

Roadmap to Building

Quality School Meals



Montana Team Nutrition defines quality school meals as fresh, nutritious meals that meet student and cultural preferences and include scratch cooked recipes made with local, regional, and USDA foods. This roadmap can be used to identify strengths and areas of improvement in serving quality school meals. It can support food service directors in setting training and program goals related to serving more scratch cooked meals over time.

There are five essential categories that contribute to quality school meals

Food Procurement

The methods and practices that determine the type, quality, and source of foods purchased

Food Production

The methods and practices of preparing food

Meal Service

The methods and practices of how meals are served

Culture

The attitudes, beliefs, and atmosphere of the school nutrition program

Support & Infrastructure

The basic physical and organizational structures needed for program operation

How to use this tool

1. Read through the entire roadmap before completing.
2. Complete the roadmap. You can use this roadmap at any time of the school year.
3. Use the Goal Setting Worksheet(s) on pages 10-11 to set a goal and action plan. Plan any changes so that they work with your food service program schedule.
4. Work on meeting your goal in the timeframe outlined on the Goal Setting Worksheet. Please note that you can find helpful resources and tools on each section of the Roadmap on the Montana Team Nutrition website: www.montana.edu/teamnutrition/roadmap/html.
5. Repeat as many times as needed to meet your goals in serving quality school meals.

Who should use this tool?

School nutrition program staff operating the United States Department of Agriculture (USDA) National School Lunch Program and School Breakfast Program.

Contact Info & Acknowledgements

The Roadmap to Building Quality School Meals was developed by Montana Team Nutrition with support from the Montana Office of Public Instruction School Nutrition Programs. This project was funded by a 2019 United States Department of Agriculture Team Nutrition Training Grant for Innovative State Training Programs awarded to the Montana Office of Public Instruction School Nutrition Programs.

For more information, contact:

Montana Team Nutrition Program Montana State University

325 Reid Hall, PO Box 173370
Bozeman, MT 59717-3370

www.montana.edu/teamnutrition

Katie Bark, RDN, LN
Program Co-Director
kbark@montana.edu

Gretchen Groves, RDN, LN
School Nutrition Research Coordinator
gretchen.groves@montana.edu

Molly Stenberg, RDN, LN
Program Co-Director
stenberg@montana.edu

Aubree Roth, MS
Farm to School Coordinator
aubree.roth@montana.edu

Carmen Byker Shanks, PhD, RDN
Social Scientist
cbykershanks@montana.edu

Montana Office of Public Instruction School Nutrition Programs

PO Box 202501
Helena, MT 59620-2501

Phone: 406-444-2501
<http://opi.mt.gov>

Chris Emerson, MS, RD
Program Director
cemerson@mt.gov

Montana Cook Fresh
QUALITY SCHOOL MEALS INITIATIVE



Acknowledgements

Thank you to the school districts that participated in the Montana Cook Fresh High Quality School Meals Initiative for piloting and informing this roadmap.

This project was made possible by the dedication and expertise of many individuals, including:

- Ginger Buchanan, Food Service Director, Huntley Project School District
- Sally Donch, Food Service Director, Anderson School District
- Cindy Giese, Peer Educator, retired Food Service Director
- Patrice O'Loughlin, Peer Educator, retired Food Service Director
- Laura Toeckes, Food Service Director, Powers School District
- Michele Carter, Food Service Director, Livingston School District
- Devin Kavanagh, Food Service Director, Target Range Elementary
- Chandra Plakke, Food Service Director, Superior School District
- Shelli Boggess, Food Service Director, Deer Lodge School District

- Rochelle Davies, RDN, LN, Montana
OPI School Nutrition Specialist
- Pam Fruh, Montana
OPI Food Distributions Manager
- Deb Jones, RDN, LN, Montana
OPI School Nutrition Specialist
- Erin Turner, DTR, SNS, Montana
OPI School Nutrition Specialist

This Roadmap and additional resources related to supporting scratch cooking and serving quality school meals are available on the Montana Team Nutrition website:
www.montana.edu/teamnutrition

Date developed: March 2022

Updated: August 2022



Scratch Cooking Spectrum

Montana Team Nutrition encourages scratch cooking as a component of quality school meals. Scratch cooking occurs on a spectrum; a menu item can vary greatly in nutrition, flavor, and freshness depending on the ingredients and production methods used. The visual to the right illustrates the spectrum of scratch cooking, divided into the three categories of scratch cooked, semi-scratch cooked and ready to serve. Refer to Appendix A at the end of the roadmap for more information on the definitions and examples in each category.

