



Child Nutrition and School Meals

CH.1

Since their start, school meal programs have safeguarded the health and well-being of America's children. As school nutrition professionals, you and your staff play a huge role in ensuring students are properly nourished and ready to learn. You do that by planning, preparing, and serving great-tasting, nutritious, and safe meals — every day of the school year! Thanks to your efforts in implementing today's school meal patterns, school meals are bursting with flavorful fruits, vegetables, whole grains, lean proteins, and fat-free and 1% (low-fat) milk. School meals are aligned with dietary specifications that ensure meals contain important vitamins and minerals and are sufficient in calories, but limited in saturated fat, sodium, and trans fat.

In this chapter, you will take a general look at:

The role of school meals in enhancing students' well-being, for today and the future:

- Key aspects of menu planning
 - Grade groups
 - Meal components
 - Meal patterns
 - Dietary specifications.
- Food-safe schools
 - School-related food safety laws and regulations
 - The importance of fostering a culture of food safety in your schools.
- The science behind nutrition standards in school meals.
- Flexibility in the nutrition standards so you can plan your menus to meet the needs of your district, schools, and students.

MEETING THE NUTRITIONAL NEEDS OF STUDENTS THROUGH SCHOOL MEALS

Generally, most people know about nutrition. It is the process by which our bodies take in and use food. Why is it so important? What are special issues of concern for today's children?

Good nutrition provides the calories students need for energy and the nutrients essential for:

- Proper growth, repair, and maintenance of body tissues
- Resistance to disease and infection
- Prevention of nutrient deficiencies.

In recent decades, medical researchers have found that proper nutrition, as well as physical activity, can also help reduce the risks of heart disease and certain types of cancer.

A healthy diet provides:

- Essential nutrients and energy to prevent nutritional deficiencies and excesses
- The right balance of carbohydrates, fats, and protein to reduce risk for chronic diseases

- A variety of foods including low-fat and fat-free milk and milk products, fruits, vegetables, whole grains, and lean meats, poultry, fish, beans, eggs, and nuts.

Today's Nutrition Challenges for Children

While many children in the United States consume healthy diets and engage in physical activity, significant portions do not. For example:

- Twelve percent of households experience food insecurity.
- One in five school-age children is obese.
- Over 70 percent of high school students do not engage in physical activity for at least 60 minutes daily (the recommended amount).

A student can experience food insecurity and be overweight at the same time. Reasons include lack of access to a variety of health-promoting foods; excess intake of low-nutrient, high-calorie foods and beverages; and sedentary lifestyles.

Updated Science-Based Standards for School Meals

While school meals have always provided a nutritional safety net for children, the prevalence of overweight, obese, and/or physically inactive students led the Federal Government to update

the requirements for school meals. In 2010, USDA made the first major changes to school meals in 15 years to help raise a healthier generation of children. These changes are reflected in the regulation Nutrition Standards in the National School Lunch and School Breakfast Programs which was published in 2012.

The updated standards align school nutrition programs with the latest nutrition science. The goal of the school meals program is to provide meals that meet the dietary needs of children, while safeguarding their health. This is accomplished by serving meals packed with nutrients and limiting excess calories, saturated fat, sodium, and *trans* fat.

Several interrelated laws, regulations, and publications provide the rationale for school meal patterns and dietary specifications:

- *Nutrition Standards in the National School Lunch and School Breakfast Programs*
- National School Lunch Act (NSLA) (https://www.fns.usda.gov/nslp/history_5)
- *Dietary Guidelines for Americans (Dietary Guidelines)* (<https://health.gov/dietaryguidelines/>)

Nutrient Dense

The *Dietary Guidelines for Americans* define “nutrient dense” as follows:

Nutrient-dense foods and beverages provide vitamins, minerals, and other substances that contribute to adequate nutrient intakes or may have positive health effects, with little or no solid fats and added sugars, refined starches, and sodium. Ideally, these foods and beverages also are in forms that retain naturally occurring components, such as dietary fiber. All vegetables, fruits, whole grains, seafood, eggs, beans and peas, unsalted nuts and seeds, fat-free and low-fat dairy products, and lean meats and poultry—when prepared with little or no solid fats, sugars, refined starches, and sodium—are nutrient-dense foods. These foods contribute to meeting food group recommendations within calorie and sodium limits. The term “nutrient dense” indicates the nutrients and other beneficial substances in a food have not been “diluted” by the addition of calories from added solid fats, sugars, or refined starches, or by the solid fats naturally present in the food.



- The Health and Medicine Division’s (HMD, formerly the Institute of Medicine, IOM) recommendations set forth in the 2009 report *School Meals: Building Blocks for Healthy Children* (HMD School Meals Report) (<https://www.nap.edu/catalog/12751/school-meals-building-blocks-for-healthy-children>).

The following sections cover each of these in a little more detail. First, let’s review the basics of menu planning and creating a culture of food safety.

MENU PLANNING – THE FOUNDATION OF SCHOOL MEALS

Ultimately, you want to provide nutrient-dense meals (high in beneficial nutrients and relatively low in calories) that better meet the dietary needs of school children and promote good health.

