



HARVEST LESSONS PROGRAM MANUAL



Guides & Tools

HARVEST LESSONS ARE A FUN WAY FOR K-4 CLASSROOMS TO EXPLORE, TASTE AND LEARN ABOUT EATING MORE FRUITS AND VEGETABLES EVERY DAY.

INTRODUCTION

Harvest Lessons create a community of learners, adult volunteers and children, exploring locally grown food together. Harvest Lessons focus on a different food each month and correspond to New Hampshire Harvest of the Month. The lessons address key learning standards and help students meet the grade expectations while practicing important science, literacy and math skills. Harvest Lessons also include a taste test featuring the highlighted food or foods. Integrating food education into the classroom has been proven to increase children's consumption of fruits and vegetables. Not only that, hands-on learning improves children's understanding and retention of academic content.

All Harvest Lessons are available online for free at www.NHHarvestoftheMonth.org

Additional Harvest Lessons, including lessons on basic nutrition, eggs, plant biology and seeds are also available at www.VitalCommunities.org.

BRINGING HARVEST LESSONS TO YOUR SCHOOL

We have found that schools approach Harvest Lessons differently and no one way is the right way. Harvest Lessons offer flexibility in use, and can be used by classroom teachers, farm-to-school coordinators, parent and community volunteers, and high school volunteers.

CLASSROOM TEACHER MODEL

Classroom teachers can choose to set aside a time once a month to teach a Harvest Lesson, or can integrate activities from the Harvest Lessons when they fit with other units of study. The cover sheet for each lesson summarizes the activities that are included for each food, and describes their curricular connections. Harvest Lessons can be a great tool for classroom teachers who want to integrate farm to school themes and lessons into their classroom but aren't sure where to start, or who have ideas but don't have enough time to plan out their ideas and create materials. The Harvest Lessons are written



(Bringing Harvest Lessons to Your School, continued)

up in detail, they have been tested and edited by teachers and volunteers in classrooms across the state of Vermont, and the materials are ready to go!

FARM TO SCHOOL COORDINATOR MODEL

Farm to school coordinators can use the Harvest Lessons to augment taste tests or lead lessons in the classroom. Farm to school coordinators have several options when it comes to implementing the lessons. A farm to school coordinator can lead the lessons him or herself in advance of a taste test, or share the lessons with classroom teachers in advance of a taste test, providing support in gathering the materials the teacher would need to implement a lesson. A farm to school coordinator can also train community volunteers or high school students to teach the lessons. More details and suggestions about working with volunteers are provided below.

COMMUNITY VOLUNTEER TEACHER MODEL

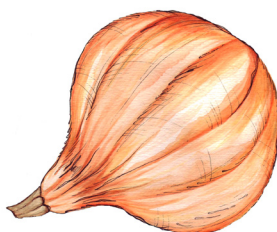
Harvest Lessons can be shared with community volunteers through monthly or bimonthly trainings led by a farm to school leader in your community. Volunteers are trained on the full Harvest Lesson every month and then deliver the lesson directly to the classroom.

HIGH SCHOOL VOLUNTEER MODEL

This model is an especially exciting way to implement Harvest Lessons because it engages both the high school students and the elementary school students in hands-on food education. Similar to the community volunteer model, a farm to school leader teaches the lesson to the high school students usually on a monthly basis. The high school students then deliver the lesson to the elementary students. By teaching the lessons, the high school students gain a deep understanding of the content, and gain leadership experience, public speaking skills, and get a sample of what it might be like to have a career in education.

AFTER-SCHOOL OR SUMMER CAMP PROGRAM MODEL

The activities in the Harvest Lessons can also be implemented as part of an after-school program or a summer camp. Because there are so many activities for each food, the lessons can be extended to fill a larger block of time. The lessons can also be shortened and used around snack time – students could learn about a healthy, seasonal food through the introduction and/or one short activity, then prepare and taste test it.





