

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the Afterschool Snack Program

This guidance applies to the meal pattern for grades K-12 in the U.S. Department of Agriculture’s (USDA) Afterschool Snack Program (ASP) of the National School Lunch Program (NSLP). For additional guidance on the ASP meal pattern and crediting requirements for the grains/breads component, visit the [“Meal Patterns for the ASP”](#) and [“Grains/Breads Component for Grades K-12 in the ASP”](#) sections of the Connecticut State Department of Education’s (CSDE) Afterschool Snack Program webpage.



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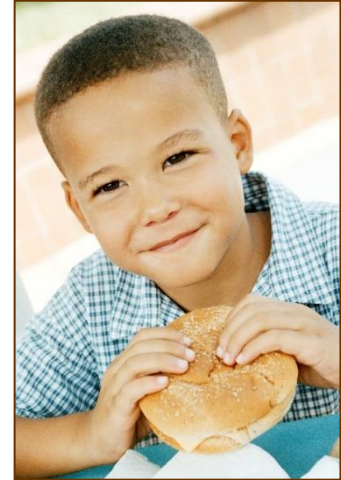


# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

## Overview of Crediting Requirements for Grains

To credit as the grains/breads component in the ASP meal patterns for grades K-12, commercial grain products and foods made from scratch must be made with creditable grains. Creditable grains include whole grains, enriched grains, bran (such as oat bran, wheat bran, corn bran, rice bran, and rye bran), and germ (such as wheat germ). Bran and germ credit the same as enriched grains.

Creditable grain foods include commercial grain products and foods made from scratch that are whole grain-rich (WGR) or enriched. WGR foods include 100 percent whole grains and foods that contain at least 50 percent whole grain. Creditable cooked and ready-to-eat (RTE) breakfast cereals include products that are WGR, enriched, or fortified.



The ASP meal pattern for grades K-12 does not have a WGR requirement. However, the CSDE encourages SFAs to include WGR foods in ASP menus.

For guidance on identifying creditable grains, refer to the CSDE's resources, [Crediting Whole Grains in the National School Lunch Program and School Breakfast Program](#), [Crediting Enriched Grains in the National School Lunch Program and School Breakfast Program](#), and [Crediting Breakfast Cereals for Grades K-12 in the National School Lunch Program and School Breakfast Program](#).

## Overview of Grains/Breads Servings

The required quantities for the grains/breads component are in servings for the ASP meal pattern grades K-12. The minimum amount that credits toward the grains/breads component is  $\frac{1}{4}$  serving. SFAs may offer one serving of the grains/breads component as one of the two required snack components in the ASP meal pattern for grades K-12.

The USDA allows two methods for determining the grains/breads servings of creditable grain products and standardized recipes. Method 1 (weight or volume) is used for commercial grain products and may also be used for standardized recipes that indicate the weight of the prepared (cooked) serving. Method 2 (creditable grains) is used for standardized recipes and may also be used for commercial grain products that have a product formulation statement (PFS) indicating the weight of creditable grains per serving.

School food authorities (SFAs) may use either method but must document how the crediting information is determined for each grain product and recipe (refer to "[Choosing a Calculation Method](#)" in this document). For some commercial products, method 2 is required (refer to "[When Method 2 is Required for Commercial Products](#)" in this document).

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SFAs are not required to use these methods if the grain is part of a commercial product with a Child Nutrition (CN) label. CN-labeled products credit toward the grains component based on the stated crediting information for grain ounce equivalents. Grain ounce equivalents are slightly more than grains/brads servings.

CN labels are available only for main dish entrees that contain at least ½ ounce equivalent of the meat/meat alternates component. Some examples include pizza, breaded chicken nuggets, and cheese ravioli. CN-labeled foods also typically indicate the contribution of grains, vegetables, and fruits that are part of these products. For more information on CN labels, refer to the CSDE’s resource, *Child Nutrition (CN) Labeling Program*, and Module 6: Meal Pattern Documentation of the CSDE’s training program, *What’s in a Meal: National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12*.

Before determining the grains/breads servings, make sure the commercial grain product or standardized recipe is creditable, i.e., WGR or enriched.

## Method 1: Weights or Volumes (USDA’s Exhibit A Chart)

Method 1 uses the USDA’s chart, *Exhibit A: Grain Requirements for Child Nutrition Programs*, to determine the required weight (groups A-G) or volume (groups H-I) for the grain group where the food belongs. This method is used for commercial grain products and may also be used for standardized recipes if the menu planner knows the weight (grams or ounces) of the prepared (cooked) serving. Some commercial grain products require method 2 and the SFA must obtain a PFS (refer to “[When Method 2 is Required for Commercial Products](#)” in this document).

The required amounts for the grains component listed in Exhibit A are not the same for all Child Nutrition Programs because the meal patterns are different. The CSDE’s resource, *Servings for Grains/Breads for Grades K-12 in the Afterschool Snack Program*, indicates the Exhibit A servings that apply to the ASP meal pattern for grades K-12.

The amount of a creditable grain food that provides 1 serving of the grains/breads component varies because different types of foods contain different amounts of creditable grains. For example, to credit as 1 serving of the grains/breads component, a roll (group B) must weigh 25 grams (0.9

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ounce), a corn muffin (group C) must weigh 31 grams (1.1 ounces), and a blueberry muffin (Group D) must weigh 50 grams (1.8 ounces).

