

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 preschool meal patterns (ages 1-4) for the NSLP, SBP, SSO, and Afterschool Snack Program (ASP) of the NSLP. The SSO follows the NSLP and SBP meal patterns. For information on the NSLP and SBP meal pattern and crediting requirements for grades K-12, visit the Connecticut State Department of Education’s (CSDE) [Meal Patterns for Grades K-12 in School Nutrition Programs](#) webpage and [Crediting Foods in School Nutrition Programs](#) webpage. For information on the preschool meal pattern and crediting requirements, visit the CSDE’s [Meal Patterns for Preschoolers in School Nutrition Programs](#) webpage.



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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. Groups A-F include baked goods, such as crackers, breads, rolls, taco shells, muffins, waffles, pancakes, and grain-based desserts, e.g., cookies, cake, granola bars, and pastries. Group H includes cereal grains, such as pasta, rice, cooked breakfast cereals, barley, cornmeal, and quinoa. Group I includes ready-to-eat cold breakfast cereals.

The Exhibit A quantities are not the same for all Child Nutrition Programs because the meal patterns are different. The CSDE's ounce equivalents (oz eq) chart, [Grain Ounce Equivalents for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12](#), 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 preschool meal patterns are listed in the CSDE's [Grain Ounce Equivalents for the Preschool Meal Patterns of the School Nutrition Programs](#).

The Exhibit A quantities are one of the two methods for determining the oz eq of a grain menu item; the other method is the creditable grains per serving. For guidance on the creditable grains method for determining oz eq, refer to the CSDE's resources, [Calculation Methods for Grain Ounce Equivalents for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12](#) and [Calculation Methods for Grain Ounce Equivalents for the Preschool Meal Patterns of the School Nutrition Programs](#). 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](#).

Grain-based desserts

Grain-based desserts are in groups B-G. They are indicated in blue or red in the CSDE's oz eq charts. Only certain grain-based desserts are allowed at breakfast and lunch for grades K-12. Grain-based desserts do not credit in the preschool meal patterns.

- **Breakfast and lunch for grades K-12:** Grain-based desserts in blue (footnote 1) are allowed at lunch and breakfast. Examples include sweet crackers (e.g., animal crackers and graham crackers), coffee cakes, cinnamon rolls, doughnuts, cereal bars, granola bars, breakfast bars, sweet rolls, pastries, toaster pastries, and fruit turnovers.
- **Lunch for grades K-12:** Grain-based desserts in red (footnote 2) are allowed only at lunch. Examples include cookies, cakes, cupcakes, plain brownies, and piecrusts in sweet pies (e.g., apple, coconut, blueberry, and pecan).

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The lunch meal pattern requires a weekly limit of no more than 2 oz eq of grain-based desserts. For additional information, refer to the CSDE's [Crediting Grain-based Desserts for Grades K-12 in the School Nutrition Programs](#).

Exhibit A Oz Eq Calculation Method

School food authorities (SFAs) must know the applicable weight or volume of the grain menu item to use the Exhibit A oz eq calculation method. The oz eq contribution is calculated by dividing the grain menu item's *serving weight or volume* by the *required weight or volume for 1 oz eq* for the applicable Exhibit A grain group.

Commercial products

For commercial products, the serving weight or volume is determined from the serving information listed on the Nutrition Facts label or product formulation statement (PFS). The oz eq chart cannot be used if the product's ingredients statement and packaging do not provide sufficient information to determine if it meets the meal pattern crediting criteria. These products require a PFS. For guidance on when a PFS is required and what it must include, refer to the CSDE's resources, [When Commercial Grain Products Require a Product Formulation Statement to Credit in the School Nutrition Programs](#) and [Using Product Formulation Statements in the School Nutrition Programs](#). Additional guidance on PFS forms is available in the "Product Formulation Statements" section of the CSDE's [Crediting Foods in School Nutrition Programs](#) webpage and [Meal Patterns for Preschoolers in School Nutrition Programs](#) webpage.

