IMPLEMENTING A STREAMLINED MEAL PATTERN:

Aligning Nutrition Standards Across USDA Child Nutrition Programs

URBAN SCHOOL FOOD ALLIANCE

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Report Sponsored By

Urban School Food Alliance

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LIST OF ACRONYMS AND ABBREVIATIONS

AAP	American Academy of Pediatrics
c	cup
CACFP	Child and Adult Care Food Program
CN	Child Nutrition
DGA	Dietary Guidelines for Americans
eq	equivalents
F	Fruit
FNS	Food and Nutrition Service
m/ma	meat/meat alternate
NSLP	National School Lunch Program
OVS	Offer Versus Serve
oz	ounce
SA	State Agency
SBP	School Breakfast Program
SFA	School Food Authority
SFSP	Summer Food Service Program
SKU	Stock-Keeping Unit
SNP	School Nutrition Professional
SSO	Seamless Summer Option
SY	School Year
USDA	United States Department of Agriculture
V	Vegetable

EXECUTIVE SUMMARY

The U.S. Department of Agriculture Food and Nutrition Service administers child nutrition programs that serve meals and snacks to children in schools, child care centers, summer programs, and other settings in all 50 states, the District of Columbia, and the U.S. territories (Congressional Research Service, April 2021). In alignment with the 2010 Dietary Guidelines for Americans, the U.S. Department of Agriculture published updated nutrition standards and meal patterns for the National School Lunch Program and School Breakfast Program. This rule required schools to increase the availability of fruits, vegetables, whole grains, and fat-free/low-fat milk while reducing the sodium, trans-fat and saturated fat content of their meals ("Nutrition Standards in the National School Lunch and School Breakfast Programs," 2012). However, this 2012 final rule did not address pre-K school meal patterns under two programs-- Child and Adult Care Food Program and Summer Food Service Program, which resulted in inconsistencies with the Dietary Guidelines for Americans and meal pattern requirements across child nutrition programs.

Research indicates that school food authorities and industry partners encounter increased complexity and obstacles related to the differences in guidelines, such as having to offer multiple portion sizes of the same item due to serving different grade groups or programs (SNA, 2016; USDA, April 2019a). In 2020, the COVID-19 pandemic increased challenges for both groups, which continue to impact their relationship and ability to serve children. For example, because of manufacturers discontinued items designated specifically for school nutrition, there have been shortages of menu items resulting in higher costs for school food authorities (SNA, 2021).

This technical report focuses on the National School Lunch Program, School Breakfast Program, Child and Adult Care Food Program, and Summer Food Service Program and recommends changes to streamline meal patterns and simplify terminology. The suggested changes would more closely align with the 2020-2025 Dietary Guidelines for Americans (USDA, Dec. 2020) and MyPlate. School food authorities and industry partners would benefit from

reduced meal pattern requirements, different student groupings, and modified terminology. Positive outcomes for school food authorities include reducing clerical redundancies, simplified staff training, and greater compliance with meal patterns across programs. Meal pattern streamlining will also allow for more efficient procurement, inventory control, and warehousing, saving districts money when using a single product across programs. Industry partners would benefit from the ability to standardize their products and manage their supply chain more effectively. In addition, children participating in different programs would experience consistency in menu messaging. Proposed child nutrition guidelines address some of the challenges. However, this technical report recommends a streamlined solution at a time when school food authorities and industry partners face critical challenges while working to meet children's nutritional needs.

OVERVIEW

Child nutrition (CN) programs serve meals and snacks to children in schools, child care centers, summer programs, and other settings in all 50 states, the District of Columbia, and the U.S. territories. The U.S. Department of Agriculture's (USDA) Food and Nutrition Service (FNS) administers all CN programs and provides federal aid to state agencies to distribute to school districts and other participating institutions.

The creation of the National School Lunch Program (NSLP) in 1946 marked the beginning of federal CN programs. This was followed by the Child Nutrition Act of 1966, which created the School Breakfast Program (SBP) as a pilot program that became permanently authorized in 1975. In 1968, a child care and summer meal program was piloted and later developed into the Child Care Food Program (now the Child and Adult Care Food Program: CACFP). The CACFP serves meals to children in child care, day care, and after-school settings. In 1975, the Summer Food Service Program (SFSP) was established (Congressional Research Service, April 2021).

CN programs have two primary goals: providing nutrition to U.S. children and supporting U.S. agriculture through the domestic purchase and consumption of commodities and other food. Though federal funding for CN programs is mandatory, they require appropriations tied to benefit and eligibility criteria and, therefore, do not have a specified limit. As a result, federal spending for CN programs varies based on the number of meals and snacks served and on annually adjusted per-meal reimbursement rates set by statutes. Programs also have a small amount of discretionary funding. Since federal subsidies often do not fully cover the costs of meals and snacks, additional funding is often provided by states, school districts, local student payments, and other organizations (Congressional Research Service, April 2021).

This technical report focuses on the NSLP, SBP, CACFP, and SFSP. Note that these data in Table 1 are atypical since waivers issued in the wake of the COVID-19 pandemic have allowed for exceptions such as serving meals in non-congregate settings to ensure social distancing, allowing parents or guardians to pick up and bring meals home to their children, and serving meals that do not meet federal meal pattern requirements ("Child Nutrition COVID-19 Waivers," Dec. 2021).

Table 1

Summary of Relevant Child Nutrition Programs

Program	Description	Authorizing statute	Average daily participation/Average daily attendance (FY2021)[1]
National School Lunch Program (NSLP)	Provides federal reimbursement for lunches served in participating pre-K-12 schools. Options for schools to provide afterschool snacks and summer lunches[2] through NSLP.	Richard B. Russell National School Lunch Act (1946)	8.6 million meals
School Breakfast Program (SBP)	Provides reimbursements for breakfasts served in participating pre-K-12 schools. Option for schools to offer summer breakfasts.[2]	Children Nutrition Act (1966)	5.8 million meals
Child and Adult Care Food Program (CACFP)	Provides reimbursement for meals and snacks in child care centers, day care homes, and adult day care centers. Rules and funding differ based on the type of institution.	Richard B. Russell National School Lunch Act (1968)	4.5 million children in day care homes & child care centers 100,000 adults in adult-care centers
Summer Food Service Program (SFSP)	Provides reimbursements for meals and snacks served by nonprofit organizations and schools during the summer months. Eligibility rules vary by type of meal site.	Richard B. Russell National School Lunch Act (1968)	5.1 million children

1 Sources: USDA (2021, December). *September 2021 Key Data Report*. https://www.fns.usda.gov/data/september-2021-keydata-report.
Congressional Research Service (2021, February). *Child Nutrition Reauthorization (CNR): An Overview*. https://crsreports.congress.gov/product/pdf/IF/IF10266
Totals are averaged and rounded. Fiscal year computations are based on October through May plus September. "Average daily participation" is a measure of the average number of meals served daily. "Average daily attendance" is a measure of the average number of people served daily (notwithstanding how many meals were served to them). Different CN programs report data using different measures.

2 Seamless Summer Option (SSO)

NUTRITION GUIDELINES AND MEAL PATTERNS

In 2012, USDA published updated nutrition standards and meal patterns for the NSLP and SBP aligned with the 2010 Dietary Guidelines for Americans (DGA) and based on recommendations made by the Institute of Medicine ("Nutrition Standards in the National School Lunch and School Breakfast Programs," 2012). This final rule required schools to expand the availability of fruits, vegetables, whole grains, and fat-free/low-fat milk while reducing the sodium, trans-fat and saturated fat content of their meals. The rule required state agencies (SAs) to conduct administrative reviews of school breakfasts and lunches and determine whether they complied with meal pattern requirements and dietary specifications. The rule also established fruits, vegetables, grains, meats/meat alternates, and milk as the primary food components. This final rule did not address pre-K school meal patterns under the CACFP and SFSP. Compliance with the DGA and meal pattern requirements, therefore, has been inconsistent across CN programs.

Children's nutritional needs do not change simply because they are eligible for and receive meals under different federal CN programs. Differences in the current meal pattern requirements result from a lack of communication and coordination between the separate entities that oversee each program. Research, including data from USDA, indicates that the absence of aligned requirements creates needless obstacles for school food authorities (SFAs). For instance, SFAs often procure goods or services for two or more programs together and report that they typically structure their procurement approach around meal requirements (USDA, Sept. 2021). When different programs require different sizes or specifications of the same food item, complexity increases. For example, a SFA may want to serve the same graham crackers at breakfast and snack time. A two-ounce package meets the breakfast grain requirement, whereas a one-ounce package meets the grain requirement of the afterschool snack program. Serving a one-ounce package at snack versus a two-ounce package is more cost-effective but introduces another stock-keeping unit (SKU).

