed, whole		2 tsp
Crushed red pepper (optional)		1 tsp
Canned low-sodium black-eyed peas, drained, rinsed	5 lb 10 oz	3 qt 1 cup (1-1/3 No. 10 cans) or 1 gal
Water		1 gal 3 qt
Turkey Ham, extra-lean, diced 1/4"	3 lb	1 qt 2-1/2 cups
Fresh kale, coarsely chopped	4 oz	2-1/2 cups
Fresh parsley, finely chopped		2/3 cup



Vegetables (with Subgroups) Contribution Worksheet (Figure 1a)

Calculate the vegetables (with subgroups) contribution per serving. Follow these steps:

- Record the ingredient under the appropriate vegetable subgroup heading in “Ingredients,” Column (a).

EXAMPLE: The Porcupine Sliders recipe contains fresh baby spinach, chopped. List this ingredient on the worksheet under the Dark Green vegetable subgroup in Column (a), as shown.

Recipe Name: Porcupine Sliders						Servings per Recipe: 50			
Recipe Number: Sandwiches F-10r						Serving Size: 1 slider			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Dark Green									
Fresh baby spinach, chopped									
Dark Green Totals									

- Enter the ingredient quantity in the “Quantity of Ingredient,” Column (b) using the same weight or volume unit found in the “Purchase Unit,” Column 2 in the FBG. If the recipe lists the ingredient in a different unit, you must make a conversion before the contribution can be calculated.

EXAMPLE: The Porcupine Sliders recipe contains 10 oz fresh baby spinach, chopped; 6 oz fresh onions, diced; and 14 oz fresh celery, diced. The FBG lists the Purchase Unit as “Pound” for these items; therefore, they are converted from ounces to pounds and listed on the worksheet in Column (b), as shown.

Recipe Name: Porcupine Sliders						Servings per Recipe: 50			
Recipe Number: Sandwiches F-10r						Serving Size: 1 slider			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Dark Green									
Fresh baby spinach, chopped	0.62500		10 oz ÷ 16 oz/lb = 0.6250 lb						
Dark Green Totals									
Other									
Fresh onions, diced	0.37500		6 oz ÷ 16 oz/lb = 0.3750 lb						
Fresh celery, diced	0.87500		14 oz ÷ 16 oz/lb = 0.8750 lb						
Other Totals									

For canned items, find the appropriate can size in the FBG and/or convert the ingredient quantity to pounds or ounces.

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EXAMPLES FOR CANNED INGREDIENTS:

a. If your stew recipe contains one (1) No. 10 can of diced tomatoes in juice, enter “1” in Column (b), as shown. Do not enter 102 oz (the weight of the No. 10 can). To continue, proceed to section 5, “Examples for canned ingredients” for instructions on how to enter the Servings per Purchase Unit in Column (e).

Recipe Name: Canned Tomato Example		Servings per Recipe: 50							
Recipe Number:		Serving Size: 1 cup							
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) × (e) = OR (d) × (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Red/Orange									
Canned tomatoes, diced, in juice	1.00000								
Red/Orange Totals									

b. If your recipe requires a different amount (either more or less) of a canned, drained ingredient than is contained in a No. 10 can, you must determine how many cans you need. First, enter the ingredient amount in Column (b).

The Confetti Soup recipe contains 5 lb 10 oz of canned low-sodium black-eyed peas, drained, rinsed. Convert this amount to ounces: 90 oz. The FBG lists the Purchase Unit as “No. 10 can (108 oz)” and “No. 300 can (15 oz)” for this canned item; hence, the ingredient was converted from pounds to ounces to match the purchase unit and listed on the worksheet in Column (b), as shown.

Recipe Name: Confetti Soup		Servings per Recipe: 50							
Recipe Number: H-09r		Serving Size: 1 cup							
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) × (e) = OR (d) × (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Beans/Peas (Legumes)									
Canned low-sodium black-eyed peas, drained, rinsed	90.00000								
Beans/Peas (Legumes) Totals									

c. If your recipe contains 40 oz of canned pumpkin that is served heated, and the purchase unit is in pounds, then convert the ounces to pounds as listed on the worksheet in Column (b), shown. To continue, proceed to section 5, “Examples for canned ingredients” for instructions on how to enter the Servings per Purchase Unit in Column (e).

Recipe Name: Canned Pumpkin Example		Servings per Recipe: 50							
Recipe Number:		Serving Size: 1/2 cup							
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Red/Orange									
Canned pumpkin	2.50000		40 oz ÷ 16 oz/lb = 2.50 lb						
Red/Orange Totals									

3. Record the preparation yield factor in “Preparation Yield,” Column 6 in FBG, Column (c) for any vegetable ingredients that need to be converted to match the form of the item as listed under “Food as Purchased,” Column 1 of the FBG.

EXAMPLE: The Harvest Delight recipe contains 3 lb each of fresh carrots, 1/4 inch slices; fresh sweet potatoes, peeled, cubed 1 inch; and fresh, butternut squash, peeled, cubed 1/2 inch. The carrots, sweet potatoes, and butternut squash are purchased in their whole form; hence, use the preparation yield factor in Column 6 of the FBG for these three ingredients. The preparation yield factor in the FBG for these ingredients is as follows:

- Carrots, fresh, without tops is 1 lb AP = 0.83 lb (about 2-2/3 cups) trimmed, peeled, sliced carrots
- Sweet Potatoes, fresh, whole is 1 lb AP = 0.80 lb peeled, ready-to-cook sweet potato
- Squash, Winter, fresh Butternut whole is 1 lb AP = 0.84 lb ready-to-cook pared squash

Recipe Name: Harvest Delight		Servings per Recipe: 50							
Recipe Number: Vegetables I-21r		Serving Size: 1/2 cup							
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Red/Orange									
Fresh carrots, 1/4" slices	3.00000	0.83000							
Fresh sweet potatoes, peeled, cubed 1"	3.00000	0.80000							
Fresh butternut squash, peeled, cubed 1/2"	3.00000	0.84000							
Red/Orange Totals									

EXAMPLE FOR CANNED INGREDIENTS: The Confetti Soup recipe contains 90 oz of canned low-sodium black-eyed peas, drained, rinsed. Use the preparation yield factor to determine the amount of drained black-eyed peas provided by a No. 10 can. The preparation yield factor in Column 6 in the FBG is as follows: 1 No. 10 can = about 65.0 oz (9-3/8 cups) heated, drained beans.

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Recipe Name: Confetti Soup							Servings per Recipe: 50		
Recipe Number: H-09r							Serving Size: 1 cup		
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Beans/Peas (Legumes)									
Canned low-sodium black-eyed peas, drained, rinsed	90.00000	65.00000	Preparation yield is entered in Column (c)						
Beans/Peas (Legumes) Totals									

Preparation yield is entered in Column (c)

4. Calculate the quantity of each ingredient to purchase, if a preparation yield factor was used, and record the answer in “Calculated Quantity to Purchase,” Column (d). This calculation is shown for the Harvest Delight.

Recipe Name: Harvest Delight							Servings per Recipe: 50		
Recipe Number: Vegetables I-21r							Serving Size: 1/2 cup		
							Total Cups Vegetable per Serving	Decimal Eq. to the Nearest Portion of a Cup	
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	(g) ÷ No. of Servings= (h)		Remaining (i)
Red/Orange							0.000		
Fresh carrots, 1/4" slices	3.00000	0.83000	3.61446						
Fresh sweet potatoes, peeled, cubed 1"	3.00000	0.80000	3.75000		3.0000 ÷ 0.8300 = 3.6144				
Fresh butternut squash, peeled, cubed 1/2"	3.00000	0.84000	3.57143		3.0000 ÷ 0.8000 = 3.7500				
					3.0000 ÷ 0.8400 = 3.5714				
Red/Orange Totals									

$3.0000 \div 0.8300 = 3.6144$
 $3.0000 \div 0.8000 = 3.7500$
 $3.0000 \div 0.8400 = 3.5714$

EXAMPLE FOR CANNED INGREDIENT: For the Confetti Soup recipe, the calculation will provide the number of No. 10 cans of black-eyed peas to purchase.

Recipe Name: Confetti Soup							Servings per Recipe: 50		
Recipe Number: H-09r							Serving Size: 1 cup		
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Beans/Peas (Legumes)									
Canned low-sodium black-eyed peas, drained, rinsed	90.00000	65.00000	1.38462				90.0000 ÷ 65.0000 = 1.3846 cans		
							You will need to open 2 cans of black-eyed peas.		
Beans/Peas (Legumes) Totals									

$90.0000 \div 65.0000 = 1.3846$ cans
 You will need to open 2 cans of black-eyed peas.

5. Enter the Servings per Purchase Unit in Column (e) for each ingredient, using the “Servings per Purchase Unit, EP,” Column 3 of the FBG.

EXAMPLE: The Harvest Delight recipe contains 11 oz of fresh spinach, coarsely chopped that will be added to the roasted mixture and served. “Servings per Purchase Unit, EP,” Column 3 of the FBG lists three options for spinach, fresh, partly trimmed: 30.7, 20.4, and 7.60. By looking at the next Column in the FBG, “Serving Size per Meal Contribution,”

Column 4, 30.7 refers to 1/4 cup raw, chopped vegetable, 20.4 refers to 1/4 cup vegetable with dressing, and 7.60 refers to 1/4 cup cooked, drained vegetable. Since the spinach is heated by the roasted mixture when served, 7.60 is the closest option to the form served. 7.60 is entered in the “Servings per Purchase Unit Column 3 in the FBG,” Column (e), as shown.

