A guide to building integrated farm to school programs

Connecting Classrooms, Cafeterias, Communities

VERMONT FEED

A FARM TO SCHOOL PROJECT of NOFA-VT and Shelburne Farms

SHELBURNE FARMS

Overview

Purpose and Use of this Guide

This Vermont FEED Guide is intended to support school communities in developing robust, long-lasting, and integrated farm to school programs, addressing whole school change. It reflects 20 years of practice, evaluative research, and innovation in the field. It is, in fact, the ninth farm to school resource that VT FEED has created since 2000. It is an updated compilation of earlier resources and offers new approaches and tools to help your school community successfully grow your farm to school program.

This guide is primarily intended for a multidisciplinary team of individuals working within the K-12 system: school nutrition staff, teachers, administrators, students, community members, and members of support organizations. Each school community will have a different level of experience and familiarity with farm to school. This resource can support a team as they align their existing activities to their school culture and community priorities, while also sustaining the changes.

The guide is organized around farm to school action planning, a step-by-step process to help you assemble a team, identify shared goals, and plan and conduct strategic activities. In addition, it provides valuable content on classroom curriculum, school meal programs, and community building. These are critical areas for action and influence. Finally, the guide is filled with useful templates, curricular design strategies, and creative ways to communicate and celebrate farm to school success. Revisit the tools and templates as your program develops or as you plan each new school year.

A robust, long-lasting, and integrated farm to school program should be able to:

- Maximize equitable student access to fresh, nutritious, locally grown foods
- Educate students about food systems and healthy eating habits through hands-on and community-based experiences
- Support and grow market opportunities for local producers and processors.

What Is Farm to School?

Farm to school (FTS) is a program, policy, or initiative that intentionally connects students, school communities, and local farms with the goals of improving student nutrition and academic outcomes, strengthening local food systems, and protecting the environment. Comprehensive FTS programming includes strategies that are integrated across the cafeteria, classroom, and community, such as: serving fresh and local meals in cafeterias; offering food, farm, and nutrition education in the classroom; and building school relationships with farms and community organizations. Through FTS, students develop positive relationships with food and an understanding of how their food choices impact their bodies, the environment, and their communities—lessons and habits that will last a lifetime.

FARM TO SCHOOL

"enriches the connection communities have with fresh, healthy food and local food producers by changing food purchasing and education practices at schools and early care and education sites.

Students gain access to healthy, local foods as well as education opportunities such as school gardens, cooking lessons, and farm field trips. Farm to school empowers children and their families to make informed food choices while strengthening the local economy and contributing to vibrant communities."

—National Farm to School Network

43,000 schools in all 50 states have farm to school programs today, reaching 20 million students and spending $789 million a year on local food.

Because of their value to students and schools, farm to school efforts have been growing across the country. The USDA Farm to School Census reports that programs have grown from a handful of schools in the late 1990s to nearly 43,000 schools in all 50 states today, reaching more than 20 million students. Collectively, those schools are spending $789 million a year on local food. In Vermont schools, $915,000 was spent on local food in the 2013–2014 school year, out of $16 million total.

WHO IS BEING SERVED BY U.S. SCHOOL FOOD PROGRAMS?

14.6 million students eat **SCHOOL BREAKFAST** each day, 2.4 billion breakfasts annually

30.4 million students eat **SCHOOL LUNCH** each day, 5 billion lunches annually

Sources: "Economic Contribution and Potential Impact of Local Food Purchases Made by Vermont Schools," Center for Rural Studies, University of Vermont, 2017; National statistics based on schools reporting to the 2015 USDA FTS Census.

And there's so much room to grow! The United States serves approximately 31 million students each school day. That's 7.4 billion breakfasts and lunches served in a year! The scale of these food programs presents tremendous opportunities to feed more fresh, healthy food to hungry kids and to shift how all our students think about food and nutrition.

Note: Farm to school is growing in early childhood education, too—in center- and family-based child care settings, preschools, Head Start programs, and home visiting programs. Early childhood professionals may find the action planning tools and templates useful in their program development and in forging enhanced connections with public schools.

Benefits of Farm to School

The long-term benefits of farm to school are many. There are health and education benefits to students, as well as positive impact on the local economy, the natural environment, and the greater community. The National Farm to School Network has compiled country-wide research into a short brief, *The Benefits of Farm School* (April 2017), excerpted here. See the brief for source citations.

ECONOMIC DEVELOPMENT

- Each dollar invested in farm to school contributes an additional $0.06-$2.16 to the economy; one state saw a $1.4 million annual contribution.
- Individual farmers see an average 5% increase in income from farm to school sales and establish a long-term revenue stream.

PUBLIC HEALTH

- Farm to school activities support the development of healthy eating habits for children while improving family food security by boosting the quality of school meal programs.
- When schools offer school gardens, 44% of students eat more fruits and vegetables; when schools serve local food, 33% of students eat more fruits and vegetables.

EDUCATION

- Overall academic achievement in K-12 is enhanced, including grades and test scores; more opportunities for physical activity and social and emotional growth; increase in engagement.
- FTS offers innovative teaching platforms for core subjects, such as science, math, and language arts in PreK-12 settings, and greater opportunity for necessary experiential and hands-on learning.

ENVIRONMENT

- Waste of local food is reduced, both on the production side and the plate waste side; overall food waste decreases due to farm to school activities.
- FTS supports environmentally sound, sustainable and socially just food production, processing, packaging, transportation, and marketing.

COMMUNITY ENGAGEMENT

- FTS increases community awareness about and interest in purchasing local foods and foods served in school cafeterias.
- FTS increases support from parents and community for healthier school meals—connecting community and schools.

3Cs Model of Change

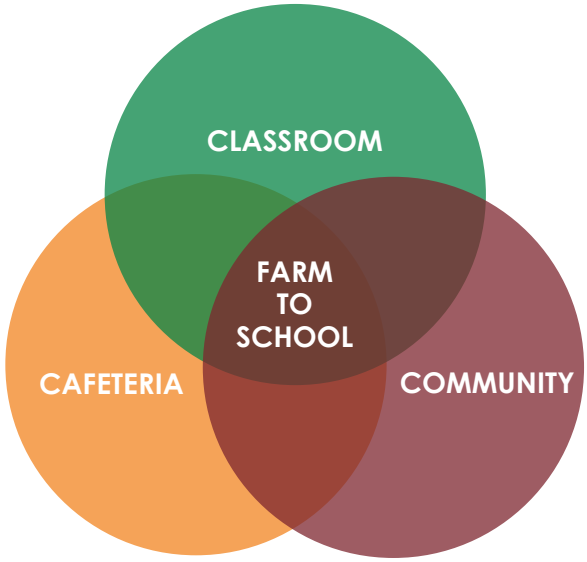
Farm to School is a comprehensive strategy that extends beyond serving a local product in the cafeteria. The "3 Cs" approach, which VT FEED developed in 2000, has taken root across the country as a successful model of change that integrates efforts in the cafeteria, the classroom, and the community to achieve robust and sustainable FTS programs.

VT FEED has found that the most successful programs are not "add-ons" (separate programs that run outside the regular policies, systems, and curricula of a school), but integrated throughout school culture. This requires collaboration among administration, food service, students, families, and teachers. Ideally, farm to school can link school wellness policies, nutrition programs, curriculum reform efforts, family-school-community partnerships, student voice, nurse, guidance, and after-school programs.