- **Groups A-G** include foods such as crackers, breads, rolls, taco shells, muffins, waffles, pancakes, and grain-based desserts, e.g., cookies, cake, granola bars, and pastries. The amount that provides 1 serving of the grains/breads component ranges from 20 grams (0.7 ounce) for foods in group A to 115 grams (4 ounces) for foods in group G.
- **Group H** includes cereal grains, such as pasta, cooked breakfast cereals, and other cereal grains, e.g., amaranth, barley, buckwheat, cornmeal, corn grits, farina, kasha, millet, oats, quinoa, wheat berries, and rolled wheat. These foods require  $\frac{1}{2}$  cup cooked or 25 grams dry to credit as 1 serving of the grains/breads component. Cereal grains typically credit based on the cooked serving, but menu planners may choose to credit cereal grains using the dry uncooked weight. Dry cereal grains used as an ingredient in a recipe (such as rolled oats in bread) require 14.75 grams of creditable grains to credit as 1 serving of the grains/breads component. For guidance on crediting cooked breakfast cereals, refer to the CSDE's resource, [Crediting Breakfast Cereals for Grades K-12 in the National School Lunch Program and School Breakfast Program](#).
- **Group I** includes RTE cold breakfast cereals. These foods require  $\frac{3}{4}$  cup or 1 ounce (28 grams), whichever is less, to credit as 1 serving of the grains/breads component. For guidance on crediting RTE breakfast cereals, refer to the CSDE's resource, [Crediting Breakfast Cereals for Grades K-12 in the National School Lunch Program and School Breakfast Program](#).

## Using Method 1 for commercial products

The product's Nutrition Facts label or PFS must indicate the weight (ounces or grams) of the manufacturer's serving. The tools below help menu planners determine the grains/breads servings contribution of creditable commercial grain products.

- **USDA's Exhibit A Grains Tool:** This [online tool](#) of the USDA's [Food Buying Guide for Child Nutrition Programs](#) (FBG) determines the grains/breads servings of commercial grain products. For more information, refer to the USDA's webinars, [Exhibit A Grains Tool to the Rescue](#) and [How to Maximize the Exhibit A Grains Tool](#).
- **How to Use the Grains/Breads Servings Chart for Grades K-12 in the ASP:** The CSDE's resource, [How to Use the Grains/Breads Servings Chart for Grades K-12 in the Afterschool Snack Program](#), reviews the steps for using the Exhibit A quantities to determine the grains/breads servings of three types of commercial products and standardized recipes. These include grain menu items in groups A-G that contain multiple small pieces per serving (e.g., crackers, hard pretzels, and animal crackers), multiple large pieces per serving (e.g.,

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pancakes, slices of bread, and waffles), and one piece per serving (e.g., muffins, bagels, and rolls).

## Using method 1 for foods made from scratch

SFAs must have a standardized recipe on file that indicates the weight of the prepared (cooked) serving. If the standardized recipe does not provide this information, SFAs could determine the average weight per serving by weighing several servings of the recipe. For more information, refer to the CSDE's *Yield Study Data Form for Child Nutrition Programs*.

## Method 2: Creditable Grains

Method 2 determines the grains/breads servings for creditable grain products and recipes by calculating the total weight (grams) of creditable grains per serving. The grams of creditable grains are obtained from the commercial product's PFS or calculated from the grain quantities in the SFA's standardized recipe. To credit as 1 serving of the grains/breads component, foods in groups A-G must contain 14.75 grams of creditable grains and foods in groups H-I must contain 25 grams of creditable grains.

There are some situations when SFAs must use method 2 to determine if a commercial product meets the crediting criteria for grain menu items. Refer to "[When Method 2 is Required for Commercial Products](#)" in this document.

## Using method 2 for commercial products

SFAs must obtain a PFS from the manufacturer that documents the weight of the creditable grains per serving. For information on PFS forms, refer to the CSDE's resources, *Using Product Formulation Statements in the School Nutrition Programs* and *Accepting Processed Product Documentation in the National School Lunch Program and School Breakfast Program*; and the USDA's handouts, *Product Formulation Statement for Documenting Grains/Breads Servings in the Child and Adult Care Food Program*, *Summer Food Service Program*, and *NSLP Afterschool Snacks* and *Tips for Evaluating a Manufacturer's Product Formulation Statement*. Additional guidance on documentation for commercial products is available in the "[Crediting Commercial Processed Products in School Nutrition Programs](#)" section of the CSDE's [Crediting Foods in School Nutrition Programs](#) webpage.

Training on the PFS requirements and how to evaluate a PFS is available in Module 6: Meal Pattern Documentation of the CSDE's training program, *What's in a Meal: National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12*.



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## Using method 2 for foods made from scratch

SFAs must have a standardized recipe on file that indicates the weight of each grain ingredient. The grams of creditable grains per serving are determined from the weight of each grain ingredient listed in the standardized recipe. For assistance with recipe calculations, such as converting fractions to decimals, refer to the Institute of Child Nutrition’s (ICN) *Basics at a Glance Portion Control Poster* and the decimal equivalents of fractions in the “[Introduction](#)” section of the USDA’s FBG.