Recipe Name:		Harvest Delight					Servings per Recipe:		50	
Recipe Number:		Vegetables I-21r					Serving Size:		1/2 cup	
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)	
Dark Green										
Fresh spinach, coarsely chopped	0.68750	0.88000	0.78125	7.60000						
Dark Green Totals										

EXAMPLES FOR CANNED INGREDIENTS:

a. Referring back to the canned tomato ingredient that will be added to a stew in Section 2, the entire content of the can is used since the recipe contains diced tomatoes in juice; therefore, a preparation yield is not utilized and Columns (c) and (d) are left blank. Now determine the servings per purchase unit. In the FBG, “Servings per Purchase Unit, EP,” Column 3 lists one option for a No. 10 can of Tomatoes, canned Diced: 49.2. By looking at the next Column in the FBG, “Serving Size per Meal Contribution,” Column 4, 49.2 refers to servings of 1/4 cup heated, vegetable and juice, so a No. 10 can provides 49.2 1/4 cup servings of heated, diced tomatoes in juice. Enter this amount in the “Servings per Purchase Unit,” Column 3 in the FBG, Column (e), as shown.

Recipe Name:		Canned Tomato Example					Servings per Recipe:		50
Recipe Number:							Serving Size:		1 cup
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (c)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) : No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Red/Orange									
Canned tomatoes, diced, in juice	1.00000			49.20000					
Red/Orange Totals									

b. For the Confetti Soup recipe, canned black-eyed peas, drained, rinsed are added to the soup mixture and cooked. There is only one option for a No. 10 can of beans, black-eyed (or peas), dry, canned in the FBG: 37.7. Enter 37.7 in the “Servings per Purchase Unit,” Column 3 in the FBG, Column (e), as shown.

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Recipe Name: Confetti Soup		Servings per Recipe: 50							
Recipe Number: H-09r		Serving Size: 1 cup							
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4-cups (b) × (e)= OR (d) × (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Beans/Peas (Legumes)									
Canned low-sodium black-eyed peas, drained, rinsed	90.00000	65.00000	1.38462	37.70000					
Beans/Peas (Legumes) Totals									

c. Referring back to the canned pumpkin example in Section 2, after converting the ounces to pounds the next step is to find the “Servings per Purchase Unit, EP,” Column 3 of the FBG for a pound of pumpkin, canned, which is 7.77. By looking at the next column in the FBG, “Serving Size per Meal Contribution,” Column 4, 7.77 refers to 1/4 cup heated vegetable. So, a pound provides 7.77 1/4 cup servings of heated pumpkin. Enter 7.77 in the “Servings per Purchase Unit,” Column 3 in the FBG, Column (e), as shown:

Recipe Name: Canned Pumpkin Example		Servings per Recipe: 50							
Recipe Number:		Serving Size: 1/2 cup							
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4-cups (b) × (e)= OR (d) × (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Red/Orange									
Canned pumpkin	2.50000			7.77000					
Red/Orange Totals									

- Enter the total number of 1/4 cups for each ingredient by multiplying the numbers in Columns (b) and (e), if a preparation yield is not utilized, or multiplying the numbers in Columns (d) and (e), if a preparation yield is used.

EXAMPLE: For the fresh spinach in the Harvest Delight recipe, a preparation yield was used, so the number in Column (d) is multiplied by the number in Column (e). This calculation is shown:

Recipe Name: Harvest Delight		Servings per Recipe: 50							
Recipe Number: Vegetables I-21r		Serving Size: 1/2 cup							
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4-cups (b) × (e)= OR (d) × (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Dark Green									
Fresh spinach, coarsely chopped	0.68750	0.88000	0.78125	7.60000	5.93750				
Dark Green Totals					5.93750				

The total number of 1/4 cups for each vegetable subgroup for the Harvest Delight recipe is then totaled, as circled in red above. For the Dark Green subgroup, the total number of 1/4 cups is 5.9375.

EXAMPLE: For the fresh baby spinach in the Porcupine Sliders recipe, the preparation yield is 1 lb AP = 1 lb ready-to-cook or -serve raw spinach, so the preparation yield was not entered and the number in Column (b) is multiplied by the number in Column (e).

Recipe Name: Porcupine Sliders						Servings per Recipe: 50			
Recipe Number: Sandwiches F-10r						Serving Size: 1 slider			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total# 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Dark Green									
Fresh baby spinach, chopped	0.62500			12.60000	7.87500	0.6250 x 12.6000 = 7.8750			
Dark Green Totals					7.87500				

The total number of 1/4 cups for each vegetable subgroup in the Porcupine Sliders recipe is then totaled, which is 7.8750 for the Dark Green subgroup, as circled above.

EXAMPLES FOR CANNED INGREDIENTS:

a. Continuing with the canned tomato ingredient, the number in Column (b) is multiplied by the number in Column (e).

Recipe Name: Canned Tomato Example						Servings per Recipe: 50			
Recipe Number:						Serving Size: 1 cup			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total# 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Red/Orange									
Canned tomatoes, diced, in juice	1.00000			49.20000	49.20000	1.0000 x 49.2000 = 49.2000			
Red/Orange Totals					49.20000				

The number of 1/4 cups is then totaled, which is 49.2000 for the Red/Orange subgroup, as circled above.

b. For the Black-eyed peas in the Confetti Soup recipe, a preparation yield was used, so the number in Column (d) is multiplied by the number in Column (e).

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Recipe Name: Confetti Soup						Servings per Recipe: 50			
Recipe Number: H-09r						Serving Size: 1 cup			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Beans/Peas (Legumes)									
Canned low-sodium black-eyed peas, drained, rinsed	90.00000	65.00000	1.38462	37.70000	52.20000	1.3846 x 37.7000 = 52.2000			
Beans/Peas (Legumes) Totals					52.20000				

The total 1/4 cups for each vegetable subgroup for the Confetti Soup recipe is then totaled, which is 52.2000 for the Beans/Peas (Legumes) subgroup, as circled above.

c. Using the canned pumpkin example, which does not use a preparation yield, the number in Column (b) is multiplied by the number in Column (e).

Recipe Name: Canned Pumpkin Example						Servings per Recipe: 50			
Recipe Number:						Serving Size: 1/2 cup			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Red/Orange									
Canned pumpkin	2.50000			7.77000	19.42500	2.5000 x 7.7700 = 19.4250			
Red/Orange Totals					19.42500				

The total 1/4 cups for the canned pumpkin example is then totaled, which is 19.4250 for the Red/Orange subgroup, as circled above.

- Calculate the number of cups for each vegetable subgroup and record this number in "Convert to cups," Column (g). This calculation is done by dividing the number of 1/4 cups in Column (f) by four to determine the number of whole cups, as shown.

Recipe Name: Porcupine Sliders						Servings per Recipe: 50			
Recipe Number: Sandwiches F-10r						Serving Size: 1 slider			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Dark Green									
Fresh baby spinach, chopped	0.62500			12.60000	7.87500	7.8750 ÷ 4 = 1.9687			
Dark Green Totals					7.87500	1.96875			

8. Calculate the total cups per serving for each vegetable subgroup and record this number in “Total Cups Vegetable per Serving,” Column (h). This calculation is done by dividing the number of total cups in Column (g) by the number of servings per recipe, as shown.

Recipe Name: Porcupine Sliders						Servings per Recipe: 50			
Recipe Number: Sandwiches F-10r						Serving Size: 1 slider			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Dark Green									
Fresh baby spinach, chopped	0.62500			12.60000	7.87500				
Dark Green Totals					7.87500	1.96875	0.03938		

9. Use Table 7 on page I-25 to determine the decimal equivalent to the nearest portion of a cup for the amount in Column (h) and record the decimal equivalent in Column (i) or use the drop-down menu in Column (i), if using the Recipe Analysis Workbook spreadsheet.

EXAMPLE 1: The spinach in the Porcupine Sliders recipe provides 0.0393 total cups of vegetable from the Dark Green subgroup per serving as listed in “Total Cups of Vegetable per Serving,” Column (h). Use Table 7 on page I-25 to determine the decimal equivalent to the nearest portion of a cup for 0.0393 and record the decimal equivalent in Column (i) “Decimal Eq. to the Nearest Portion of a Cup” or if using the Recipe Analysis Workbook spreadsheet, use Column (i) to convert the decimal equivalent of 0.0393 to the nearest portion of a cup, and choose your answer from the drop-down menu as shown. The lowest decimal equivalent is 0.125, which is greater than 0.0393.

Recipe Name: Porcupine Sliders						Servings per Recipe: 50			
Recipe Number: Sandwiches F-10r						Serving Size: 1 slider			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Dark Green									
Fresh baby spinach, chopped	0.62500			12.60000	7.87500				
Dark Green Totals					7.87500	1.96875	0.03938	0.000	

In this example, the lowest decimal equivalent listed in Table 7 is 0.125 which is greater than 0.0393, so the amount of fresh baby spinach in the recipe is not enough to provide the minimum 1/8 cup vegetable credit for the Dark Green subgroup. Record none in Column (i) “Decimal Eq. to the Nearest Portion of a Cup” or select “0.000” from the drop-down menu if using the Recipe Analysis Workbook spreadsheet, as shown above.

