

How to Use the Grain Ounce Equivalents Chart for the National School Lunch Program and School Breakfast Program

This guidance applies to the U.S. Department of Agriculture’s (USDA) meal patterns for grades K-12 in the National School Lunch Program (NSLP), School Breakfast Program (SBP), and Seamless Summer Option (SSO) of the NSLP; and the meal patterns for preschoolers in the NSLP, SBP, SSO, and Afterschool Snack Program (ASP). The SSO follows the NSLP and SBP meal patterns. For information on the meal patterns and crediting foods for grades K-12, visit the Connecticut State Department of Education’s (CSDE) webpages, [Meal Patterns for Grades K-12 in School Nutrition Programs](#), [Crediting Foods for Grades K-12 in the ASP](#), and [Crediting Foods in School Nutrition Programs](#). For information on the meal patterns and crediting foods for preschoolers, visit the CSDE’s [Meal Patterns for Preschoolers in School Nutrition Programs](#) webpage.

Before determining the ounce equivalents (oz eq) per serving, make sure the commercial grain product or standardized recipe is creditable, i.e., whole grain-rich (WGR) or enriched. For information on identifying creditable grain foods, refer to the CSDE’s resources, [Meeting the Whole Grain-rich Requirement for the NSLP and SBP Meal Patterns for Grades K-12](#) and [Crediting Enriched Grains in the NSLP and SBP](#), and modules 11-12 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](#).

Exhibit A: Grain Requirements for Child Nutrition Programs

The USDA’s chart, [Exhibit A: Grain Requirements for Child Nutrition Programs](#), summarizes the required quantities for nine groups (A-I) of grain foods. The required quantities in Exhibit A are not the same for all Child Nutrition Programs. The CSDE’s resource, [Grain Ounce Equivalents for Grades K-12 in the NSLP and SBP](#), lists the Exhibit A oz eq that are required for the NSLP and SBP meal patterns for grades K-12. The Exhibit A oz eq required for the NSLP, SBP, and ASP meal patterns for preschoolers are listed in the CSDE’s [Grain Ounce Equivalents for Preschoolers in the NSLP and SBP](#).

This document summarizes how to use the Exhibit A quantities in the CSDE’s oz eq charts to determine the required serving for a grain menu item in groups A-G. This method is commonly used for commercial grain products and may also be used for standardized recipes if the menu planner knows the weight of the prepared (cooked) serving.

The Exhibit A quantities are one of the two methods for determining the oz eq contribution of a grain menu item. For guidance on the creditable grains method for determining oz eq, refer to the CSDE’s resources, [Calculation Methods for Grain Ounce Equivalents for Grades K-12 in the NSLP and SBP](#) and [Calculation Methods for Grain Ounce Equivalents for Preschoolers in the NSLP and SBP](#). For additional guidance on determining grain ounce equivalents, refer to “Module 13: Grain Ounce Equivalents” 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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Exhibit A Oz Eq Calculation Method

The oz eq calculation method using the Exhibit A quantities requires the applicable weight or volume of the grain menu item. For commercial products, this information is determined from the serving information listed on the Nutrition Facts label or product formulation statement (PFS). For foods made from scratch, this information is determined from the weight or volume of the serving in the standardized recipe. The oz eq contribution is calculated by dividing the *serving weight or volume* by the *required weight or volume for 1 oz eq* of the applicable grain group listed in Exhibit A.



Note: To use this method for foods made from scratch in groups A-G, school food authorities (SFAs) must have a standardized recipe on file that indicates the weight of the prepared (cooked) serving. Many standardized recipes do not list the serving weight. If this information is not available, the menu planner may determine the average weight per serving by weighing several servings of the recipe. Alternatively, the creditable grains method may be used. For more information, refer to the CSDE's resources, [Yield Study Data Form for Child Nutrition Programs](#), [Calculation Methods for Grain Ounce Equivalents for Grades K-12 in the NSLP and SBP](#), and [Calculation Methods for Grain Ounce Equivalents for Preschoolers in the NSLP and SBP](#).

Rounding Rules

SFAs must follow the rounding rules below when calculating the oz eq of a commercial grain product or standardized recipe.

- **Oz eq contribution:** When determining the oz eq contribution of a grain food, always round down to the nearest $\frac{1}{4}$ oz eq. For example, if the calculation indicates that a bagel contains 1.49 oz eq., round down to 1.25 oz eq.
- **Number of pieces per serving:** When determining the number of pieces needed to credit as 1 oz eq., always round up to the next whole number. For example, if the calculation indicates that 6.7 pretzels credit as 1 oz eq., round up to 7 pretzels.

Make sure to use the appropriate rounding rule to correctly calculate the grain item's oz eq contribution.