Before proceeding, think about where your school meals tend to fall on this spectrum and check the box next to the category that best describes your current program:

- Scratch cooked**
- Semi-scratch cooked**
- Ready to serve**

Scratch cooked

Contains mostly fresh, whole foods and pantry staples with limited processed ingredients



Semi-scratch cooked

Contains some fresh foods and pantry staples, but also includes some processed ingredients



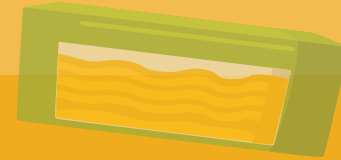
Ready to serve

Contains mostly processed and highly processed ingredients with very few fresh, whole foods

Scratch cooked lasagna

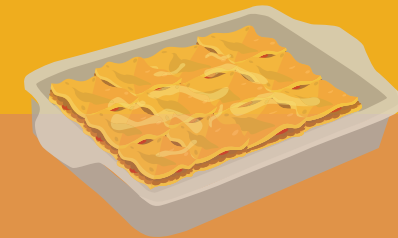


- Fresh or dried noodles
- Tomato sauce made from fresh or canned tomatoes, onions, garlic, herbs, and spices
- Italian sausage cooked at time of preparation
- Fresh mozzarella or other cheese
- Assembled and baked in kitchen



Semi-scratch cooked lasagna

- Dried noodles
- Pre-made tomato sauce from a can or jar
- Frozen pre-cooked sausage or beef
- Shredded mozzarella cheese blend
- Assembled and baked in kitchen



Ready to serve lasagna

- Lasagna purchased pre-assembled in container
- Ready to be served after being heated



Food Procurement

Procurement includes menu planning and purchasing practices that determine the type, quality, and source of foods served in a school nutrition program. For each statement, place an “x” in the column that best describes your school nutrition program. Remember that these are best practice suggestions, and not requirements.

Menu Planning

This includes any steps related to developing and planning the menu for your school nutrition program.

In terms of menu planning, my school nutrition program...

Yes	No	In progress	
			Offers at least three different kinds of meat/meat alternates at lunch each week
			Includes at least one vegetarian or plant-based entrée per month
			Includes at least one fish entrée per month
			Offers a meat/meat alternate at breakfast at least 3 days per week
			Features a variety of textures, colors, and flavors at each meal
			Includes culturally appropriate and diverse recipes on the menu
			Incorporates a new recipe or food item into the menu at least once a month
			Features a local or regional food item on the menu at least once a month
			Considers student feedback when planning the menu (e.g., conducting Tried It, Liked It, Loved It taste tests, placing a suggestion box in the cafeteria, including student members in a School Lunch Advisory Committee)
			Follows a Standard Operating Procedure (SOP) for meal modifications and special diets

Food Purchasing Practices

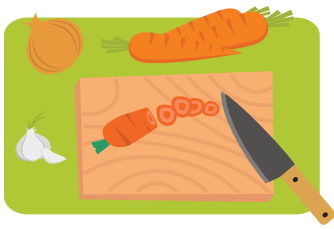
This includes the specific type and quality of food that is purchased to prepare and serve in school meals.

In terms of food purchasing, my school nutrition program...

Yes	No	In progress	
			Uses a pre-planned menu to guide strategic food purchases through a mixture of local sources, USDA Foods, and cooperative purchasing or bidding
			Considers seasonality when purchasing fresh fruits and vegetables
			Purchases locally or regionally produced food items at least once a month
			Purchases more than half of fruits and vegetables as fresh, whole, or frozen rather than canned
			Prioritizes purchasing fresh, whole ingredients with the intention of preparing school meals from scratch
			Keeps an inventory of pantry staples to cook from scratch daily
			Conducts a physical inventory once a month or more to prevent excess stock and over purchasing
			Utilizes the full amount of its USDA Foods annually
			Utilizes the full amount of its Department of Defense (DOD) Fresh dollars annually
			Follows the Montana OPI School Nutrition Programs annual procurement checklist and timeline
			Communicates with the Montana OPI Food Distributions Manager at least once a year



For any of the above statements that you responded to as “no” or “in progress”, please circle or highlight the statement in each category that you are most interested in working on in the current school year.