This means increasing the availability and intake of fruits, vegetables, whole grains, and fat-free and 1% (low-fat) milk. It also includes reducing the levels of saturated fat, sodium, and *trans* fat, while meeting nutrient and calorie requirements of school children.

To meet these goals, USDA has developed a food-based menu planning (FBMP) system. If followed correctly, this system helps ensure your menus will meet the nutrition standards.

Let’s take a quick tour of planning menus to meet the Federal standards before diving into details in the following chapters. In the next few pages you will review grade groups, meal components, and dietary specifications. These regulations have flexibility to fit the needs of your district, schools, and students.

Menu Planning Allows Flexibility

Districts and schools across America vary in many aspects. Diversities include:

- Urban, suburban, and rural settings
- Economic health of local communities
- Ethnic and cultural makeup of students, faculty, and staff
- District and school sizes
- Different school-level grade categories
- Differences in State and local policies
- Availability and cost of local and regional foods.

You understand the needs of your district, schools, and students. That’s why flexibility is built into planning school meals that meet Federal requirements.

Grade Groups

Meal patterns and dietary specifications have been established for grade groups:

- Grades K-5 (ages 5-10)
- Grades 6-8 (ages 11-13)
- Grades 9-12 (ages 14-18).

These grade groups reflect typical school grade configurations. Additionally, the groupings are consistent with the school-age categories for various nutrients in the HMD School Meals Report. Each grade group meal pattern is designed to provide these nutrients on a weekly average: approximately one-third of the total daily calories and other key nutrients at lunch, and approximately one-fourth of the total daily calories and key nutrients at breakfast.

The food quantity requirements for grade groups K–5 and 6–8 overlap, allowing schools to use one meal pattern for students in grades K through 8 at lunch. The patterns for breakfast overlap for all grades K-12. Chapter 3 includes menu planning tips for blended grade groups.



Meal Components

Meal patterns are based on meal components:

- Fluid milk
- Fruits
- Vegetables, including subgroup requirements
 - Dark green
 - Red/orange
 - Beans and peas (legumes)
 - Starchy
 - Other
- Grains
- Meats/meat alternates.

Let's take a look at the highlights of the menu planning system:

- Provide a variety of fluid milk that is fat-free and 1% (low-fat) unflavored or flavored.
- Provide fruits daily at lunch and breakfast.
- Provide vegetables daily at lunch and meet weekly requirements for specific vegetable subgroups.
- Provide whole grains: all grains must be whole grain-rich.*
- Include fruits or vegetables as part of required items for a reimbursable meal.
- Meet the ranges or limits for dietary specifications.

Dietary specifications establish ranges or limits for each grade group for:

- Calories
- Saturated fat
- Sodium
- *Trans* fat.

*See the Interim Final Rule *Child Nutrition Programs: Flexibilities for Milk, Whole Grains, and Sodium Requirements* (82 FR 56703), which provides State agencies discretion to grant whole grain-rich exemptions through school year 2018-2019. For additional guidance, please contact your State agency.

Here is a snapshot of dietary specifications in menu planning:

- Offer meals that meet specific calorie ranges for each grade group.
- Limit saturated fat content of meals.
- Reduce the sodium content of meals.
- Prepare meals using food products or ingredients that contain 0 grams (<0.5 grams) *trans* fat per serving.

Chapter 2 covers the meal components, meal patterns, and dietary specifications in detail. With this overview, you can see how the FBMP system will result in nutrient-dense meals (high in nutrients for the amount of calories).

Further in this chapter, you will find more details about the nutrition science that forms the foundation of the school meals planning system. Next let's turn to new developments in food safety in the school environment.



School District:
Pinellas County
District Schools

Located:
Largo, Florida

Enrollment:
104,000

Website:
www.pcsb.org

Training the Trainer About Food-Based Menu Planning

Pinellas County District Schools (PCDS) Food Service Department has developed a train-the-trainer program for managers on Food-Based Menu Planning. Assistant Director Brianna Mahoney, M.S., R.D., conducted summer training in small groups of 10 people, providing the opportunity for individualized attention and group discussion. Managers received materials specific to their school. Additionally, all participants received:

- A dietary specifications sheet
- A vegetable subgroups chart
- Menus for each grade level
- Meal component handouts with changes noted.

Here are some highlights of the training:

- Detailed overview and discussion of the regulations
- Hands-on activity comparing current menus to the dietary specifications
- In-depth look at vegetable subgroups
- Group discussion about ways to add more vegetables to current menus
- Tests to measure managers' understanding of the information presented.

Managers now train their staff using these materials, which they can tailor to the needs of their school. Additional PCDS training materials include:

- An e-learning program for Offer vs Serve
- A video showing correct and incorrect breakfast trays
- A question and answer game adding fun to training days
- School posters and flyers.

These examples show how training can be fun and educational. PCDS' overall training goal is to bring value to students with each meal served.



Pinellas County Schools' training tool helps staff understand requirements for a reimbursable meal.

Whether you use some of the many low-cost or free trainings available through the USDA Professional Standards Training Database (<https://professionalstandards.fns.usda.gov/content/find-training>), resources from the Institute of Child Nutrition, or develop training materials, it's important to regularly train, in creative ways, both seasoned and newly hired staff on school meal standards. Check to see whether the training you provide credits toward USDA Professional Standards requirements (<https://www.fns.usda.gov/school-meals/professional-standards>). For access to hundreds of low-cost or free trainings, visit the USDA Professional Standards Training Database (<https://professionalstandards.fns.usda.gov/content/find-training>).



