Chef to School

February 25, 2009

Background: When students have opportunities to grow food and taste fresh fruits and vegetables, they are more likely to adopt life-long healthy diets. Chefs can play a major role in this process by providing hands-on taste testing and cooking demonstrations for students featuring local foods.

Objective: This training will provide chefs with a better understanding how to deliver information to children and best practices in working in non-traditional cooking environments such as classrooms, gardens and auditoriums. Chefs will have an opportunity to:
1) Learn best practices in delivering taste tests and hands-on cooking lessons for schools that feature fresh, local food.
2) Connect with Atlanta schools that hope to foster a relationship with a chef, and host taste testings or cooking demos at these schools that promote local foods, wellness and/or connect with their school garden.

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Table of Contents

Georgia Organics.......................................................... 1
Farm to School, FAQ ...................................................... 2
Supporting Research for Edible Gardens .......................... 3
Georgia Organics, Atlanta Farm to School Program .......... 4
Mendez Foundation’s Seeds of Nutrition ......................... 5-7

Conducting Cooking Activities with Elementary School Students ...................................................... 8-12
  Rules........................................................................... 8
  Planning .................................................................... 8
  The Setting.................................................................. 9
  Hygiene...................................................................... 9
  Equipment ................................................................... 10
  Hot Items, Stoves ...................................................... 11
  Sourcing Food ........................................................ 11
  Learning to Use Knives ............................................ 11
  Other Helpful Tips .................................................. 12

Connecting to Curriculum ............................................ 13-17
  Kindergarten, First Grade........................................ 13
  Second Grade .......................................................... 14
  Third Grade ............................................................ 15
  Fourth Grade .......................................................... 16
  Fifth Grade ............................................................. 17

Capacities of Elementary School Students ..................... 18

Materials for Today’s Lesson ......................................... 19

Recipes, with Curriculum Suggestions .......................... 20-24
  Garlicky Greens ....................................................... 20
  Butternut Squash Soup ............................................ 21
  Beet Apple Salad .................................................... 22
  Radish Sandwiches ................................................ 23
  Tomato-Basil Salad ................................................ 24

Appendix ........................................................................ 25-29
  Annual Harvest Calendar ........................................... 25
  Georgia Planting Guide for School Gardens ............... 26-27
  Taste Testing New Foods in the Classroom and Cafeteria 28-32
  Top 10 Reasons to Buy Local .................................... 33-35
  Farmer/Chef Presentation Form for Schools ................ 36
  Note Pages ............................................................. 37-40
“There’s a direct connection between the health of the soil, the health of the plants, the health of the animals, and you as an eater.” – Michael Pollan, author of Omnivore’s Dilemma and In Defense of Food.

An outgrowth of a grower’s association established in the 1970s, Georgia Organics is a member-supported not-for-profit organization devoted to promoting sustainable foods and local farms in Georgia.

A sustainable local food system is critical to the future of Georgia’s health, environment, and economy. Recognizing this vital need, Georgia Organics builds and strengthens a sustainable local food system that cultivates healthier Georgians, a cleaner environment, and stronger local economies.

Georgia Organics builds supply through comprehensive grower education and outreach programs, and catalyzes demand on the consumer and business end by fostering market opportunities for local food. This combination creates powerful relationships that lead the state’s communities toward local, sustainably grown food.

The goal of Georgia Organics is to give all Georgians affordable access to healthy, locally grown food through networks of sustainable family farms, gardens, markets, and businesses, ultimately revitalizing our communities to become healthier, more secure, and economically viable.

It is in the critical intersection where health, the environment, the economy, and our communities meet that Georgia Organics’ work exists.
FARM TO SCHOOL
FREQUENTLY ASKED QUESTIONS

What is Farm to School?
At a time when childhood obesity and nutrition-related disease is rapidly rising and America's small farms are decreasing, Farm to School programs are emerging as thoughtful, holistic solutions. Farm to School programs connect schools with local farms. Their objectives include:

- serving healthy meals in school cafeterias
- improving student nutrition
- supporting small, local farmers

Who is involved in Farm to School programs?
Farm to School programs generally strive to involve all of the stakeholders participating in school food web. These individuals include food service professionals, farmers, distributors, teachers, administrators, nutritionists, students, parents, and community members.

What are some of the opportunities of having a Farm to School program?

- Increased student nutrition. Evaluations of Farm to School programs have shown to increase students' consumption and knowledge of local and nutritious foods.
- Supporting local farmers. With more than 30 million children eating the federally supporting school lunch every day, farmers have a great opportunity in selling food to community schools.
- Supporting local economy. While most food travels over 1,500 miles before it reaches a plate, schools can choose to spend some of their dollars on fresh, local produce.

What are some of the challenges to having a Farm to School Program?

- Distribution. Often, new distribution avenues must be explored, as finding a distributor that will provide local produce is sometimes more difficult.
- Lack of convenience. Many schools rely on frozen, pre-cooked food, and no longer possess kitchen equipment or expertise to prepare fresh foods.
- Lack of time. Schools on a budget often have a limited staff of food service professionals to prepare fresh food. Likewise, teachers in the classroom are often faced with strict state curriculum guidelines that must be addressed daily.

How can I start a Farm to School program?