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EXAMPLE 2: One portion of the Harvest Delight recipe provides 0.4520 cups of vegetable from the Red/Orange subgroup. This amount is listed in "Total Cups of Vegetables per Serving," Column (h). Using Table 7 on page I-25, 0.4520 falls within the decimal equivalent range of 0.375 and 0.499, so record the lower number of the range, 0.375, in Column (i) as the nearest portion of a cup, or if using the Recipe Analysis Workbook spreadsheet, use the drop-down menu in Column (i) to convert the decimal equivalent of 0.4520 to the nearest portion of a cup as shown.

Recipe Name: Harvest Delight							Servings per Recipe: 50		
Recipe Number: Vegetables I-21r							Serving Size: 1/2 cup		
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings = (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Remaining (j)
Fresh carrots, 1/4" slices	3.00000	0.83000	3.61446	8.16000	29.49398	0.4520 is between 0.375 and 0.499; therefore, the carrots, sweet potatoes, and butternut squash provide 3/8 cup red/orange vegetable.	0.45202	0.375-0.499 (3/8 cup) ▼	
Fresh sweet potatoes, peeled, cubed 1"	3.00000	0.80000	3.75000	9.10000	34.12500				
Fresh butternut squash, peeled, cubed 1/2"	3.00000	0.84000	3.57143	7.50000	26.78571				
Red/Orange Totals					90.40469	22.60117			

In this example, using Table 7, the amount of fresh carrots, fresh sweet potatoes, and fresh butternut squash in the recipe provides 3/8 cup vegetable credit for the Red/Orange subgroup. Record this amount in Column (j), or if using the Recipe Analysis Workbook spreadsheet, this amount is listed with the nearest portion of a cup from the drop-down menu in Column (i), as shown above.

- Determine if there is any remaining amount of vegetables and record this amount in "Remaining," Column (k) or Column (j) if using the Recipe Analysis Workbook spreadsheet. You will calculate this remaining amount by subtracting the lower value in the decimal equivalent range in Column (i) from the "Total Cups Vegetable per Serving," Column (h). Remaining amounts from the Dark Green, Red/Orange and Other vegetable subgroups are added together to provide an extra Other vegetables credit, if the total is enough to provide at least the minimum 1/8 cup credit. If there is a remaining amount for the Starchy subgroup, it may contribute only to the Additional vegetable subgroup.

Please note that for the CACFP, add the total amounts from all vegetable subgroups to determine the total amount of vegetables provided in a recipe. For recipes served in the SFSP and the NSLP Afterschool Snack Service that contain both vegetables and fruits, add the total amount of vegetables to the total amount of fruits to determine the total fruit and vegetable credit for that recipe.

EXAMPLE: For the Harvest Delight recipe, there are remaining amounts for the Red/Orange and Other vegetable subgroups. The remaining amounts are added together to determine if they can contribute to the Other vegetable subgroup. In this example, the remaining amounts provide 1/8 cup Other vegetables credit, as shown.

[illegible]

- 11.** Total the Equivalent Cup Volume amounts in Column (j) including any remaining amounts and record these totals in the Expected Meal Pattern Contribution (Vegetable – Cups) field and on Figure 1g, or these totals will self-populate if using the Recipe Analysis Workbook spreadsheet. Doing so will combine the meal pattern contribution for the vegetables component with the other meal components onto one worksheet for the recipe.

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Fruits Contribution Worksheet (Figure 1b)

Follow these steps to calculate the fruits contribution per serving:

1. Record the name of the ingredient in the “Ingredients,” Column (a).

EXAMPLE: The Harvest Delight recipe contains fresh green apples, peeled, cubed 1/2 inch and dried cranberries, finely chopped. List these ingredients on the worksheet in Column (a), as shown.

Recipe Name:		Harvest Delight				Servings per Recipe:		50
Recipe Number:		Vegetables I-21r				Serving Size:		1/2 cup
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4-cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Fruit per Serving (g) ÷ No. of Servings= (h)	
Fresh green apples, cubed 1/2"								
Dried cranberries, finely chopped								

2. Enter the ingredient quantity in the “Quantity of Ingredient,” Column (b) using the same weight or volume unit found in the “Purchase Unit,” Column 2 in the FBG. If the recipe lists the ingredient in a different unit, you will convert the quantity to that unit before calculating the meal pattern contribution.

EXAMPLE: The Harvest Delight recipe contains 4 lb fresh green apples, peeled, cubed, 1/2 inch and 2 oz of dried cranberries, finely chopped. The FBG lists the Purchase Unit as “Pound” for apples, fresh; therefore, no conversion is needed. However, in the FBG, the Purchase Unit for cranberries, dehydrated is also “Pound,” so the 2 oz are converted to pounds. Both ingredients are then listed on the worksheet in Column (b), as shown.

Recipe Name: Harvest Delight					Servings per Recipe: 50		
Recipe Number: Vegetables I-21r					Serving Size: 1/2 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Fresh green apples, cubed 1/2"	4.00000						
Dried cranberries, finely chopped	0.12500	2 oz ÷ 16 oz/lb = 0.1250 lb					

EXAMPLES FOR CANNED INGREDIENTS:

a. If your recipe contains one (1) No. 10 can of red tart cherries, enter “1” in Column (b) not 102 oz (the weight of a No. 10 can of cherries), as shown. Then proceed to section 5, “Examples for canned ingredients” for further instructions.

Recipe Name: Canned Cherries Example					Servings per Recipe: 50	
Recipe Number:					Serving Size: 1 cup	
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Total cups Fruit per Serving (g) ÷ No. of Servings = (h)
Canned cherries, red tart, pitted	1.00000					

b. If your recipe requires a different amount (either more or less) of a canned, drained ingredient than is provided by a No. 10 can (or other size can), you can determine how many cans you need by first entering the quantity of the ingredient in Column (b).

For example, a recipe contains 6 lb of canned peaches, cling, sliced, drained, packed in light syrup, which converts to equal 96 oz. The FBG lists the Purchase Unit as “No. 10 can (105 oz)” for this canned item; hence, this ingredient was converted from pounds to ounces and listed on the worksheet in Column (b), as shown.

Recipe Name: Canned Peaches Example					Servings per Recipe: 50	
Recipe Number:					Serving Size: 1 cup	
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total: ¼ cups (b) x (e) = or (d) x (e) = (f)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Canned peaches, cling, sliced, drained, packed in light syrup	96.00000					

- Record the preparation yield factor in “Preparation Yield,” Column 6 in FBG, Column (c) for any fruit ingredients that need to be converted to match the form of the item as listed under “Food as Purchased,” Column 1 of the FBG.

EXAMPLE: The Harvest Delight recipe contains 4 lb of fresh green apples, peeled, cubed 1/2 inch. The apples are purchased in their whole form. Use the preparation yield factor in Column 6 of the FBG for the whole fresh apples in the FBG to convert the green apples to their “As Purchased” form. The only preparation yield factor in the FBG for dehydrated cranberries is in their whole form. The recipe contains chopped cranberries, but since this is not a choice in the FBG, use the preparation yield factor for whole, dehydrated cranberries. The preparation yield factor in Column 6, FBG for these ingredients is as follows:

- Apples, fresh 125-138 count Whole 1 lb AP = 0.78 lb (about 2-3/4 cups) ready-to-cook or -serve raw, cored, peeled apple.

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- Cranberries, dehydrated Sweetened Whole 1 lb AP = 1 lb (about 3-3/8 cups) ready-to-cook or -serve berries.

Recipe Name: Harvest Delight		Servings per Recipe: 50					
Recipe Number: Vegetables I-21r		Serving Size: 1/2 cup					
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Fresh green apples, peeled, cubed 1/2"	4.00000	0.78000	Preparation yield entered in Column (c)				
Dried cranberries, finely chopped	0.12500						

EXAMPLE FOR CANNED INGREDIENT: For the canned peaches example, you must use the preparation yield factor from the FBG Column 6 to calculate the quantity of No. 10 cans needed. The preparation yield factor in the FBG is as follows: 1 No. 10 can = about 72.0 oz (9 cups) drained peaches.

Recipe Name: Canned Peaches Example		Servings per Recipe: 50					
Recipe Number:		Serving Size: 1 cup					
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Canned peaches, cling, sliced, drained, packed in light syrup	96.00000	72.00000	Preparation yield entered in Column (c)				

4. Calculate the quantity of each ingredient to purchase, if a preparation yield factor was used, and record the answer in "Calculated Quantity to Purchase," Column (d). The following calculation is for the fruit in the Harvest Delight recipe.

Recipe Name: Harvest Delight		Servings per Recipe: 50					
Recipe Number: Vegetables I-21r		Serving Size: 1/2 cup					
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Fresh green apples, peeled, cubed 1/2"	4.00000	0.78000	5.12821	4.0000 ÷ 0.78000 = 5.1282			
Dried cranberries, finely chopped	0.12500						

EXAMPLE FOR CANNED INGREDIENT: Continuing with the canned peaches example, the following calculation demonstrates how to determine the number of No. 10 cans of peaches to purchase.