SFAs have cited the increased cost of food, the lack of available products that meet

federal requirements, and the need to offer different portion sizes to different grade groups as challenges (USDA, April 2019a). SFAs, especially those in smaller districts with limited CN staff, have historically struggled to meet the requirements due to their scope and complexity (SNA, 2016). On the industry side, the requirements force distributors to carry multiple SKUs and products with specifications that do not match commercial specifications. Consequently, products purchased by schools are not typically used in other markets (SNA, 2016). Emergency situations, such as the pandemic, can amplify these challenges for both groups. For example, according to SNA's (2021) supply chain report, industry suppliers often do not carry menu items that meet federal nutritional standards. Manufacturers have discontinued the production of certain menu items while there are widespread shortages of others. Finally, school nutrition directors frequently report higher costs than those stipulated in the contracted bid.

A streamlined meal pattern could alleviate these challenges and, as such, warrants further research. By reducing cumbersome complexity and improving comprehension for all stakeholders, all federal CN programs would be streamlined, thus reducing clerical redundancies. Staff training would focus only on a streamlined meal pattern, making learning and implementation more effective, which would promote consistency and compliance within schools and between districts and states. A streamlined meal pattern would enable industry partners to standardize their products and manage their supply chains more efficiently. Both groups would benefit from reduced costs and a strengthened relationship. Also, consistent menu messaging would minimize confusion for children when participating in different programs.

Currently, USDA is poised to address these divergent meal pattern requirements in its proposed rule "Simplifying Meal Service and Monitoring Requirements in the National School Lunch and School Breakfast Programs" (2020). This rule would reduce the long-standing complexity of these programs' meal patterns and monitoring requirements. As noted by the USDA, the changes would mitigate many of the challenges that SFAs face, including decreased student participation, increased food waste, difficulties meeting the weekly vegetable requirements, and serving meals for different age/grade groups. At the time of writing (April 2022), the status of this proposed rule is "long-term action," indicating that regulatory development is pending and is not expected to result in additional action over the next 12

months (“Learn about the Regulatory Process,” n.d.).

While the proposed rule takes steps forward in addressing some of the challenges caused by multiple meal patterns, a more significant leap is needed. At a time when SFAs and industry partners face the critical challenges of rising food costs and supply chain shortages, changing the meal patterns to be consistent across grade levels would be a timely solution.

The DGA provide the overarching framework for the current nutrition guidelines and meal pattern requirements (USDA, Dec. 2020). The purpose of the DGA is to guide what Americans consume to help them meet their nutritional needs, promote health, and prevent disease. Based on nutrition science, the DGA are used to inform federal nutrition policy, support educational initiatives, inform stakeholders, and guide local, state, and national strategies for health promotion and disease prevention (“Purpose of the Dietary Guidelines,” n.d.). The DGA outline the daily nutrient standards and serving sizes for the five food groups (i.e., vegetables, fruits, grains, dairy [including soy alternatives], and protein) based on age group, gender, and energy levels while providing multiple recommendations for each caloric tier (USDA, Dec. 2020). However, since school nutrition professionals (SNPs) must plan meals according to grade level, the meals lack the age and gender precision and specificity the DGA provide.

For the NSLP and SBP, the DGA’s nutritional recommendations are embedded in the meal pattern requirements. In contrast, the CACFP’s and SFSP’s meal pattern requirements reflect the DGA only at a more general level. For example, CACFP and SFSP must meet vegetable serving size requirements but are not required to meet vegetable sub-group requirements. Therefore, the meal pattern recommendations proposed herein are modeled after the NSLP and SBP.

The current DGA should inform meal pattern requirements across all CN programs. Since CN programs often serve different student groups at the same location and are staffed by various operators (e.g., schools, churches, restaurants), MyPlate’s daily recommendations (USDA, n.d.) offer a coherent and comprehensive framework to align meal patterns across all CN programs.

The following report reviewed nutritional research and recommendations from the DGA and the American Academy of Pediatrics (AAP) to assess the current meal pattern requirements. Using MyPlate's daily recommendations (USDA, n.d.) as the framework, this report suggests new meal pattern requirements to create consistency and efficiency across CN programs without lowering nutritional standards (see Appendix A for an overview). The suggested meal patterns are intended for schools that operate Offer versus Serve (OVS), which allows children to decline some of the food offered but also incorporates suggestions for schools where OVS is not available, as well as in SFSP.

SUGGESTED MEAL PATTERN REQUIREMENTS

Suggested Global Changes

The following changes would improve consistency between the DGA, MyPlate, and CN meal pattern requirements:

1. Reduce meal pattern requirements from seven to three: Breakfast, Lunch/Supper, and Snack.
2. Divide the requirements into two grade groups: Preschool and K-12. The proposed rule, "Simplifying Meal Service and Monitoring Requirements in the National School Lunch and School Breakfast Programs" (2020), would offer a certain degree of flexibility for the established age/grade groups for schools with unique grade configurations. Nevertheless, the "Preschool" and "K-12" categories recommended in this proposal would offer significantly more flexibility.
3. Change age ranges in the CACFP meal pattern requirements to "grade groups" to be consistent with other meal pattern requirements.
4. Change the following phrases used in CN programs to be consistent with the DGA's and MyPlate's terminologies: "food components" to "food groups" and "meats/meat alternates" to "protein foods" (USDA, n.d.; Dec. 2020).

Suggested Food Group Changes

Vegetables

Preschool children generally consume more vegetables than other age groups, meeting or exceeding their recommended levels. In contrast, on average, adolescents consume about half the recommended amount, eating starchy vegetables (e.g., potatoes, corn) more frequently than any other vegetable subgroup. These starchy vegetables are often fried or prepared with butter and salt. According to the DGA, healthy eating requires greater vegetable intake and increased consumption of all vegetable subgroups (USDA, Dec. 2020).

In the current meal pattern requirements, only the NSLP requires vegetable subgroups. Further, some meal program operators may choose to serve fruit instead of a vegetable, which may result in a meal without a vegetable (see Table 2). [3]

3 Sources for data in all meal pattern tables:

CACFP Meal Pattern Revisions Related to the Healthy, Hunger-Free Kids Act of 2010; Technical Amendments. Fed. Reg. 86 57544-57549 (October 18, 2021) (affecting 7 CFR 210, 220, and 226). https://www.govinfo.gov/content/pkg/FR-2021-10-18/pdf/2021-22072.pdf.

Child and Adult Care Food Program: Meal Pattern Revisions Related to the Healthy, Hunger-Free Kids Act of 2010. Fed. Reg. 81 24347-24383 (April 25, 2016) (affecting 7 CFR 210, 215, 220, and 226). https://www.govinfo.gov/content/pkg/FR-2016-04-25/pdf/2016-09412.pdf.

Modification of the "Vegetable Protein Products" Requirements for the National School Lunch Program, School Breakfast Program, Summer Food Service Program and Child and Adult Care Food Program. Fed. Reg. 65 12429-12442 (April 10, 2000) (affecting 7 CFR 210). https://www.govinfo.gov/content/pkg/FR-2000-03-09/pdf/00-5580.pdf.

Nutrition Standards in the National School Lunch and School Breakfast Programs. Fed. Reg. 77 4087-4167 (January 26, 2012) (affecting 7 CFR Parts 210 and 220). https://www.federalregister.gov/documents/2012/01/26/2012-1010/nutrition-standards-in-the-national-school-lunch-and-school-breakfast-programs.

USDA. (n.d.). MyPlate. https://www.myplate.gov/.

Table 2

Current MyPlate Recommendations and Meal Pattern Requirements of CN Programs: Vegetables

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Breakfast</th><th colspan="3">Lunch/Supper</th><th>Snack</th></tr>
<tr><td></td><td></td><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 1–2 c</td><td rowspan="4">May credit as fruit</td><td rowspan="4">½ c F or V</td><td rowspan="4">All ages: ½ c F or V</td><td>1 ¼ c (¼ c)</td><td rowspan="4">¾ c F or V</td><td rowspan="2">Ages 3–5: ¼ c</td><td>Ages 3–5: ½ c</td></tr>
<tr><td>K–5</td><td rowspan="3">Ages 5–8: 1½–2 ½ c
Ages 9–13 girls: 1½–3 c
Ages 9–13 boys: 2–3½ c</td><td rowspan="2">3 ¾ c (¾ c)
Dark greens: ½ c
Red/Orange: ¾ c
Beans/Peas: ½ c
Starchy: ½ c
Other: ½ c</td><td rowspan="3">Ages 6–18: ¾ c</td></tr>
<tr><td>6–8</td><td rowspan="2">Ages 6–18: ½ c</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 2½-3 c
Ages 14–18 boys: 2½-4 c</td><td>5 c (1 c)
Dark greens: ½ c
Red/Orange: 1¼ c
Beans/Peas: ½ c
Starchy: ½ c
Other: ¾ c</td></tr>
</table>

Note. c = cup(s); F = fruit; V = vegetable.

Breakfast

Current requirements.