RECRUITING VOLUNTEERS

Recruiting volunteers is key if the lessons are to be implanted fully on a monthly schedule. Volunteers go into the classroom in teams of two (or more!) to present each month's lesson to the children. Each volunteer gives about five hours a month to the program – attending the training workshop, preparing the lesson and gathering materials, and presenting in their assigned classroom.

The following are tried and true tips for recruiting volunteers:

- Ask person-to-person; a personal invitation is always the most successful tool.
- Connect with teachers for suggestions of parents to call, or teachers can ask likely candidates themselves.
- Advertise in the school newsletter or local newspaper.
- Set up a table at kindergarten registration or school open house.
- Seek out community members, grandparents, and retirees. Call your local chapter of RSVP (Retired Seniors Volunteer Program) and request volunteers.
- Go to local conservation commissions or other community organizations.
- Set up an information table at Town Meeting Day.
- Meet with the parent-teacher organization. Invite potential volunteers to attend a lesson training so they can see first-hand how much fun it is.

CONNECTING WITH CLASSROOM TEACHERS

Volunteers should connect with the classroom teacher regularly to help integrate this program into the school curriculum. Meet with the teacher early in the school year. The teacher will want to know the lesson topics that are going to be covered, and you and the teacher will need to set up a schedule of when each workshop will be taught.

Talk with the teacher ahead of time to find out:

- what role they might want to have during your time in the classroom;
- any classroom rules you should know about;
- what special way the teacher has for getting the students' attention;
- what to do in case of fire drill or other emergency;
- if there are any allergies or other health issues to consider in the classroom;
- any other special issues in your classroom.



When the classroom teacher participates fully in Harvest Lessons, it gives children the message that these lessons are an important part of the school day. Ask teachers how they would like to be involved in the program, whether helping with classroom management, leading small groups in activities, or assigning children to groups, as they know what teams work best together.

*(Connecting with Classroom Teachers, continued)*

It's also helpful if teachers can send home reminder notes the day before their Harvest Lesson for children to bring appropriate clothing for going outside. Teachers can help with permission slips for special outings to a farm, garden, or orchards, and assist in arranging transportation for these outings.

Most teachers really appreciate having volunteers lead lessons in their classrooms and are glad that it allows them to include food education in their curricula. That said, there is a great deal that classroom teachers must teach and limited student contact time, and so it is important that our workshops provide meaningful and valuable learning opportunities for all students.

Integrating Harvest Lessons Into the Curriculum

There are many ways that teachers can extend Harvest Lessons beyond the lesson given by the Harvest Lesson volunteers. Provide all teachers with copies of each month's lesson ahead of time so they can plan around the topic. Some teachers have the children keep a special journal about the topics they study during the year and observations they make outside of the lessons. Another idea is to have the children record their observations on a school-wide or classroom calendar.

ALIGNMENT WITH LEARNING STANDARDS

Harvest Lessons are aligned broadly with the Next Generation Science Standards (NGSS). The Next Generation Science Standards (NGSS) define three major dimensions to be integrated in science education for grades K-12:

DIMENSION 1: Scientific and Engineering Practices

DIMENSION 2: Crosscutting Concepts that unify the study of science and engineering through their common application across fields, and

DIMENSION 3: Disciplinary Core ideas in four areas: physical sciences; life sciences; earth and space sciences; and engineering, technology, and applications of science.

The NGSS are based on A Framework for K-12 Science Education, which articulates a vision “in which students, over multiple years of school, actively engage in scientific and engineering practices and apply crosscutting concepts to deepen their understanding of the core ideas in these fields. The learning experiences provided for students should engage them with fundamental questions about the world and with how scientists have investigated and found answers to those questions.”

In addition to the science standards, Harvest Lessons also support many aspects of the Common Core State Standards – English Language Arts and Mathematics.



(Alignment with Learning Standards, continued)

Many lessons contain:

- Unit vocabulary
- List of related children's books
- A journal activity related to the lesson
- Suggestions for integrating the lesson into language arts, mathematics and social studies.