Crediting Examples

This document reviews the steps for commercial products and standardized recipes that contain multiple small pieces per serving, such as crackers, hard pretzels, and animal crackers (example 1); multiple large pieces per serving, such as pancakes, slices of bread, and waffles (example 2); and one piece per serving, such as muffins, bagels, and rolls (example 3). The calculation steps are different for each type of grain item.

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Example 1: Multiple Small Pieces per Serving

For grain items that contain multiple small pieces per serving (such as crackers, hard pretzels, and animal crackers), calculate the number of pieces per oz eq by dividing the *required weight (grams) for 1 oz eq* of the applicable grain group listed in Exhibit A by the *grams per piece*.



Whole grain-rich crackers (group A)

Nutrition Facts	
About 9 Servings per container	
Serving Size	6 crackers (28g)
Amount per serving	
Calories	120

The example below shows this calculation for whole grain-rich crackers in group A. Five crackers credit as 1 oz eq (refer to table 1).

Group A	Oz Eq for Group A
Bread sticks, hard	1 oz eq = 22 grams or 0.8 ounce ¾ oz eq = 17 grams or 0.6 ounce ½ oz eq = 11 grams or 0.4 ounce ¼ oz eq = 6 grams or 0.2 ounce
Bread-type coating	
Chow Mein noodles	
Crackers, savory, e.g., saltines and snack crackers	
Croutons	
Pretzels, hard	
Stuffing, dry Note: weights apply to bread in stuffing	

Table 1. Steps for determining oz eq of grain item with multiple small pieces per serving

1. <i>Required weight for 1 oz eq:</i> List the required weight for 1 oz eq for the product's group (A-G) in Exhibit A.	A 22 grams
2. <i>Grams per serving:</i> List the serving size in grams (g) from the Nutrition Facts label, PFS, or standardized recipe.	B 28 grams
3. <i>Pieces per serving:</i> List the number of pieces per serving from Nutrition Facts label, PFS, or standardized recipe.	C 6 pieces
4. Calculate the grams per piece (divide B by C).	D 4.67 grams per piece
5. Calculate pieces per oz eq (divide A by D)	E 4.7 pieces per oz eq
6. Round up to next whole number.	F 5 pieces per oz eq

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Example 2: Multiple Large Pieces per Serving

For grain items that contain multiple large pieces per serving (such as pancakes, slices of bread, and waffles), calculate the oz eq contribution per piece by dividing the *required weight (grams)* for 1 oz eq of the applicable grain group listed in Exhibit A by the *grams per piece*.



Enriched pancakes (group C)

Nutrition Facts	
4 Servings per container	
Serving Size	3 pancakes (116g)
Amount per serving	
Calories	280

The example below shows this calculation for enriched pancakes in group C. One pancake credits as 1 oz eq (refer to table 2).

Group C	Oz Eq for Group C
<p>Cookies, plain, including vanilla wafers ²</p> <p>Cornbread</p> <p>Corn muffins</p> <p>Croissants</p> <p>Pancakes</p> <p>Piecrust (dessert pies ², cobblers ², fruit turnovers ¹, and meat or meat alternate pies)</p> <p>Waffles</p>	<p>1 oz eq = 34 grams or 1.2 ounces</p> <p>$\frac{3}{4}$ oz eq = 26 grams or 0.9 ounce</p> <p>$\frac{1}{2}$ oz eq = 17 grams or 0.6 ounce</p> <p>$\frac{1}{4}$ oz eq = 9 grams or 0.3 ounce</p>
<p>¹ Allowed only at lunch in the NSLP and breakfast in the SBP. The weekly total of all grain-based desserts at lunch cannot exceed 2 oz eq.</p> <p>² Allowed only at lunch in the NSLP. The weekly total of all grain-based desserts at lunch cannot exceed 2 oz eq.</p>	

Table 2. Steps for determining oz eq of grain item with multiple large pieces per serving

1. <i>Required weight for 1 oz eq:</i> List the required weight for 1 oz eq for the product's group (A-G) in Exhibit A.	A 34 grams
2. <i>Grams per serving:</i> List the serving size in grams (g) from the Nutrition Facts label, PFS, or standardized recipe.	B 116 grams
3. <i>Pieces per serving:</i> List the number of pieces per serving from Nutrition Facts label, PFS, or standardized recipe.	C 3 pieces
4. Calculate the grams per piece (divide B by C).	D 38.67 grams per piece
5. Calculate oz eq per piece (divide B by A)	E 1.14 oz eq per piece
6. Round down to the nearest $\frac{1}{4}$ oz eq.	F 1 oz eq per piece

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Example 3: One Piece per Serving

For grain items that contain one piece per serving (such as muffins, bagels, and rolls), calculate the oz eq contribution per serving by dividing the *grams per serving* by the *required weight (grams) for 1 oz eq* of the applicable grain group listed in Exhibit A.