Food Insecurity in America and the Role of School Meals

Most U.S. households are food secure, having consistent, dependable access to enough food for active, healthy living. But some American households do experience food insecurity, which means that some families have limited access to food at times during the year due to a lack of money and/or other resources. USDA's food and nutrition assistance programs increase food security by providing low-income households access to food, a healthful diet, and nutrition education to get the most out of each food dollar.

The USDA Economic Research Service (ERS) monitors food insecurity in U.S. households through an annual, nationally representative survey. Here's a snapshot of food insecurity in the United States:

- Twelve percent of American households (about 15.6 million) are food insecure, meaning they lacked access to enough food for an active, healthy life for all household members.
- Five percent of U.S. households (about 6.1 million) had very low food security; in other words, when food was in short supply, some family members ate less food and less often than their normal pattern.
- For households with children, 8 percent were food insecure. At times, about 3 million households were unable to provide adequate, nutritious food for their children.
- Rates of food insecurity were much higher than the national average for:
 - Households with incomes near or below the Federal poverty line (a household income level that is used to determine who is eligible for Federal subsidies or aid)
 - Single-parent households
 - African American- and Hispanic-headed households.
- Fifty-nine percent of food-insecure households reported participating in one or more of the three largest Federal food and nutrition assistance programs in the prior month.

USDA's child nutrition programs provide a nutritional safety net for children. The National School Lunch Program (NSLP) is our country's second largest food and nutrition assistance program. While all schools are eligible to offer the School Breakfast Program (SBP), not all do. Offering breakfast in schools is one way to address food insecurity within your local community:

- Over 100,000 public and nonprofit private schools (grades K-12) and residential child care institutions (RCCIs) participated in the NSLP.
- Each school day, over 30.4 million children received low-cost or free lunches.
- School cafeterias served almost 5 billion lunches, about three-quarters of them free or reduced-price.

In participating NSLP/SBP schools, any student may purchase a reimbursable meal. Income-eligible families can receive free- or reduced-price meals for their children:

- Children in households with incomes at or below 130 percent of poverty line can qualify for free meal benefits.
- Children in households with incomes between 130 and 185 percent of poverty line can qualify for reduced-price meals.
- Children from food-insecure and marginally secure households were more likely to eat school meals, and these students received more of their total food and nutrient intake from school meals than did children from food-secure households.

The school meals you plan and serve relieve food insecurity in your local area in three ways: food is offered, meals are healthful, and nutrition education is part of the school meal experience. It may seem as though you have a lot on your plate as a menu planner. Your efforts affect all students' nutrition and health, especially those from food-insecure households.

References

Alisha Coleman-Jensen, Matthew P, Rabbitt, Christian Gregory, and Anita Singh. *Household Food Security in the United States in 2016*, ERR-237, U. S. Department of Agriculture, Economic Research Service, September, 2017 (<https://www.ers.usda.gov/publications/pub-details/?pubid=84972>).

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U.S. Department of Agriculture, Food and Nutrition Service, National School Lunch Program Fact Sheet (<https://www.fns.usda.gov/nslp/national-school-lunch-program-nslp>).

U.S. Department of Agriculture, Food and Nutrition Service, School Meals, Income Eligibility Guidelines (<https://www.fns.usda.gov/school-meals/income-eligibility-guidelines>).

U.S. Department of Health and Human Services, Poverty Guidelines, Research, and Measurement (<https://aspe.hhs.gov/poverty-research>).

FOOD-SAFE SCHOOLS

When it comes to school meals, food safety is just as important as nutrition. School Food Authorities (SFAs) follow regulations provided by USDA and State or local health departments to maintain safe food. In this section, you will learn about creating a culture of food safety.

School Meals Food Safety Laws and Regulations

Let's take a moment to see which regulations affect your school food safety program. The NSLA stipulates that the USDA provide assistance to States in establishing, maintaining, operating, and expanding child nutrition programs offered through schools. The law requires school meal programs to meet minimum food safety requirements.

In 2010, the NSLA was amended. The Act now includes the food safety requirements and the Child Nutrition and WIC Reauthorization Act of 2004. The NSLA requires:

- SFAs to implement a school food safety program based on Hazard Analysis and Critical Control Point (HACCP) principles anywhere food is stored, prepared, or served
- Each school participating in the NSLP or SBP to:
 - Obtain at least two food safety inspections each school year.
 - Post most recent food safety inspection in a publicly visible location.
 - Provide a copy of the food safety inspection report to the public upon request.

Assuring the safety of the food for the customers you serve goes beyond requirements. Buy-in from the broader school community is necessary to create a culture of food safety.

A Culture of Food Safety – Creating Food-Safe Schools

What is a culture of food safety? Think of it as the school community's behaviors and beliefs about food safety. A culture of food safety will be evident when food-safe behaviors are *second nature* to members of the school community – the school nutrition team, school administrators, teachers, parents, and students. These behaviors are *consistently* practiced to help keep everyone healthy and safe, students and adults alike.