Food Production

Food production is the method and techniques used to prepare school meals, and includes strategies for maximizing nutrition and culinary skills to cook from scratch. For each statement, place an “x” in the column that best describes your school nutrition program.

Maximizing Nutrition

This includes strategies to enhance nutrition while limiting highly processed foods high in sodium and added sugar.

In terms of maximizing nutrition in school meals, my school nutrition program...

Yes	No	In progress	
			Whole grain rich, reduced sugar breakfast cereals containing no more than 6 grams of total sugar per dry ounce (28 grams) is the recommended choice
			At least 80% of grains served in lunch and breakfast are whole grain rich
			The nutrition content of recipes are enhanced by adding fruit, vegetables, legume, and whole grains to recipes when possible (e.g., adding lentils to sloppy joes, adding carrots to spaghetti sauce, or adding brown rice to a soup)
			Sweetened grains (e.g. donuts, muffins, and toaster pastries) are limited to twice a month on the breakfast menu.
			Highly processed meat products (e.g., breaded chicken nuggets, chicken patties, corn dogs) are limited on the menu to once a week or less
			High sodium foods such as canned nacho cheese sauce and canned soups are limited on the menu to once a month or less

Culinary Skills

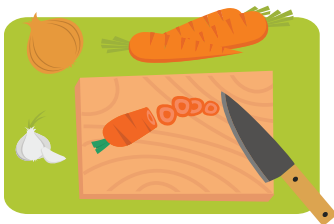
This includes staff experience and confidence in essential food service culinary skills.

In terms of culinary skills, our school nutrition staff are confident...

Yes	No	In progress	
			Practicing safe and effective knife skills
			Roasting vegetables
			Blanching vegetables
			Baking whole grain menu items from scratch
			Using “just in time” batch cooking to reduce the length of time food is hot held on a steam table
			Tasting food throughout the production process to ensure a quality end product
			Using spices and seasonings to modify flavor in recipes
			Trying or developing new scratch cooked or semi-scratch cooked recipes
			Taking temperatures during food production and service
			Following principles of mise en place during food production to maintain organization and efficiency. Mise en place is defined as a culinary process in which ingredients are prepared and organized before cooking.
			Completing accurate and timely production records
			Following appropriate food safety guidelines in handling and storing Time and Temperature Controlled foods as set forth in the school’s food safety (HACCP) plan



For any of the above statements that you responded to as “no” or “in progress”, please circle or highlight the statement in each category that you are most interested in working on in the current school year.



Food Production

Activity: How Often is My School Nutrition Program Cooking From Scratch?

To complete this activity, have one month of breakfast and lunch menus in front of you. Using the definitions in the Scoring Table, write 1, 2, or 3 in each column to indicate how the menu item was prepared most of the time. Refer to the scratch cooking spectrum on page 3 and Appendix A for assistance in scoring menu times. Then add up your total score.

Menu item	How the menu item was prepared the majority of the time in a month
Breakfast entrees	
Baked goods (<i>muffins, bread, rolls, etc.</i>)	
Lunch entrees	
Fruit or vegetable sides dishes	
Other side dishes (<i>grain based</i>)	
Salad dressings	
Soups	
Sauces (<i>cheese sauce, tomato sauce, etc.</i>)	
Total:	

Scoring Table

- 1=** Mostly ready to serve
Made from processed or highly processed ingredients

- 2=** Mostly semi-scratch cooked
Made from a combination of processed ingredients and fresh foods and pantry staples

- 3=** Mostly scratch cooked
Made from fresh, whole foods and pantry staples

What is your scratch cooking score?

If your score is **greater than 16**, your program is cooking mostly from scratch and semi-scratch. Great job!

If your score is **16 or less**, consider seeking out opportunities to incorporate more semi-scratch and scratch cooking in your menus.