Recipe Name: Canned Peaches Example					Servings per Recipe: 50		
Recipe Number:					Serving Size: 1 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Canned peaches, cling, sliced, drained, packed in light syrup	96.00000	72.00000	1.33333		$96.0000 \div 72.0000 = 1.3333$ cans You will need to open 2 cans of peaches.		

- Record the “Servings per Purchase Unit” in Column (e) for each ingredient, as listed in the “Servings per Purchase Unit, EP,” Column 3 of the FBG.

EXAMPLE: To determine the servings per purchase unit, choose the option that most closely matches the form in which the ingredient is served. In the Harvest Delight recipe, the fresh green apples are roasted, and the dried cranberries are mixed in to the heated mixture just prior to serving.

For the apples, the “Servings per Purchase Unit, EP,” Column 3 of the FBG lists five numerical options for apples, fresh, 125-138 count, whole. Look at the next column in the FBG, “Serving Size per Meal Contribution,” Column 4 and there is an option for “1/4 cup cored, peeled, cooked, unsweetened fruit,” which is the closest option to the form the apples in this recipe will be served. Enter 6.80, which is the number in Column 3 corresponding to this option, in the “Servings per Purchase Unit,” Column 3 in the FBG, Column (e).

For the cranberries, the “Servings per Purchase Unit, EP,” Column 3 of the FBG lists three numerical options for cranberries, dehydrated sweetened whole. By looking at the next column in the FBG, “Serving Size per Meal Contribution,” Column 4, all three options are the same (there is not a raw or cooked option). To determine the servings per purchase unit, choose the option that best corresponds to the “Purchase Unit,” Column 2 of your ingredient. In this example, 13.8 is used as the servings per purchase unit since the purchase unit was in pounds. Enter 13.8 in the “Servings per Purchase Unit,” Column 3 in the FBG, Column (e) as shown.

Recipe Name: Harvest Delight					Servings per Recipe: 50		
Recipe Number: Vegetables I-21r					Serving Size: 1/2 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Fresh green apples, peeled, cubed 1/2"	4.00000	0.78000	5.12821	6.80000			
Dried cranberries, finely chopped	0.12500			13.80000			

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EXAMPLES FOR CANNED INGREDIENTS:

a. Referring back to the canned cherries example in Section 2, the entire contents of the can are used. Therefore, a preparation yield is not needed, and Columns (c) and (d) are left blank. Next, determine the servings per purchase unit. In the FBG, “Servings per Purchase Unit, EP,” Column 3 lists two options for a No. 10 can of Cherries, Red Tart, canned, Pitted: 46.8 and 36.2. These numbers are explained in the next column in the FBG, “Serving Size per Meal Contribution,” Column 4. 46.8 refers to 1/4 cups of fruit and juice and 36.2 refers to 1/4 cups of drained fruit. Because both the cherries and juice are used in the recipe, the 46.8 1/4 cup servings of fruit and juice best match the form in which the cherries are served. Enter 46.8 in the “Servings per Purchase Unit,” Column 3 in the FBG, Column (e), as shown.

Recipe Name: Canned Cherries Example					Servings per Recipe: 50	
Recipe Number:					Serving Size: 1 cup	
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4-cups (b) x (e) = OR (d) x (e) = (f)	Total Cups Fruit per Serving (g) ÷ No. of Servings = (h)
Canned cherries, red tart, pitted	1.00000			46.80000		

b. For the canned peaches example, the peaches are drained. “Servings per Purchase Unit, EP,” Column 3 of the FBG lists two options for Peaches, canned, Cling, Sliced, Packed in light syrup: 50.0 and 36.1. The next column in the FBG, “Serving Size per Meal Contribution,” Column 4, explains these numbers; 50.0 refers to 1/4 cups of fruit and juice and 36.1 refers to 1/4 cups of drained fruit. After the No. 10 can of peaches in your recipe is drained it will provide 36.1 1/4 cups of drained fruit. Enter 36.1 in the “Servings per Purchase Unit,” Column 3 in the FBG, Column (e), as shown.

Recipe Name: Canned Peaches Example					Servings per Recipe: 50	
Recipe Number:					Serving Size: 1 cup	
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4 cups (b) x (e) = or (d) x (e) = (f)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Canned peaches, cling, sliced, drained, packed in light syrup	96.00000	72.00000	1.33333	36.10000		

- Enter the total 1/4 cups for each ingredient by multiplying the numbers in Columns (b) and (e) if a preparation yield is not utilized, or multiplying the numbers in Columns (d) and (e) if a preparation yield is used.

EXAMPLE: For the fresh green apples, a preparation yield is used, so the number in Column (d) is multiplied by the number in Column (e). However, for the dried cranberries, a preparation yield was not used, so the number in Column (b) is multiplied by the number in Column (e), as shown:

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Recipe Name: Canned Peaches Example		Servings per Recipe: 50					
Recipe Number:		Serving Size: 1 cup					
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e)= or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Canned peaches, cling, sliced, drained, packed in light syrup	96.00000	72.00000	1.33333	36.10000	48.13333	<div>1.3333 x 36.1000 = 48.1333</div>	
Totals					48.13333		
Expected Meal Pattern Contribution (Fruit – Cups)							

*The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.

The total 1/4 cups for the canned peaches example is then totaled, which is 48.1333, as circled above.

7. Calculate the number of cups for the fruits and record this number in “Convert to cups,” Column (g). This calculation is done by dividing the number of 1/4 cups in Column (f) by four (4) to determine the number of whole cups, as shown:

Recipe Name:		Harvest Delight			Servings per Recipe:		50
Recipe Number:		Vegetables I-21r			Serving Size:		1/2 cup
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¾ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Fresh green apples, peeled, cubed 1/2"	4.00000	0.78000	5.12821	6.80000	34.87179	<div>36.5967 ÷ 4 = 9.1492</div>	
Dried cranberries, finely chopped	0.12500			13.80000	1.72500		
Totals					36.59679	9.14920	
Expected Meal Pattern Contribution (Fruit – Cups)							

*The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.

8. Calculate the total cups per serving for the fruits and record this number in “Total Cups Fruit per Serving,” Column (h). This calculation is done by dividing the number of total cups in Column (g) by the number of servings per recipe, as shown:

Recipe Name: Harvest Delight					Servings per Recipe: 50		
Recipe Number: Vegetables I-21r					Serving Size: 1/2 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Fresh green apples, peeled, cubed 1/2"	4.00000	0.78000	5.12821	6.80000	34.87179	<div>9.1492 ÷ 50 = 0.1829</div>	
Dried cranberries, finely chopped	0.12500			13.80000	1.72500		
Totals					36.59679	9.14920	0.18298
Expected Meal Pattern Contribution (Fruit - Cups)							▼

^aAll fruits are credited based on their volume served, except that dried fruit counts as twice the volume served.

•The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.

- Use Table 7 on page I-25 to determine the decimal equivalent to the nearest portion of a cup and record the corresponding cup amount for the fruits contribution in the Expected Meal Pattern Contribution (Fruit - Cups) field or use the drop-down menu as shown, if using the Recipe Analysis Workbook spreadsheet.

Recipe Name: Harvest Delight					Servings per Recipe: 50		
Recipe Number: Vegetables I-21r					Serving Size: 1/2 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¼ cups (b) x (e) = or (d) x (e) = (f)	Convert to cups (f) ÷ 4 = (g)	Total cups Fruit Per Serving (g) ÷ No. of Servings = (h)
Fresh green apples, peeled, cubed 1/2"	4.00000	0.78000	5.12821	6.80000	34.87179	<div>0.1829 is between 0.125 and 0.249; therefore, the apples and cranberries provide 1/8 cup fruit.</div>	
Dried cranberries, finely chopped	0.12500			13.80000	1.72500		
Totals					36.59679	9.14920	0.18298
Expected Meal Pattern Contribution (Fruit - Cups)							0.125-0.249 (1/8 cup) ▼

^aAll fruits are credited based on their volume served, except that dried fruit counts as twice the volume served.

•The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.

- Record the Expected Meal Pattern Contribution for the fruits component amount on Figure 1g or the amount will self-populate if using the Recipe Analysis Workbook spreadsheet. Doing so will combine the meal pattern contribution for the fruits component with the other meal components onto one worksheet for the recipe.

A Appendix

Meats/Meat Alternates Contribution Worksheet (Figure 1c)

Follow these steps to calculate the meats/meat alternates contribution per serving:

1. Record the name of the ingredient in the “Ingredients,” Column (a).
2. Enter the ingredient quantity in the “Quantity of Ingredient,” Column (b) using the same weight or volume unit found in the “Purchase Unit,” Column 2 in the FBG. If the recipe lists the ingredient in a different unit, convert it to the “Purchase Unit.”

EXAMPLE 1: The Porcupine Sliders recipe contains 6 lb, 15-1/2 oz of raw, ground turkey, lean and 2-1/2 cups of liquid, whole egg. The FBG lists the Purchase Unit as “Pound” or “10 lb pkg” for turkey, ground, fresh or frozen, with skin in natural proportions, includes USDA Foods. The 6 lb do not need to be converted, but the 15-1/2 oz should be converted to pounds. The liquid eggs are listed in the FBG with a Purchase Unit as “Pound” or “5 lb pkg” for eggs, frozen whole eggs, pasteurized Includes USDA Foods. Convert the 2-1/2 cups to pounds using “Additional Information,” Column 6 in the FBG, 1 lb frozen eggs = about 1-7/8 cups. Both ingredients are listed in the correct unit on the worksheet in Column (b), as shown.