Foods made from scratch in groups A-G

To use the oz eq chart for foods made from scratch in groups A-G, 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 must either 1) determine the average serving weight by weighing several portions (refer to the CSDE's [Yield Study Data Form for Child Nutrition Programs](#)), then use the oz eq chart; or 2) use the creditable grains method for determining oz eq (refer to the CSDE's resources, [Calculation Methods for Grain Ounce Equivalents for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12](#), and [Calculation Methods for Grain Ounce Equivalents for the Preschool Meal Patterns of the School Nutrition Programs](#)). The oz eq chart cannot be used if the grain menu item's serving weight is not known.

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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 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

The examples below show the steps for using the Exhibit A quantities in the CSDE's oz eq chart to determine the oz eq for grain menu items in groups A-G. These steps are 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 (refer to "[Foods made from scratch in groups A-G](#)" in this document). The examples include three different categories of commercial products and standardized recipes: 1) grain items that contain multiple small pieces per serving, such as crackers, hard pretzels, and animal crackers ([example 1](#)); 2) grain items that contain multiple large pieces per serving, such as pancakes, slices of bread, and waffles ([example 2](#)); and 3) grain items that contain one piece per serving, such as muffins, bagels, and rolls ([example 3](#)). The calculation steps are different for each category.

Before determining a menu item's oz eq, 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, [Guide to Meeting the Whole Grain-rich Requirement for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12](#) and [Crediting Enriched Grains in the School Nutrition Programs](#), 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](#).

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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. The steps below show this calculation for an example of whole grain-rich crackers in group A.



Whole grain-rich crackers (group A)

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

Group A

Bread sticks, hard
 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

Oz Eq for Group A

1 oz eq = 22 grams or 0.8 ounce
 $\frac{3}{4}$ oz eq = 17 grams or 0.6 ounce
 $\frac{1}{2}$ oz eq = 11 grams or 0.4 ounce
 $\frac{1}{4}$ oz eq = 6 grams or 0.2 ounce

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

- Grams per manufacturer's serving:** List the manufacturer's serving size in grams (g) from the Nutrition Facts label or PFS: 28 grams
- Pieces per manufacturer's serving:** List the number of pieces per manufacturer's serving from the Nutrition Facts label or PFS: 6 pieces
- Calculate grams per piece:** Divide grams per serving (step 1) by pieces per serving (step 2): 28 grams divided by 6 pieces = 4.67 grams per piece
- Required weight for 1 oz eq:** List the required weight for 1 oz eq for the product's group (A-G) in Exhibit A. 22 grams
- Calculate number of pieces per oz eq:** Divide the required weight for 1 oz eq (step 4) by the grams per piece (step 3): 22 grams divided by 4.67 grams per piece = 4.7 pieces per oz eq
- Round up to next whole number:** 5 pieces (crackers) = 1 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. The steps below show this calculation for an example of enriched pancakes in group C.



Enriched pancakes (group C)

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

Group C

Cookies, plain, including vanilla wafers ²

Cornbread

Corn muffins

Croissants

Pancakes

Piecrust (dessert pies ², cobblers ², fruit turnovers ¹, and meat or meat alternate pies)

Waffles

Oz Eq for Group C

1 oz eq = 34 grams or 1.2 ounces

$\frac{3}{4}$ oz eq = 26 grams or 0.9 ounce

$\frac{1}{2}$ oz eq = 17 grams or 0.6 ounce

$\frac{1}{4}$ oz eq = 9 grams or 0.3 ounce

¹ Allowed 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.

² Allowed only at lunch in the NSLP. The weekly total of all grain-based desserts at lunch cannot exceed 2 oz eq.