Tip: To increase your score, look at the menu items that you might have categorized as 1, or mostly ready to serve. What actions could you take to get that number to a 2 or 3? Rather than completely overhauling your menu, which may be unrealistic, think about ways you may be able to do more scratch cooking for each individual menu item, such as making more of your salad dressings from scratch.



Meal Service

Meal service is how foods are presented and served. For each statement, place an “x” in the column that best describes your school nutrition program.

Meal Service Atmosphere

This includes any strategies that ensure that students have a pleasant and comfortable eating experience with adequate time to eat

In terms of meal service atmosphere...

Yes	No	In progress	
			Offer versus serve is implemented to provide choices and decrease food waste
			All lunchroom staff, including support staff and teachers, are trained to encourage students to eat and try new foods at their own pace, and not to pressure students to eat and drink everything on their tray
			All food service staff are friendly on the service line and in the cafeteria during meal service
			Recess before lunch is implemented in elementary schools
			School nutrition staff conduct food waste audits once a year or more to minimize food waste
			All students grades K-12 have adequate time to eat their lunch (recommended 20 minutes of seat time at lunch)
			All students grades K-12 have access to a salad bar
			The school nutrition program strives to make the healthy choice the easy choice

➔ For any of the above statements that you responded to as “no” or “in progress”, please circle or highlight the statement in each category that you are most interested in working on in the current school year.

How do I make the healthy choice the easy choice?


Montana schools have been super stars in using choice architecture concepts to enhance their school meal programs by using simple, low cost techniques to create a lunchroom and service line that nudge students to make healthy choices. Montana Team Nutrition has collected these best practices for lunch, breakfast, and salad bars in simple and easy to use checklists. All of the checklists are available for download on the Montana Team Nutrition website, but you can track your yearly progress on the score cards here:




Designing Healthy Lunchrooms Checklist

Last year's score: _____ Date: _____

This year's score: _____ Date: _____







Breakfast Boosts Brainpower Checklist

Last year's score: _____ Date: _____

This year's score: _____ Date: _____






Eat the Rainbow Salad Bar Checklist

Last year's score: _____ Date: _____

This year's score: _____ Date: _____



To access the checklists and learn more about how to improve the atmosphere of your lunchroom, visit the Montana Team Nutrition Roadmap Resource webpage: www.montana.edu/teamnutrition/roadmapresources/html



Culture

Beyond the food itself, the professional development of school nutrition staff and their connection to the wider school community can impact a program's ability to serve quality school meals. For each statement, place an "x" in the column that best describes your school nutrition program.

Connection with School Community

This includes strategies that ensures the school nutrition program plays an active role within the wider school community.

In terms of the connection with the school community...

Yes	No	In progress	
			School nutrition staff participate and provide input on the district's school wellness policy and school wellness committee
			School nutrition staff have positive relationships and regular communication with administration, teachers, and parents
			The school nutrition program uses social media, newsletters, and/or announcements to promote the school nutrition program to students and parents
			The school nutrition program participates in at least one farm to school program or activity
			The school nutrition program director provides a report to the school board on the program's goal to serve quality school meals
			The school nutrition program feels supported by administration in making decisions and goals related to the school nutrition program
			The school food service director works collaboratively with school district administration when creating the school nutrition program budget

Professional Development

This includes strategies that promote an environment of curiosity and growth for school nutrition staff.

In terms of professional development...

Yes	No	In progress	
			School nutrition staff are trained in USDA Meal Pattern requirements and nutrition standards for breakfast and lunch programs
			School nutrition staff know who their Montana OPI School Nutrition Regional Specialist is
			School nutrition staff receive emails and announcements from Montana OPI School Nutrition Programs and Montana Lunchline
			Each staff member receives the required hours of training and professional development for their position
			At least one staff person other than the head cook or food service director has received cross training on essential management duties, such as completing production records or food orders, in the case of emergency or absence



For any of the above statements that you responded to as "no" or "in progress", please circle or highlight the statement in each category that you are most interested in working on in the current school year.



Support & Infrastructure

Support and infrastructure refer to the basic physical and organizational structures needed for program operation. These may or may not be within the realm of a food service director's control but can impact school meal quality. For each statement, place an "x" in the column that best describes your school nutrition program.