[illegible]

EXAMPLE 2: The Confetti Soup contains 5 lb, 10 oz of canned low-sodium black-eyed peas, drained, rinsed and 3 lb of turkey ham, extra-lean, diced 1/4 inch. For the black-eyed peas, the FBG lists the Purchase Unit as “No. 10 can (108 oz)” and “No. 300 can (15 oz)” for beans, black-eyed (or peas), dry, canned, whole includes USDA Foods; convert the 5 lb, 10 oz to ounces. For the turkey ham, the FBG lists the Purchase Unit as “Pound” for turkey ham, fully cooked, chilled or frozen, 15% added ingredients, includes USDA Foods; the 3 lb does not need to be converted. Both ingredients are listed in the correct unit on the worksheet in Column (b). as shown:

Recipe Name: Confetti Soup		Servings per Recipe: 50	
Recipe Number: H-09r		Serving Size: 1 cup	
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)
		Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e) = or (d) x (e) = (f)
			Ounce Eq. M/MA per Serving (f) ÷ Servings (g)
Canned low-sodium black-eyed peas	90.00000		
Turkey Ham, extra lean, diced 1/4"	3.00000	(5 lb x 16 oz/lb) + 10 oz = 90 oz	

- Record the preparation yield factor in "Preparation Yield," Column 6 in FBG, Column (c) for any meats/meat alternates ingredients that must be converted to match the form of the item as listed under "Food as Purchased," Column 1 of the FBG.

EXAMPLE 1: The 6.9687 lb of raw ground turkey, lean and the 1.3333 lb of liquid, whole egg are purchased in the same form as listed in the ingredients for the Porcupine Sliders recipe, so a preparation yield factor is not needed for these ingredients. Leave Column (c) on the worksheet blank, as shown:

Recipe Name: Porcupine Sliders				Servings per Recipe: 50		
Recipe Number: Sandwiches F-10r				Serving Size: 1 slider		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e) = or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)
Raw ground turkey, lean	6.96875					
Liquid, whole egg	1.33330					

EXAMPLE 2: The 3 pounds of turkey ham are purchased in the same form as listed in the Confetti Soup recipe (it just needs to be diced), so a preparation yield factor is not used for this ingredient. However, the 90 oz of canned low-sodium black-eyed peas, drained, rinsed are purchased in an undrained form, so a preparation yield factor is required for this ingredient. The FBG preparation yield factor is as follows: 1 No. 10 can = about 65.0 oz (9-3/8 cups) heated, drained beans.

Recipe Name: Confetti Soup				Servings per Recipe: 50		
Recipe Number: H-09r				Serving Size: 1 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e) = or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)
Canned low-sodium black-eyed peas	90.00000	65.00000				
Turkey Ham, extra lean, diced 1/4"	3.00000					

Preparation yield entered in Column (c)

- Calculate the quantity of each ingredient to purchase, if a preparation yield factor was used, and record the answer in "Calculated Quantity to Purchase," Column (d). This calculation is shown for the Confetti Soup and shows the number of No. 10 cans of black-eyed peas to purchase.

Recipe Name: Confetti Soup				Servings per Recipe: 50		
Recipe Number: H-09r				Serving Size: 1 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e) = or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)
Canned low-sodium black-eyed peas	90.00000	65.00000	1.38462			
Turkey Ham, extra lean, diced 1/4"	3.00000					

90.0000 ÷ 65.0000 = 1.3846 cans
You will need to open 2 cans of black-eyed peas.

A Appendix

5. Enter the Servings per Purchase Unit in Column (e) for each ingredient, using the “Servings per Purchase Unit, EP,” Column 3 of the FBG.

EXAMPLE: In the Confetti Soup recipe, the canned low-sodium black-eyed peas, drained, rinsed are served heated. "Servings per Purchase Unit, EP," Column 3 of the FBG lists two options for beans, black-eyed (or peas), dry, canned whole, includes USDA Foods, 37.7 or 25.1 for a No. 10 can (108 oz). By looking at the next column in the FBG, "Serving Size per Meal Contribution," Column 4, 37.7 refers to 1/4 cups of heated, drained beans and 25.1 refers to 3/8 cups of heated, drained beans. Since the meal contribution is based on 1/4 cup servings (1 oz equivalent of meat alternate), 37.7 is entered in the "Servings per Purchase Unit," Column 3 in the FBG, Column (e). For the turkey ham, extra-lean, diced, 1/4 inch, Column 3 of the FBG lists two options, 9.41 or 6.27 for 1 lb. By looking at Column 4, 9.41 refers to a 1.7 oz serving (1 oz cooked turkey) and 6.27 refers to a 2.6 oz serving (1-1/2 oz cooked turkey). In this case, 9.41 is entered in the "Servings per Purchase Unit," Column 3 in the FBG since it is based on a serving size of 1.0 oz equivalent meat, as shown:

Recipe Name: Confetti Soup				Servings per Recipe: 50		
Recipe Number: H-09r				Serving Size:		1 cup
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e) = or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)
Canned low-sodium black-eyed peas	90.00000	65.00000	1.38462	37.70000		
Turkey Ham, extra lean, diced 1/4"	3.00000			9.41000		

- 6.** Enter the “Total Ounces,” Column (f) for each ingredient by multiplying the numbers in Columns (b) and (e), if a preparation yield is not utilized, or multiplying the numbers in Columns (d) and (e), if a preparation yield is used.

EXAMPLE 1: For the Porcupine Sliders recipe, a preparation yield was not used for the turkey and egg ingredients, so the numbers in Column (b) are multiplied by the numbers in Column (e), as shown:

Recipe Name:		Porcupine Sliders			Servings per Recipe:		50
Recipe Number:		Sandwiches F-10r			Serving Size:		1 slider
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e)= or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)	
Raw ground turkey, lean	6.96875			11.20000	78.05000	<div><div>6.9687 x 11.2000 = 78.0500</div><div>1.3333 x 18.0000 = 23.9994</div></div>	
Liquid, whole egg	1.33330			18.00000	23.99940		
Totals					102.04940		

Expected Meal Pattern Contribution (Meat/Meat Alternate – oz eq)

•Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal.

•The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.

The total ounces for the meats/meat alternates component are totaled, as circled in red above. The Total Ounces amount is 102.0494.

EXAMPLE 2: For the Confetti Soup, a preparation yield was used for the black-eyed peas, so the number in Column (d) is multiplied by the number in Column (e). The turkey ham did not use a preparation yield, so the number in Column (b) is multiplied by the number in Column (e), as shown:

Recipe Name: Confetti Soup				Servings per Recipe: 50		
Recipe Number: H-09r				Serving Size: 1 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e) = or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)
Canned low-sodium black-eyed peas	90.00000	65.00000	1.38462	37.70000	52.20000	
Turkey Ham, extra lean, diced 1/4"	3.00000			9.41000	28.23000	
Totals					80.43000	
Expected Meal Pattern Contribution (Meat/Meat Alternate – oz eq)						
•Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal. •The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.						

The total ounces for the meats/meat alternates component are totaled, as circled in red. The Total Ounces amount is 80.4300.

- Calculate the ounce equivalent per serving for the meats/meat alternates component, and record this number in “Ounce Eq. M/MA per Serving,” Column (g). This calculation is done by dividing the number of total ounces in Column (f) by the number of servings per recipe, as shown:

Recipe Name: Confetti Soup				Servings per Recipe: 50		
Recipe Number: H-09r				Serving Size: 1 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e) = or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)
Canned low-sodium black-eyed peas	90.00000	65.00000	1.38462	37.70000	52.20000	
Turkey Ham, extra lean, diced 1/4"	3.00000			9.41000	28.23000	
Totals					80.43000	1.60860
Expected Meal Pattern Contribution (Meat/Meat Alternate – oz eq)						
•Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal. •The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.						

A Appendix

8. Determine the expected meal pattern contribution for the meats/meat alternates component by rounding the amount in Column (g) "Ounce Eq. M/MA per Serving" down to the nearest quarter ounce and record this amount in the Expected Meal Pattern Contribution (Meat/Meat Alternate - oz eq) field, or if using the Recipe Analysis Workbook spreadsheet, use the drop-down menu as shown.

Recipe Name: Confetti Soup				Servings per Recipe: 50		
Recipe Number: H-09r				Serving Size: 1 cup		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c) = (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total† Ounces (b) x (e) = or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)
Canned low-sodium black-eyed peas	90.00000	65.00000	1.38462	37.70000	52.20000	<div> 1.6086 needs to be rounded down to the nearest 0.25 oz eq; therefore, the black-eyed peas and turkey ham provide 1.50 oz eq meat/meat alternate. </div>
Turkey Ham, extra lean, diced 1/4"	3.00000			9.41000	28.23000	
Totals					80.43000	1.60860
Expected Meal Pattern Contribution (Meat/Meat Alternate – oz eq)					1.5	<input checked="" type="checkbox"/>

•Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal.
 •The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.

- Record the Expected Meal Pattern Contribution for the meats/meat alternates component amount on Figure 1g or the amount will self-populate if using the Recipe Analysis Workbook spreadsheet. Doing so will combine the meal pattern contribution for the meats/meat alternates component with the other meal components onto one worksheet for the recipe.