If the recipe lists grain ingredients by volume (e.g., cups and quarts) instead of weight (pound and ounces), each measurement must be converted to grams. For more information, refer to “[Method 2 calculation for recipes listing the volume of grain ingredients](#)” and [table 7](#) in this document.

Menu planners may use the FBG’s online [Recipe Analysis Workbook](#) to search for ingredients, develop a standardized recipe, and determine the recipe’s meal pattern contribution per serving. To access this tool, users must create a free account on the USDA’s FBG website. For additional guidance on determining the grains/breads servings of recipes, visit the “[Serving Size for Grains/Breads](#)” section of the CSDE’s [Afterschool Snack Program](#) webpage.



# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

## When Method 2 is Required for Commercial Products

SFAs must use method 2 and obtain a PFS from the manufacturer if the ingredients statement and packaging do not provide sufficient information to determine if the product meets the ASP crediting requirements. A PFS is required for each type of commercial grain product below.

**Note:** When reviewing the first ingredient on the product's label, water is ignored. For combination foods such as pizza or breaded chicken nuggets, these requirements apply only to the grain portion.

1. The first ingredient is not a creditable grain, but the product contains more than one creditable grain. The PFS must indicate that the combined weight of all creditable grains is the greatest ingredient by weight.
2. A commercial combination food that contains a grain portion (such as pizza or breaded chicken nuggets) does not have a CN label. The PFS must indicate that creditable grains are the greatest ingredient by weight in the grain portion.
3. The manufacturer claims that the product's serving size is less than the required weight or volume in the USDA's Exhibit A chart. The PFS must indicate the grams of each creditable grain per serving and how the product provides that amount according to the FBG or USDA's regulations, guidance, or policies.
4. The product is not listed in the Exhibit A chart. The PFS must indicate the grams of each creditable grain per serving and how the product provides that amount according to the FBG or USDA's regulations, guidance, or policies.

For specific guidance and examples of each situation, refer to the CSDE's resource, [\*When Commercial Grain Products Require a Product Formulation Statement to Credit in the School Nutrition Programs\*](#).

If the manufacturer will not supply a PFS or the PFS does not provide the appropriate documentation, the product cannot credit as the grains/breads component in the ASP snacks for grades K-12.

SFAs must verify the accuracy of the PFS before including the commercial grain product in reimbursable meals and snacks. An example of how to evaluate a grain PFS is available in the CSDE's resource, [\*When Commercial Grain Products Require a Product Formulation Statement to Credit in the School Nutrition Programs\*](#). SFAs must maintain crediting documentation on file. The CSDE will review this information during the Administrative Review of the school nutrition programs.



# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

## Choosing a Calculation Method

SFAs may choose to use either method to determine the grains/breads servings contribution of a grain menu item but must document which method is used for each grain menu item. For some commercial grain products, each method results in a different crediting contribution. For example, a 1-ounce whole-grain bagel might credit as 1 serving of the grains/breads component using method 1 (USDA's Exhibit A chart) but might credit as 1½ servings using method 2 (creditable grains).

SFAs should use the same calculation method each time the same product is on the menu. For example, if the menu planner uses method 2 (creditable grains) to determine the crediting of a whole-grain bagel, that same bagel should always be credited using method 2. The CSDE strongly recommends choosing one calculation method for consistent crediting. This simplifies menu planning and assists SFAs with documenting compliance for the grains/breads component.



# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

## Sample Calculations for Commercial Products

This section demonstrates how to calculate the grains/breads servings of commercial grain products using either the appropriate weight (groups A-G) or volume (groups H-I) in the USDA’s Exhibit A chart (method 1), or the weight of creditable grains per serving (method 2). SFAs may also use the USDA’s [Exhibit A Grains Tool](#) to automatically calculate this information (refer to “[Using Method 1 for commercial products](#)” in this document).

### Calculations for commercial products in groups A-G

Table 1 shows how to use method 1 to calculate the grains/breads servings of commercial grain products in groups A-G. This example is for whole-wheat pancakes, a commercial product in group C. Table 2 shows a sample calculation for this same product using method 2.



These examples show how each method can result in a different crediting contribution for the same product. For some products, each method results in the same crediting contribution. SFAs may use either method but must document how the crediting information was determined (refer to “[Choosing a Calculation Method](#)” in this document).

To determine the meal pattern contribution of a commercial grain product using method 1, menu planners must use the weight (ounces or grams) of one serving from the product’s Nutrition Facts label or PFS. If the product lists the serving size in ounces and grams, menu planners may choose to use either one. To convert ounces to grams, multiply ounces by 28.35.

For additional guidance on determining the grains/breads serving contribution of a grain menu item in groups A-G, refer to the CSDE’s resource, [How to Use the Grains/Breads Servings Chart for Grades K-12 in the Afterschool Snack Program](#).

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

**Table 1. Using method 1 (USDA’s Exhibit A chart) to calculate grains/breads servings for commercial products in groups A-G**

## Mini Whole-Wheat Pancakes

**Manufacturer’s serving size:** 5 pancakes (1.75 ounces)      **Group C (USDA’s Exhibit A chart):** 1 serving = 31 grams or 1.1 ounces

**Ingredients:** Water, whole-wheat flour, enriched flour (wheat flour, niacin, ferrous sulfate, thiamin mononitrate, riboflavin, folic acid), sugar, canola oil. Contains 2% or less of: leavening (baking soda, sodium aluminum phosphate, monocalcium phosphate), eggs, salt, buttermilk.