Program Operation

This includes variables that impact overall program operation and school meal quality.

In terms of support and infrastructure, my school nutrition program...

Yes	No	In progress	
			Has an appropriate level of staffing for the labor required to cook from scratch or semi-scratch meals
			Has an adequate pool of substitutes from the school district to cover vacation or sick days from school nutrition staff
			Runs a financially sound program, often defined as staying "out of the red"
			Has reasonable access to local and high-quality ingredients
			Has limited competition from other food sources in the school, such as vending machines, fundraising events, and student stores
			Makes long term investments in our program, such as applying for grants or replacing old equipment

➔ For any of the above statements that you responded to as "no" or "in progress", please circle or highlight the statement in each category that you are most interested in working on in the current school year.

Helpful Resources

Many additional resources and tools are available at www.montana.edu/teamnutrition.

For example, Montana Harvest of the Month materials provide valuable information and useful recipes that highlight local foods.










Goal Setting & Action Planning

1. Create a list of priorities

Review the entire roadmap. For each section, please copy the statement that you indicated as the area you are most interested in working on.

Section	Statement
 Food Procurement	
 Food Production	
 Meal Service	
 Culture	
 Support & Infrastructure	
<i>Example:</i> Support & Infrastructure	<i>Makes long term investments in our program, such as applying for grants or replacing old equipment</i>

2. Write a SMART goal and create an action plan

Pick one of the statements above and write a SMART goal. Be as specific and realistic as possible by using the SMART goal prompts alongside to guide your goal setting process.

Example Goal: The food service director will submit a completed application for the OPI Equipment Grant by November 5th, 2022.

Specific: Who? What? When? Where? How?

Measurable: How will you know when you have achieved your goal?

Achievable: Is the goal realistic?

Relevant: Why is this goal meaningful to you?

Time Bound: What is a realistic time frame?



Goal Setting & Action Planning

My goal: _____

Goal start date: _____

Target completion date: _____

Steps I will take to reach my goal timeframe (*When will you complete each step?*)

1. _____

2. _____

3. _____

4. _____

5. _____

People I can reach out to for support in meeting this goal (*list at least one person*):

Resources I will need to help me reach this goal:

How will you measure your success in meeting this goal?



3. Document your completed goal and repeat!

Once you meet your goal, document that you have completed it. Consider revisiting your priority list and goals to set another action plan. Repeat this process until you have completed everything on your priority list on page 10.

Appendix A — Scratch Cooking Spectrum Categories, Definitions, and Examples

Scratch Cooked Meal

Category	Definition	Examples
Scratch cooked meals	Fresh or whole foods combined with pantry staples with limited highly processed ingredients.	A pasta dish that has a sauce made from fresh tomatoes, onions, garlic, and spices along with a raw protein prepared on site.
Pantry staples	Ingredients used to cook or flavor fresh foods; generally, not consumed alone.	Oil, butter, nut butters, sugar, spices, salt, flour, corn starch, baking powder, and vinegar.
Fresh or whole foods	These foods come directly from plants or animals. They are close to their natural state. They are often washed, ground, chilled, or sliced before eating.	Fresh or frozen vegetables, bulk whole grains, raw or unprocessed meats, dried legumes, nuts and seeds, and milk.

Semi-scratch Cooked Meals

Category	Definition	Examples
Semi-scratch cooked meals	Meals made with a combination of pantry staples, fresh or whole foods, and some processed ingredients.	A pasta dish that is assembled and prepared in the kitchen with some fresh or whole foods, but also has some processed ingredients such as sauce from a jar or pre-cooked frozen meat.
Processed ingredients	Foods that are manufactured by adding salt, sugar, or other substances to fresh/ whole foods to preserve or make them more palatable. Processed foods have multiple ingredients with some additives but are not as modified as highly processed foods or ingredients.	Canned beans with no added flavorings, canned fruit and vegetables in water or juice, tomato paste and sauces, cured meats, salted nuts, breads with a mixture of whole and refined grains (including some sandwich breads, dinner rolls, and tortillas), and cheese blends.