The school cafeteria is a major hub of activity. It can be the largest classroom in the school because it is a powerful educational environment connecting with every student. Farm to school programs demonstrate that nutrition and the cafeteria are integral to the school day and the education of the whole student. School cafeterias also can support

> The school cafeteria is the largest classroom in the school. It can be a powerful educational environment that connects with every student.

the local food economy by buying from local farmers to incorporate healthy, local, and seasonal foods into school meals; connecting the expertise of school nutrition staff with food and nutrition education initiatives; reducing waste; encouraging



The 3 Cs of farm to school
Farm to school is most successful and enduring when it is integrated into the cafeteria, classroom, and community.

student feedback; and making nutritious food accessible to all students. When school meals are produced sustainably, taste great, are nutritious, and support the local economy, everyone wins!

In the classroom, FTS education provides a real-life context for learning across all disciplines—science, math, art, language arts, social studies, and more. Classroom learning can be extended by engaging students both in hands-on community projects (building community gardens, visiting a local farm, volunteering with a local food pantry), and with the cafeteria (running taste tests for new recipes, learning culinary skills alongside school nutrition staff). Activities like these introduce students to new foods and empower students to make healthy food choices that last a lifetime. Farm to school naturally dovetails with the broader 4 Cs model in education: critical thinking, communication, collaboration, and creativity.

"With the right interventions, we can give every child a chance to get the nourishment and support they need to thrive and grow. When our children eat healthy foods, we know that they grow stronger brains and they're better able to learn. When children are well fed, they have fewer discipline incidents and are able to engage in learning. We know that the best food we can give them is fresh food: unprocessed, full of nutrients straight from our farms to their plates."

—Rebecca Holcombe
Former Vermont Secretary of Education

Making FTS connections within the community builds partnerships outside the school for place-based learning and garners community support for school initiatives. Youth have opportunities to learn about how their food is produced and to develop their own agency for creating change. Farmers build relationships with schools and other local institutions that allow them to expand into new wholesale markets and boost the local economy. Community dinners, service learning projects, and harvest festivals involve parents, families, and the whole community in building a food culture committed to healthy and sustainable food choices.

3 Classroom

This chapter is intended for the classroom teacher, school administrator, or farm to school advocate who is addressing the impact that farm to school has on students, the curriculum, and the overall educational environment. Each of the seven key educational benefits of farm to school has an example illustrating how it benefits student learning. In the appendix, there are a number of useful tools, step-by-step resources, and examples for developing one's farm to school curriculum.

WHAT IS IN THIS CHAPTER?

7 Educational Benefits of FTS

- Engages all learners
- Is a tool for meaning-making
- Leverages community resources and supports collaboration
- Connects the explicit and implicit curricula
- Is interdisciplinary
- Connects school initiatives
- Builds self-efficacy

RELATED APPENDICES

- Developing Farm to School Curriculum
  - Farm to School & Big Ideas
  - Understanding by Design Unit Template
- Tips for Cooking with Children
- Cooking Cart Equipment Checklist
- Best Practices for School Community Gardens

Classroom

The most powerful farm to school programs connect the cafeteria and community with learning in the classroom. We have explored how FTS in the cafeteria helps ready students to learn, but there's more to its educational impact. FTS is a powerful integrating context that helps engage students, is naturally interdisciplinary, is a lens for making meaning of subject content, and is a connector for implicit and explicit curriculum.

Students can develop deeper understanding of how their food choices impact their bodies, their families, the community, the local economy, and even the world's natural and economic resources. The 3 Cs framework of cafeteria, classroom, and community (outlined on p. 8) offers context-rich and content-rich learning. Additionally, when FTS involves project-based learning, students experience real-world applications of their learning on campus or out in the community. This reinforces students' understanding and allows them to make a difference in their place.

In the Appendix (p. 112–115), there is a complete tool to assist teachers in developing farm to school curriculum, leading the user through a step-by-step process of Understanding by Design (UBD) curriculum development with farm to school at the center. A seasoned teacher can follow this tool to identify desired results, establish enduring understandings and essential questions, plan learning opportunities, and perform continuous assessment.

7 Educational Benefits of Farm to School

FTS ENGAGES ALL LEARNERS

Research shows a strong link between student engagement and academic achievement. FTS offers a powerful model for reaching both. Consider how many opportunities FTS provides for hands-on experiences: growing, tasting, cooking, and composting. Beyond that, FTS encourages systems thinking and problem solving around complex issues such as sustainable food production and food justice.

Moreover, as a human being who needs to fuel the body multiple times every day, each of us has a deep, personal relationship with food. Food is an expression of our values, our culture, and what brings us together. This prior knowledge can be a strong foundation to build upon with farm to school themes. Food and farming also engage learners on a sensory level. Students can literally see and taste the fruits of their learning when they engage in FTS themes in their own school community. If you have ever seen a child discover the bright orange root dangling from feathery greens as they pull a carrot from the ground, or teens engaged in debate about water quality and farming practices, it's clear that FTS engages the whole child—the social, emotional, physical, and intellectual being.

Gardening as a Tool for Engagement

Gardening at school is a common and very effective activity for students to engage in as part of their school's FTS program. Tracing our favorite foods back to the soil is an impactful way to learn the full story of what we eat. A garden bed or a classroom growing system can be the springboard for investigations into science, social studies, math, and literacy. It is an inviting space for students of all ages to explore concepts such as interdependence, cycles, biodiversity, and biomimicry. Lessons and units may highlight a wide variety of living processes such as seed biology, culturally sustaining foods, and soil science.

A garden bed or a classroom growing system can be the springboard for investigations into science, social studies, math, and literacy.

A school garden presents a wonderful opportunity to introduce an outdoor classroom. Your school will have a unique set of resources that can help make learning through gardening come alive. If you want to build or use an existing outdoor or indoor garden, your school groundskeeping or facilities team will be key allies. Teaching colleagues who share your passion for food systems can also be strategic collaborators in your efforts. Consider tapping specialists, such as arts teachers, language teachers, and technology teachers to give your garden-based curriculum a power boost. Partnering with teachers and summer program providers who work with students of different ages can help provide care for an outdoor garden, which it will need throughout the growing season, while adding another social skills dimension to the student learning. Lastly, don't forget about the Master Gardeners in your school community. If you put out a call for the help and support you need to maximize the learning potential of your garden, you will likely be surprised by the invisible skill set within the school network. (See Appendix, "10 Best Practices for School Community Gardens," p. 124.)