NEXT GENERATION SCIENCE STANDARDS & HARVEST LESSONS

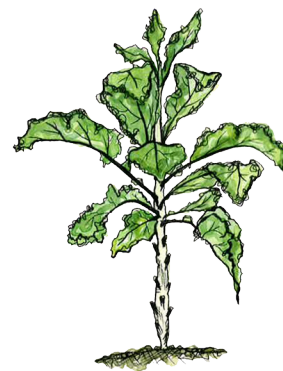
Each month's Harvest Lesson can address several NGSS Disciplinary Core Ideas. The Disciplinary Core Ideas are taken from Grade Band Endpoints in *A Framework for K-12 Science Education*.

In addition to learning important science content, Harvest Lesson students also engage in the NGSS Science Practices (Dimension 1) by:

1. Asking questions and defining problems
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations and designing solutions
7. Engaging in argument from evidence
8. Obtaining, evaluating and communicating information

The lessons also give students opportunities to reflect on the Crosscutting Concepts (Dimension 2), as identified in the *Next Generation Science Standards*:

1. Patterns
2. Cause and effect
3. Scale and proportion
4. Systems and system models
5. Energy and matter
6. Structure and function
7. Stability and change



COMMON CORE & HARVEST LESSONS

In addition to the NGSS alignment, each month's lesson can also include activities that support the *Common Core State Standards*. Below is a chart that identifies the *English Language Arts* standards included in each workshop. There are frequent opportunities to address *CCSS-Mathematics* in each unit as well. Mathematics is the language of science, so we frequently have kids counting, looking for patterns, taking measurements, creating graphs and charts, and more.

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(Alignment with Learning Standards, continued)

ACTIVITY	COMMON CORE STANDARDS
Discussions at the end of activities	<p>Common Core Speaking and Listening</p> <ul style="list-style-type: none"> Standard 1: Participate in collaborative conversations.
Making and sharing journal entries	<p>Common Core Writing</p> <ul style="list-style-type: none"> Standard 1: Write opinion pieces. Standard 3: Write narratives in which they recount two or more appropriately sequenced events. Standard 3: Write narratives to develop real or imagined experiences or events. Standard 10: Write routinely over extended time frames and shorter time frames for a range of tasks, purposes, and audiences. <p>Common Core Speaking and Listening</p> <ul style="list-style-type: none"> Standard 4: Tell a story or recount an experience with appropriate facts and relevant, descriptive details. Standard 5: Add drawings or other visual displays to descriptions as desired to provide additional detail.
Closing thoughts	<p>Common Core Speaking and Listening</p> <ul style="list-style-type: none"> Standard 4: Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. Standard 6: Speak audibly and express thoughts, feelings, and ideas clearly.

A FEW HELPFUL HINTS

PREPARATION

1. Talk with the teacher before the first workshop
2. Attend the Harvest Lessons training! This is the most important step to leading a successful lesson and the best way to prepare yourself. If you can't get there, make sure your teaching partner can attend.
3. Be clear ahead of time about what you want children to learn in your lesson. Meet with your partner a few days before the in-classroom lesson to pick the activities you will include and plan the order of their presentation. It's good to think ahead of time about transition questions, decide who will lead each activity, and determine who will collect materials. There may be additional materials that you and your partner will need to prepare and bring in – such as various food items.
4. Practice! Go through the lesson and do each activity yourself and taste test any recipe you will be making
5. If you are going to spend time outside, it's good to explore the schoolyard ahead of time to prepare for outside activities. You want the children to discover things for themselves, so try to take them to a place where they are likely to find what they are looking for.