Ready to Serve Meals

Category	Definition	Examples
Ready to serve meals	Meals made from highly processed ingredients that require minimal preparation other than opening a bag or can or heating before serving. Ready to serve foods are generally higher in sodium and added sugars compared to meals prepared with fewer processed or highly processed ingredients ¹ .	Frozen pre-made meals like lasagnas or casseroles, chicken nuggets or patties, corn dogs, tater tots, and pre-made baked goods such as donuts, scones, muffins, frozen pizzas, and toaster pastries.
Highly processed ingredients	Foods that have been extensively commercially processed, and typically feature a long list of ingredients and increased amounts of added sugar, salt, and unhealthy fats.	Packaged sauces (gravy, cheese sauce, etc.), canned fruit in heavy syrup, canned beans with added flavoring like baked beans, bottled salad dressings, frozen pre-cooked meats, granola bars, and frozen and breaded meat products like chicken patties/nuggets, corn dogs, fish sticks, etc.
Food high in sodium	Sodium limits vary depending on the age of the student being served and program the meal is claimed under. Please refer to the most current USDA Child Nutrition Program meal pattern guidelines for the specific program and age group being served ^{2,3} .	Common sources of high sodium foods include canned soups, canned cheese sauce, chips, and ready to serve meals.
Food high in added sugar	The 2020-2025 Dietary Guidelines for Americans recommends limiting added sugars to less than 10% of daily calories ⁴ .	Common sources of added sugar in school meals include flavored milks and yogurts, sweetened cereals, condiments, muffins, toaster pastries, donuts, and sweet/quick breads ⁵ .

Additional resources related to foods high in sodium and foods high in added sugar in school meals can be found at: <https://www.montana.edu/teamnutrition/roadmap/html>

USDA Non-Discrimination Statement

In accordance with federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, this institution is prohibited from discriminating on the basis of race, color, national origin, sex (including gender identity and sexual orientation), disability, age, or reprisal or retaliation for prior civil rights activity.

Program information may be made available in languages other than English. Persons with disabilities who require alternative means of communication to obtain program information (e.g., Braille, large print, audiotope, American Sign Language), should contact the responsible state or local agency that administers the program or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339.

To file a program discrimination complaint, a Complainant should complete a Form AD-3027, USDA Program Discrimination Complaint

Form which can be obtained online at: <https://www.usda.gov/sites/default/files/documents/USDA-OASCR%20P-Complaint-Form-0508-0002-508-11-28-17Fax2Mail.pdf>, from any USDA office, by calling (866) 632-9992, or by writing a letter addressed to USDA. The letter must contain the complainant's name, address, telephone number, and a written description of the alleged discriminatory action in sufficient detail to inform the Assistant Secretary for Civil Rights (ASCR) about the nature and date of an alleged civil rights violation.

The completed AD-3027 form or letter must be submitted to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

This institution is an equal opportunity provider.

About Team Nutrition

Team Nutrition is an initiative of the USDA Food and Nutrition Service to support child nutrition programs through training and technical assistance for food service, nutrition education for children and their caregivers, and school and community support for healthy eating and physical activity. To learn more about Team Nutrition visit: <https://www.fns.usda.gov/tn/about-team-nutrition>
To access Team Nutrition resources for schools, visit: <https://www.fns.usda.gov/tn/school>

References

1. Poti JM, Mendez MA, Ng SW, Popkin BM. Is the degree of food processing and convenience linked with the nutritional quality of foods purchased by US households? *The American Journal of Clinical Nutrition*. 2015;101(6):1251-1262. doi:10.3945/ajcn.114.100925
2. National School Lunch Program Meal Pattern Chart | USDA-FNS. Accessed October 6, 2021. <https://www.fns.usda.gov/nslp/national-school-lunch-program-meal-pattern-chart>
3. School Breakfast Program Meal Pattern Chart | USDA-FNS. Accessed October 6, 2021. <https://www.fns.usda.gov/sbp/meal-pattern-chart>
4. Home | Dietary Guidelines for Americans. Accessed October 6, 2021. <https://www.dietaryguidelines.gov/>
5. Fox MK, Gearan EC, Schwartz C. Added Sugars in School Meals and the Diets of School-Age Children. *Nutrients*. 2021;13(2):471. doi:10.3390/nu13020471