Unsafe human behavior is a major contributing factor to foodborne illness. Simply put, food safety and behavior go hand in hand. Historically, food safety efforts have focused on regulatory inspections and training, but research shows these efforts alone are only partially effective. Basing your food safety efforts on sound science lays the foundation for a culture of food safety. Not only must you know which practices are important to keep food safe (for example, temperature control of food), but also why these practices are critical (for example, food held at improper temperature can grow microbes that can make your students sick).

Developing plans, policies, and procedures are important to establish expectations and standards, as well as create a food safety blueprint for the entire school community. However, you also must strive to change the way people do things – their behavior. Your goal should be to create a culture of food safety by focusing not only on *processes*, but also on *people*.



*In creating this culture, **food safety needs to be viewed as a value rather than a priority. Priorities can change; values should not.***



Food Safety Training Resources

The Institute of Child Nutrition (ICN) has an in-depth employee food safety curriculum, Food Safety in Schools (formerly Serving It Safe). This entire resource is available in both English and Spanish. Food Safety in Schools is designed to provide school nutrition employees with up-to-date information on food safety. This training contains lessons and activities that teach the food safety concepts needed to prepare and serve food safely and to keep school nutrition facilities safe and sanitary. The chapters cover topics such as: food safety, prevention of foodborne illness, basics of microorganisms, how to keep a clean and sanitary school nutrition facility, process for foodborne illness prevention, and food safety programs in schools.



The USDA has established The Center of Excellence for Food Safety Research in Child Nutrition Programs (<https://www.fns.usda.gov/food-safety/center-excellence-food-safety-research-child-nutrition-programs>) at Kansas State University. The Center offers a week-long food-safety training program, Serving Up Science: The Path to Safe Foods In Schools (<http://cnsafefood.k-state.edu/resources/serving-up-science/>).

Food safety training can provide credit toward USDA Professional Standards requirements (<https://www.fns.usda.gov/school-meals/professional-standards>).

Throughout the Menu Planner is valuable, science-based food safety information as it applies to each topic. The USDA *Food-Safe Schools Action Guide* (Action Guide) (<https://www.fns.usda.gov/sites/default/files/Food-Safe-Schools-Action-Guide.pdf>) is a valuable resource that can help you build on this information and create a culture of food safety throughout the school community. You are the food safety expert and champion to lead efforts to build a culture of food safety in your schools.

Creating a culture of food safety means more than managing food safety practices. It calls for you to use established and innovative approaches to communicate and partner with various groups to weave food safety practices into day-to-day school activities. The Action Guide identifies Federal food safety requirements for schools, as well as other important areas to address for a top-notch food safety program. The Action Guide also identifies the roles that others (teachers, parents, school nurses, etc.) in the school community play in the school's food safety efforts. A culture of food safety within your school community will be evident when food safety behaviors are routinely practiced and demonstrated.

Food-Safe Schools Action Guide

USDA's *Food-Safe Schools Action Guide* (Action Guide) (<https://www.fns.usda.gov/sites/default/files/Food-Safe-Schools-Action-Guide.pdf>) provides quick access to practical resources for creating a culture of food safety. The Web-based version provides links to a host of online resources to help you manage food safety in your school district. The Action Guide contains three parts:

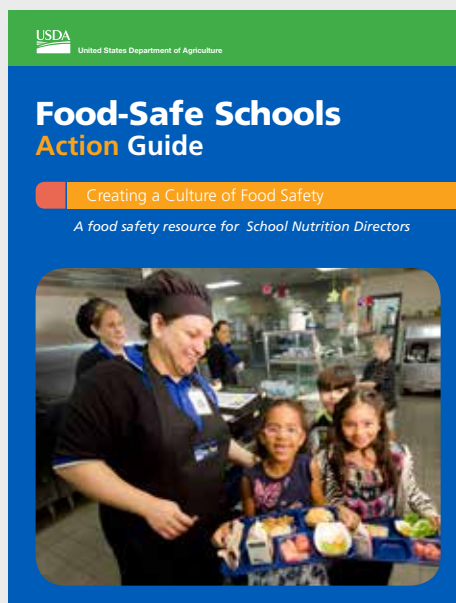
- A checklist to help assess your current food safety efforts
- Action sheets on areas of food safety to improve your program and move it to the next level of excellence
- Communication tips and strategies to enlist the support of your school community in creating a culture of food safety.

The Action Guide starts with a checklist to assess your current food safety practices for strengths and areas for improvement. Completing this checklist is one of the first steps in developing a food safety plan that encompasses the entire school community. Remember, building food-safe schools isn't just completing a checklist. You are building a culture of food safety throughout the school community. That means fostering food safety as a value in the whole school community.

The second part of the Action Guide consists of action sheets, each covering the same food safety areas surveyed in the checklist. You will find basic background information, specific next steps, and guidance resources.

The final step in creating a culture of food safety involves communication. Communication and culture are two sides of the same coin. Your commitment to food safety needs to be visibly demonstrated to the school community. When you talk about food safety, you show food safety is a value. Ask for the input from your school community partners and encourage them to become long-term partners in working toward shared goals. The Action Guide includes tips for communicating with key groups – school administrators, teachers, parents, students, school nutrition managers, school nurses, your local health department, emergency management planners, and cooperative extension educators. This part also offers communication strategies specific for each group, and resources to support these strategies.