EXAMPLE: *Taste-testing while in the garden is a favorite and highly engaging activity for the first and second graders in Mrs. Magida's class at Thatcher Brook Primary School. The school's gardens are six small beds built into the hillside behind the school. The P.E. teacher and a handful of classroom teachers work each spring with students to till the soil, start seedlings, and plant before the end of the school year. And then throughout the summer, the gardens are managed by both the summer camp program that runs out of the school and a rotation of families that have signed up at the end of the year to help keep the garden beds weeded. By the time the school year starts back up at the end of August, the gardens are filled with lovely produce ready to enjoy. Some of the vegetables get taken into the school for classroom cooking and some herbs are used in the cafeteria, but much of the produce doesn't get more than three feet from the vine or stem it grows on. Students love to pick and eat the garden produce while still standing in the garden. Whether it is the warm sun-ripened cherry tomatoes or the fresh juicy lettuce leaves, it doesn't get more local than that!*

FTS IS A TOOL FOR MEANING-MAKING

FTS is not a curriculum in itself, nor is it intended to be an "add-on." It is simply where and how learning happens. Whether you teach all subjects in an elementary classroom, teach a discrete discipline in a middle or high school, or work as part of a multidisciplinary team, FTS offers relevant and meaningful learning for all students. As we support students along their journey from knowledge and inquiry to deep understanding and action, FTS themes and topics provide a deep dive into key concepts such as community, interdependence, systems, diversity, and long-term effects.

FTS extends learning beyond the classroom by connecting to local farmers, producers, community leaders, chefs, and others. This allows students to authentically apply new information, skills, and understanding to the real world. Beyond simply building agricultural literacy, students can explore complex environmental, social, and economic issues at the local and global levels.

Making Meaningful Compost

As students uncover the complete story of the food they eat, food waste often pops up as a problem to solve. Apple cores and orange peels at the end of snack time; uneaten lunch food in the cafeteria; bowls of vegetable scraps at the end of a cooking lesson—these are visible indicators of a bigger problem in our food system. Students see these things daily. The good news is they can do something about it!

Tackling food waste makes a perfect FTS student action project. While discovering the patterns of the problem and designing solutions, students are engaged in STEM (Science, Technology, Engineering, and Math) learning and the skills of critical thinking, communication, creativity, and collaboration. The

EXAMPLE: Understanding Cycles: Composting

When a small group of students showed interest in starting a composting program at Ferrisburgh Central School, the science teacher jumped at the opportunity. Over the next several years, she worked with students to conduct audits, meet with administration and the food service manager, and study models from neighboring schools. The school now composts all food scraps on site, approximately 40 pounds a day. Leftover food from snack time is ferried down to the cafeteria from each classroom in small buckets. This is added to the large plastic bins where staff and students put their lunch scraps and the kitchen staff put their cooking scraps. The fourth, fifth, and sixth grade students sort and weigh the food scraps daily, then wheel the bins to the compost shed. The fifth and sixth graders work in small groups with a teacher to layer the food scraps with manure, wood shavings, or shredded paper. The manure is donated to the school from local farms, with parent volunteers providing transportation. Throughout the year, classes visit the compost shed, checking on progress, taking and recording temperature readings (the compost cooks

at about 150°F), and making observations. Each classroom incorporates composting into the curriculum where it makes sense. In the spring, when the compost is finished, students spread it on the school garden to nourish the plants that produce food for the cafeteria, completing the cycle.

Updated from Serving Up a School Culture of Health, Wellness and Nutrition

problem solving often begins at the classroom level and expands outward as student understanding expands. In this learning process, the science of landfills and decomposition become additional chapters in the full story of food, typically leading to the start of a student-managed composting system or compost sorting in the cafeteria.

The level of complexity of a school composting system will depend on your students' developmental level, the classroom, and the school culture. Caring for a classroom worm bin is a wonderful opportunity for younger students to experience the process of decomposition, e.g., from apple core to vermicompost. Middle school students might take their food waste action from the cafeteria to the school garden with an outdoor composting system, perhaps a roto-composter or a three-bin system built by the students themselves.

Taking the action to the school-wide level raises new questions and complexities. How will you manage the flow of waste? How will this affect the daily life of students and staff at the school? What will be the impact on the natural community? What about pests and rodents? How will this help the school move toward a zero-waste culture? What do other people need to know about food waste? How does

the composting system connect with your community's larger waste management practices? Tackling the problem of food waste with a student-designed composting system is a FTS teaching and learning opportunity to embrace and celebrate!

The Vermont Agency of Natural Resources has developed two teacher's guides to composting that can help you tap into the educational opportunities of composting:

- School Composting: An Introduction (K-5 Teacher's Guide)
- School Composting: An Introduction (6-12 Teacher's Guide)

FTS LEVERAGES COMMUNITY RESOURCES AND SUPPORTS COLLABORATION

By collaborating with community partners, educators can develop rich place-based learning opportunities that are relevant to their students' lives. You don't have to look far to find potential partners. Think about each person you engage with throughout the day as a possible partner, including farmers, graphic designers, and neighborhood grocers. Community partnerships make a curriculum locally relevant, and research suggests that they can also help address gaps in our schools. According to Larson, Shernoff, and Bempechat[1], "Many of the gaps between underserved and more privileged populations currently plaguing our schools—whether the achievement gap, the extracurricular gap, civic participation gap, or science gap—amount to an overall opportunity gap." Community partners can help close this opportunity gap by working with students during the school day, engaging students in a way that educators alone cannot. It is especially important to consider a diversity of community partners and the roles they play in the food system in order to engage the full diversity of students in classrooms.

An individual teacher's FTS efforts will go even further with the support of other teachers in your school. There are many opportunities to invite people into the excitement.

- Start by thinking of the relationships or partnerships you already have. Could the focus of your work also include food systems?
- Who do you know who is teaching a complementary study? Perhaps there are specialists who are interested in gardening, food culture, cooking, or economics. They could add an additional angle to your teaching and become another advocate of FTS.
- Are there school-wide events that currently exist that could be an opportunity for a FTS connection? A STEM fair, fundraising event, or

[1]W. Larson, Reed & Shernoff, David & Bempechat, Janine. "Epilogue: A New Paradigm for the Science and Practice of Engaging Young People." *Yearbook of the National Society for the Study of Education, Engaging Youth in Schools: Evidence-Based Models to Guide Future Innovations*. 113. 323-337. 2014.

a book fair could be an opportunity to heighten the visibility of the school's FTS work.

- Are there new initiatives the faculty is working on? Connecting your FTS classroom efforts to any new initiative will build awareness and perhaps lead to new teaching partners.
- What are other teachers working on? Supporting their teaching goals through your FTS work is a win for everyone involved.

EXAMPLE: *Kate Toland, a high school teacher at Peoples Academy, in Morristown, VT, holds a class centered on community sustainability where students are developing a sense of place and sustainability. Students work with and interview different community partners to understand what sustainable food systems look like in a rural community, and tour farms and processing facilities using the lenses of social justice, environmental integrity, and economic vitality. Students also create systems maps, learning to look for interconnections and interdependencies and beginning to understand the complexity of food systems issues. Then students choose independent projects that build on inquiry, student voice, and community connections. One student examined systems and interdependence by making connections between food waste at grocery stores and local food insecurity. Another student researched a local organic dairy farm and learned about the challenges facing organic dairy farmers in the state. All the while, students are experiencing and making meaning of these complex ideas in their own community.*

EXAMPLE: *Inspired by the weekly cooking and tasting activities taking place at their school, three students at Flynn Elementary crafted a recipe for* chatpate, *a traditional Nepali street food dish, that they wanted to share with their class. While the recipe was a familiar staple for the three girls, the majority of their fellow students had never tried or even heard of the dish. In addition to creating the ingredient list and writing the*

recipe, the three students helped introduce this special cooking activity and then guided their peers through preparing the dish in class with the school's mobile kitchen cart. The three young women enthusiastically and naturally stepped into leadership roles, freely sharing a bit of their home and culture. Their dish was a starting point for a poignant student-led discussion about our differences and similarities, both culturally and culinarily.

