

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.



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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 Grades K-12 in the National School Lunch Program and School Breakfast Program*, 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 Preschoolers in the National School Lunch Program and School Breakfast Program*.

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 Grades K-12 in the National School Lunch Program and School Breakfast Program* and *Calculation Methods for Grain Ounce Equivalents for Preschoolers in the National School Lunch Program and School Breakfast Program*. 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).

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*.

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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*.

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 Grades K-12 in the National School Lunch Program and School Breakfast Program*, and *Calculation Methods for Grain Ounce Equivalents for Preschoolers in the National School Lunch Program and School Breakfast Program*). The oz eq chart cannot be used if the grain menu item's serving weight is not known.

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.

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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:

- grain items that contain multiple small pieces per serving, such as crackers, hard pretzels, and animal crackers (example 1);
- grain items that contain multiple large pieces per serving, such as pancakes, slices of bread, and waffles (example 2); and
- 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 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, [Meeting the Whole Grain-rich Requirement for the NSLP and SBP Meal Patterns for Grades K-12](#) and [Crediting Enriched Grains in the National School Lunch Program and School Breakfast Program](#), 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 example below shows this calculation for whole grain-rich crackers in group A. Five crackers credit as 1 oz eq (refer to table 1).

**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	Oz Eq for 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	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

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.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #4b3621; color: white; text-align: center; width: 30px;">A</td> <td style="padding: 0 10px;">22</td> <td style="padding: 0 10px;">grams</td> </tr> </table>	A	22	grams
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.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #4b3621; color: white; text-align: center; width: 30px;">B</td> <td style="padding: 0 10px;">28</td> <td style="padding: 0 10px;">grams</td> </tr> </table>	B	28	grams
B	28	grams		
3. <i>Pieces per serving:</i> List the number of pieces per serving from Nutrition Facts label, PFS, or standardized recipe.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #4b3621; color: white; text-align: center; width: 30px;">C</td> <td style="padding: 0 10px;">6</td> <td style="padding: 0 10px;">pieces</td> </tr> </table>	C	6	pieces
C	6	pieces		
4. Calculate the grams per piece (divide B by C).	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #4b3621; color: white; text-align: center; width: 30px;">D</td> <td style="padding: 0 10px;">4.67</td> <td style="padding: 0 10px;">grams per piece</td> </tr> </table>	D	4.67	grams per piece
D	4.67	grams per piece		
5. Calculate pieces per oz eq (divide A by D)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #4b3621; color: white; text-align: center; width: 30px;">E</td> <td style="padding: 0 10px;">4.7</td> <td style="padding: 0 10px;">pieces per oz eq</td> </tr> </table>	E	4.7	pieces per oz eq
E	4.7	pieces per oz eq		
6. Round up to next whole number.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #4b3621; color: white; text-align: center; width: 30px;">F</td> <td style="padding: 0 10px;">5</td> <td style="padding: 0 10px;">pieces per oz eq</td> </tr> </table>	F	5	pieces per oz eq
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><i>Cookies, plain, including vanilla wafers</i> ²</p> <p>Cornbread</p> <p>Corn muffins</p> <p>Croissants</p> <p>Pancakes</p> <p>Piecrust (<i>dessert pies</i> ², <i>cobblers</i> ², <i>fruit turnovers</i> ¹, and meat or meat alternate pies)</p> <p>Waffles</p>	<p>1 oz eq = 34 grams or 1.2 ounces</p> <p>³/₄ oz eq = 26 grams or 0.9 ounce</p> <p>¹/₂ oz eq = 17 grams or 0.6 ounce</p> <p>¹/₄ oz eq = 9 grams or 0.3 ounce</p>
<p>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.</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 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
Cereal bars, breakfast bars, granola bars, plain ¹ Doughnuts, cake and yeast raised, unfrosted ¹ Muffins, all except corn Sweet rolls, unfrosted ¹ Toaster pastries, unfrosted ¹	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.	

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 $\frac{1}{4}$ 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 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, 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 National School Lunch Program and School Breakfast Program (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 National School Lunch Program and School Breakfast Program (CSDE):
https://portal.ct.gov/-/media/SDE/Nutrition/NSLP/Crediting/Grain_Calculation_SNP_preschool.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

Crediting Grain-based Desserts 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 National School Lunch Program and School Breakfast Program (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>

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Grain Ounce Equivalents for Grades K-12 in the National School Lunch Program and School Breakfast Program (CSDE):

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

Grain Ounce Equivalents for Preschoolers in the National School Lunch Program and School Breakfast Program (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>

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](#) or [Crediting Foods in Preschool Menus](#) 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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1. mail: U.S. Department of Agriculture
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

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