(A Few Helpful Hints, continued)

GENERAL POINTERS

1. Set expectations and guidelines at the start of each workshop. Let the children know that you expect their attention and respect, and that you will give them yours. Give them a brief overview of what they will be learning and doing during the workshop.
2. Keep things moving. Jump right in with the introductory activity to capture students' attention. A very good strategy is to alternate active hands-on activities with quiet listening activities so that students are never kept sitting for too long. A few key questions are usually enough to introduce the topic or summarize an activity.
3. It is better to do fewer activities in an unhurried way, than to rush through too many.
4. Plan ahead so you can avoid "down" time as much as possible – consider how you will distribute materials, transition from one activity to the next, or what review questions you will ask. Ending each activity with a short summary helps to reinforce what's been learned.
5. Give children a chance to think and share. Take the time for students to record their own results, feelings or thoughts in a journal. You'll also want to provide a chance for children to share what they've learned.
6. Make sure each child's voice is heard at least once during the lesson, with a story or a question.
7. Be flexible and seize learning opportunities when they present themselves, like watching a tomato horn worm devour a leaf or observing earthworms emerging from soaked soil. End with a good closure activity. Most of all, be light-hearted and enthusiastic. Everyone learns best when they are having fun.

HAVING FUN & KEEPING SOME ORDER

1. The fun and games of our lessons are exciting for children. Although we want to encourage their enthusiasm, we also need to keep some order in the classroom. Make sure your class understands that you expect them to follow the classroom rules while you are there. Here are some other ideas for classroom management:
2. Arrange for the teacher to begin the lesson by reminding the children about appropriate behavior during Harvest Lessons.
3. Hand out nametags at the beginning of your workshop. Being able to address the children by name is respectful and helps you get their attention or call on them when they have a question or volunteer for a job.
4. Find out the techniques your teacher uses to get the children's attention (hand-clapping, turning down the lights, etc.).
5. Make sure everyone is quiet and listening before you give directions.
6. Make your instructions short and clear, and, if possible, demonstrate what you mean. Wait to hand out materials until after you've given the directions.
7. Invite a child who is not listening to stand next to you in the circle. Invite a child who just can't sit still to pass out some materials.
8. The teacher is responsible for the children; defer to the teacher if any problems arise.



(A Few Helpful Hints, continued)

ADJUSTING FOR AGE

Our workshops are designed for children ranging from K to 4th grade. Volunteers teaching kindergarten classes will take a very different approach to a lesson than those teaching in the 3rd or 4th grade. In general, after a team has worked with a class for a while, it is easy for them to adapt the workshops to the grade level. Here are some ideas to keep in mind:

FOR YOUNGER STUDENTS

1. Pick one or two main points to be your focus rather than trying to squeeze in a lot of information and all the possible activities.
2. Pick activities that are hands-on and be sure to alternate sitting and moving activities.
3. Explain activities simply and briefly, or demonstrate them, before you hand out materials.
4. You may want to break some activities down into smaller parts.
5. Practice new vocabulary with the children at the start.
6. Don't linger over slide shows or PowerPoint presentations. Instead, keep things moving; plan ahead to transition quickly from one activity to the next.
7. Be sure you have eye contact with the children and that you have their attention.
8. Take children outside. Try to do this in small groups to keep the children engaged.

FOR OLDER STUDENTS

1. Plan to have students work with partners for inside and outside activities.
2. Have students rotate through stations, working with different leaders and activities at each one.
3. Spend more time on discussions, pose questions, encourage students to make connections to other topics that they have been studying.
4. Give students opportunities to record their observations, take measurements, draw or write about their observations, analyze their findings.

GOING OUTSIDE!

We strongly encourage some of your Harvest Lesson time be spent outside in the school garden or exploring other natural places. Children have a great deal of curiosity about nature, and it is important for them to form a strong connection with the natural world. With two Harvest Lesson volunteers and the classroom teacher to help, there is plenty of supervision, and the outside time in these lessons can be very rewarding.

Here are some guidelines for successful outdoor discovery and learning:

1. From the first lesson, let children know that outside time is not recess; you all are scientists/chefs working outside. Explain, or have the teacher explain, expectations for their participation.
2. Success in discovery is the key to a good outdoor learning experience. Scout the area ahead of time for great places to make discoveries and carry out activities.
3. Set boundaries within which students may explore when you are outdoors. You may want to put out boundary markers before your workshop, point out specific limits like a fence, or set more general boundaries such as within sight of your red bandana.
4. Explain the activities before you head out. It is often best to divide the class into smaller groups,