Grains Contribution Worksheets

The grains contribution is calculated three different ways, using Method A, B, or C, depending on the type of grain product. Use the method that best fits your recipe.

- Method A is used to calculate the grains contribution based on finished weight of purchased items using Exhibit A: Grain Requirements for Child Nutrition Programs.
- Method B is used to determine the grains contribution for items using yield data from Section 4 in the Food Buying Guide for Child Nutrition Programs.
- Method C is used to calculate the grains contribution using the grams of creditable grains when 1) the grain product is made at the school/locally, or 2) the manufacturer's Product Formulation Statement provides the grams of creditable grains per portion.

Grains: Method A (Figure 1d)

1. Record only the recipe's grains ingredients that are purchased as a finished product, as listed in Exhibit A in "Product Description per Exhibit A," Column (a).

EXAMPLE: If a recipe contains 1 lb (16 oz) of purchased, low-fat granola, no fruit, locate the granola in Exhibit A under Group I, Ready-to-eat breakfast cereal and record the ingredient name in Column (a), as shown.

METHOD A - GRAINS CONTRIBUTION - USING EXHIBIT A: GRAIN REQUIREMENTS FOR CHILD NUTRITION PROGRAMS				
Recipe Name: Central Valley Harvest Bake			Servings per Recipe: 50	
Recipe Number: I-20r			Serving Size: 1/2 cup	
Product Description per Exhibit A (a)	Quantity of Product (oz, gm, or cups)* (b)	Exhibit A weight for 1 oz eq (c)	Creditable Amount (b) ÷ (c) = (d)	Creditable Grains Amount per No. of Servings (e)
Low-fat granola, no fruit				

2. Enter the ingredient quantity in the "Quantity of Product," Column (b) in ounces, grams, or cups.

METHOD A - GRAINS CONTRIBUTION - USING EXHIBIT A: GRAIN REQUIREMENTS FOR CHILD NUTRITION PROGRAMS				
Recipe Name: Central Valley Harvest Bake			Servings per Recipe: 50	
Recipe Number: I-20r			Serving Size: 1/2 cup	
Product Description per Exhibit A (a)	Quantity of Product (oz, gm, or cups)* (b)	Exhibit A weight for 1 oz eq (c)	Creditable Amount (b) ÷ (c) = (d)	Creditable Grains Amount per No. of Servings (e)
Low-fat granola, no fruit	16.00000			

EXAMPLE: The 1 lb of granola is entered in ounces, as shown. There are 16 ounces in one pound.

3. Enter the weight for 1 oz eq of the ingredient as stated on Exhibit A.

EXAMPLE: Using Exhibit A, under the column "Oz Eq for Group I," 1 oz eq = 1/4 cup or 1 ounce of granola. So, 1 oz of purchased granola is equal to 1 oz eq grains. Record this number in Column (c), as shown.

METHOD A - GRAINS CONTRIBUTION - USING EXHIBIT A: GRAIN REQUIREMENTS FOR CHILD NUTRITION PROGRAMS				
Recipe Name: Central Valley Harvest Bake			Servings per Recipe: 50	
Recipe Number: I-20r			Serving Size: 1/2 cup	
Product Description per Exhibit A (a)	Quantity of Product (oz, gm, or cups)* (b)	Exhibit A weight for 1 oz eq (c)	Creditable Amount (b) ÷ (c) = (d)	Creditable Grains Amount per No. of Servings (e)
Low-fat granola, no fruit	16.00000	1.00000		

A Appendix

4. Calculate the creditable amount of each purchased grains ingredient, and record the answer in “Creditable Amount,” Column (d). This following calculation is provided for low-fat granola, no fruit.

METHOD A - GRAINS CONTRIBUTION - USING EXHIBIT A: GRAIN REQUIREMENTS FOR CHILD NUTRITION PROGRAMS					
Recipe Name: Central Valley Harvest Bake			Servings per Recipe: 50		
Recipe Number: I-20r			Serving Size: 1/2 cup		
Product Description per Exhibit A (a)	Quantity of Product (oz, gm, or cups)* (b)	Exhibit A weight for 1 oz eq (c)	Creditable Amount (b) ÷ (c) = (d)	Creditable Grains Amount per No. of Servings (e)	
Low-fat granola, no fruit	16.00000	1.00000	16.00000	<div> $16.0000 + 1.0000 = 16.0000$ </div>	
Totals			16.00000		
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)					

* The Quantity of Product in Column (b) must be in the same unit as the oz eq listed in Exhibit A, Group A - I.

The total creditable amount is totaled, as circled in red above. The sum for Creditable Amount is 16.0000.

5. Calculate the creditable grains amount per serving by dividing the creditable amount in Column (d) by the number of servings per recipe, and record this number in “Creditable Grains Amount per No. of Servings,” Column (e), as shown.

METHOD A - GRAINS CONTRIBUTION - USING EXHIBIT A: GRAIN REQUIREMENTS FOR CHILD NUTRITION PROGRAMS					
Recipe Name:		Central Valley Harvest Bake		Servings per Recipe:	50
Recipe Number:		I-20r		Serving Size:	1/2 cup
Product Description per Exhibit A (a)	Quantity of Product (oz, gm, or cups)* (b)	Exhibit A weight for 1 oz eq (c)	Creditable Amount (b) ÷ (c)= (d)	Creditable Grains Amount per No. of Servings (e)	
Low-fat granola, no fruit	16.00000	1.00000	16.00000	<div>16.0000 ÷ 50 = 0.3200</div>	
Totals			16.00000		0.32000
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)					<div></div>

* The Quantity of Product in Column (b) must be in the same unit as the oz eq listed in Exhibit A, Group A - I.

6. Determine the expected meal pattern contribution for the Method A - grains component by rounding the amount in Column (e) "Creditable Grains Amount per No. of Servings" down to the nearest quarter ounce and record this amount in the Expected Meal Pattern Contribution (Grains - oz eq) field, or if using the Recipe Analysis Workbook spreadsheet, use the drop-down menu as shown.

A Appendix

3. Enter the Servings per Purchase Unit in Column (c) for each ingredient, using the “Servings per Purchase Unit, EP,” Column 3 of the FBG.

EXAMPLE: For the brown rice, “Servings per Purchase Unit, EP,” Column 3 of the FBG lists three options, 17.5, 8.75 or 5.83 for a pound of rice, brown, long grain, regular, dry. By looking at the next column in the FBG, “Serving Size per Meal Contribution,” Column 4, 17.5 refers to 1/4 cups cooked, 8.75 refers to 1/2 cups cooked, and 5.83 refers to 3/4 cups of cooked brown rice. Since the serving size for this recipe is a 1/2 cup cooked brown rice, enter 8.75 in the “Servings per Purchase Unit,” Column 3 in the FBG, Column (c), as shown.

METHOD B - GRAINS CONTRIBUTION – USING YIELD FROM FOOD BUYING GUIDE					
Recipe Name:		Stir-Fried Fajita Chicken, Squash, and Corn		Servings per Recipe:	50
Recipe Number:		D-60r		Serving Size:	1/2 cup
Ingredient as listed in FBG (a)	Quantity of Ingredient* (b)	Servings per Purchase Unit Column 3 in FBG** (c)	Creditable Grains Amount (b) x (c)= (d)	Creditable Grains Amount per No. of Servings (d) ÷ No. of Servings= (e)	
brown rice, long-grain, regular, dry	6.00000	8.75000			

4. Calculate the creditable amount of each grain ingredient and record the answer in “Creditable Grains Amount,” Column (d). This is performed in the following calculation for the brown rice.

METHOD B - GRAINS CONTRIBUTION – USING YIELD FROM FOOD BUYING GUIDE					
Recipe Name:	Stir-Fried Fajita Chicken, Squash, and Corn			Servings per Recipe:	50
Recipe Number:	D-60r			Serving Size:	1/2 cup
Ingredient as listed in FBG (a)	Quantity of Ingredient* (b)	Servings per Purchase Unit Column 3 in FBG** (c)	Creditable Grains Amount (b) x (c)= (d)	Creditable Grains Amount per No. of Servings (d) ÷ No. of Servings= (e)	
brown rice, long-grain, regular, dry	6.00000	8.75000	52.50000		
Totals			52.50000		
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)					

The total creditable amount is totaled, as circled in red. The sum for Creditable Amount is 52,5000.

- Calculate the creditable grains amount per serving by dividing the creditable amount in Column (d) by the number of servings per recipe, and record this number in “Creditable Grains Amount per No. of Servings,” Column (e), as shown.

METHOD B - GRAINS CONTRIBUTION – USING YIELD FROM FOOD BUYING GUIDE				
Recipe Name:	Stir-Fried Fajita Chicken, Squash, and Corn		Servings per Recipe:	50
Recipe Number:	D-60r		Serving Size:	1/2 cup
Ingredient as listed in FBG (a)	Quantity of Ingredient* (b)	Servings per Purchase Unit Column 3 in FBG** (c)	Creditable Grains Amount (b) x (c) = (d)	Creditable Grains Amount per No. of Servings (d) ÷ No. of Servings = (e)
brown rice, long-grain, regular, dry	6.00000	8.75000	52.50000	
Totals			52.50000	1.05000
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)				1

52.5000 ÷ 50 = 1.0500

- Determine the expected meal pattern contribution for the Method B - grains component by rounding the amount in Column (e), “Creditable Grains Amount per No. of Servings” down to the nearest quarter ounce and record this amount in the Expected Meal Pattern Contribution (Grains - oz eq) field, or if using the Recipe Analysis Workbook spreadsheet, use the drop-down menu as shown.