Throughout this Menu Planner, the Action Guide will be referenced along with other resources to help you create your local food safety program and a school-wide culture of food safety.



A CLOSER LOOK AT SCIENCE-BASED DIETARY GUIDANCE RELATED TO SCHOOL MEALS

By law, the science behind the *Nutrition Standards in the National School Lunch and School Breakfast Programs* is based on these three resources:

- *Dietary Guidelines for Americans*
- *School Meals: Building Blocks for Healthy Children*
- Dietary Reference Intakes (DRIs).

This section gives an overview of these resources related to school nutrition. Additionally, it addresses the Federal food guidance system, MyPlate, which can be used:

- To reinforce the food group-based approach to menu planning
- In educational and marketing outreach to the school community
- To coordinate and reinforce classroom and lunchroom nutrition education efforts.

Dietary Guidelines for Americans

What are the *Dietary Guidelines for Americans*?

Published every 5 (five) years for the general public, as well as public health professionals, policymakers, and program implementers, the *Dietary Guidelines for Americans* provides food-based recommendations for people aged 2 (two) years and older. Each edition reflects the current body of nutrition science, with a focus on chronic disease prevention. The recommendations in the *Dietary Guidelines* serve as the foundation for vital nutrition policies and programs across the United States to help Americans make healthy food and beverage choices.

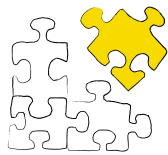
The *Dietary Guidelines* focuses on these main takeaways for Americans:

- Follow a healthy eating pattern across the lifespan.
 - Eating patterns are the combination of all foods and drinks that a person consumes over time. A healthy eating pattern is adaptable

to a person's taste preferences, traditions, culture, and budget.

- Focus on variety, nutrient density, and amount.
- Limit calories from added sugars and saturated fats, and reduce sodium intake.
- Shift to healthier food and beverage choices.
- Support healthy eating patterns for all.

please see next page for Key Recommendations



Key Recommendations:

Consume a healthy eating pattern that accounts for all foods and beverages within an appropriate calorie level.

A healthy eating pattern includes:^[1]

- A variety of vegetables from all of the subgroups—dark green, red and orange, legumes (beans and peas), starchy, and other
- Fruits, especially whole fruits
- Grains, at least half of which are whole grains
- Fat-free or low-fat dairy, including milk, yogurt, cheese, and/or fortified soy beverages
- A variety of protein foods, including seafood, lean meats and poultry, eggs, legumes (beans and peas), and nuts, seeds, and soy products
- Oils

A healthy eating pattern limits:

- Saturated fats and *trans* fats, added sugars, and sodium

Key Recommendations that are quantitative are provided for several components of the diet that should be limited. These components are of particular public health concern in the United States, and the specified limits can help individuals achieve healthy eating patterns within calorie limits:

- Consume less than 10 percent of calories per day from added sugars^[2]
- Consume less than 10 percent of calories per day from saturated fats^[3]
- Consume less than 2,300 milligrams (mg) per day of sodium^[4]
- If alcohol is consumed, it should be consumed in moderation—up to one drink per day for women and up to two drinks per day for men—and only by adults of legal drinking age.^[5]

[1] Definitions for each food group and subgroup are provided throughout the chapter and are compiled in Appendix 3. USDA Food Patterns: Healthy U.S.-Style Eating Pattern.

[2] The recommendation to limit intake of calories from added sugars to less than 10 percent per day is a target based on food pattern modeling and national data on intakes of calories from added sugars that demonstrate the public health need to limit calories from added sugars to meet food group and nutrient needs within calorie limits. The limit on calories from added sugars is not a Tolerable Upper Intake Level (UL) set by the Institute of Medicine (IOM). For most calorie levels, there are not enough calories available after meeting food group needs to consume 10 percent of calories from added sugars and 10 percent of calories from saturated fats and still stay within calorie limits.

[3] The recommendation to limit intake of calories from saturated fats to less than 10 percent per day is a target based on evidence that replacing saturated fats with unsaturated fats is associated with reduced risk of cardiovascular disease. The limit on calories from saturated fats is not a UL set by the IOM. For most calorie levels, there are not enough calories available after meeting food group needs to consume 10 percent of calories from added sugars and 10 percent of calories from saturated fats and still stay within calorie limits.

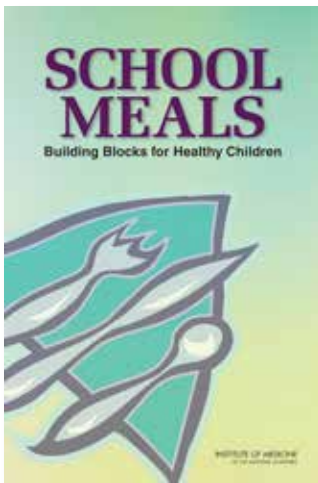
[4] The recommendation to limit intake of sodium to less than 2,300 mg per day is the UL for individuals ages 14 years and older set by the IOM. The recommendations for children younger than 14 years of age are the IOM age- and sex-appropriate ULs (see Appendix 7. Nutritional Goals for Age-Sex Groups Based on Dietary Reference Intakes and Dietary Guidelines Recommendations).