*(A Few Helpful Hints, continued)*

- each with an adult leader, for outside activities.
5. Exploring with a partner or small group helps children to stay focused. Before the groups set out, plan a time and place to meet and share findings, and a signal (bell, whistle, or gong) to call the group back together.
 6. Begin and end activities with a group circle. You can form a circle with “magnetic elbows” or by sitting with legs toward the center to form the spokes of a wheel.
 7. Discuss rules about collecting. Is it ok for the group to pick from the school garden? Should only a certain number of students be allowed to collect materials?
 8. Sometimes it is useful to plan an activity that allows the children to run around and release pent up energy when you first get outside, before settling down to exploration.
 9. Dressing for the weather (hats, mittens, or boots) is important, as it is hard to focus if you are cold or wet. Volunteers can ask teachers to send home reminder notes.

FUNDRAISING

Schools may find they need to raise funds to pay for harvest lesson supplies or to pay for the farm to school leader to train your Harvest Lesson volunteers. Schools pay for these services in many ways.

Following are some fundraising ideas:

1. Run a FarmRaiser.
2. Bottle drives or collecting used ink cartridges for recycling are effective, as are auctions, yard sales, and raffles.
3. Have a baked-goods sale or put on a community harvest supper or pancake breakfast. This is a wonderful way to engage the whole community and raise money for the program.
4. Hold a run-a-thon, bike-a-thon, or read-a-thon in which the students collect pledges for their efforts.
5. Partner with a local restaurant. Harvest Lesson volunteers wait tables and the restaurant donates a portion of the evening’s income to program fees.
6. Write a letter to parents asking them to donate \$5 or \$10 toward the program fees.
7. Write a grant. Many local and national organizations provide grants for farm to school activities. Many grocery stores will provide store credit to purchase local food (or other ingredients that aren’t local that you may need for a recipe). Companies such as Annie’s Mac and Cheese, Whole Foods and Lowe’s provide grants for food education and for gardening.
8. Grow Your Own! It can often be cheaper to grow food than to buy it, and there are many garden grants for schools available from businesses and nonprofits.
9. Seed Sales: High Mowing offers seeds at wholesale price to school groups doing fundraisers. Or, even better, learn the valuable lesson of seed-saving with students. Save seeds of interesting varieties with students, design packaging and sell them as a fundraiser.
10. Sell FEED Notecards. Vermont FEED (Food Education Every Day) and the Burlington School Food Project have partnered to create packs of cards featuring celebrated Vermont Artists. School groups and organizations can use these cards as a fundraiser.
11. Create a Community Cookbook. Collect healthful recipes from community members to compile in a fundraiser cookbook. Talk to the school’s art teacher about getting children’s food art to include.



OTHER RESOURCES

Need help implementing Harvest Lessons? Try these resources:

[A Guide to Tasting Success](#)

[Classroom Cooking With Kids](#)

[Classroom Cooking Cart Guide](#)

[Recipe Resource](#)

PROGRAM HISTORY

Where did the Harvest Lessons come from?

The Harvest Lessons were created collaboratively. Many of the activities used were adapted and reformatted from existing resources. We'd like to acknowledge the many organizations and people that contributed ideas, information, time and resources to this project throughout the process of its creation:

- VT FEED (Vermont Food Education Every Day)
- Project Seasons, Shelburne Farms
- Cat Buxton & Cedar Circle Farm & Education Center in Thetford, VT
- Keenan Haley, farm to school coordinator and teacher at Sharon Elementary School
- Jenny Hewitt, 3rd and 4th grade teacher at Pomfret Elementary School
- Chloe Powell, educator, artist and activist
- Aurora Coon, educator
- Kaitlin Haskins, graphic designer
- Gardens for Learning, Food Works
- Ottauquechee Health Foundation
- Wellborn Ecology Fund
- Four Winds Nature Institute

Vermont Schools that Piloted Harvest Lessons

- Barnard Academy
- Hartland Elementary School
- Windsor Schools
- Bradford Elementary
- Pomfret Elementary
- Westshire Elementary