1. List the weight of the <b>manufacturer’s serving</b> from the product’s Nutrition Facts label or PFS (1 ounce = 28.35 grams).	<b>A</b> <b>1.75</b> ounces
2. List the required weight for <b>1 grains/breads serving</b> for the product’s group (A-G) in the USDA’s Exhibit A chart. <sup>1</sup>	<b>B</b> <b>1.1</b> ounces
3. Determine the <b>grains/breads servings</b> in one serving of the product: Divide A by B.	<b>C</b> <b>1.59</b> grains/breads servings per manufacturer’s serving
4. Round <b>down</b> the number in C to the <b>nearest ¼ grains/breads serving</b> . For example, 1.49 and 1.27 round down to 1.25 and 1.24 rounds down to 1.	<b>D</b> <b>1.5</b> grains/breads servings per manufacturer’s serving (rounded)

**Summary of crediting information using method 1:** The manufacturer’s serving size (five mini-pancakes) credits as **1½ servings** of the grains/breads component.

<sup>1</sup> Pancakes are in group C, which requires 31 grams or 1.1 ounces to credit as 1 serving of the grains/breads component (refer to the CSDE’s resource, [Servings for Grains/Breads for Grades K-12 in the Afterschool Snack Program](#)).

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

**Table 2. Using method 2 (creditable grains) to calculate grains/breads servings for commercial products in groups A-G**

### Mini Whole-Wheat Pancakes

<b>Manufacturer's serving size:</b> 5 pancakes (1.75 ounces)	<b>Creditable grains per serving (from product's PFS):</b> Whole-wheat flour: 16 grams Enriched flour: 14 grams
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**Ingredients:** Water, whole-wheat flour, enriched flour (wheat flour, niacin, ferrous sulfate, thiamin mononitrate, riboflavin, folic acid), sugar, canola oil. Contains 2% or less of: leavening (baking soda, sodium aluminum phosphate, monocalcium phosphate), eggs, salt, buttermilk.

1. List the **combined weight (grams)** of whole and enriched grains in one serving from the product's PFS (1 ounce = 28.35 grams).<sup>1</sup>

<b>A</b>	<b>30</b> grams
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16 grams of whole-wheat flour +  
14 grams of enriched flour =  
**30 grams** of creditable grains

2. Determine the **grains/breads servings** in one serving of the product: Divide A by 14.75 (1 grains/breads serving for groups A-G = **14.75 grams** of creditable grains).

<b>B</b>	<b>2.03</b> grains/breads servings per manufacturer's serving
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3. Round **down** the number in B to the **nearest ¼ grains/breads serving**. For example, 1.49 and 1.27 round down to 1.25 and 1.24 rounds down to 1.

<b>C</b>	<b>2</b> grains/breads servings per manufacturer's serving (rounded)
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**Summary of crediting information using method 2:** The manufacturer's serving size (five mini-pancakes) credits as **2 servings** of the grains/breads component.

<sup>1</sup> To credit a commercial product using method 2, SFAs must obtain a manufacturer's PFS stating the weight (grams) of each creditable grain in the serving.

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

## Calculations for commercial products in group H

Table 3 shows how to use method 1 to calculate the grains/breads servings for a commercial whole-grain pasta product in group H. Table 4 shows a sample calculation for this same product using method 2.

These examples show how each method can result in the same crediting contribution for a commercial grain product. For some products, each method results in a different crediting contribution. SFAs may use either method but must document how the crediting information was determined (refer to “[Choosing a Calculation Method](#)” in this document).

Cereal grains in group H typically credit based on the **cooked** serving, i.e., ½ cup of cooked cereal credits as 1 serving of the grains/breads component. However, menu planners may choose to calculate the product’s grains/breads servings based on the **dry uncooked weight**, i.e., 25 grams of dry cereal grains credit as 1 serving of the grains/breads component. The weight (ounces or grams) of the grain menu item’s serving size must be determined from the commercial product’s Nutrition Facts label or the manufacturer’s PFS. If the product lists the serving size in ounces and grams, the menu planner may choose to use either one.



# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

**Table 3. Using method 1 (USDA’s Exhibit A chart) to calculate grains/breads servings for commercial products in group H**

### Whole-grain Pasta

**Manufacturer’s serving size:**  
32 grams dry (½ cup cooked)

**Group H (USDA’s Exhibit A chart):**  
1 serving = ½ cup cooked or 25 grams dry

**Ingredients:** Whole-grain durum wheat flour, enriched wheat flour.

1. List the weight of the **manufacturer’s serving** from the product’s Nutrition Facts label or PFS (1 ounce = 28.35 grams).

<b>A</b>	<b>32</b> grams
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2. List the required **uncooked (dry) weight** for 1 grains/breads serving for group H in the USDA’s Exhibit A chart. <sup>1</sup>

<b>B</b>	<b>25</b> grams
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3. Determine the **grains/breads servings** in one serving of the product: Divide A by B.