FTS CONNECTS THE EXPLICIT AND IMPLICIT CURRICULA

FTS can be a way to connect a school's explicit curriculum, or what it teaches day-to-day in classrooms, with its implicit curriculum, or the way a school's values and understandings are expressed in its day-to-day operations. For example, through the explicit curriculum, students might learn about local agricultural systems and the benefits and challenges of eating local foods. At the same time, the implicit curriculum might be taught through the cafeteria by highlighting local foods on the menu and through the PTO by holding a fundraiser to buy more local foods for the school nutrition program. By connecting the implicit and the explicit curricula, FTS powerfully reinforces learning for students and models the values it teaches.

The culture within a school can bridge the explicit and implicit curricula. As referenced in the *Staying Power* chapter (pp. 27–32), a school's culture can impact students' learning and overall wellness. It can also impact the staff's wellness: Often teachers and administrators become keenly aware of their own nutrition and fitness habits when they realize they are modeling healthy choices for their students. It is also evident when a school's educational message is about healthy choices but this message is not modeled in the cafeteria. Schools learn to "walk the walk" by making policy and systemic changes in their schools while they are "talking the talk" about healthy choices in the curriculum. For example, in an effort to bring healthier foods into school

"Harwood has a strong culture developing around the concepts of wellness and sustainability. Nonetheless, the student body is relatively unaware of the link between championing local food systems and its impact on both environmental/economic sustainability and personal nutrition. We hope that our FTS program begins to demonstrate how much power students have through their food choices."

—Paul Kramer, Teacher
Harwood Middle School

celebrations, a school in New York began offering parents the opportunity to pre-order healthy celebration foods from the cafeteria for birthdays and class parties, instead of bringing in store-bought brownies or cupcakes. With this initiative, the school also was able to guarantee that student dietary needs were being addressed.

FTS IS INTERDISCIPLINARY

As educators, we often find ourselves teaching discrete, single subjects. By instead using an interdisciplinary approach grounded in real-world examples, we can develop problem-solving and critical thinking skills in students. Using FTS as a focus within curricular units can provide meaning and evidence that learning is connected to something we do every day—eat! Employing FTS topics and themes to integrate disciplines and connect campus and cafeteria practices and community partnerships puts the world together for our students. We immediately help them see the connections between the curriculum and their daily lives at home, in school, and in the community. Teachers find that while investigating a real-world issue such as hunger, they are able to simultaneously address and evaluate particular science, social stud-

> Farm to school topics and themes integrate disciplines to put the world together for students.

Examples of FTS and National Standards

NATIONAL STANDARD	FTS CONNECTION
Grade 2 ELA Standard: CCSS.ELA-LITERACY.RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.	**Cycles and Food Systems** Students learn about plant and animal life cycles of regional crops and make informational text posters for a local grocery store or cafeteria about those products.
Grade 6 Math Standard: CCSS.MATH.CONTENT.6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.	**Ratios and Cooking** Students adapt recipes and do price comparisons for their favorite family meals (serving 4–6 people) to serve in the cafeteria (serving 150 people).
Next Generation Science Standard: HS-ESS3-6 Students who demonstrate understanding can: Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.	**Systems and Climate Change** Students explore how human activity has impacted agricultural systems in their region.

Learn more about FTS and national standards

ies, literacy, math, and civics standards (see table, previous page). And students connect their learning to relevant local and global issues, seeing the importance and impact of their learning and actions.

Cooking in the Curriculum

Cooking with students is a wonderful way to engage with food systems education. The more students participate in the cooking process, the greater the learning potential. As with all learning activities, you can get the most impact out of cooking with students when it is embedded in your curriculum. The possible curricular connections are endless, but here are a few good starting points.

- **Math:** Counting, measurement, doubling, halving, fractions, and ratios can all be a part of making food from a recipe.
- **Science:** Cooking is all about transformations and chemistry. Students in any grade can hone their skills of inquiry, observation, and prediction while tasting, handling, and preparing food.
- **Literacy:** Recipes can be your nonfiction text for building encoding and decoding skills. Procedural writing skills can be practiced as students write down their own favorite recipes or a newly innovated dish.
- **Social Studies:** Food is a key aspect of any cultural study, whether you are studying families, the local community, or ancient history. Prepare foods that are important to the people, place and moment in time you are studying.
- **Socio-Emotional Learning:** Cooking with others can build students' interpersonal skills, engage their senses, and teach them to problem-solve, communicate, and collaborate. Taste-testing encourages healthy risk-taking behaviors—a transferable skill.
- **Health:** Food education is an easy link to mandated "Comprehensive Health Education" that includes nutrition, personal healthy habits, body functions, and community health.

Cooking with Children

Set students up for success. Which cooking steps can students do independently? What do they need to know or be able to do in order to succeed with more challenging tasks?

Keep it simple. More frequent and regular cooking experiences as a part of curriculum may be more impactful than preparing big, complex recipes twice a year.

Look for financial support. Don't let a lack of funds prevent you from cooking in the classroom. For culinary supplies, try your school food service, PTO, or local food stores, or try fitting them within the school budget.

For more ideas, see Appendix, "Tips for Cooking with Children," p. 121.

This cooking cart was created from a retired salad bar!

Cooking Carts

While many teachers would like to cook in the classroom, often gathering the necessary supplies and tools is a barrier. Some schools are making cooking more accessible to teachers with "cooking carts"—a wheeled food preparation cart that can be rolled between classrooms. A cart has a flat top, a shelf or two, and a cabinet for storing simple cooking and prepping utensils and basic ingredients such as herbs, oil, and salt. (See Appendix, "Cooking Cart Equipment Checklist," p. 123.)

"The cooking cart supports teachers who are not highly skilled with cooking because all the tools and some basic ingredients are available."

—Aziza Malik, teacher
Champlain Elementary School

FTS CONNECTS SCHOOL INITIATIVES

FTS can activate diverse initiatives across a whole system. The themes of food, farming, and nutrition can bridge separate initiatives such as wellness policies, behavior intervention systems, and trauma-informed practices, leading to a healthy and supportive learning environment. Additionally, these themes link academic standards, school nutrition programming, and campus projects such as school gardens, indoor gardens, greenhouses, and school-wide composting efforts. In a crowded curriculum and an overburdened learning system, FTS connects the varied initiatives and programs that schools engage in from year to year.

EXAMPLE:

One easy connector between existing school initiatives and FTS is the establishment of Personalized Learning Plans (PLP). PLP's offer flexible pathways toward graduation for secondary education students working

with their educators to create personalized plans that reflect and document student learning overtime. At Champlain Valley Union High School, the environmental science teacher is creating a Sustainability Hub, where students explore multiple aspects of their world (including food, culture, community, natural resources, etc...) through class instruction, real world problem solving and their PLP. Students have expanded their Farm to Table gardens, created a bike water pump, planted a riparian buffer, worked on storm water 3D models, installed rain barrels, conducted a micrinvertebate survey, and more. Community partners are vital, as students learn to work with teams of professionals, connecting the school with their greater community, while identifying new role models for students.