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

- Grams per manufacturer's serving:** List the manufacturer's serving size in grams (g) from the Nutrition Facts label or PFS: 116 grams
- Pieces per manufacturer's serving:** List the number of pieces per manufacturer's serving from the Nutrition Facts label or PFS: 3 pieces
- Calculate grams per piece:** Divide grams per manufacturer's serving (step 1) by pieces per manufacturer's serving (step 2): 116 grams divided by 3 pieces = 38.67 grams per piece
- Required weight for 1 oz eq:** List the required weight for 1 oz eq for the product's group (A-G) in Exhibit A. 34 grams
- Calculate oz eq per piece:** Divide grams per piece (step 3) by required weight for 1 oz eq (step 4): 38.67 grams divided by 34 grams = 1.14 oz eq per piece
- Round down to nearest $\frac{1}{4}$ oz eq:** 1 oz eq per piece (1 pancake)

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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. The steps below show this calculation for an example of a whole grain-rich blueberry muffin in group D.



Whole grain-rich blueberry muffin (group D)	
Nutrition Facts	
Serving Size	1 muffin (57g)
Servings per container 6	
Amount per serving	
Calories	210

Group D

Cereal bars, breakfast bars, granola bars, plain ¹
 Doughnuts, cake and yeast raised, unfrosted ¹
Muffins, all except corn
 Sweet rolls, unfrosted
 Toaster pastries, unfrosted ¹

Oz Eq for Group D

1 oz eq = 55 grams or 2 ounces
 $\frac{3}{4}$ oz eq = 42 grams or 1.5 ounces
 $\frac{1}{2}$ oz eq = 28 grams or 1.0 ounce
 $\frac{1}{4}$ oz eq = 14 grams or 0.5 ounce

¹ Allowed 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.

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

- Grams per manufacturer's serving:** List the serving size in grams (g) from the Nutrition Facts label or PFS: 57 grams
- Required weight for 1 oz eq:** List the required weight for 1 oz eq for the product's group (A-G) in Exhibit A: 55 grams
- Calculate oz eq per serving:** Divide the grams per manufacturer's serving (step 1) by the required weight for 1 oz eq (step 2): 57 grams divided by 55 grams = 1.04 oz eq per muffin
- Round down to the nearest $\frac{1}{4}$ oz eq:** 1 oz eq per muffin

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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 standardized 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 Oz eq Analysis Workbook:** The FBG’s online [Oz eq Analysis Workbook](#) allows menu planners to search for ingredients, develop a standardized oz eq, and determine the oz eq’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, visit the “[Ounce Equivalents](#)” section of the CSDE’s Crediting Foods in School Nutrition Programs webpage.

Resources

Calculation Methods for Grain Ounce Equivalents for the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12 (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/grain_calculation_snp_grades_k-12.pdf

Calculation Methods for Grain Ounce Equivalents for the Preschool Meal Patterns of the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/grain_calculation_snp_preschool.pdf

Crediting Enriched Grains in the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/credit_enriched_grains_snp.pdf

Crediting Grain-based Desserts in the Meal Patterns for Grades K-12 in the School Nutrition Programs (CSDE):
https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/credit_grain_based_desserts_grades-k-12_snp.pdf

Crediting Whole Grains in the School Nutrition Programs (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 the National School Lunch Program and School Breakfast Program Meal Patterns for Grades K-12 (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 the Preschool Meal Patterns of the School Nutrition Programs (CSDE):

https://portal.ct.gov/-/media/sde/nutrition/nslp/crediting/grain_oz_eq_snp_preschool.pdf

Grains Component for Grades K-12 (“Documents/Forms” section of CSDE’s Crediting Foods in School Nutrition Programs webpage):

<https://portal.ct.gov/sde/nutrition/crediting-foods-in-school-nutrition-programs/documents#Grains>

Grains Component for Preschoolers (“Related Resources” section of the CSDE’s Meal Patterns for Preschoolers in School Nutrition Programs webpage):

<https://portal.ct.gov/sde/nutrition/meal-patterns-preschoolers-in-school-nutrition-programs/related-resources#Grains>

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, visit the CSDE's [Crediting Foods in School Nutrition Programs](#) webpage or [Crediting Foods in Preschool Menus](#) 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/nslp/crediting/how_to_use_ounce_equivalents_chart_nslp_sbp.pdf.

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

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