<b>C</b>	<b>1.28</b> grains/breads servings per manufacturer’s serving
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4. Round **down** the number in C to the nearest ¼ **grains/breads serving**. For example, 1.49 and 1.27 round down to 1.25 and 1.24 rounds down to 1.

<b>D</b>	<b>1.25</b> grains/breads servings per manufacturer’s serving (rounded)
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**Summary of crediting information using method 1:** The manufacturer’s serving of 32 grams dry (½ cup cooked) credits as **1¼ servings** of the grains/breads component.

<sup>1</sup> Pasta is in group H, which requires 25 grams dry to credit as 1 serving of the grains/breads component (refer to the CSDE’s resource, *Servings for Grains/Breads for Grades K-12 in the Afterschool Snack Program*).



# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

**Table 4. Using method 2 (creditable grains) to calculate grains/breads servings for commercial products in group H**

## Whole-grain Pasta

**Manufacturer’s serving size:**

32 grams dry (½ cup cooked)

**Creditable grains per serving (from product’s PFS):**

Whole-wheat flour: 15 grams

Enriched flour: 14 grams

**Group H (USDA’s Exhibit A chart):**

1 serving = ½ cup cooked or 25 grams dry

**Ingredients:** Whole-grain durum wheat flour, enriched wheat flour.

1. List the **combined weight (grams)** of whole and enriched grains in one serving from the product’s PFS (1 ounce = 28.35 grams).<sup>1</sup>

<b>A</b>	<b>29</b> grams
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15 grams of whole-wheat flour +  
14 grams of enriched flour =  
**29 grams** of creditable grains

2. Determine the **grains/breads servings** in one serving of the product: Divide A by 25 (1 grains/breads serving = 25 grams of creditable grains).

<b>B</b>	<b>1.16</b> grains/breads servings per manufacturer’s serving
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3. Round **down** the number in B to the nearest ¼ **grains/breads serving**. For example, 1.49 and 1.27 round down to 1.25 and 1.24 rounds down to 1.

<b>C</b>	<b>1</b> grains/breads servings per manufacturer’s serving (rounded)
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**Summary of crediting information using method 2:** The manufacturer’s serving size of 32 grams dry (½ cup cooked) credits as **1 serving** of the grains/breads component.

<sup>1</sup> To credit a commercial product using method 2, SFAs must obtain a manufacturer’s PFS stating the weight (grams) of each creditable grain in the serving

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

## Sample Calculations for Foods Made from Scratch

SFAs must have standardized recipes on file to document the meal pattern contribution of grain foods made from scratch, such as breads, rolls, muffins, pizza dough, and pancakes. This section demonstrates how to calculate the grains/breads servings of recipes using either:

- the appropriate weight (groups A-E) or volume (groups H-I) in the USDA’s Exhibit A chart (method 1); or
- the weight of creditable grains per serving (method 2).

SFAs may also use the USDA’s [Recipe Analysis Workbook](#) to automatically calculate this information (refer to “[Using method 2 for foods made from scratch](#)” in this document).

SFAs are not required to calculate grains/breads servings for foods prepared from the USDA’s recipes for Child Nutrition Programs. These standardized recipes specify the meal pattern crediting information per serving. For links to the USDA’s recipes, visit the Institute of Child Nutrition’s (ICN) [Child Nutrition Recipe Box](#) and the “[Recipes](#)” section of the CSDE’s [Menu Planning for Child Nutrition Programs](#) webpage. For information on standardized recipes, visit the “[Standardized Recipes](#)” section of the CSDE’s [Crediting Foods in School Nutrition Programs](#) webpage.

## Method 2 calculation for recipes listing the weight of grain ingredients

Table 5 shows how to use method 2 to calculate the grains/breads servings for a standardized recipe for multi-grain bread that lists the weight of the grain ingredients. Bread is in group B of the USDA’s Exhibit A chart and requires 14.75 grams of creditable grains to credit as 1 serving of the grains/breads component.



# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

**Table 5. Using method 2 (creditable grains) to calculate grains/breads servings for standardized recipes listing the weight of grain ingredients**

### Standardized recipe for multi-grain bread

**Yield:** 100 servings

**Serving size:** 1 piece

**Grain ingredients:**

Whole-wheat flour: 8 ounces (0.5 pound)

Rolled oats: 1 pound 2 ounces (1.125 pounds)

Enriched flour: 1 pound

Enriched cornmeal: 8 ounces (0.5 pound)



- Determine the **total weight (pounds)** of all creditable grains in the recipe (16 ounces = 1 pound). Convert fractions to decimals, e.g.,  $1\frac{3}{4}$  pounds equals 1.75 pounds.

<b>A</b>	<b>3.125</b>	pounds of creditable grains
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1.625 pounds of whole grains (whole-wheat flour and rolled oats) + 1.5 pounds of enriched grains (enriched flour and enriched cornmeal) = **3.125 pounds of creditable grains**

- Determine the **total grams of creditable grains** in the recipe: Multiply A by 453.6 (1 pound = 453.6 grams).

<b>B</b>	<b>1417.5</b>	grams of creditable grains
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- List the **number of servings** in the recipe.

<b>C</b>	<b>100</b>	servings per recipe
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- Determine the **grams of creditable grains** per recipe serving: Divide B by C.