METHOD B - GRAINS CONTRIBUTION – USING YIELD FROM FOOD BUYING GUIDE				
Recipe Name:	Stir-Fried Fajita Chicken, Squash, and Corn		Servings per Recipe:	50
Recipe Number:	D-60r		Serving Size:	1/2 cup
Ingredient as listed in FBG (a)	Quantity of Ingredient* (b)	Servings per Purchase Unit Column 3 in FBG** (c)	Creditable Grains Amount (b) x (c) = (d)	Creditable Grains Amount per No. of Servings (d) ÷ No. of Servings = (e)
brown rice, long-grain, regular, dry	6.00000	8.75000	52.50000	
Totals			52.50000	1.05000
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)				1

1.0500 needs to be rounded down to the nearest 0.25 oz eq; therefore, a 1/2 cup serving of the recipe provides 1.00 oz eq grains.

* The Quantity of Ingredient in Column (b) must be in the same unit as the Purchase Unit, Column 2 of the FBG.

** Use Serving Size per Meal Contribution, FBG Column 4, that provides 1 ounce equivalent (oz eq); 1/2 cup cooked.

- Record the Expected Meal Pattern Contribution for the Method B - grains component amount on Figure 1g or the amount will self-populate if using the Recipe Analysis Workbook spreadsheet. Doing so will combine the meal pattern contribution for the Method B - grains component with the other meal components onto one worksheet for the recipe.

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Grains: Method C (Figure 1f)

- 1.** Record the recipe's creditable grain ingredients in "Ingredients," Column (a).

EXAMPLE: If a recipe contains 1 lb, 14 oz of whole wheat flour and 1 lb, 12 oz of enriched flour, record these grain ingredient(s) in Column (a), as shown.

METHOD C - GRAINS CONTRIBUTION - USING THE GRAMS OF CREDITABLE GRAINS for grain products listed in Exhibit A				
Recipe Name:	Whole Grain-Rich Pizza Crust		Servings per Recipe:	50
Recipe Number:			Serving Size:	1 slice
Creditable Grain Ingredient (a)	Quantity of Ingredient in Ounces (b)	Convert to Grams Creditable Grains (b) x 28.35= (c)	Total Grams Creditable Grains per No. of Servings (c) ÷ No. of Servings = (d)	Select Standard Amount from Drop-down Menu (16g or 28g)* (d) ÷ Standard Amount = (e)
Whole wheat flour				
Enriched flour				

- 2.** Enter the ingredient quantity in ounces in the “Quantity of ingredients in ounces.” Column (b).

EXAMPLE: The 1 lb, 14 oz of whole wheat flour and 1 lb, 12 oz of enriched flour are converted to ounces and entered, as shown.

METHOD C - GRAINS CONTRIBUTION - USING THE GRAMS OF CREDITABLE GRAINS for grain products listed in Exhibit A				
Recipe Name:	Whole Grain-Rich Pizza Crust		Servings per Recipe:	50
Recipe Number:			Serving Size:	1 slice
Creditable Grain Ingredient (a)	Quantity of Ingredient in Ounces (b)	Convert to Grams Creditable Grains (b) x 28.35= (c)	Total Grams Creditable Grains per No. of Servings (c) ÷ No. of Servings = (d)	Select Standard Amount from Drop-down Menu (16g or 28g)* (d) ÷ Standard Amount = (e)
Whole wheat flour	30.00000	<div> <div>(1 lb x 16 oz/lb) + 14 oz = 30 oz</div> <div>(1 lb x 16 oz/lb) + 12 oz = 28 oz</div> </div>		
Enriched flour	28.00000			

3. Record the conversion factor of 28.35 to convert the ingredient in ounces to grams in Column (c), "Conversion Factor to Grams."
4. Calculate the grams of creditable grains by multiplying the quantity of ingredient in Column (b) by 28.35 in Column (c) and record this number in Column (d), "Total Grams Creditable Grains" or if using the Recipe Analysis Workbook spreadsheet, the grams of creditable grains are auto-calculated in Column (c), "Convert to Grams Creditable Grains," as shown.

METHOD C - GRAINS CONTRIBUTION - USING THE GRAMS OF CREDITABLE GRAINS for grain products listed in Exhibit A					
Recipe Name:		Whole Grain-Rich Pizza Crust		Servings per Recipe:	50
Recipe Number:				Serving Size:	1 slice
Creditable Grain Ingredient (a)	Quantity of Ingredient in Ounces (b)	Convert to Grams Creditable Grains (b) x 28.35= (c)	Total Grams Creditable Grains per No. of Servings (c) ÷ No. of Servings = (d)	Select Standard Amount from Drop-down Menu (16g or 28g)* (d) ÷ Standard Amount = (e)	
Whole wheat flour	30.00000	850.50000			
Enriched flour	28.00000	793.80000			
Totals		1644.30000			

The creditable amount is totaled, as circled in red. The sum for the Creditable Amount in grams is 1644.3000.

- Calculate the creditable grains amount per serving by dividing the creditable amount in grams in Column (c) by the number of servings per recipe, and record this number in Column (e), "Total Grams Creditable Grains per No. of Servings," or if using the Recipe Analysis Workbook spreadsheet, this amount is auto-calculated in Column (d), as shown.

METHOD C - GRAINS CONTRIBUTION - USING THE GRAMS OF CREDITABLE GRAINS for grain products listed in Exhibit A				
Recipe Name:	Whole Grain-Rich Pizza Crust		Servings per Recipe:	50
Recipe Number:			Serving Size:	1 slice
Creditable Grain Ingredient (a)	Quantity of Ingredient in Ounces (b)	Convert to Grams Creditable Grains (b) x 28.35= (c)	Total Grams Creditable Grains per No. of Servings (c) ÷ No. of Servings = (d)	Select Standard Amount from Drop-down Menu (16g or 28g)* (d) ÷ Standard Amount = (e)
Whole wheat flour	30.00000	850.50000	<div>1644.3000 ÷ 50 = 32.8860</div>	
Enriched flour	28.00000	793.80000		
Totals		1644.30000	32.88600	
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)				

- Divide the grams of creditable grains per serving in Column (e) by the standard amount of either 16 grams or 28 grams per oz equivalent and record this number in Column (f), "Creditable Grains per Portion by Standard Amount (16g or 28g)." Grain products listed in Exhibit A, Groups A-G use the standard of 16 grams creditable grains per oz eq and those listed in Groups H and I use the standard of 28 grams creditable grains per oz eq. If using the Recipe Analysis Workbook spreadsheet, select the standard amount from the drop-down menu. As shown for this example, 16g is selected as the standard amount because pizza crust is listed in Group B of Exhibit A. The creditable grains per serving by standard amount is then auto-calculated in Column (e), as shown.

METHOD C - GRAINS CONTRIBUTION - USING THE GRAMS OF CREDITABLE GRAINS for grain products listed in Exhibit A				
Recipe Name:	Whole Grain-Rich Pizza Crust		Servings per Recipe:	50
Recipe Number:			Serving Size:	1 slice
Creditable Grain Ingredient (a)	Quantity of Ingredient in Ounces (b)	Convert to Grams Creditable Grains (b) x 28.35= (c)	Total Grams Creditable Grains per No. of Servings (c) ÷ No. of Servings = (d)	Select Standard Amount from Drop-down Menu (16g or 28g)* (d) ÷ Standard Amount = (e)
Whole wheat flour	30.00000	850.50000	<div>32.8860 ÷ 16 = 2.0553</div>	16
Enriched flour	28.00000	793.80000		
Totals		1644.30000	32.88600	2.05538
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)				

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- Determine the Expected Meal Pattern Contribution for the Method C - grains component by rounding the amount in Column (f), "Creditable Grains per Portion by Standard Amount (16g or 28g)" down to the nearest quarter ounce and record this amount in the Expected Meal Pattern Contribution (Grains - oz eq) field, or if using the Recipe Analysis Workbook spreadsheet, use the amount in Column (e) and the drop-down menu as shown.

METHOD C - GRAINS CONTRIBUTION - USING THE GRAMS OF CREDITABLE GRAINS for grain products listed in Exhibit A				
Recipe Name: Whole Grain-Rich Pizza Crust		Servings per Recipe: 50		
Recipe Number:		Serving Size: 1 slice		
Creditable Grain Ingredient (a)	Quantity of Ingredient in Ounces (b)	Convert to Grams Creditable Grains (b) x 28.35= (c)	Total Grams Creditable Grains per No. of Servings (c) ÷ No. of Servings = (d)	Select Standard Amount from Drop-down Menu (16g or 28g)* (d) ÷ Standard Amount = (e)
Whole wheat flour	30.00000	850.50000	<div> 2.0553 needs to be rounded down to the nearest 0.25 oz eq; therefore, 1 slice of the pizza crust provides 2.00 oz eq grains. </div>	16
Enriched flour	28.00000	793.80000		
Totals		1644.30000	32.88600	2.05538
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq) 2				

*Refer to Exhibit A: Grain Requirements for Child Nutrition Programs to determine which group the finished grain product is listed. Grain products listed in Exhibit A, Groups A-G use the standard of 16g creditable grains per oz eq and those listed in Groups H and I use the standard of 28g creditable grains per oz eq. For example, pancakes are listed in Group C; therefore, the standard amount of 16g should be selected to determine the grains contribution for the creditable ingredients.