None of the current meal patterns require vegetables at breakfast (see Table 3). However, vegetables can be served in place of fruit and be used to meet the fruit requirement in the meal patterns. This flexibility is concerning for two reasons: it limits children's opportunities to consume fruit at breakfast and allows for starchy vegetables (e.g., fried potato options) to be served without limits. Vegetables are infrequently offered in SBPs, but when they were, they were usually hash brown potatoes, according to a nationally representative sample of public SFAs (USDA, April 2019b). Since children consume more fried, starchy vegetables than any other vegetable subgroup, school meals should offer different subgroups (USDA, Dec. 2020).

Suggested requirements.

Operators should be allowed to substitute any non-starchy vegetable for fruit (see Table 3). Operators implementing OVS may serve starchy vegetables as an additional option once per week. Operations providing meals without OVS, such as breakfast in the classroom, should be allowed to substitute any vegetable for fruit but should be limited to serving starchy vegetables only once per week.

Table 3

Current and Suggested Meal Pattern Requirements of CN Breakfast Programs: Vegetables

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Current Breakfast</th><th colspan="2">Suggested Breakfast</th></tr>
<tr><td></td><td></td><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4:
1–2 c</td><td rowspan="4">May credit as fruit</td><td rowspan="4">½ c
F or V</td><td rowspan="4">All ages:
½ c
F or V</td><td rowspan="4">Can substitute any vegetable, except starchy, for fruit. Starchy can be an additional option offered in addition to fruit 1x week.</td><td rowspan="4">Can substitute for fruit-limit starchy vegetables to 1 x week</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8:
1½–2 ½ c
Ages 9–13 girls:
1½–3 c
Ages 9–13 boys:
2–3½ c</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls:
2½-3 c
Ages 14–18 boys:
2½-4 c</td></tr>
</table>

Note. c = cup(s); F = fruit; V = vegetable.

Lunch/Supper

Current requirements.

Although it is well established that children consume too many starchy vegetables (USDA, Dec. 2020), the NSLP is the only program that requires the serving of particular vegetable subgroups. SFSP does not explicitly require vegetables since the requirement allows for fruits *or* vegetables (see Table 4). Most operators serve vegetables in ½ cup servings. This ½ cup quantity is convenient for OVS programs. It can be easily multiplied and divided for meal pattern requirements and conveniently counted and claimed at the point of sale for meal reimbursements.

Further, manufacturers' products typically come in ½ cup portions. Consequently, many operators find it challenging to meet the NSLP's extra ¼ cup requirement for the red/orange subgroup and the extra ¼ cup requirement for the "other" subgroup for grades 9-12. For grades K-8, many operators choose to serve one cup rather than ¾ cup for the same reason. As vegetables are generally served only at lunch and supper, the ¼ cup serving size makes it difficult for preschool children to consume their recommended daily amount of vegetables.

Suggested requirements.

The vegetable serving per meal should be increased to ½ cup for preschoolers and one cup for K-8 students, with subgroup requirements for preschool students (see Table 4). Requiring operators to serve subgroups to preschool students would guarantee variety. Increasing the K-8 requirement to one cup would match the current 9-12 requirement, make it easier for operators who serve a range of grade groups, and encourage increased vegetable consumption. To reflect the DGA and make service easier, subgroup serving sizes should be adjusted to ½ cup or one cup: red/orange and other subgroup vegetable servings should be one cup, and dark/green, beans/peas, and starchy vegetable servings should be ½ cup (USDA, Dec. 2020). These serving size suggestions contrast with the proposed rule, "Simplifying Meal Service and Monitoring Requirements in the National School Lunch and School Breakfast Programs" (2020) that proposes making all of the subgroups ½ cup, which would not reflect the DGA recommendations. Ideally, every student would select one cup of vegetables, but under OVS menu systems, students would be required to choose only ½ cup for the meal to qualify for reimbursement. This meal pattern would help children achieve MyPlate's daily recommended serving amounts.

Under the proposed rule, "Simplifying Meal Service and Monitoring Requirements in the National School Lunch and School Breakfast Programs" (2020), legumes offered as a meat alternate could be counted toward the weekly legume vegetable requirement. However, this change could result in reduced consumption of this nutritious subgroup. For example, a menu planner could serve an entrée to meet the legumes weekly requirement, such as a bean and cheese burrito. In this case, only students that select the burrito would consume

beans. Students that choose another entrée, such as a chicken taco, would not have another opportunity to select legumes later in the week. Further, allowing legumes to count as a meat/meat alternate and a vegetable would enable students to build a reimbursable meal with only the bean and cheese burrito.

For schools providing non-OVS meals (e.g., sack lunches for field trips), the vegetable requirement should be decreased to ¼ cup for preschoolers and ½ cup for K-12 students, though subgroups should still be required. This change would prevent excess waste and lower food costs.

Table 4

Current and Suggested Meal Pattern Requirements of CN Lunch/Supper Programs: Vegetables

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Current Lunch/Supper</th><th colspan="2">Suggested Lunch/Supper</th></tr>
<tr><td></td><td></td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Weekly (Daily)</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 1–2 c</td><td>1 ¼ c
(¼ c)</td><td rowspan="3">¾ c
F or V</td><td rowspan="2">Ages 3–5:
¼ c</td><td rowspan="2">2½
(½ c)
Dark greens: ½ c
Red/Orange: ½ c
Beans/Peas: ½ c
Starchy: ½ c
Other: ½ c</td><td rowspan="2">1 ¼ c
(¼ c)
Dark greens: ¼ c
Red/Orange: ¼ c
Beans/Peas: ¼ c
Starchy: ¼ c
Other: ¼ c</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8: 1½–2 ½ c
Ages 9–13 girls: 1½–3 c
Ages 9–13 boys: 2–3½ c</td><td rowspan="2">3 ¾ c
(¾ c)
Dark greens: ½ c
Red/Orange: ¾ c
Beans/Peas: ½ c
Starchy: ½ c
Other: ½ c</td></tr>
<tr><td>6–8</td><td rowspan="2">Ages 6–18: ½ c</td><td rowspan="2">5 c
(1 c)[a]
Dark greens: ½ c
Red/Orange: 1 c
Beans/Peas: ½ c
Starchy: ½ c
Other: 1 c</td><td rowspan="2">2 ½ c
(½ c)
Dark greens: ½ c
Red/Orange: ½ c
Beans/Peas: ½ c
Starchy: ½ c
Other: ½ c</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 2½-3 c
Ages 14–18 boys: 2½-4 c</td><td>5 c
(1 c)
Dark greens: ½ c
Red/Orange: 1¼ c
Beans/Peas: ½ c
Starchy: ½ c
Other: ¾ c</td></tr>
</table>

Note. c = cup(s); F = fruit; V = vegetable.

[a] ½ c minimum

Snack

Current requirements.

The CACFP currently requires ½ cup serving of fruit and vegetables for children aged 3-5 and ¾ cup serving for children aged 6-18 and to provide two food groups (components) per snack (see Table 5). Operationally, this requirement is challenging for operators who serve a range of ages because packaged items and portion sides are typically ½ cup.

Suggested requirements.

The serving size for fruits and vegetables should be ½ cup for all students (see Table 5). This change would standardize serving sizes across meal patterns and allow operators to use similar items from breakfast and lunch for their snack program without adjustment. Although the change would reduce the suggested quantity of fruits and vegetables for K-12 students, they would still reach MyPlate recommendations through other school meals and at home. The suggested meal pattern retains the current requirement to serve two food groups (components) per snack.

Table 5

Current and Suggested Meal Pattern Requirements of CN Snack Programs: Vegetables

<table>
<tr><th>Grade level</th><th>MyPlate</th><th>Current Snack</th><th>Proposed Snack</th></tr>
<tr><td></td><td></td><td>CACFP</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4:
1–2 c</td><td>Ages 3–5:
½ c</td><td rowspan="4">½ c</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8:
1½–2 ½ c

Ages 9–13 girls:
1½–3 c

Ages 9–13 boys:
2–3½ c</td><td rowspan="3">Ages: 6–18
¾ c</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls:
2½-3 c

Ages 14–18 boys:
2½-4 c</td></tr>
</table>

Note. c = cup(s)

Fruit

Approximately 60 percent of preschool children consume the recommended amount of fruit. However, by adolescence, average fruit consumption falls to about half of the recommended amount. Whole fruit (fresh, frozen, canned, or dried) and 100 percent juice make up 70 percent of the fruit consumed, while the remaining 30 percent is consumed in nutrient-poor items such as baked desserts or juice drinks (USDA, Dec. 2020).

As shown in Table 6, the meal pattern requirements for fruit across the programs differ within and across each grade level. Therefore, a child who receives a meal from one program might almost meet their daily MyPlate requirement. In contrast, another child who receives a meal from another program might consume only a minimal amount toward the recommended level. Some meal programs allow operators to substitute a vegetable for fruit, which could result in a meal without fruit.