This helps CVU meet their school and PLP goals of:

1. *Engaging students using a cohort model to focus on a common goal through personalized pursuits*
2. *To have a physical place that will model sustainable practices and mindsets*
3. *To utilize an interactive design process*
4. *To tackle real-world problems in collaboration with community partners*

FTS BUILDS SELF-EFFICACY

FTS leads to civic engagement and action now and in the future, impacting not only students, but also the community. As students explore food systems, nutrition, and related topics they are called upon to take action for themselves, for their community, or for the globe. Take for example high school students who are learning about agricultural work in the U.S.—understanding disparities among companies in working conditions, wages, and worker health and safety. As they uncover this information, they work with their school nutrition staff to ensure that the products they serve in the cafeteria meet Fair Food Program standards and Fair Trade Certification.

Students engaged in FTS build knowledge of food systems and practice essential skills that lead them to understanding an essential capacity: self-efficacy, or an ability to make a difference. This creates a foundation of engaged citizenship for the future and leads to healthier and more just communities. Really, when you consider it, FTS is a means to a better world for all!

EXAMPLE: Understanding Food Access

Meg Hopkins, fourth grade teacher at Sharon Elementary School, has integrated a unit on food equity into their curriculum. Students explore food access in their community and assess whether or not there is equitable access to healthy foods for everyone. Students visit the food pantry, make a meal that is nutritious and affordable, and engage in a service-learning project. Meg is able to integrate standards for writing, speaking and listening as students create opinion pieces to engage in dialogue about food equity. Application of math and civic skills abound as recipes and budgets are created and students deepen their understanding about community issues.

"Food education matters because it's our connection to each other. We all have this in common. I don't have to try to get them to care, they are so fully engaged."

—Meg Hopkins, teacher
Sharon Elementary School

Incorporating Farm to School in a School Wellness Policy

An excerpt from Public Health Law Center—Promoting Health in Minnesota Schools—FARM TO SCHOOL

Farm to School Program

1. Farm to school programs enhance the nutritional and educational experience of school children by providing:
   a. Nutritious, locally grown food as part of the school food program; and
   b. Opportunities for school children to visit local farms and learn about the origins of their food and how their food is grown. Farm visits serve as an interdisciplinary teaching tool to influence student food choices and lifelong healthy eating habits.
2. Farm to school programs provide students with the opportunity to eat healthy, locally grown foods and be exposed to a variety of fresh produce that reflects the ethnic and cultural diversity of the student population. The school district will support the development of farm to school programs to help students eat more nutritious foods and promote healthier lifelong eating patterns; support the local economy and local farmers; and teach students about the origins of their foods and how their food is grown.
3. The school district supports the integration of a farm to school program into the school food program and the curricular and co-curricular activities as appropriate to facilitate the nutritional and educational goals of the school district.
4. The school district, to the extent possible, will buy and feature farm fresh foods, incorporate a nutrition education curriculum, and provide students with experiential learning opportunities.
5. The school district will support the sustainability of a farm to school program through activities including, but not limited to, fundraising, solicitation of community donations, use of existing resources, and allocation of school district funds.
6. The school district will provide information to encourage families to teach children about health, nutrition, and the importance of daily physical activity.
7. The school district will encourage and support healthy eating by students and engage in nutrition promotion that is:
   a. Integrated into other areas of the curriculum such as math, science, language arts, social sciences, and elective subjects where appropriate and that provides eating experiences, farm visits, garden activities, and cooking classes.
   b. Enjoyable, developmentally appropriate, and culturally relevant, and that includes participatory activities, such as contests, promotions, taste testings, and field trips to include farms and gardens.
   c. A part of a curriculum where students will learn to develop life-long skills in nutrition, health education, and physical activity.
8. The district will recognize the lunch period as an integral part of the educational program. The district will strive to use the school cafeteria as a "learning laboratory" to allow students to apply nutrition skills taught in the classroom. Healthy foods, including fruits, vegetables, whole grains, and low fat dairy products, will be encouraged.
9. Neighboring school districts will work cooperatively and, whenever possible, purchase collectively in order to increase the amount of products purchased from local farms.

Developing Farm to School Curriculum

Adapted from Shelburne Farms Guide to Education for Sustainability,
based on Understanding by Design: Guide to Creating High-Quality Units, *by Wiggins & McTighe*

This appendix item specifically helps educators develop curriculum that connects food, farming, and nutrition to students' lives and their communities, and supports the application of learning in a variety of settings. The steps are based on the principles of "Backward Design" in ***Understanding by Design***.

STAGE 1 **Identify desired results**
targeted standards, enduring understandings, essential questions

▶

STAGE 2 **Determine acceptable evidence**
ongoing & culminating assessment

▶

STAGE 3 **Plan learning opportunities**
focusing questions, continuous assessment, resources

STAGE 1: IDENTIFY DESIRED RESULTS

Beginning the curriculum design process with your intended outcomes guides the development of relevant learning opportunities and assessments. It can be tempting to begin with a learning activity that you are familiar with and that your students enjoy doing, and then try to identify standards to fit the activity. However, beginning with the end in mind ensures that student outcomes purposefully drive the development of the learning opportunities and assessments. You can always weave your favorite activity in later, once you know what you hope students will gain from it.

Target standards and proficiencies before you adapt or add to the learning activities and assessments when you modify or enhance an existing unit to include FTS. This will help you see how FTS addresses standards in multiple disciplines, such as science, social studies, STEM, the arts, career and technical education, and physical education. Whether you use national standards, district curricula, or proficiency-based graduate requirements, FTS themes and topics allow students to interact with concepts in a real-world context, engage in learning with their full senses, and turn their understanding into action.

Enduring understandings are the foundational ideas that you want students to remember from a unit of study. They focus on larger concepts or principles, not simply facts, and are transferable to new contexts or topics. A standard itself might contain language that describes the enduring understanding.

Example: *The Common Core ELA standard for eighth grade (CCSS.ELA-LITERACY.SL.8.1) says "Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly." The enduring understanding might be: Acknowledging diverse perspectives helps us build empathy, value others, and deepen our own thinking.*

Once you have defined the enduring understandings for a unit, you can identify what skills and background knowledge students need. In the example above, students will likely need to understand that people have multiple viewpoints and opinions on complex issues such as sustainable agriculture and that diversity of thinking helps us to consider issues more broadly and deeply. They will also need to practice reflection, open-ended questioning, and listening skills.

Enduring understandings are not limited to the language in the standards or grade expectations. They

can be defined by community, family, student, and school values and priorities as well.

Understanding by Design offers four filters to help craft enduring understandings:

- To what extent is the content, topic, or skill relevant and transferable to the larger world (does it connect to a big idea)?
- Is this a foundational concept or principle of the content area?
- What about this content or topic is often misunderstood by students and needs to be uncovered?
- How can the topic, content, and learning opportunities engage students?

The table on p. 116 , "Farm to School & Big Ideas," offers some ideas on connecting food system education to concepts such as cycles, diversity, and interdependence.