[5] It is not recommended that individuals begin drinking or drink more for any reason. The amount of alcohol and calories in beverages varies and should be accounted for within the limits of healthy eating patterns. Alcohol should be consumed only by adults of legal drinking age. There are many circumstances in which individuals should not drink, such as during pregnancy. See Appendix 9. Alcohol for additional information.

The NSLA requires that school meals reflect the latest Dietary Guidelines. The NSLP and SBP meal patterns ensure school meals are consistent with the Dietary Guidelines.

While physical activity is not part of menu planning, it is integral to Dietary Guidelines recommendations, and you can play a big role in advocating for physical activity as part of a comprehensive approach to safeguarding students' well-being. See Take a Closer Look feature *Promoting Physical Activity* for physical activity promotion resources.

HMD Report: “School Meals: Building Blocks for Healthy Children”



The Health and Medicine Division (HMD) at the USDA's request convened a committee to develop recommendations to revise school meal standards and requirements so that school meals would be more healthful. This committee included experts in health, nutrition, school food service,

and economics. In its 2009 report, *School Meals: Building Blocks for Healthy Children* (HMD School Meals Report), the committee advised that the USDA adopt standards for menu planning for:

- Increasing the amount and variety of fruits, vegetables, and whole grains.
- Setting a minimum and maximum level of calories.
- Focusing more on reducing saturated fat and sodium.

More specifically, in its report, the committee advised:

- Aligning school meals with the latest Dietary Guidelines and DRIs.
- Setting maximum calorie levels for meals for the first time.

- Reducing the sodium content of school meals gradually over time.
- Planning weekly menus around foods rather than a set of nutrients.
- Including greater amounts and variety of vegetables and fruits.
- Replacing a substantial amount of refined grain products with products rich in whole grains.
- Substituting fat-free or 1% (low-fat) milk for whole or 2% milk.

USDA issued updated regulations based on the HMD School Meals Report recommendations. Thus, the HMD report provides the basis for the school meal patterns.

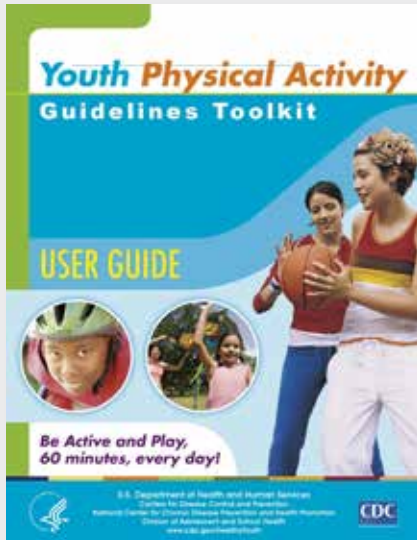
School Meal Standards

Students need nutritious foods for growth, development, and academic success. School meals play a key role in student health. Your meals can give students the energy and nutrients they need for good health. This, in turn, provides greater opportunity for success in school and beyond.

The school meal pattern seeks to ensure that all the foods and beverages children access in school optimize their health and do not put them at a higher risk for chronic conditions, such as diabetes and heart disease. The USDA relied on the HMD School Meals Report as the basis for nutrition standards. These science-based standards reflect the dietary needs of students and an appropriate balance among food groups. The committee recommended daily nutrient specifications for breakfast and lunch averaged over 5 days for over 20 different nutrients (including calories, protein, fat, saturated fat, *trans* fat, fiber, sodium, and other select vitamins and minerals). Adopting these recommendations also brought school meal requirements up to date with the Dietary Guidelines to provide children an array of vital nutrients in a feasible way for schools.

USDA's FBMP system is designed to meet these nutrition goals. The meal patterns provide approximately one-third of the DRIs for selected nutrients for lunch and approximately one-fourth of the DRIs for selected nutrients for breakfast.

Promoting Physical Activity

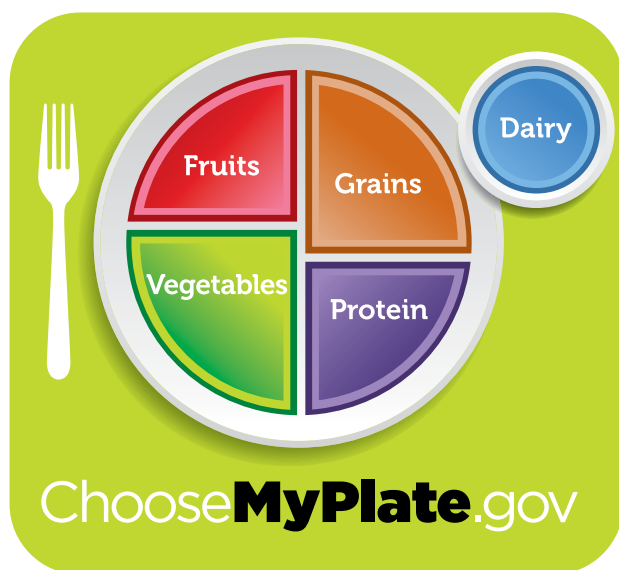


The *Physical Activity Guidelines for Americans* (<https://health.gov/paguidelines/>), which provide science-based guidance and are issued by the U.S. Department of Health and Human Services, recommend that children and adolescents aged 6-17 years have 60 minutes or more of physical activity each day. Yet, many children and adolescents do not meet this goal. Your involvement in promoting physical activity is key to ensuring a healthy future for your students. Work with principals, teachers, and parents to help make schools healthier places to learn, not only by offering quality nutritious food, but also by teaching children about the importance of nutrition and a healthy, active lifestyle. Here is a resource to help promote physical activity in schools:

- The Centers for Disease Control and Prevention and partner organizations developed the Youth Physical Activity Guidelines Toolkit (<https://www.cdc.gov/healthyschools/physicalactivity/guidelines.htm>). The toolkit provides strategies for schools, families, and communities to support physical activity. In addition to physical education, the toolkit covers recess, physical activity breaks, intramural sports, interscholastic sports, and walk- and bike-to-school programs.

MyPlate

MyPlate (<https://www.choosemyplate.gov/>) is an easy-to-understand icon intended to help consumers make healthier food choices. The graphic represents the five food groups that are the building blocks for a healthy plate. MyPlate food groups are similar to the meal components in school meal patterns with one exception. Cheese and yogurt are in the dairy group of MyPlate, but are considered meat alternates for school meals. MyPlate is a great educational tool to use with students to reinforce healthful eating behaviors.

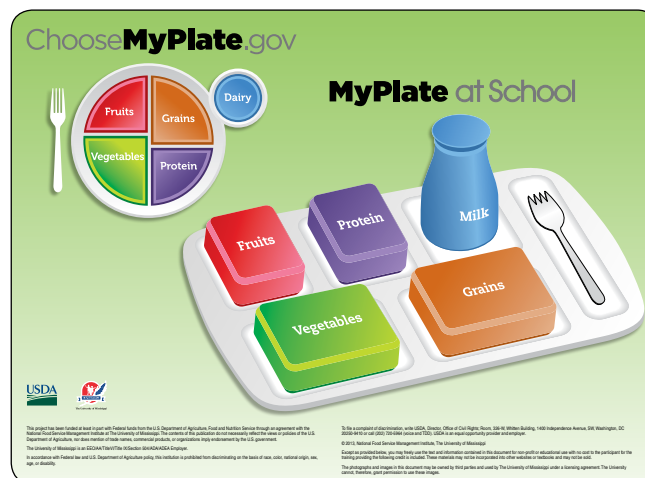


Key Messages for MyPlate:

- Make half your plate fruits and vegetables.
- Make at least half of your grains whole.
- Switch to fat-free or 1% (low-fat) milk.

A variety of interactive tools are available at (<https://www.choosemyplate.gov/>). Help teachers and parents use the latest nutrition education tools; encourage both to visit the website.

The Institute of Child Nutrition (ICN) has developed additional MyPlate resources, including MyPlate at School (<http://www.theicn.org>).



The MyPlate at School signage shows the relationship between MyPlate and school meals. MyPlate at School can be used to enhance school nutrition education efforts in cafeterias, classrooms, and in the overall school nutrition environment. Available materials include a handout, poster, and banner.

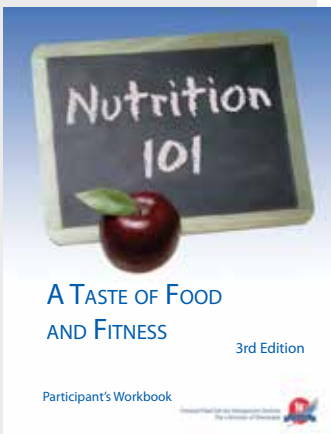
Nutrition 101: A Taste of Nutrition and Fitness – 3rd Edition

Nutrition 101: A Taste of Food and Fitness, 3rd Edition (<http://www.theicn.org>) provides a basic overview of nutrition and helps to underscore the importance of nutrition in daily life. The program is a professional development course for school nutrition staff. Through a variety of learning activities, participants learn about nutrition on a personal level. The goal of *Nutrition 101* is to provide basic nutrition knowledge and skills that can be applied at home and in schools.

The Institute of Child Nutrition (ICN), *Nutrition 101* consists of an Instructor’s Manual, a Participant’s Workbook, and PowerPoint presentations. *Nutrition 101* features seven lessons:

1. Nutrition Is Important to You!
2. Tools for Guiding Food Choices
3. Macronutrients: The Energy Nutrients
4. Micronutrients: Vitamins and Minerals
5. Diet Decisions
6. Putting it All Together
7. Nutrition Issues in the Media.

You will find these resources at the ICN Resource Center (<http://www.theicn.org>). An online version of the course is available through ICN’s course catalog under Child Nutrition. Check to see whether the training you provide credits toward USDA Professional Standards requirements (<https://www.fns.usda.gov/school-meals/professional-standards>). For access to hundreds of low-cost or free trainings, visit the Professional Standards Training Database (<https://professionalstandards.fns.usda.gov/content/find-training>).