Table 6

Current MyPlate Recommendations and Meal Pattern Requirements of CN Programs: Fruit

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Breakfast</th><th colspan="3">Lunch/Supper</th><th>Snack</th></tr>
<tr><td></td><td></td><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 1–1½ c</td><td>2 ½ c (½ c)</td><td rowspan="4">½ c F or V</td><td>Ages 3–5: ½ c F or V</td><td>1 ¼ c (¼ c)</td><td rowspan="4">¾ c F or V</td><td>Ages 3–5: ¼ c</td><td>Ages 3–5: ½ c</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8: 1–2 c
Ages 9–13 girls: 1½–2 c
Ages 9–13 boys: 1½–2 c</td><td>5 c (1 c)</td><td rowspan="3">Ages 6–18: ½ c F or V</td><td>2 ½ c (½ c)</td><td rowspan="3">Ages 6–18: ¼ c</td><td rowspan="3">Ages 6–18: ¾ c</td></tr>
<tr><td>6–8</td><td>5 c (1 c)</td><td>2 ½ c (½ c)</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 1½–2 c
Ages 14–18 boys: 2-2½ c</td><td>5 c (1 c)</td><td>5 c (1 c)</td></tr>
</table>

Note. c = cup(s); F = fruit; V = vegetable.

Breakfast

Current requirements.

K-12 operators have noted that the SBP's one-cup requirement results in high levels of waste, especially since it is exacerbated by short mealtimes (see Table 7). Research has found that in the SBP, fruit and fruit juice were the second most wasted food components, with only dairy having higher plate waste (USDA, April 2019c). Furthermore, the different serving sizes make it challenging for operators to adhere to various requirements when transitioning between programs.

Suggested requirements.

To improve consistency, compensate for short mealtimes, and reduce high levels of waste, ½ cup of fruit at breakfast should be required for all grade levels (see Table 7). Although this is less than the current SBP requirement, children will reach the recommended MyPlate daily servings through other school meals and meals at home. Variety at home and school is encouraged to promote the acceptability of foods and the best nutritional habits.

AAP recommends that children aged 4-6 have no more than four to six ounces of juice per day, and children aged 7-18 limit their juice intake to eight ounces or one cup of the recommended fruit servings per day (2-2 ½ cups) (Heyman et al., 2017). To be consistent with the DGA's nutritional recommendations, whole fruit (fresh, frozen, canned, or dried) should be offered whenever juice is served, and juice should be served no more than three times per week (USDA, Dec. 2020). For schools and programs without OVS, juice should be served no more than twice per week. The proposed rule, "Simplifying Meal Service and Monitoring Requirements in the National School Lunch and School Breakfast Programs" (2020), suggests ½ cup servings for schools that are operating SBP in a non-cafeteria setting. In alignment with this proposed rule, ½ cup daily is recommended for all service styles.

Table 7

Current and Suggested Meal Pattern Requirements of CN Breakfast Programs: Fruit

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Current Breakfast</th><th colspan="2">Suggested Breakfast</th></tr>
<tr><td></td><td></td><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Weekly (Daily)</td></tr>
<tr><td>Preschool</td><td>Ages 2–4:</td><td>2 ½ c (½ c)</td><td rowspan="4">½ c F or V</td><td rowspan="4">All ages: ½ c F or V</td><td>2 ½ c (½ c)</td><td>2 ½ c (½ c)</td></tr>
<tr><td>K–5</td><td rowspan="3">Ages 5–8: 1–2 c
Ages 9–13 girls: 1½–2 c
Ages 9–13 boys: 1½–2 c</td><td>5 c (1 c)</td><td rowspan="3">2 ½ c (½ c)</td><td rowspan="3">2 ½ c (½ c)</td></tr>
<tr><td>6–8</td><td>5 c (1 c)</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 1½–2 c
Ages 14–18 boys: 2–2½ c</td><td>5 c (1 c)</td></tr>
</table>

Note. c = cup(s); F = fruit; V = vegetable.

Lunch/Supper

Current requirements.

Fruit requirements range from a ¼ cup to one cup across CN programs, making it difficult for operators to transition between programs and grade levels (see Table 8). Further, combining fruits and vegetables in SFSP and CACFP hinders children from consuming enough of both food groups.

Suggested requirements.

The fruit requirement should remain at ¼ cup for preschoolers and be increased to one cup for K-12 students in OVS menu systems. This revision would increase intake for K-8 students (see Table 8). One cup of fruit would help children meet MyPlate's daily recommended amounts, guarantee variety, and increase the chances of food acceptability. Although one cup of fruit is recommended for students, only ½ cup would be required for a meal to be reimbursable (reflecting the current NSLP requirement). For schools without OVS, only ½ cup should be required for grades K-12 to limit waste and reduce food costs.

Table 8

Current and Suggested Meal Pattern Requirements of CN Lunch/Supper Programs: Fruit

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Current Lunch/Supper</th><th colspan="2">Suggested Lunch/Supper</th></tr>
<tr><td></td><td></td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Weekly (Daily)</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 1–1½ c</td><td>1 ¼ c (¼ c)</td><td rowspan="4">¾ c F or V</td><td rowspan="4">All ages: ¼ c</td><td>1 ¼ c (¼ c)</td><td>1 ¼ c (¼ c)</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8: 1–2 c
Ages 9–13 girls: 1½–2 c
Ages 9–13 boys: 1½–2 c</td><td>2 ½ c (½ c)</td><td rowspan="3">5 c (1 c) [a]</td><td rowspan="3">2 ½ c (½ c)</td></tr>
<tr><td>6–8</td><td>2 ½ c (½ c)</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 1½–2 c
Ages 14–18 boys: 2–2½ c</td><td>5 c (1 c)</td></tr>
</table>

Note. c = cup(s); F = fruit; V = vegetable.

[a] ½ minimum.

Snack

Current requirements.

The CACFP's snack meal pattern requires operators to serve two food groups (components) per snack (see Table 9). For example, operators who choose to serve fruit must provide ½ cup serving for children aged 3-5 and ¾ cup serving for children aged 6-18. Since most packaged fruits and vegetables are typically ½ cup, requiring ¾ cup for the older children presents an operational challenge. Further, operators cannot use the same foods offered at breakfast and lunch for their snack program without repackaging or purchasing additional menu items when supplies are limited.

Suggested requirements.

To streamline serving sizes across meal patterns, the serving size for fruit should be set at ½ cup for all groups (see Table 9). Even though the suggested amount is less than the current requirements, children could still reach recommended MyPlate daily servings through participation in other school meals and at home. The suggested meal pattern retains the current requirement to serve two food groups (components) per snack.

Table 9

Current and Suggested Meal Pattern Requirements of CN Snack Programs: Fruit

<table>
<tr><th>Grade level</th><th>MyPlate</th><th>Current Snack</th><th>Suggested Snack</th></tr>
<tr><td></td><td></td><td>CACFP</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 1–1½ c</td><td>Ages 3–5:
½ c</td><td rowspan="4">½ c</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8: 1–2 c
Ages 9–13 girls: 1½–2 c
Ages 9–13 boys: 1½–2 c</td><td rowspan="3">Ages 6–18
¾ c</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 1½–2 c
Ages 14–18 boys: 2–2½ c</td></tr>
</table>

Note. c = cup(s).

Milk

On average, children under nine years of age meet (or nearly meet) their recommended daily dairy intake. However, adolescents usually do not consume the recommended amounts of dairy (USDA, Dec. 2020). As shown in Table 10, the meal pattern requirements for milk across the programs differ for children aged 3-5, whereas all other ages/grade levels require one cup. Students in grades 6-8 could consume more milk than stipulated by the daily MyPlate requirement. In the NSLP and SBP, milk is a separate meal component, and yogurt, cheese, and other dairy foods are counted as meat alternates. However, in MyPlate, milk and other dairy foods are included in the dairy group.

Table 10

Current MyPlate Recommendations and Meal Pattern Requirements of CN Programs: Milk

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Breakfast</th><th colspan="3">Lunch/Supper</th><th>Snack</th></tr>
<tr><td></td><td></td><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td rowspan="3">Ages 2–3: 2–2 ½ c
Ages 4–8: 2 ½ c
Ages 9–13: 3 c</td><td>3 ¾ c (¾ c)</td><td rowspan="4">1 c</td><td>Ages 3–5: ¾ c</td><td>3 ¾ c (¾ c)</td><td rowspan="4">1 c</td><td>Ages 3–5: ¾ c</td><td>Ages 3–5: ½ c</td></tr>
<tr><td>K–5</td><td rowspan="3">5 c (1 c)</td><td rowspan="3">Ages 6–18: 1 c</td><td rowspan="3">5 c (1 c)</td><td rowspan="3">Ages 6–18: 1 c</td><td rowspan="3">Ages 6–18: 1 c</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18: 3 c</td></tr>
</table>

Note. c = cup(s).

Breakfast, Lunch/Supper, and Snack

Current requirements.

The current meal patterns require different serving sizes for milk for preschool children, which may be a source of confusion for operators (see Tables 11-13). Further, providing preschool children with one cup of milk (as required by the SFSP) can cause them to feel full and prevent them from eating other nutritious food groups.