Essential questions, as defined by curriculum expert Heidi Hayes Jacobs, are the "essence of what you believe students should examine and know in the short time they have with you." Instead of statements telling students what they will learn, questions help engage students in learning, offering opportunities for student voice, inquiry, investigation, and interpretation. Essential questions may be thought of as an "umbrella" for the content and skills you will uncover in an entire unit or the academic year.

The essential question can put the concepts into the context of your topic or subject area. As an overarching question for the unit or yearlong study, it will bridge learning opportunities or multiple units. A great question can place the students themselves squarely in the middle of the study, preparing them to actively participate in their own learning, as well as in their community. In general, essential questions have no clear correct answer. They raise other questions, they recur naturally, and they address foundational principles and concepts. Involving students in crafting the essential question builds ownership, and is in itself a powerful learning opportunity.

To help you and your students develop an essential question, ask yourself, Does the question:

- Address FTS with personal or community relevance?
- Present possibilities for personal and social action in school, in the cafeteria, or in the community?
- Cut across a wide range of knowledge, skills, and resources?
- Pose opportunities for in-depth/extended work?
- Present possibilities for a wide variety of teaching and learning activities?
- Allow for students to sufficiently explore the topic, given time and resources?
- Invite opportunities for culminating teaching and learning activities and assessments in which students demonstrate how they have grappled with the question?

Your work throughout the unit—each learning opportunity, discussion, and assessment—will help students build their understanding and formulate ideas to effectively respond to the essential question. Giving students the chance to reflect throughout the unit (in a learning notebook, online journal, or class discussion) helps them build understanding, and keeps you aware of their progress. Done intentionally, organized reflection can be the basis of a series of formative assessments, allowing both teacher and students to monitor progress.

STAGE 2: DETERMINE ACCEPTABLE EVIDENCE

The assessment tools you use to measure your students' knowledge, skills, and attitudes in FTS are like those used in authentic assessment of any other subject. Define the criteria or the measurable pieces of the standards at the beginning of the design process to help you develop learning experiences that can be evaluated effectively for student understanding.

While engaging in this process, ask yourself:

- Have I helped the students put the criteria into words they can understand?
- Do the criteria reflect what is most important to be learned in each activity or the unit as a whole (i.e., is it an enduring understanding)?

It's helpful to choose a particular aspect of the criteria and turn it into a concrete learning expectation; e.g., "Students will be able to name at least six parts of the food system in their community and describe what they need to work better or to keep on working well."

Plan the Culminating Activity (Final Assessment)

In keeping with the "Backward Design" process, crafting the final assessment (activity, performance, experiment, written or oral presentation, etc.) before any other learning activities is a good way to think about the skills and knowledge students will need to acquire along the way to help them achieve understanding. The culminating activity will give students a chance to engage in and respond to the essential question, and can often be an occasion to share their knowledge with the community. The product or performance should be designed to allow you to assess the key learning outcomes and criteria you have identified. An assessment rubric can specifically address the learning outcomes and criteria.

At the end of the design process, revisit the criteria to ensure that the learning activities (Stage 3) support what you will assess.

STAGE 3: PLAN LEARNING OPPORTUNITIES

Learning opportunities, traditionally referred to as lesson plans, help students gain content understanding and acquire or strengthen skills identified in Stage 1 of the design process. Learning opportunities should be carefully considered and sequenced to build toward students' ability to respond to the unit's essential question in a summative assessment.

Focusing Questions

While the essential question you choose in Stage 1 is the overarching question, more specific questions target the content and skills that students need to be able to later respond to the essential question. Focusing questions launch, shape, and assess individual lessons. They offer an intriguing way to open activities, connect to prior learning, and reflect and summarize learning.

Focusing questions about food, farming, and nutrition put big ideas into the context of your topic or subject area. Like essential questions, they should be important and relevant to the learner, and help organize the search for answers. The focusing questions frame the learning, engage the learner, link to other questions, and guide the exploration and uncovering of important ideas. Putting "we" in the question ("What can we...?" "How can we...?" "What is our...?") centers the learner in the activity and stimulates engagement.

For example, to work toward Next Generation Science Standard 5-LS2-1: "Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment," the teacher and students might develop focusing questions such as:

- What is a food system?
- What are the roles in the food system?
- What role do we play in the food system?
- What role do decomposers have in a food system?
- What matter is there in a food system?
- What makes a food system healthy?
- What do we do that models our understanding of how matter moves in the food system?
- What solutions can we design to ensure a healthy food system?

In this example, each focusing question leads to activities designed to help students learn more about food systems. Such activities could include reading and book discussions, teacher or guest presentations, art

projects, or field trips to local farms, compost facilities, other places within the food system, and so on.

Focusing questions can drive the ongoing assessment needed to support and evaluate student progress. During each lesson, students work on some activity or product—data collection, drawings, lists, poems, art projects, reports. These artifacts can be used as evidence of what they have learned, and can be assessed using criteria established beforehand. Each week's work might culminate in a group project, written piece, drawing, science notebook entry, or class discussion that responds to the focusing question. As the unit progresses, the sequence of learning opportunities and assessments build toward an enduring understanding of the essential question, "How can we create a food system that reflects the principle of how matter cycles in an ecosystem?"

Perform Continuous Assessment

The foremost purpose of assessment is to help students and teachers understand where they are now and where they need to go. Assessment does not happen only at the culmination of a unit in order to assign a grade. Within the learning opportunities, perform ongoing formative assessments of skills and content to help you determine what learning opportunity students need next or which ones should be revisited. You might assess journal entries, review science notebooks, give quizzes, or use discussions as opportunities for assessment. Varying the types of assessment you do throughout a unit helps students demonstrate different skills and learning styles. Products, performances, tasks with scoring guides, peer review, self-assessment, and anecdotal observations are all valid methods.

Opportunities for authentic assessment are often present with culminating projects or performances. For example, when students share their knowledge with community members by presenting before the school board, they are demonstrating their learning. Providing students with assessment criteria at the beginning of a unit or project helps them work toward the targeted goals with focus. Frequently referring to a unit rubric or other generalized assessment tool that becomes familiar to students can be useful in evaluating student progress because it makes growth visible over time.

In Stage 2 you chose criteria to assess students' understanding of FTS content and skills. As you plan each learning opportunity, make sure it supports students in being able to respond to the essential question. Here are some guiding questions to consider:

- Do the learning opportunities enable students to acquire the specific skills and knowledge that I intended?
- Are the most important learning goals reflected in the assessment criteria?
- Are the focusing questions interesting and relevant to the students?
- Do the formative assessments allow for students to monitor their own progress?
- Am I able to be flexible and responsive to formative assessment data (can I adapt my unit plan to respond to student needs along the way)?

List Resources

In the final stage of design, list resources you will use to align with and enrich learning throughout the unit. Some resources to consider:

- Text, videos, websites
- Organizations, guest speakers, resource people
- Community events, farm field trips, restaurants/food processors, and other FTS places

Thoughtfully selecting resources will directly impact the learning outcome and better support your efforts as the teacher-designer. After all, the way in which we approach curriculum design is a critical element of FTS.