READY, SET, GO WITH SCHOOL MENU PLANNING

Now that you have learned general aspects of FBMP, as well as the nutrition rationale for the recommendations, you are ready to dive into the details of menu planning in Chapter 2.

Before moving on, let's summarize some key points of this chapter:

- Since their inception, school meals have played a vital role in protecting the health and well-being of America's children.
- While many children in the United States consume healthy diets and are physically active, significant portions experience food insecurity, do not eat healthfully, are inactive, and/or are overweight or obese.
- The prevalence of overweight, obese, and/or physically inactive students led the Federal Government to update the nutrition standards for school meals.

- The primary aspects of FBMP are:
 - Grade groups
 - Meal components
 - Meal patterns
 - Dietary specifications.
- A culture of food safety is critical in ensuring students' meals are consistently safe and nutritious.
- FBMP has built-in flexibility, so you can plan your menus to meet the needs of your district, schools, and students.

You and your staff plan, prepare, and serve great-tasting, nutritious, safe meals every day of the school year. That is not easy. Just know that you and your team are vital in ensuring students are properly nourished and ready to learn. Now, let's focus on school menu planning.



Review and answer each of these questions. You will find the answer key at the end of the Menu Planner.

1. What are the four primary aspects of Food-Based Menu Planning?
2. What are the five meal components in Food-Based Menu Planning?
3. Dietary specifications give ranges or limits for calories and which three nutrients?
4. School food authorities are required to have a food safety program based on what principles?
5. When food-safe behaviors are valued and are second-nature, a school community has created what?

If you got the answers right, great job! You are ready for the next chapter. If you missed any, review that section of the chapter before moving on to the next chapter.



LINKS TO ADDITIONAL RESOURCES

The Center of Excellence for Food Safety Research in Child Nutrition Programs, Kansas State University, Manhattan, KS (<http://cnsafefood.k-state.edu/>).

The Center of Excellence for Food Safety Research in Child Nutrition Programs, Serving Up Science: The Path to Safe Foods In Schools, Kansas State University, Manhattan, KS (<http://cnsafefood.k-state.edu/resources/serving-up-science/>).

Institute of Child Nutrition, Nutrition 101: A Taste of Food and Fitness, 3rd Edition, 2014, University, MS (<http://www.theicn.org>).

Institute of Child Nutrition, Food Safety in Schools, 2015, University, MS. English and Spanish (<http://www.theicn.org>).

National Academy of Sciences, Institute of Medicine, Food and Nutrition Board, Dietary Reference Intakes, Washington, DC (<https://www.nal.usda.gov/fnic/dietary-reference-intakes>).

National Academy of Sciences, Institute of Medicine, School Meals: Building Blocks for Healthy Children, Washington, DC, 2009 (<http://www.nationalacademies.org/hmd/Reports/2009/School-Meals-Building-Blocks-for-Healthy-Children.aspx>).

Nutrition Standards in the National School Lunch and School Breakfast Programs, Final rule. 7CFR § 210 and 220 (2012) – 77 Fed. Reg. January 26, 2012, 4088-4165 (<https://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf>).

U.S. Department of Health and Human Services and U.S. Department of Agriculture. *Dietary Guidelines for Americans* (<https://health.gov/dietaryguidelines/>).

U.S. Department of Agriculture, Food and Nutrition Service, Child and Adult Care Food Program Meal Patterns (<https://www.fns.usda.gov/cacfp/meals-and-snacks>).

U.S. Department of Agriculture, Economic Research Service, Child Nutrition Programs Briefing Room, Washington DC (<https://www.ers.usda.gov/>).

U.S. Department of Agriculture, Food and Nutrition Service, Food-Safe Schools Action Guide, 2014, Alexandria, VA (<https://www.fns.usda.gov/sites/default/files/Food-Safe-Schools-Action-Guide.pdf>).

U.S. Department of Agriculture, Economic Research Service, Food Security Briefing Room, Alexandria, VA (<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us.aspx>).

U.S. Department of Agriculture, Food and Nutrition Service, Washington DC (<https://www.fns.usda.gov/school-meals/healthy-hunger-free-kids-act>).

U.S. Department of Agriculture, Food and Nutrition Service, Professional Standards (<https://www.fns.usda.gov/school-meals/professional-standards>).

U.S. Department of Agriculture, Food and Nutrition Service, School Meals (<http://www.fns.usda.gov/school-meals/child-nutrition-programs>).

U.S. Department of Agriculture, Food and Nutrition Service, Team Nutrition, Alexandria, VA (<http://www.fns.usda.gov/tn/team-nutrition>).

U.S. Department of Agriculture, Center for Nutrition Policy and Promotion, MyPlate, Alexandria, VA (<https://www.choosemyplate.gov/>).

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Childhood Obesity Facts (<https://www.cdc.gov/healthyschools/obesity/facts.htm>).

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Physical Activity Facts (<https://www.cdc.gov/healthyschools/physicalactivity/facts.htm>).

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Physical Activity Guidelines (<https://health.gov/paguidelines/>).

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Youth Physical Activities Guidelines Toolkit, Atlanta, GA (<https://www.cdc.gov/healthyschools/physicalactivity/guidelines.htm>).