Suggested requirements.

Under the suggested meal pattern, breakfast, lunch/supper, and snack requirements would be consistent (see Tables 11-13). K-12 students should continue to be served one cup of milk. To reduce waste, make room for other nutritious food groups, and follow expert guidance (see, e.g., Healthy Eating Research, Sept., 2019), preschool children should be served ½ cup of unflavored milk at all meals. Due to their convenience and availability, many operators currently serve milk to preschool children in eight-ounce containers. Under the suggested meal pattern, they could continue to do so as long as they remain in the required nutrient standard ranges for the weekly menu.

Table 11

Current and Suggested Meal Pattern Requirements of CN Breakfast Programs: Milk

<table>
<tr><th rowspan="2">Grade level</th><th rowspan="2">MyPlate</th><th colspan="3">Current Breakfast</th><th colspan="2">Suggested Breakfast</th></tr>
<tr><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Weekly (Daily)</td></tr>
<tr><td>Preschool</td><td rowspan="3">Ages 2–3: 2–2 ½ c
Ages 4–8: 2 ½ c
Ages 9–13: 3 c</td><td>3 ¾ c (¾ c)</td><td rowspan="3">1 c</td><td>Ages 3–5: ¾ c</td><td>2 ½ c (½ c)</td><td>2 ½ c (½ c)</td></tr>
<tr><td>K–5</td><td rowspan="2">5 c (1 c)</td><td rowspan="2">Ages 6–18: 1 c</td><td rowspan="2">5 c (1 c)</td><td rowspan="2">5 c (1 c)</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18: 3 c</td><td></td><td></td><td></td><td></td></tr>
</table>

Note. c = cup(s).

Table 12

Current and Suggested Meal Pattern Requirements of CN Lunch/Supper Programs: Milk

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Current Lunch/Supper</th><th colspan="2">Suggested Lunch/Supper</th></tr>
<tr><td></td><td></td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Weekly (Daily)</td></tr>
<tr><td>Preschool</td><td rowspan="3">Ages 2–3: 2–2 ½ c
Ages 4–8: 2 ½ c
Ages 9–13: 3 c</td><td>3 ¾ c (¾ c)</td><td rowspan="3">1 c</td><td>Ages 3–5: ¾ c</td><td>2 ½ c (½ c)</td><td>2 ½ c (½ c)</td></tr>
<tr><td>K–5</td><td rowspan="2">5 c (1 c)</td><td rowspan="2">Ages 6–18: 1 c</td><td rowspan="2">5 c (1 c)</td><td rowspan="2">5 c (1 c)</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18: 3 c</td><td colspan="3"></td></tr>
</table>

Note. c = cup(s).

Table 13

Current and Suggested Meal Pattern Requirements of CN Snack Programs: Milk

<table>
<tr><th>Grade level</th><th>MyPlate</th><th>Current Snack</th><th>Suggested Snack</th></tr>
<tr><td></td><td></td><td>CACFP</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Daily</td><td>Weekly
(Daily)</td></tr>
<tr><td>Preschool</td><td rowspan="3">Ages 2–3:
2–2 ½ c

Ages 4–8:
2 ½ c

Ages 9–13:
3 c</td><td>Ages 3–5:
½ c</td><td>2 ½ c
(½ c)</td></tr>
<tr><td>K–5</td><td rowspan="3">Ages 6–18:
1 c</td><td rowspan="3">5 c
(1 c)</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18:
3 c</td></tr>
</table>

Note. c = cup(s).

Grains/Breads

Children of all age groups consume less than the recommended quantity of whole grains, with the gap increasing as children grow older. At the same time, however, they tend to overconsume refined grains and, consequently, eat more than the recommended amount of total grains (USDA, Dec. 2020). The DGA (USDA, Dec. 2020) identifies two groups of grains:

> Whole Grains: All whole-grain products and whole grains used as ingredients: for example, amaranth, barley (not pearled), brown rice, buckwheat, bulgur, millet, oats, popcorn, quinoa, dark rye, triticale, whole-grain cornmeal, whole-wheat bread, whole-wheat chapati, whole-grain cereals and crackers, and wild rice.
>
> Refined Grains: All refined-grain products and refined grains used as ingredients: for example, white breads, refined-grain cereals and crackers, corn grits, cream of rice, cream of wheat, barley (pearled), masa, pasta, and white rice. Refined-grain choices should be enriched. (p. 145)

However, the USDA adds a third classification of grains for CN programs (USDA, Jan. 2014):

> Whole grain-rich: Foods that meet the whole grain-rich criteria for the school meal programs contain 100 percent whole grain or a blend of whole-grain meal and/or flour and enriched meal and/or flour, of which at least 50 percent is whole grain. The remaining 50 percent or less of grains, if any, must be enriched. (p. 3)

Beyond the differences in terminology between the DGA and USDA, descriptions for serving sizes across programs are inconsistent, with some programs using ounce equivalents and others using servings (see Table 14). Requirements for whole grain-rich products differ across programs. Since school year (SY) 2014-2015, NSLP and SBP have been allowed to offer only whole grain-rich products ("Nutrition Standards in the National School Lunch and School Breakfast Programs," 2012). However, flexibilities were granted on February 11, 2019, via the final rule, "Child Nutrition Programs: Flexibilities for Milk, Whole Grain, and Sodium Requirements" (2018), requiring only half of grains offered to be whole grain-rich (50% whole grain). The final rule, "Child Nutrition Programs: Rescission of Milk, Whole Grains, and Sodium

Flexibilities: Notice of Vacatur," retracted these flexibilities in November 2020. However, a proposed rule, "Restoration of Milk, Whole Grains, and Sodium Flexibilities" (Nov. 2020), suggests returning to the original flexibilities of allowing operators to make only one-quarter (25%) of total grains whole grain ("Child Nutrition Programs: Flexibilities for Milk, Whole Grain, and Sodium Requirements," 2018), rather than half of the total grains whole grain as recommended by the DGA (USDA, Dec. 2020) and the final rule "Nutrition Standards in the National School Lunch and School Breakfast Programs" (2012).

While the current requirement for NSLP and SBP matches the DGA recommendation (USDA, Dec. 2020), it limits flexibility for menu planners, presents challenges for manufacturers, and does not recognize 100% whole grain items like brown rice and oatmeal. For CACFP, at least one serving of grains per day must be whole grain-rich ("Child and Adult Care Food Program: Meal Pattern Revisions Related to the Healthy, Hunger-Free Kids Act of 2010," 2016). SFSP has the most lenient grains requirements, allowing breads and grains to be made from whole-grain *or* enriched meal or flour ("SFSP Meal Patterns," March 2019).

Overall, the suggested recommendation is that operators maintain the current requirement of having half of all grains/breads menu offerings whole grain. However, there should be an allowance for the service of refined/enriched grains if a 100% whole grain item (e.g., brown rice, oatmeal) is served during the week within the same meal type (i.e., breakfast, lunch/supper, snack). This strategy would allow more flexibility than requiring all grains to be whole grain-rich (50% whole grain) and promote the serving of nutrient-dense whole intact grains (e.g., brown rice). For an example of how an operator could meet the requirement of making half of the grains served whole grain throughout a weekly menu, please reference Appendix B.

Table 14

Current MyPlate Recommendations and Meal Pattern Requirements of CN Programs: Grains

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Breakfast</th><th colspan="3">Lunch/Supper</th><th>Snack</th></tr>
<tr><td></td><td></td><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 3–5 oz eq</td><td>1 ¼ servings</td><td rowspan="4">All: 1 serving</td><td>Ages 3–5: ½ oz eq</td><td>1 ¼ servings</td><td rowspan="4">All: 1 serving</td><td>Ages 3–5: ½ oz eq</td><td>Ages 3–5: ½ oz eq</td></tr>
<tr><td>K-5</td><td rowspan="2">Ages 5–8: 4–6 oz eq
Ages 9–13 girls: 5 to 7 oz eq
Ages 9–13 boys: 5–9 oz eq</td><td>7–10 oz eq (1 oz eq)</td><td rowspan="3">Ages 6–18: 1 oz eq</td><td>8–9 oz eq (1 oz eq)</td><td rowspan="3">Ages 6–18: 1 oz eq</td><td rowspan="3">Ages 6–18: 1 oz eq</td></tr>
<tr><td>6-8</td><td>8–10 oz eq (1 oz eq)</td><td>8–10 oz eq (1 oz eq)</td></tr>
<tr><td>9-12</td><td>Ages 14–18 girls: 6–8 oz eq
Ages 14–18 boys: 6–10 oz eq</td><td>9–10 oz eq (1 oz eq)</td><td>10–12 oz eq (2 oz eq)</td></tr>
</table>

Note. oz = ounce(s); eq = equivalents.

Breakfast and Lunch/Supper

Current requirements.