Farm to School and Big Ideas

Adapted with permission from Shelburne Farms

Concept / Grade Level	Farm to School Connection / Curricular Idea
Community **PreK–Kindergarten**	Students explore the concept of community by considering the roles that people play to get food from farm to table. Students explore their own role in the food system and, as "community helpers," grow seedlings for the school garden as a service project. **ESSENTIAL QUESTION:** **What is my responsibility to our community?**
Cycles **1st–2nd Grade**	Students explore cycles all around them—investigating everything from pollinating insects to seasonal cycles—and how they impact their own lives. Students learn about the local agricultural cycles of maple sugaring and apple growing, and engage with local farmers and community businesses involved in these product cycles. **ESSENTIAL QUESTION:** **What cycles can we find in our community?**
Systems **3rd–4th Grade**	Students investigate local food systems by tracing locally available products back to their source and evaluating and assessing the impact of different food choices. Through working with local farmers, students also explore farming practices to better understand the importance of ecological diversity. Students develop skills for reading and writing informational texts by creating informational posters about the local food system for display at a grocery store. **ESSENTIAL QUESTION:** **How does change happen in a system?**

continued

Concept / Grade Level	Farm to School Connection / Curricular Idea
Change & Adaptation **5th–6th Grade**	Students learn about change over time as they explore biological and social adaptation and change. They research geologic forces and how bedrock influences soil types. They study early settlements in their community to understand why people settled near rivers and on rich agricultural soils. They study regional human migration patterns through time and how shifting demographics and diversity have shaped the local community. Students also explore the impacts of human migration on the natural/agricultural world. As a culminating project, students create a museum display with maps illustrating how their community has changed over time. **ESSENTIAL QUESTION: In what ways does the land shape culture?**
Inter-dependence **7th–8th Grade**	Students explore economics by launching a small food-focused business with their classmates. With the help of local business people, they conduct market research, create a business plan, and track data on costs and revenues. Finally, students write annual reports to shareholders, describing the economic, environmental, and social outcomes of their business. **ESSENTIAL QUESTION: In what ways do we depend on natural systems?**
Limits **9th–10th Grade**	Students are immersed in a study of sustainable agriculture and water: watersheds, management, rights, natural limits, and equity issues. They compare local water use and regulation to locales with similar demographics and geography, both nationally and internationally. Students then make recommendations to local regulating agencies on resource management. **ESSENTIAL QUESTION: What can communities learn from natural systems to improve our common future?**
Long Term Effects **11th–12th Grade**	Students collaborate with the school nutrition director to analyze food purchasing in the school community and evaluate locally available options. They consider the economic, ecological, and social justice issues related to food purchasing, such as fair trade and ecological packaging. Students research opportunities to increase local products served and present their findings/ recommendations to the school. **ESSENTIAL QUESTION: How might the ways we live today impact how people will live in the future?**

Understanding by Design Unit Template v2.1

STAGE 1: Desired Results

<table>
<tr><td rowspan="2">Established Goals (Standards)</td><td colspan="2">Meaning</td><td rowspan="2">ESSENTIAL QUESTIONS
Students will keep considering...</td></tr>
<tr><td>BIG IDEAS</td><td>ENDURING UNDERSTANDINGS
Students will understand that...</td></tr>
<tr><td rowspan="3">Students will have the opportunity to:

__ grow/cultivate
__ harvest
__ taste
__ cook
__ engage in the inquiry process
__ work with a community partner (farmer, baker, etc.)
__ participate in a community event to share their learning</td><td colspan="2">Acquisition</td><td rowspan="3">The unit incorporates food, farming, and nutrition by...

The unit uses the campus/ cafeteria or community when...</td></tr>
<tr><td>Students will know...</td><td>Students will be skilled at...</td></tr>
<tr><td colspan="2">Transfer
Students will be able to independently use their learning to...</td></tr>
</table>

Adapted with permission from the *Understanding by Design Guide to Creating High-Quality Units* by Grant Wiggins and Jay McTighe, 2011.

Understanding by Design Unit Template v2.1 *continued*

STAGE 2: Evidence		
CODE (Link to Stage 1)	EVALUATIVE CRITERIA	
		PERFORMANCE TASKS
		Students will show that they really understand by evidence of...
		OTHER EVIDENCE
		Students will show they have achieved Stage 1 goals by....

Adapted with permission from the *Understanding by Design Guide to Creating High-Quality Units* by Grant Wiggins and Jay McTighe, 2011.

Understanding by Design Unit Template v2.1 *continued*

STAGE 3: Learning Plan

CODE (Linked to Goals, Big Ideas, and Lens)	Pre-assessment of driving knowledge, skill, understandings, and attitudes using surveys and simulations	
	Learning Events	Progress Monitoring
	Student success at transfer, meaning, and acquisition depends on...	

Adapted with permission from the *Understanding by Design Guide to Creating High-Quality Units* by Grant Wiggins and Jay McTighe, 2011.

Tips for Cooking with Children

ELIMINATE INTERFERENCES

Tie back long hair, pull up long sleeves, and secure other articles of clothing that could pose safety or hygiene risks.

PRACTICE GOOD HAND HYGIENE

Wash hands with soap and warm water before touching any food or utensils. Gloves are not required if the food you are preparing will ultimately be cooked, but they are recommended if the food will be served raw. Encourage arm sneezing, and stress the importance of not touching your face, hair, etc. once hands are clean.

MAINTAIN A CLEAN COOKING AREA

Start with a clean workspace. Clean all countertops and surfaces before preparing food on them.

SET UP EARLY

Prepare work stations ahead of time with ingredients and proper tools.

WORK IN SMALL GROUPS

Cooking with children is most successful when they can work in small groups of no more than five, ideally with an adult per group. Younger children benefit from even smaller groups. Increase the adult-child ratio by involving parent volunteers in classroom cooking activities.

HAVE A JOB FOR EVERYONE

Include every student in the cooking process by assigning everyone a job. This may mean giving each student a small task or even making up a job. Tasks can include reading the recipe aloud, checking to be sure you have included all the ingredients, washing produce or dishes, drying dishes, measuring, stirring, or helping another student. Every job is important and children are easily excited by the task at hand.

TEACH KNIFE SAFETY

Be careful with knives and other sharp tools such as graters and peelers. Instill the importance of responsibility that comes with handling knives and kitchen equipment. Teach children the proper ways to hold, wash, carry, and store these tools. Most children take this responsibility very seriously.

USE THE RIGHT TOOL FOR THE JOB

Kids can cut produce, as long as you give them a safe and appropriate knife for the task. To start, use plastic disposable knives, plastic knives from a kid's set, or butter or dinner knives with blunt serrated edges and rounded points. These knives can readily cut herbs, peeled fruit, and soft vegetables like zucchini, cucumbers, and tomatoes. Sometimes a sharper or larger knife is more appropriate for cutting harder vegetables or foods. With proper use, it can be a safer option than a blunt, inadequate tool. Select a tool that is appropriate for the job. Use your discretion in gauging the readiness of your students for using more professional cutting tools and always monitor use closely. For any knife use, demonstrate proper cutting technique first.

USE SAFE CUTTING TECHNIQUES

- Place a wet paper towel under your cutting board to prevent it from slipping around on the table.
- Use a claw-like grip (with fingers curled slightly under) to hold the food steady on the cutting board. The knuckles act as a bumper, and fingertips are kept away from the knife blade.
- Before cutting rounded objects, such as potatoes, carrots, or zucchini, give the object a flat edge so that it does not roll around on the board. Do this by cutting a small slice from one side of the food so that it can lie flat on your work surface.
- Tools should stay with the cutting board.