Whole grain-rich blueberry muffin (group D)

Nutrition Facts	
Serving Size	1 muffin (57g)
Servings per container 6	
Amount per serving	
Calories	210

The example below shows this calculation for a whole grain-rich blueberry muffin in group D. One muffin credits as 1 oz eq (refer to table 3).

Group D	Oz Eq for Group D
Doughnuts, cake and yeast raised, unfrosted ¹ Cereal bars, breakfast bars, granola bars, plain ¹ Muffins, all except corn Sweet rolls, unfrosted ¹ Toaster pastries, unfrosted ¹	1 oz eq = 55 grams or 2 ounces ¾ oz eq = 42 grams or 1.5 ounces ½ oz eq = 28 grams or 1.0 ounce ¼ oz eq = 14 grams or 0.5 ounce
¹ Allowed only at lunch in the NSLP and breakfast in the SBP. The weekly total of all grain-based desserts at lunch cannot exceed 2 oz eq.	

Table 3. Steps for determining oz eq of grain item with one piece per serving

1. <i>Required weight for 1 oz eq</i> : List the required weight for 1 oz eq for the product's group (A-G) in Exhibit A.	A 55 grams
2. <i>Grams per serving</i> : List the serving size in grams (g) from Nutrition Facts label, PFS, or standardized recipe.	B 57 grams
3. Calculate oz eq per serving (divide B by A)	C 1.04 oz eq per serving
4. Round down to the nearest ¼ oz eq.	D 1 oz eq per serving

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Grain Crediting Tools

The tools below help menu planners determine the meal pattern contribution (including grain oz eq) of creditable products and recipes.

- **USDA’s Exhibit A Grains Tool for commercial grain products:** This [online tool](#) of the USDA’s *Food Buying Guide for Child Nutrition Programs* (FBG) determines the oz eq of commercial grain products. For more information, watch the USDA’s webinars, *Exhibit A Grains Tool to the Rescue* and *How to Maximize the Exhibit A Grains Tool*.
- **USDA’s Recipe Analysis Workbook:** The FBG’s online [Recipe Analysis Workbook](#) allows menu planners 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 more information on oz eq, refer to the “[Ounce Equivalents](#)” section of the CSDE’s Crediting Foods in School Nutrition Programs webpage.

Resources

Calculation Methods for Grain Ounce Equivalents for Grades K-12 in the NSLP and SBP (CSDE):

https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Grain_Calculation_SNP_grades_K-12.pdf

Calculation Methods for Grain Ounce Equivalents for Preschoolers in the NSLP and SBP (CSDE):

https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Grain_Calculation_SNP_preschool.pdf

Crediting Enriched Grains in the NSLP and SBP (CSDE):

https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Credit_Enriched_Grains_SNP.pdf

Crediting Whole Grains in the NSLP and SBP (CSDE):

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>

Grain Ounce Equivalents for Grades K-12 in the NSLP and SBP (CSDE):

https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Grain_Oz_Eq_SNP_grades_K-12.pdf

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Grain Ounce Equivalents for Preschoolers in the NSLP and SBP (CSDE):

https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Grain_Oz_Eq_SNP_preschool.pdf

Grains Component for Grades K-12 (CSDE webpage):

<https://portal.ct.gov/SDE/Nutrition/Crediting-Foods-in-School-Nutrition-Programs/Documents#Grains>

Product Formulation Statement for Documenting Grains in Child Nutrition Programs (USDA):

https://www.fns.usda.gov/sites/default/files/resource-files/PFS_Grains_Oz_Eq_Fillable_508.pdf

Product Formulation Statement for Documenting Grains in Child Nutrition Programs

– Completed Sample (USDA):

https://www.fns.usda.gov/sites/default/files/resource-files/PFS_Example_Grains_Oz_Eq.pdf

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

<https://www.fns.usda.gov/sites/default/files/resource-files/manufacturerPFStipsheet.pdf>

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

https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Product_Formulation_Statements.pdf

What’s in a Meal Module 11: Grains Component (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>

What’s in a Meal Module 12: Whole Grain-rich Requirement (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>

What’s in a Meal Module 13: Grains Ounce Equivalents (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

Whole Grain Resource for the National School Lunch and Breakfast Programs (USDA):

<https://www.fns.usda.gov/tn/whole-grain-resource-national-school-lunch-and-breakfast-programs>

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For more information, refer to the CSDE's *Menu Planning Guide for School Meals for Grades K-12* and visit the CSDE's [Meal Patterns for Grades K-12 in School Nutrition Programs](#) and [Crediting Foods in School Nutrition Programs](#) webpages, 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/NSLP/Crediting/How_to_Use_Ounce_Equivalents_Chart_NSLP_SBP.pdf.

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Office of the Assistant Secretary for Civil Rights
1400 Independence Avenue, SW
Washington, D.C. 20250-9410; or
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3. email: program.intake@usda.gov

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