<b>D</b>	<b>14.175</b>	grams of creditable grains per recipe serving
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- Determine the **grains/breads servings** per recipe serving: Divide D by 14.75 (1 grains/breads serving = 14.75 grams of creditable grains).

<b>E</b>	<b>0.96</b>	grains/breads servings
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- Round **down** the number in E to the **nearest ¼ serving**. For example, 1.49 and 1.27 round down to 1.25 and 1.24 rounds down to 1.

<b>F</b>	<b>0.75</b>	<b>grains/breads servings (rounded)</b>
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**Summary of crediting information using method 2:** The recipe's serving (one piece) credit as  $\frac{3}{4}$  **serving** of the grains/breads component.

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

## Method 2 calculation for recipes listing the volume of grain ingredients

Standardized recipes list ingredients by volume (e.g., cups and quarts) and weight (e.g., pounds and ounces). Weight is the most accurate measure. Recipes that are not standardized (such as recipes used at home) typically list ingredients only by volume. SFSP sponsors may use any of the methods below to convert the volume of a recipe's grain ingredients to weight (grams).

- **Nutrition Facts label:** Use the manufacturer's serving size information on the Nutrition Facts label for the grain ingredient, e.g., whole-wheat flour, enriched flour, or whole-grain cornmeal. Multiply the grams per cup (indicated on the Nutrition Facts label) by the number of cups used in the recipe. The example below shows how to use the Nutrition Facts label to determine the weight of the grain ingredients in a recipe that contains 2 cups of whole-wheat flour and 2 cups of enriched flour.



- **Whole wheat flour:** The Nutrition Facts label for the whole-wheat flour states that 1/4 cup weighs 32 grams, which equals 128 grams per cup. Multiply the grams per cup (128 grams) by the number of cups used in the recipe (2 cups) to determine the total weight of the grain ingredient in the recipe (256 grams).
  - **Enriched flour:** The Nutrition Facts label for the enriched flour states that 1/4 cup weighs 30 grams, which equals 120 grams per cup. Multiply the weight per cup (120 grams) by the amount of enriched flour used in the recipe (2 cups) to determine the weight of the enriched flour used in the recipe (240 grams).
- **Nutrient database:** Search the USDA's [FoodData Central](#) nutrient database for grain ingredients, such as whole-wheat flour or yellow cornmeal. Enter "1" in the data field for the cup measurement, and the database will provide the weight of 1 cup of that ingredient.
- **Volume equivalent chart:** Use volume equivalent charts that list the weight of 1 cup of grain ingredients. Table 6 shows the weight per cup for some commonly used grain ingredients.
- **Yield study:** Determine the average weight of 1 cup of the grain ingredient by measuring and weighing several samples. For more information, refer to the CSDE's [Yield Study Form for Child Nutrition Programs](#).

## Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

Table 7 shows how to use method 2 to calculate the grains/breads servings for a recipe that lists the grain ingredients in cups.

<b>Table 6. Weights of 1 cup of commonly used grain ingredients <sup>1</sup></b>	
<b>Food item</b>	<b>Weight (grams) per cup</b>
Barley, flour or meal <sup>2</sup>	148
Barley, hulled <sup>2</sup>	184
Barley, pearled, uncooked <sup>2</sup>	200
Barley, pearled, cooked <sup>2</sup>	157
Breadcrumbs, dry, grated, plain <sup>2</sup>	108
Breadcrumbs, plain, dry, grated, seasoned <sup>2</sup>	120
Breadcrumbs, plain soft, white <sup>2</sup>	45
Bulgur, uncooked <sup>2</sup>	140
Bulgur, cooked <sup>2</sup>	182
Cereal, General Mills Cheerios <sup>3</sup>	28
Cereal, General Mills Corn Chex <sup>3</sup>	31
Cereal, General Mills Rice Chex <sup>3</sup>	27
Cereal, General Mills Wheat Chex <sup>3</sup>	47
Cereal, General Mills Wheaties <sup>3</sup>	36
Cereal, Kellogg's All-Bran Bran Buds <sup>4</sup>	90
Cereal, Kellogg's All-Bran Original <sup>4</sup>	62
Cereal, Kellogg's Corn Flakes crumbs <sup>4</sup>	88
Cereal, Kellogg's Corn Flakes, whole <sup>4</sup>	28
Cereal, Kellogg's Rice Krispies <sup>5</sup>	26
Cereal, Quaker Puffed Rice <sup>5</sup>	14
Cereal, Quaker Puffed Wheat <sup>5</sup>	28
Cornmeal, enriched, uncooked, yellow, degerminated <sup>2</sup>	157
Cornmeal, enriched, uncooked, yellow, whole grain <sup>2</sup>	122
Cracker crumbs, graham, crushed <sup>2</sup>	84
Cracker crumbs, snack, standard snack-type, regular, crushed <sup>2</sup>	52
Flour, buckwheat, whole groats <sup>2</sup>	120

## Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

<b>Table 6. Weights of 1 cup of commonly used grain ingredients <sup>1</sup>, <i>continued</i></b>	
<b>Food item</b>	<b>Weight (grams) per cup</b>
Flour, corn, whole grain, yellow <sup>2</sup>	117
Flour, rice, brown <sup>2</sup>	158
Flour, rice, white <sup>2</sup>	158
Flour, rye, dark <sup>2</sup>	128
Flour, rye, light <sup>2</sup>	102
Flour, wheat, white, all-purpose enriched, bleached <sup>2</sup>	125
Flour, wheat, white, all-purpose enriched, unbleached <sup>2</sup>	125
Flour, wheat, white, bread, enriched <sup>2</sup>	137
Flour, wheat, white, cake, enriched, unsifted, dipped <sup>2</sup>	137
Flour, wheat, white, self-rising, enriched <sup>2</sup>	125
Flour, wheat, whole grain <sup>2</sup>	120
Wheat germ, uncooked, plain <sup>2</sup>	88
Wheat germ, toasted, plain <sup>2</sup>	115
Oat bran, raw <sup>2</sup>	94
Oat bran, cooked <sup>2</sup>	219
Oats, rolled, quick, uncooked <sup>2</sup>	81
Oats, rolled, regular, uncooked <sup>2</sup>	81
<p><sup>1</sup> The use of brand-name products is solely for clarification regarding serving sizes and does not constitute approval or endorsement by the USDA or CSDE. The actual weight of 1 cup may be more or less than the weights in this chart, depending on the measuring method used, e.g., stirred or unstirred, sifted or unsifted, spooned or dipped, and coarsely or finely crushed. For the most accurate conversion of volume to weight, calculate the average weight of 1 cup of the ingredient by measuring and weighing several samples. For more information, refer to the CSDE's form, <i>Yield Study Form for Child Nutrition Programs</i>.</p> <p><sup>2</sup> USDA's FoodData Central database (Standard Reference (SR) Legacy Data): <a href="https://fdc.nal.usda.gov/">https://fdc.nal.usda.gov/</a></p> <p><sup>3</sup> General Mills Cereals: <a href="https://www.generalmills.com/en/Brands/Cereals">https://www.generalmills.com/en/Brands/Cereals</a></p> <p><sup>4</sup> Kellogg's Cereals: <a href="https://www.kelloggs.com/en_US/home.html">https://www.kelloggs.com/en_US/home.html</a></p> <p><sup>5</sup> Quaker Cereals: <a href="https://www.quakeroats.com/products">https://www.quakeroats.com/products</a></p>	



# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

**Table 7. Using method 2 (creditable grains) to calculate grains/breads servings for recipes listing the volume of grain ingredients**

### Multi-grain bread

25 servings (one piece)		Convert cups to grams	
Grain ingredient	Measure	Grams per cup <sup>1</sup>	Weight (grams)
Whole-wheat flour	2 cups	X 120 =	240.00 grams
Rolled oats <sup>2</sup>	¾ cup	X 181 =	60.75 grams
All-purpose enriched flour	2 cups	X 125 =	250.00 grams
Enriched cornmeal	¼ cup	X 138 =	34.50 grams
<b>Total weight of creditable grains:</b>			<b>585.25 grams</b>

1. Determine the **combined weight (grams)** of all creditable grains in the recipe.

<b>A</b>	<b>585.25</b> grams
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300.75 grams of whole grains (whole-wheat flour and rolled oats)  
+ 284.5 grams of enriched grains (all-purpose enriched flour and enriched cornmeal) = **585.25 grams** of creditable grains

2. List the **number of servings** in the recipe.

<b>B</b>	<b>25</b> servings per recipe
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3. Determine the **grams of creditable grains** per serving: Divide A by B.

<b>C</b>	<b>23.41</b> grams
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4. Determine the **grains/breads servings** per recipe serving: Divide C by 14.75 (1 grains/breads serving = 14.75 grams of creditable grains).<sup>2</sup>

<b>D</b>	<b>1.59</b> grains/breads servings
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5. Round **down** the number in D to the **nearest ¼ serving**. For example, 1.49 and 1.27 round down to 1.25 and 1.24 rounds down to 1.

<b>E</b>	<b>1.5</b> grains/breads servings (rounded)
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**Summary of crediting information:** The recipe’s serving (one piece) credits as **1½ servings** of the grains/breads component.

<sup>1</sup> Grams per cup are from the USDA’s [FoodData Central](#) database (Standard Reference (SR) Legacy Data).  
<sup>2</sup> Dry cereal grains used as an ingredient in a recipe (such as rolled oats in bread) credit the same as groups A-G. They require 14.75 grams of creditable grains to credit as 1 serving of the grains/breads component.

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

## Resources

Afterschool Snack Program (CSDE webpage):

<https://portal.ct.gov/SDE/Nutrition/Afterschool-Snack-Program>

Afterschool Snack Program Meal Pattern for Grades K-12 (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/ASP/Meal\\_Pattern\\_ASP\\_grades\\_K-12.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/ASP/Meal_Pattern_ASP_grades_K-12.pdf)

Basics at a Glance Portion Control Poster (Institute of Child Nutrition):

<https://theicn.org/icn-resources-a-z/basics-at-a-glance/>

Comparison of Meal Pattern Requirements for the Grains/Breads component in School Nutrition Programs (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Comparison\\_Grain\\_Crediting\\_SNP.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Comparison_Grain_Crediting_SNP.pdf)