The SBP meal pattern serving sizes vary by grade and, moreover, specify a range, which leads operators to inaccurately read the larger number as a maximum (see Tables 15-16). The "serving" requirements for SBP preschool children and SFSP are vague about portion sizes and do not match the "serving" requirements of other programs. Operators must reference "Exhibit A: Grain Requirements for Child Nutrition Programs" (n.d.) to identify each grain item's ounce equivalent and minimum serving size. The different serving sizes for the SBP and CACFP are challenging for operators who must serve multiple grade levels/age groups simultaneously. In addition, the SBP's two-ounce equivalent minimum lunch/supper requirement for grades 9-12 hinders flexibility since some two-ounce menu items are very large (e.g., scratch-made muffins) and can cause students to feel full before they can eat their fruits and vegetables. Further, the two-ounce equivalent minimum for grades 9-12 may challenge operators when sandwiches or entrees made with tortillas are served as the most commonly sized tortilla is eight inches in diameter and less than a two-ounce grain equivalent.

Suggested requirements.

For breakfast, preschool children should be served a minimum of five-ounce equivalents weekly, with a minimum of one-ounce equivalent daily. K-12 students should be served a minimum of nine-ounce equivalents weekly, with a minimum of one-ounce equivalent daily (see Table 15). For lunch/supper, preschool children should be served a minimum of seven-ounce equivalents weekly, with a minimum of one-ounce equivalent daily. K-12 students should be served a minimum of ten-ounce equivalents weekly, with a minimum of one-ounce equivalent daily (see Table 16).

Maximum ounce equivalents are avoided to limit confusion and promote simplicity. Nine ounces for breakfast and seven ounces for lunch/supper would allow operators to decide how many ounce equivalents to serve daily. For example, scratch-made menu items, such as muffin bars, are often larger than manufactured products, and a two-ounce portion could be too much for students. A one-ounce serving would allow for menu creativity and help prevent overserving

and waste. For older children, operators are encouraged to serve larger portion sizes or other grains to meet their calorie requirements. Students from different grades typically intermix in the cafeteria line during breakfast, so streamlining requirements across grade levels would make meal service significantly easier for operators who must serve multiple grade levels in the same building or at the same time.

Table 15

Current and Suggested Meal Pattern Requirements of CN Breakfast Programs: Grains

<table>
<tr><th rowspan="2">Grade level</th><th rowspan="2">MyPlate</th><th colspan="3">Current Breakfast</th><th colspan="2">Suggested Breakfast</th></tr>
<tr><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Weekly (Daily)</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 3–5 oz eq</td><td>1 ¼ servings</td><td rowspan="4">All: 1 serving</td><td>Ages: 3–5: ½ oz eq</td><td>5 oz eq (minimum 1 oz eq daily)</td><td>5 oz eq (minimum 1 oz eq daily)</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8: 4–6 oz eq
Ages 9–13 girls: 5–7 oz eq
Ages 9–13 boys: 5–9 oz eq</td><td>7–10 oz eq (1 oz eq)</td><td rowspan="3">Ages 6–18: 1 oz eq</td><td rowspan="3">9 oz eq (minimum of 1 oz eq daily)</td><td rowspan="3">9 oz eq (minimum of 1 oz eq daily)</td></tr>
<tr><td>6–8</td><td>8–10 oz eq (1 oz eq)</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 6–8 oz eq
Ages 1 4–18 boys: 6-10 oz eq</td><td>9–10 oz eq (1 oz eq)</td></tr>
</table>

Note. oz = ounce(s); eq = equivalents.

Table 16

Current and Suggested Meal Pattern Requirements of CN Lunch/Supper Programs: Grains

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Current Lunch/Supper</th><th colspan="2">Suggested Lunch/Supper</th></tr>
<tr><td></td><td></td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Weekly (Daily)</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 3–5 oz eq</td><td>1 ¼ servings</td><td rowspan="4">All: 1 serving</td><td>Ages 3–5: ½ oz eq</td><td>7 oz eq (minimum 1 oz eq daily)</td><td>7 oz eq (minimum 1 oz eq daily)</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8: 4–6 oz eq
Ages 9–13 girls: 5–7 oz eq
Ages 9–13 boys: 5–9 oz eq</td><td>8–9 oz eq (1 oz eq)</td><td rowspan="3">Ages 6–18: 1 oz eq</td><td rowspan="3">10 oz eq (minimum 1 oz eq daily)</td><td rowspan="3">10 oz eq (minimum 1 oz eq daily)</td></tr>
<tr><td>6–8</td><td>8–10 oz eq (1 oz eq)</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 6–8 oz eq
Ages 14–18 boys: 6–10 oz eq</td><td>10–12 oz eq (2 oz eq)</td></tr>
</table>

Note. oz = ounce(s); eq = equivalents.

Snack

Current requirements.

The current meal pattern for grains requires two different portion sizes: ½-ounce equivalent for children aged 3-5 and one-ounce equivalent for children aged 6-18. Additionally, two food groups (components) must be served per snack. Inconsistent portion sizes are challenging for operators who serve a range of ages, especially since different requirements often require the purchase of different products (see Table 17).

Suggested requirements.

The serving size for preschool children should be adjusted from ½-ounce equivalent to one-ounce equivalent to match the K-12 serving size (see Table 17). This change would allow operators to use the same products across age groups and remain in line with MyPlate's daily recommendations. The suggested meal pattern retains the current requirement to serve two food groups (components) per snack.

Table 17

Current and Suggested Meal Pattern Requirements of CN Snack Programs: Grains

<table>
<tr><th>Grade level</th><th>MyPlate</th><th>Current Snack</th><th>Suggested Snack</th></tr>
<tr><td></td><td></td><td>CACFP</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4:
3–5 oz eq</td><td>Ages 3–5:
½ oz eq</td><td rowspan="4">1 oz eq</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8:
4–6 oz eq

Ages 9–13 girls:
5–7 oz eq

Ages 9–13 boys:
5–9 oz eq</td><td rowspan="2">Ages 6–18:
1 oz eq</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls:
6–8 oz eq

Ages 14–18 boys:
6–10 oz eq</td></tr>
</table>

Note. oz = ounce(s); eq = equivalents.

Protein Foods

Every group except adolescent females (aged 14-18) typically consumes the recommended amount of total protein. Students typically consume less seafood than other meats, poultry, and eggs. Serving seafood or legumes instead of processed or high-fat meats would improve children's nutrition (USDA, Dec. 2020). As with the grain requirements, protein requirements across programs use inconsistent serving units (i.e., ounce equivalents versus ounces) (see Table 18). Further, the programs allow operators to use protein foods as a grain credit, which leads to confusion.

Table 18

Current MyPlate Recommendations and Meal Pattern Requirements of CN Programs: Protein Foods

<table>
<tr><th>Grade level</th><th>MyPlate</th><th colspan="3">Breakfast</th><th colspan="3">Lunch/Supper</th><th>Snack</th></tr>
<tr><td></td><td></td><td>SBP & SSO</td><td>SFSP</td><td>CACFP</td><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 2–5 oz eq</td><td rowspan="4">May replace 1 oz eq grain</td><td rowspan="4">None</td><td rowspan="4">May substitute for grain 3x/week</td><td>7 ½ oz eq (1 ½ oz eq)</td><td rowspan="4">1 m/ma serving [a]</td><td>Ages 3–5: 1 ½ oz</td><td>Ages 3–5: ½ oz</td></tr>
<tr><td>K–5</td><td rowspan="3">Ages 5–8: 3–5 ½ oz eq
Ages 9–13 girls: 4–6 oz eq
Ages 9–13 boys: 5–6½ oz eq</td><td>8–10 oz eq (1 oz eq)</td><td rowspan="3">Ages 6–18: 2 oz</td><td rowspan="3">Ages 6–18: 1 oz</td></tr>
<tr><td>6–8</td><td>9–10 oz eq (1 oz eq)</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 5–6½ oz eq
Ages 14–18 boys: 5½–7 oz eq</td><td>10–12 oz eq (2 oz eq)</td></tr>
</table>

Note. oz = ounce(s); eq = equivalents; m/ma = meat/meat alternate.

[a] One m/ma serving equals 2 oz cooked meat, 2 oz cheese, 1 large egg, ½ cup cooked beans, 4 Tbsp peanut butter, 1 oz nuts or seeds (credited as half the m/ma requirement), or 8 oz yogurt.

Breakfast

Current requirements.

For the SBP, once a child is served one ounce of grain, the operator can use a one-ounce equivalent of meat/meat alternate for the second one-ounce requirement. The CACFP allows meats/meat alternates to be substituted for grains three times per week (see Table 19). Protein foods are not required at breakfast but could help with satiety if included. A meta-analysis found preliminary support for the claim that protein-rich breakfasts decrease subsequent energy intake and hunger in school-age children (Qiu, Zhang, Long & He, 2021). However, replacing grains with protein foods at breakfast (as allowed by the CACFP) could indirectly encourage the consumption of foods high in saturated fat and discourage the consumption of whole grains. Meats and meat alternates were included in approximately half of all daily breakfast menus, with yogurt being the most frequently offered item. Other protein food items such as cheese, eggs, nuts, and seeds were offered less frequently, followed by sausage (USDA, April 2019b). Finally, the SBP requirement that currently allows meats/meat alternates to be substituted for grains after the first ounce has been met creates significant confusion among operators. It suggests that protein foods can be counted as grains.