- Record the Expected Meal Pattern Contribution for the Method C - grains component amount on Figure 1g or the amount will self-populate if using the Recipe Analysis Workbook spreadsheet. Doing so will combine the meal pattern contribution for the Method C - grains component with the other meal components onto one worksheet for the recipe.

Expected Meal Pattern Contribution per Serving (Figure 1g)

When using the Recipe Analysis Workbook spreadsheet, this template is self-populated as the meal pattern contribution is calculated for the different meal components of a recipe, or you may record these amounts on Figure 1g.

Recipe Name: Porcupine Sliders						
Recipe Number: Sandwiches F-10r						
Servings per Recipe: 50						
Serving Size: 1 slider						
Do not fill in the meal components below. Each component will fill in automatically from their respective worksheets. You may then use that information to write in your final expected meal pattern contribution at the bottom of this page (see box below).						
	Beans/Peas	Dark Green	Red/ Orange	Starchy	Other	Additional
Vegetables - cup(s)						
Fruits - cup(s)						
Meat/MA - oz eq	2.00					
Grains-A (oz eq)						
Grains-B (oz eq)	1.00					
Grains-C (oz eq)						
Total Grains (oz eq)	1.00					
EXPECTED MEAL PATTERN CONTRIBUTION PER SERVING (Fill in/Write final meal contribution statement using above meal components.)						
1 slider provides 2.00 oz eq meat/meat alternate and 1.00 oz eq grains.						

Recipe Analysis Workbook templates

Following are templates for each worksheet in the Recipe Analysis Workbook (Figures 1a-1g) to be completed in a hard copy format. They can be printed and/or copied to help you determine the meal pattern contribution for recipes in your Child Nutrition meal program.

The Recipe Analysis Workbook is also available in a spreadsheet format upon request to the CNP-NTAB mailbox at cnptab@fns.usda.gov and an interactive, web-based Recipe Analysis Workbook tool is available at <https://foodbuyingguide.fns.usda.gov>. Use of this workbook in the spreadsheet or web-based format is recommended to obtain the maximum benefit; however, the examples in this appendix have been tailored to both the spreadsheet and hard copy format for your convenience.

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Figure 1a
Vegetables (w/Subgroups) Contribution

Recipe Name:							Servings per Recipe:			
Recipe Number:							Serving Size:			
Ingredients (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total 1/4- cups (b) x (e)= OR (d) x (e)= (f)	Convert to cups (f) ÷ 4= (g)	Total Cups Vegetable per Serving (g) ÷ No. of Servings= (h)	Decimal Eq. to the Nearest Portion of a Cup (i)	Equivalent Cup Volume (j)	Remaining (k)
Beans/Peas (Legumes)										
Beans/Peas (Legumes) Totals										
Dark Green										
Dark Green Totals										
Red/Orange										
Red/Orange Totals										
Starchy										
Starchy Totals										
Other										
Other Totals										
Total Remaining (l)	Eq Cup Volume (m)									
Expected Meal Pattern Contribution (Vegetable - Cups):										

- Other vegetables requirement may be met with any additional amounts from only the Dark Green, Red/Orange, and Beans/Peas (Legumes) vegetable subgroups.
- Remember to add any remaining or fractions of vegetables not used to meet the five subgroups to Additional vegetables in the recipe.
- Raw leafy greens count as half the volume served and tomato paste and purees are credited on calculated volume of the whole food equivalency.
- Cooked beans or peas (legumes) may be used as a vegetable or as a meat alternate, but not as both components in the same meal.
- Please make sure all units are the same. If the ingredient quantity is not in the preferred weight or volume, conversions will need to be made before the contribution can be calculated.
- For vegetable subgroup information, click here to go to CNPP's Vegetable Subgroup List at: https://fns-prod.azureedge.net/sites/default/files/usda_food_patterns/ItemClustersPercentOfConsumptionAndRepresentativeFoodsCorrected5-16-17.pdf.

Figure 1b Fruits Contribution

Recipe Name:					Servings per Recipe:		
Recipe Number:					Serving Size:		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total ¾ cups (b) x (e)= or (d) x (e) = (f)	Convert to cups (d) ÷ 4 = (g)	Total cups Fruit Per Serving (e) ÷ No. of Servings = (h)
Totals							
Expected Meal Pattern Contribution (Fruit – Cups)							

- All fruits credit based on volume served, except dried fruit credits twice the volume served for the National School Lunch Program, School Breakfast Program, and the Child and Adult Care Food Program.
- The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.

Figure 1c

Meats/Meat Alternates Contribution

Recipe Name:					Servings per Recipe:		
Recipe Number:					Serving Size:		
Ingredient (a)	Quantity of Ingredient (b)	Preparation Yield Column 6 in FBG (c)	Calculated Quantity to Purchase (b) ÷ (c)= (d)	Servings per Purchase Unit Column 3 in FBG (e)	Total Ounces (b) x (e)= or (d) x (e) = (f)	Ounce Eq. M/MA per Serving (f) ÷ Servings = (g)	
Totals							
Expected Meal Pattern Contribution (Meat/Meat Alternate – oz eq)							

- Cooked dry beans or peas may be used as a meat alternate or as a vegetable, but not as both components in the same meal.
- The ingredient quantity must be entered using the same weight or volume unit found in the FBG. If the recipe lists the ingredient in a different unit, you will need to make a conversion before the contribution can be calculated.

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Figure 1d
Grains Contribution using Method A, B, or C

METHOD A - GRAINS CONTRIBUTION – USING EXHIBIT A: GRAIN REQUIREMENTS FOR CHILD NUTRITION PROGRAMS				
Recipe Name:			Servings per Recipe:	
Recipe Number:			Serving Size:	
Product Description per Exhibit A (a)	Quantity of Product/Ingredient (b)	Exhibit A weight for 1 oz eq (c)	Creditable Amount (b) ÷ (c) = (d)	Creditable Grains Amount per No. of Servings (e)
Totals				
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)				

• Make sure all units are the same. If the ingredient quantity is not in the preferred weight or volume, conversions will need to be made before the contribution can be calculated.

Figure 1e
Grains Contribution by Methods A, B, or C (cont'd)

METHOD B - GRAINS CONTRIBUTION – USING YIELD FROM FOOD BUYING GUIDE				
Recipe Name:			Servings per Recipe:	
Recipe Number:			Serving Size:	
Ingredient (a)	Quantity of Ingredient as Purchased (number of purchase units) (b)	Servings per Purchase Unit in Food Buying Guide (c)	Creditable Grain Amount (b) x (c) = (d)	Creditable Grains Amount per No. of Servings (d) ÷ No. of Servings = (e)
Totals				
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)				

• The Quantity of Ingredient in Column (b) must be in the same unit as the Purchase Unit, Column 2 of the FBG.
• Use Serving Size per Meal Contribution, FBG Column 4, that provides 1 ounce equivalent (oz eq); 1/2 cup cooked.

Figure 1f
Grains Contribution by Methods A, B, or C (cont'd)

METHOD C - GRAINS CONTRIBUTION - USING THE GRAMS OF CREDITABLE GRAINS for grain products listed in Exhibit A					
Recipe Name:				Servings per Recipe:	
Recipe Number:				Serving Size:	
Creditable Grain Ingredient (a)	Quantity of Ingredient (b)	Conversion Factor to Grams (c)	Total Grams Creditable Grains (b) x (c) = (d)	Total Grams Creditable Grains per No. of Servings (d) ÷ No. of Servings = (e)	Creditable Grains per Portion by Standard Amount (16g or 28g)* (e) ÷ Standard Amount = (f)
Totals					
EXPECTED MEAL PATTERN CONTRIBUTION (GRAINS - oz eq)					

•Make sure all units are the same. If the ingredient quantity is not in the preferred weight or volume, conversions will need to be made before the contribution can be calculated.

*Refer to Exhibit A: Grain Requirements for Child Nutrition Programs to determine which group the finished grain product is listed. Grain products listed in Exhibit A, Groups A-G use the standard of 16g creditable grains per oz eq and those listed in Groups H and I use the standard of 28g creditable grains per oz eq. For example, pancakes are listed in Group C; therefore, the standard amount of 16g should be selected to determine the grains contribution for the creditable ingredients.

Figure 1g

Recipe Name: _____

Recipe Number: _____

Servings per Recipe: _____

Serving Size: _____

Vegetables - cup(s)

Fruits - cup(s)

Meat/MA - oz eq

Grains-A (oz eq)

Grains-B (oz eq)

Grains-C (oz eq)

Total Grains (oz eq)

EXPECTED MEAL PATTERN CONTRIBUTION PER SERVING

X (cup, oz, piece, portion, etc.) provides X oz eq meat/meat alternate, X cup vegetable(X cup beans/peas vegetable, X cup dark green vegetable, X cup red/orange vegetable, X cup other vegetable, X cup starchy vegetable, X cup additional vegetable), X cup fruit, and X oz eq grains.