Crediting Breakfast Cereals for Grades K-12 in the National School Lunch Program and School Breakfast Program (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Credit\\_Cereals\\_SNP\\_grades\\_K-12.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Credit_Cereals_SNP_grades_K-12.pdf)

Crediting Enriched Grains in the National School Lunch Program and School Breakfast Program (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Credit\\_Enriched\\_Grains\\_SNP.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Credit_Enriched_Grains_SNP.pdf)

Crediting Whole Grains in the National School Lunch Program and School Breakfast Program (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Credit\\_Whole\\_Grains\\_SNP.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Credit_Whole_Grains_SNP.pdf)

Exhibit A: Grain Requirements for Child Nutrition Programs (USDA):

<https://foodbuyingguide.fns.usda.gov/Content/TablesFBG/ExhibitA.pdf>

Food Buying Guide Exhibit A Grains Tool (USDA):

<https://www.fns.usda.gov/tn/food-buying-guide-interactive-web-based-tool>

Food Buying Guide Section 4: Overview of Crediting Requirements for the Grains/breads component (USDA):

[https://foodbuyingguide.fns.usda.gov/Content/TablesFBG/USDA\\_FBG\\_Section4\\_Grains.pdf](https://foodbuyingguide.fns.usda.gov/Content/TablesFBG/USDA_FBG_Section4_Grains.pdf)

Food Buying Guide Section 4: Yield Table for Grains (USDA):

[https://foodbuyingguide.fns.usda.gov/files/Reports/USDA\\_FBG\\_Section4\\_GrainsYieldTable.pdf](https://foodbuyingguide.fns.usda.gov/files/Reports/USDA_FBG_Section4_GrainsYieldTable.pdf)

FoodData Central (USDA):

<https://fdc.nal.usda.gov/>

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP

Grains/Breads Component for Grades K-12 in the ASP (Documents/Forms section of the CSDE's Afterschool Snack Program webpage):

<https://portal.ct.gov/SDE/Nutrition/Afterschool-Snack-Program/Documents#GrainsBreadsK12>

Grains/Breads Servings for Grades K-12 in the Afterschool Snack Program (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/ASP/Grains\\_Breads\\_Servings\\_ASP\\_grades\\_K-12.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/ASP/Grains_Breads_Servings_ASP_grades_K-12.pdf)

How to Use the Grains/Breads Servings Chart for Grades K-12 in the Afterschool Snack Program (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/How\\_to\\_Use\\_Grains\\_Breads\\_Servings\\_Chart\\_ASP\\_K-12.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/How_to_Use_Grains_Breads_Servings_Chart_ASP_K-12.pdf)

Standardized Recipe Form for School Nutrition Programs:

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Standardized\\_Recipe\\_Form\\_Schools.docx](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Standardized_Recipe_Form_Schools.docx)

Tips for Evaluating a Manufacturer's Product Formulation Statement (USDA):

<https://fns-prod.azureedge.us/sites/default/files/resource-files/manufacturerPFStipsheet.pdf>

USDA Memo SP 34-2019, CACFP 15-2019, and SFSP 15-2019: Crediting Coconut, Hominy, Corn Masa, and Masa Harina in the Child Nutrition Programs:

<https://www.fns.usda.gov/cn/crediting-coconut-hominy-corn-masa-and-masa-harina-child-nutrition-programs>

Using Child Nutrition (CN) Labels in the School Nutrition Programs (CDSE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/CN\\_Labels\\_SNP.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/CN_Labels_SNP.pdf)

Using Product Formulation Statements in the School Nutrition Programs (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Product\\_Formulation\\_Statements.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Product_Formulation_Statements.pdf)

What's in a Meal Module 6: Meal Pattern Documentation (CSDE's Training Program, What's in a Meal: National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12):

<https://portal.ct.gov/SDE/Nutrition/Meal-Pattern-Training-Materials>

When Commercial Grain Products Require a Product Formulation Statement to Credit in the School Nutrition Programs (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/When\\_Commercial\\_Grain\\_Products\\_Require\\_PFS\\_SNP.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/When_Commercial_Grain_Products_Require_PFS_SNP.pdf)

Yield Study Form for Child Nutrition Programs (CSDE):

[https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Yield\\_Study\\_Form.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Yield_Study_Form.pdf)

# Calculation Methods for Grains/Breads Servings for Grades K-12 in the ASP



For more information, refer to the “[Grains/Breads Component for Grades K-12 in the ASP](#)” section of the CSDE’s [ASP](#) webpage or contact the [school nutrition programs staff](#) at the Connecticut State Department of Education, Bureau of Child Nutrition Programs, 450 Columbus Boulevard, Suite 504, Hartford, CT 06103-1841.

This document is available at [https://portal.ct.gov/-/media/SDE/Nutrition/ASP/Grains\\_Breads\\_Calculation\\_ASP\\_grades\\_K-12.pdf](https://portal.ct.gov/-/media/SDE/Nutrition/ASP/Grains_Breads_Calculation_ASP_grades_K-12.pdf).

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Office of the Assistant Secretary for Civil Rights  
1400 Independence Avenue, SW  
Washington, D.C. 20250-9410; or
2. fax: (833) 256-1665 or (202) 690-7442; or
3. email: [program.intake@usda.gov](mailto:program.intake@usda.gov)

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