Suggested requirements.

One ounce of protein should be added to breakfast daily using a variety of items, including plant-based products such as nuts, seeds, nut/seed butters, and soy products (see Table 19). The proposed rule, “Simplifying Meal Service and Monitoring Requirements in the National School Lunch and School Breakfast Programs” (2020), also suggests allowing schools to offer a meat/meat alternate, a grain, or a combination of both at breakfast with no daily minimum grain requirement. However, this proposed rule would allow an operator to serve protein foods instead of grains every day, which would cause students to miss out on the nutritional benefits of whole grains (USDA, Dec. 2020).

Table 19

Current and Suggested Meal Pattern Requirements of CN Breakfast Programs: Protein Foods

Grade level	MyPlate	Current Breakfast			Suggested Breakfast	
		SBP & SSO	SFSP	CACFP	OVS	Without OVS
	Daily	Weekly (Daily)	Daily	Daily	Weekly (Daily)	Weekly (Daily)
Preschool	Ages 2–4: 2–5 oz eq	May replace 1 oz eq grain	None	May substitute for grain 3x/ week	Recommended 1 oz daily	Recommended 1 oz daily
K–5	Ages 5–8: 3–5 ½ oz eq					
6–8	Ages 9–13 girls: 4–6 oz eq Ages 9–13 boys: 5–6½ oz eq					
9–12	Ages 14–18 girls: 5–6 ½ oz eq Ages 14–18 boys: 5 ½–7 oz eq					

Note. oz = ounce(s); eq = equivalents.

Lunch/Supper

Current requirements.

Meal pattern requirements for protein foods present the same challenges as those identified for grains (see Table 20). The current NSLP meal pattern serving sizes vary by grade, and a range is specified for K-12, implying a maximum. Meeting different serving sizes for NSLP and CACFP is challenging for operators who simultaneously serve multiple grade levels/ages. Also, the "serving" requirement for SFSP does not match the "serving" requirements for other programs (see Table 20).

Suggested requirements.

The suggested lunch/supper meal pattern for protein foods is similar to the one recommended for grains. Preschool children should be served a minimum of seven-ounce equivalents of protein foods weekly, with a minimum of one-ounce equivalent of protein daily. K-12 students should be served a minimum of ten-ounce equivalents of protein foods weekly, with a minimum of one-ounce equivalent of protein daily (see Table 20). The emphasis on weekly total ounces would give operators the flexibility to choose how many ounce equivalents of protein foods are served each day, which would help students meet MyPlate's daily recommendations, allow for more menu choices, and reduce overserving and waste. Older children could be offered larger portion sizes to meet increased caloric needs.

Table 20

Current and Suggested Meal Pattern Requirements of CN Lunch/Supper Programs: Protein Foods

<table>
<tr><th rowspan="2">Grade level</th><th rowspan="2">MyPlate</th><th colspan="3">Current Lunch/Supper</th><th colspan="2">Suggested Lunch/Supper</th></tr>
<tr><td>NSLP & SSO Lunch</td><td>SFSP Lunch & Supper</td><td>CACFP Supper</td><td>OVS</td><td>Without OVS</td></tr>
<tr><td></td><td>Daily</td><td>Weekly (Daily)</td><td>Daily</td><td>Daily</td><td>Weekly (Daily)</td><td>Weekly (Daily)</td></tr>
<tr><td>Preschool</td><td>Ages 2–4: 2–5 oz eq</td><td>7 ½ oz eq (1 ½ oz eq)</td><td rowspan="4">All: 1 m/ma serving [a]</td><td>Ages 3–5: 1 ½ oz</td><td>7 oz eq (minimum 1 oz eq daily)</td><td></td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8: 3–5 ½ oz eq
Ages 9–13 girls: 4–6 oz eq
Ages 9–13 boys: 5–6 ½ oz eq</td><td>8–10 oz eq (1 oz eq)</td><td rowspan="3">Ages 6–18: 2 oz</td><td rowspan="3">10 oz eq (minimum 1 oz eq daily)</td><td>7 oz eq (minimum 1 oz eq daily)</td></tr>
<tr><td>6–8</td><td>9–10 oz eq (1 oz eq)</td><td rowspan="2">10 oz eq (minimum 1 oz eq daily)</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls: 5–6 ½ oz eq
Ages 14–18 boys: 5 ½–7 oz eq</td><td>10–12 oz eq (2 oz eq)</td></tr>
</table>

Note. oz = ounce(s); eq = equivalents; m/ma = meat/meat alternate.

[a] One m/ma serving equals 2 oz cooked meat, 2 oz cheese, 1 large egg, ½ cup cooked beans, 4 Tbsp peanut butter, 1 oz nuts or seeds (credited as half the m/ma requirement), or 8 oz yogurt.

Snack

Current requirements.

Along with requiring two food groups (components) to be served per snack, the CACFP currently requires two different portion sizes: a ½-ounce equivalent of protein for children aged 3-5 and a one-ounce equivalent of protein for children aged 6-18 (see Table 21). Different portion sizes typically necessitate the purchase of more products and increase the complexity of the procurement process.

Suggested requirements.

The serving size for preschool children should be adjusted from ½-ounce equivalent to one-ounce equivalent to match the K-12 serving size (see Table 21). This adjustment would allow operators to use the same products across age groups while still following MyPlate's daily recommendations. The suggested meal pattern would keep the current requirement to serve two food groups (components) per snack.

Table 21

Current and Suggested Meal Pattern Requirements of CN Snack Programs: Protein Foods

<table>
<tr><th>Grade level</th><th>MyPlate</th><th>Current Snack</th><th>Suggested Snack</th></tr>
<tr><td></td><td></td><td>CACFP</td><td>CACFP</td></tr>
<tr><td></td><td>Daily</td><td>Daily</td><td>Daily</td></tr>
<tr><td>Preschool</td><td>Ages 2–4:
2–5 oz eq</td><td>Ages 3–5:
½ oz</td><td rowspan="4">1 oz</td></tr>
<tr><td>K–5</td><td rowspan="2">Ages 5–8:
3–5 ½ oz eq

Ages 9–13 girls:
4–6 oz eq

Ages 9–13 boys:
5–6 ½ oz eq</td><td rowspan="2">Ages 6–18:
1 oz</td></tr>
<tr><td>6–8</td></tr>
<tr><td>9–12</td><td>Ages 14–18 girls:
5–6 ½ oz eq

Ages 14–18 boys:
5 ½–7 oz eq</td></tr>
</table>

Note. oz = ounce(s); eq = equivalents.

Calories, Saturated Fat, Sodium, and Added Sugars

The suggested meal patterns meet the calories, saturated fat, and sodium standards of both the NSLP and SBP. Sodium standards should follow the sodium requirements proposed by "Child Nutrition Programs: Flexibilities for Milk, Whole Grains, and Sodium Requirements" (Dec. 2018), which calls for more time for gradual sodium reduction by retaining Sodium Target 1 through the end of SY 2023-2024, requiring compliance with Sodium Target 2 in SY 2024-2025 (which begins July 1, 2024), and eliminating the Final Target that would have gone into effect in SY 2022-2023. Using potassium chloride as a sodium substitution needs more research before consideration as a viable option in CN programs.

The suggested meal patterns should also include restrictions on added sugars for yogurt, breakfast cereals, and grain-based desserts to be consistent with the current requirements for CACFP. For example, added sugar (e.g., granulated sugar, honey, maple syrup) should constitute no more than 10 percent of total calories per day. Naturally occurring sugars (such as those found in fruit or milk) do not count toward this 10 percent limit (USDA, Dec. 2020). Non-nutritive sweeteners (also called sugar substitutes or artificial sweeteners) should not replace added sugars as more research is needed on how artificial sweeteners affect children's taste preferences and health (Baker-Smith, Ferranti & Cochran, 2019).

An additional suggestion is to modify and simplify the CACFP list of grain-based desserts from currently existing offerings such as sweet pita chips and granola bars to traditional items such as cookies, cakes, and pies. Other sweet grain items, such as muffins, scones, and cinnamon rolls, should be restricted to a set number of grams of added sugar, similar to the amounts recommended for yogurt and breakfast cereals.

CONCLUSION

The meals and snacks served in CN programs are essential to helping children lead healthy lifestyles and meet their nutritional needs. However, since the passage of the National School Lunch Act in 1946, different CN programs have developed against the backdrop of periodically updated DGA and recommendations from groups such as the AAP. As a result, inconsistencies in language, student groupings, and meal pattern requirements have emerged, often resulting in challenges for SFAs and their industry partners. The streamlined meal pattern suggested in this proposal would align the CN terminology with the DGA, simplify student groupings, and streamline meal pattern requirements across federal CN programs. The streamlined meal pattern would also address other challenges (e.g., plate waste, food variety) while generating additional benefits such as increased compliance, a more efficient supply chain, and clear health messaging for students and caregivers. In turn, the relationships among all stakeholders would strengthen while working towards the common goal of supporting children's nutritional needs.