DEMONSTRATE

Always demonstrate the correct cut, size, technique, etc. before handing the task over to the students.

READ THE RECIPE

Ask a child to read each instruction aloud as you prepare the food. Students will get a sense of turn-taking and sequencing from following directions in order. This also helps to pace the process so that you can focus on one job at a time and avoid multiple distractions.

MAKE CLEANUP PART OF THE ROUTINE

Cleaning up is an important part of the cooking process, and students may love using a mop or dust-pan as much as they love the food preparation. But save cleaning until the cake is in the oven!

TASTE!

Have the students taste the food they are preparing. Encourage the practice of trying new things, but never force anyone to eat something against their will. If someone is really hesitant to taste the food, offer the option of a "No-thank-you bite." You encourage students to try one small bite and give them permission to then say, "No, thank you," to more. But at least they have tried the food! (Remember to keep cleanliness in mind when tasting the food, too. Use clean tasting utensils to prevent contamination.)

KEEP TRYING NEW FOODS

Model healthy choices by eating food (especially new foods!) with the students. Establish a routine with students for sitting down and eating food together as a group so new foods become routine, too.

"DON'T YUCK MY YUM"

Remind students that we do not say negative things about how something tastes because it might offend someone and discourage others from trying something new. If a student tries something that they do not like, request that they quietly spit it out in a napkin so other students have an opportunity to form their own opinions. Encourage students to use respectful language like "I don't care for it." Remind students that sometimes it takes trying new things 10 times before you begin to like them.

From: *Farm to School: Highlighting Local Fruits and Vegetables: Materials to Inspire Your USDA Fresh Fruit & Vegetable Program,* VT FEED and Vermont Agency of Education. Funded by a USDA Specialty Crop Block Grant through Vermont Agency of Agriculture, Food, & Markets.

Cooking Cart Equipment Checklist

APPLIANCES

- Induction range
- Blender
- Electric griddle
- Immersion blender
- Hand mixer

COOKING UTENSILS

- Can opener
- Lemon/lime squeezer (2)
- Cheese grater (5)
- Measuring spoon set (6)
- Measuring cup sets (5)
- Rolling pin (2)
- Salad spinner
- Wooden spoon (4)
- Sandwich spreader (5)
- Vegetable peeler (5)
- Large whisk (4)
- Small whisk (4)
- Chef's knife
- Paring knife (10)
- Plastic lettuce knife (5)
- Cutting boards (10)
- Rubber spatulas (10)
- Turners (10)
- Slotted serving spoons (4)
- Solid serving spoons (6)
- Ladle
- Tongs
- Apple peeler/corer/slicer (5)
- Apple slicer (5)
- Colander
- Mixing bowls (3)

POTS AND PANS

- Stockpot with lid
- Steamer basket for stockpot
- Saute pan with lid
- Large saucepan with lid
- Small saucepan with lid
- Baking dish (2)
- Baking sheet (2)
- Loaf pan
- Muffin pan (2)

TABLEWARE

- Melamine plates (20)
- Melamine bowls (20)
- Dinner spoons (24)
- Dinner forks (24)
- Dinner knives (24)

MISCELLANEOUS

- First aid kit
- Potholders (4)
- Aprons (20)
- Plastic lined tablecloths (5)
- Kitchen towels (4)
- Cleaning cloths
- Tote box (for dirty dishes)
- Dishwashing liquid

10 Best Practices for School Community Gardens

1. LOCATION, LOCATION, LOCATION

The most sustainable gardens occupy a highly visible site on or next to school grounds. The site should be well drained with plenty of sunlight, access to water, and minimal soil compaction. Always test soil!

2. PERMANENCE

A colorful and durable sign and a sturdy fence are good first steps toward permanence. Clearly posted rules, regular updates in school newsletters, and successful fundraising and accounting are also key.

3. ORGANIC GARDENING

Consider organic practices for the health of your garden and community by avoiding synthetic pesticides and chemical fertilizers. Increase soil fertility through crop rotation, cover crops, and compost.

4. CROP DIVERSITY

Plant a variety of vegetables and flowers to support a wide range of beneficial insects and soil microorganisms. Experiment with companion plants that enhance growth or suppress pests.

5. CURRICULUM INTEGRATION

Work with administrators, teachers, and community partners to integrate the garden into farm to school, Ag in the Classroom, nutrition programs, and other subjects.

6. ORGANIZATION

A skilled coordinator and steering committee, effective communications, shared planning and decision making, and youth engagement are essential to a sustainable school community garden.

7. ADMINISTRATIVE AND SCHOOL BOARD SUPPORT

Raise awareness by making a presentation and conducting a garden taste test at the next school board meeting or by hosting a school event in the garden and inviting your school board to attend or speak.

8. COMMITMENT

Work for continuous improvement in your garden and educational program. Seek feedback.

9. COMMUNITY ACCESS

Involve the community in your garden, especially during the summer. Consider individual garden beds or plots for interested families and weekly summer gathering times.

10. CELEBRATION AND ACKNOWLEDGMENT

Thank sponsors, volunteers, and donors, and share surplus produce and flowers with neighbors and people in need. Build social capital through garden potlucks and harvest celebrations. Have fun!

Source: Vermont Community Garden Network. Used with permission.

VT FEED

Vermont Food Education Every Day (VT FEED) began in 2000 as a collaborative farm to school project of three nonprofits: the Northeast Organic Farming Association of Vermont (NOFA-VT), Foodworks at Two Rivers, and Shelburne Farms. Today, Shelburne Farms and NOFA-VT provide leadership, resources, and support to an evolving farm to school movement, providing hundreds of school communities and producers with technical assistance, educational resources, and professional development in order to increase local, healthy food choices.

VT FEED believes that:

- In a sustainable food system, everyone has access to nutritious, healthy, affordable foods and opportunities to produce it.
- Students who are well-fed with nutritious foods are able to be more engaged and successful in their learning.
- Farm to school gives students the knowledge, skills, and values to make healthy choices for themselves and their communities.
- Local food systems are essential to the health of the local economy, environment, and communities.
- A healthy food system is critical to a sustainable future.
- School systems change when a diversity of partners and the school community align to invest in creating change together.

Shelburne Farms is a nonprofit education organization whose mission is to inspire and cultivate learning for a sustainable future. That means learning that empowers students to build a healthy future for their communities and the planet. Located on Abenaki land, Shelburne Farms' home campus is a 1,400-acre working farm, forest, and National Historic Landmark.

The Northeast Organic Farming Association of Vermont is a nonprofit association of farmers, gardeners, and consumers. Its mission is to promote organic practices to build an economically viable, ecologically sound, and socially just Vermont agricultural system that benefits all living things.

vtfeed.org | shelburnefarms.org | nofavt.org

This guide is lovingly dedicated to

ENID WONNACOTT
(1961-2019)

Enid planted, tended, and nurtured
the VT FEED project during her entire tenure
as executive director of NOFA-Vermont.
Her passion for agriculture, dedication to our communities,
and love for Vermont were unparalleled.
The seeds that Enid planted will forever nourish us.

Thank you, Enid!

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