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APPENDIX A

Table 22

Summary of Suggested Meal Pattern Requirements with Offer Versus Serve

Food Groups	Breakfast	Lunch/Supper	Snack Choose 2
Fruit	Preschool: 2 ½ c (½ c) K–5: 2 ½ c (½ c) 6–8: 2 ½ c (½ c) 9–12: 2 ½ c (½ c) *Fruit must be offered when juice is served and juice is limited to 3x/week*	Preschool: 1 ¼ c (¼ c) K–5: 5 c (1 c) 6–8: 5 c (1 c) 9–12: 5 c (1 c) *½ cup minimum for OVS*	Preschool: ½ c K–12: ½ c *Juice cannot be served with milk*
Vegetables with subgroups	*Can substitute any vegetable, except starchy, for fruit* *Starchy can be an additional option*	Preschool: 2 ½ c (½ c) Dark Green: ½ c Red/Orange: ½ c Beans and Peas: ½ c Starchy: ½ c Other: ½ c K–12: 5 c (1 c) Dark Green: ½ c Red/Orange: 1 c Beans and Peas: ½ c Starchy: ½ c Other: 1 c *½ cup minimum for OVS*	Preschool: ½ c K–12: ½ c
Grains	Preschool: 5 oz eq (minimum 1 oz eq daily) K–12: 9 oz eq (minimum of 1 oz eq daily)	Preschool: 7 oz eq (minimum 1 oz eq daily) K–12: 10 oz eq (minimum 1 oz eq daily)	Preschool: 1 oz eq K–12: 1 oz eq
Protein Foods	*Recommended 1 oz daily for balanced breakfast*	Preschool: 7 oz eq (minimum 1 oz eq daily) K–12: 10 oz eq (minimum 1 oz eq daily)	Preschool: 1 oz eq K–12: 1 oz eq
Milk	Preschool: 3 ¾ c (¾ c) K–5: 5 c (1 c) 6–8: 5 c (1 c) 9–12: 5 c (1 c)	Preschool: 3 ¾ c (¾ c) K–5: 5 c (1 c) 6–8: 5 c (1 c) 9–12: 5 c (1 c)	Preschool: 3 ¾ c (¾ c) K–5: 5 c (1 c) 6–8: 5 c (1 c) 9–12: 5 c (1 c)

Note. c = cup(s); oz = ounce(s); eq = equivalents.

Table 23

Summary of Suggested Meal Pattern Requirements without Offer Versus Serve

Food Groups	Breakfast	Lunch/Supper	Snack Choose 2
Fruit	Preschool: 2 ½ c (½ c) K–5: 2 ½ c (½ c) 6–8: 2 ½ c (½ c) 9–12: 2 ½ c (½ c) *Juice must be limited to 2x/week*	Preschool: 1 ¼ c (¼ c) K–5: 2 ½ c (½ c) 6–8: 2 ½ c (½ c) 9–12: 2 ½ c (½ c) *Juice is not allowed*	Preschool: ½ c K–12: ½ c *Juice cannot be served with milk*
Vegetables with subgroups	*Can substitute for fruit - limit starchy vegetables to 1x/week*	Preschool: 1 ¼ c (¼ c) Dark Green: ¼ c Red/Orange: ¼ c Beans and Peas: ¼ c Starchy: ¼ c Other: ¼ c K–12: 2 ½ c (½ c) Dark Green: ½ c Red/Orange: ½ c Beans and Peas: ½ c Starchy: ½ c Other: ½ c	Preschool: ½ c K–12: ½ c
Grains	Preschool: 5 oz eq (minimum 1 oz eq daily) K–12: 9 oz eq (minimum of 1 oz eq daily)	Preschool: 7 oz eq (minimum 1 oz eq daily) K–12: 10 oz eq (minimum 1 oz eq daily)	Preschool: 1 oz eq K–12: 1 oz eq
Protein Foods	*Recommended 1 oz daily for balanced breakfast*	Preschool: 7 oz eq (minimum 1 oz eq daily) K–12: 10 oz eq (minimum 1 oz eq daily)	Preschool: 1 oz eq K–12: 1 oz eq
Milk	Preschool: 3 ¾ c (¾ c) K–5: 5 c (1 c) 6–8: 5 c (1 c) 9–12: 5 c (1 c)	Preschool: 3 ¾ c (¾ c) K–5: 5 c (1 c) 6–8: 5 c (1 c) 9–12: 5 c (1 c)	Preschool: 3 ¾ c (¾ c) K–5: 5 c (1 c) 6–8: 5 c (1 c) 9–12: 5 c (1 c)

Note. c = cup(s); oz = ounce(s); eq = equivalents.

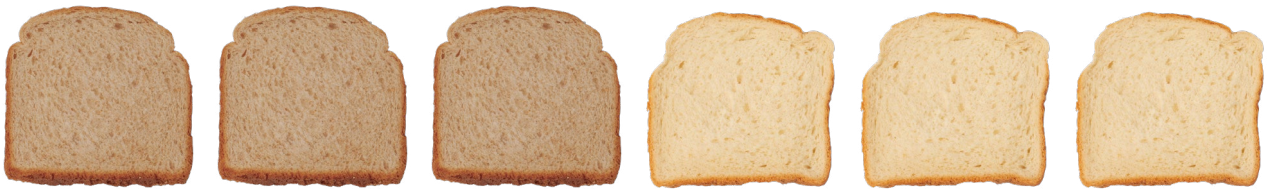
APPENDIX B

Grain Examples

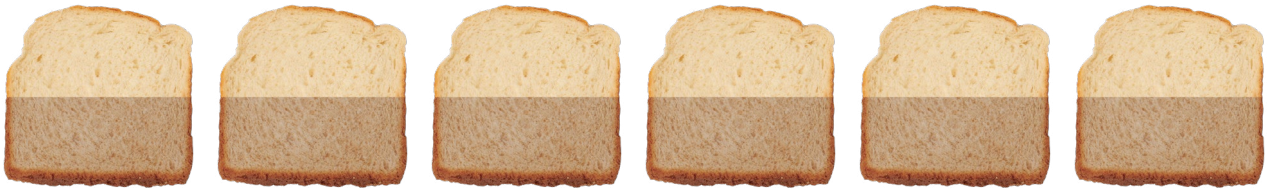
The DGA encourages Americans to make half of our grains whole grain. There are multiple ways to achieve this recommendation (see Figure 1).

Figure 1

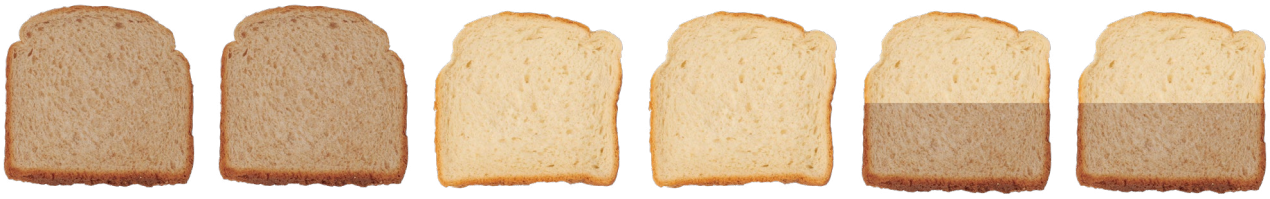
Examples of how to achieve 50% whole grain recommendation



Note. An equal mix of 100% whole grain items and refined/enriched grains



Note. All whole grain-rich items (at least 50% whole grain)



Note. A mix of 100% whole grain, whole grain-rich, and refined/enriched item

For menu planning, Table 24 illustrates the suggested grain recommendation. If serving a refined/enriched grain/bread at lunch, then also serve a 100% whole grain item during the week (e.g., brown rice, oatmeal, 100% WG sandwich bread).

Table 24

Menu Planning Example for Suggested Grain Recommendation

	Lunch An equal mix of 100% whole grain items and refined/ enriched grains	**Lunch** All whole grain-rich items (at least 50% whole grain)	**Lunch** A mix of 100% whole grain, whole grain-rich, and refined/ enriched item
Monday	Refined/ enriched tortilla	WGR tortilla	Refined/ enriched tortilla
Tuesday	Brown rice	Mixed brown and white rice	Brown rice
Wednesday	100% WG Sandwich bread	WGR Sandwich bread	WGR Sandwich bread
Thursday	Refined/ enriched Roll	WGR Roll	WGR Roll
Friday	100% WG pasta	WGR Pasta	WGR Pasta

Note. WGR = whole grain-rich; WG = whole grain.