- Host a forum for discussion. Invite all stakeholders (see above) to a community meeting to discuss the possibility of a Farm to School program. See that all participants have an opportunity to convey their thoughts on the challenges and opportunities presented.
- Draft a policy. Having a written policy approved by the school board can be instrumental in sustaining and growing a program. See http://www.foodsecurity.org for examples.
- Understand school food service contracts. Often, a school district has a contract for food management services. While these contracts can be challenging, there are many examples of private contractors integrating local foods into school cafeterias.
- Adopt a fully integrated nutrition curriculum that connects experiential learning at the farm and in the garden to healthy choices in the lunchroom and improved healthy throughout life.
- Take a field trip to a farm. Exposing students to a local, working farm is a great way to introduce their local food system. Have the farmer talk about food production and life cycles, and engage students in hands-on farm activities.
- Research a variety of programs. There are many different types of Farm to School programs, and there are several useful reports and evaluations.
Research that supports edible school gardens

Benefits of Garden-Based Learning Programs

See website for additional research: http://www.hort.cornell.edu/gbl/groundwork/researchsupports.html

Increased Nutrition Awareness

- This study reports that the adolescents who participated in the garden-based nutrition intervention increased their servings of fruits and vegetables more than students in the two other groups. Although further research is needed, the results of this study seem to indicate the efficacy of using garden-based nutrition education to increase adolescents’ consumption of fruits and vegetables. (McAleese, J. D. & L. L. Ranklin. (2007). Garden-based nutrition education affects fruit and vegetable consumption in sixth-grade adolescents. Journal of the American Dietetic Association, 107:662-665.)


Higher Learning Achievements


- The purpose of this study was to develop three cognitive test instruments for assessing science achievement gain of third, fourth, and fifth grade students using a garden curriculum. The development of the test instruments occurred in three phases: 1) an initial set of test instruments which served as a prototype for length, scope, and format; 2) an adapted set of test instruments which were piloted; and 3) a final set of test instruments which were used for the assessment of the school gardening curriculum. (Klemmer, C.D., Waliczek, T.M., and Zajicek, J.M. (2005). Development of a Science Achievement Evaluation Instrument for a School Garden. HortTechnology. 15(3), pages 433-438.)

Increased Life Skills

- Students in a one-year school gardening program increased their overall life skills by 1.5 points compared to a group of students that did not participate in the school gardening program. The gardening program positively influenced two constructs: "working with groups" and "self-understanding." (Robinson, C.W. & Zajicek, J.M. (2005). HortTechnology. 15(3): 453-457.)

Community Involvement

- Parents who are highly involved at school are more likely to be involved in educational activities with their children at home. (National Center for Educational Statistics, (1997). Father's Involvement in Their Children's Schools. Government Printing Office: Washington, D.C.)
Georgia Organics
The Atlanta Farm to School Program

Overview: Southern children consume the lowest amounts of fruits and vegetables, are the most obese, are the most food insecure and engage in the least amount of physical exercise. At the same time, small family farmers in the US are in decline. Farm to School (F2S) programs offer a holistic solution to create lifelong improvements in student health, establish stable economic markets for farmers, and strengthen community ties. We aim to create comprehensive Farm to School programs that incorporate food, farm and nutrition education into the 4 C’s: Classroom, Community & Farms, Culinary experiences & Cafeteria.

Priorities: To create a multifaceted, replicable Farm to School model that highlights engaged stakeholders, experiential learning and a community capacity building approach. In addition, we will seek to address the unique needs of food insecure student populations.

The goals of the Atlanta Farm to School pilot program are to:
- Increase student preference and consumption of fresh, local foods;
- Increase student understanding of where food comes from;
- Assist schools in developing sustainable experiential-based gardens that are fully integrated into the curriculum and supported and sustained by the faculty and community members;
- Facilitate the creation of long-term school and district wide policies that address the priorities of student nutrition, and consumption of fresh, local foods;
- Establish long-term relationships between schools and local farmers; and
- Increase the food service provider’s purchase of local foods from local farmers.

Farm to School activities:
Establish model Farm to School programs
- 2 Pilot programs at E. Rivers Elementary & Cascade Elementary (comprehensive 4 C’s; Stakeholder-based, Curriculums created & tested -using Georgia Performance Standards, Scope & Sequence)
- Technical assistance and mentoring at additional schools- edible school gardens, taste testings, & chef and farmer school partnership programs

Outreach & Community Capacity Building
- Targeted training & workshops for teachers, food service professional and parents
- Mentoring schools and school districts throughout Georgia
- Easy-to-use Farm to School resource guides
- Farm to School program database created with Environmental Education in Georgia
- Farm to School e-newsletter
- Advisory Board creation (representatives from Georgia Department of Education, GA Dept. of Agriculture, nutrition & dietician organizations, farmers, food service professionals, teachers, parents and community advocacy organizations)

Policy
- Child Nutrition Reauthorization (CNR) Act Listening Session -2008
- Raise awareness about existing Farm to Cafeteria mandates in Farm Bill, CNR
- Educating local, regional and state legislators and school board members
Mendez Foundation’s Seeds of Nutrition

Program Description

Mission

To positively shape kids’ relationship to food through experiential whole foods nutrition education, for a lifetime of good health.

Goals

- Educate students about nutrition through the context of food - what it is, where it comes from, why and when to eat it, and how to prepare it.
- Develop successful, sustainable whole foods nutrition and gardening education programming within partner schools.
- Provide a resource for educators who desire to develop and implement nutrition and gardening education programming in their schools.
- Encourage community, parent, and volunteer participation in school gardening and nutrition education activities.
- Connect schools to local farmers and the communities they serve.

Seeds of Nutrition Education Program

At the core of the Seeds of Nutrition Education Program is a belief that teaching whole foods nutrition through hands-on learning experiences in the garden, kitchen, classroom, and beyond, is the best way for kids to develop a healthy relationship to food. We believe teaching whole foods nutrition coupled with kids learning the skills necessary to make healthy food choices in everyday life, is key to cultivating a lasting relationship to healthy eating. And healthy eating and healthy kids go hand-in-hand.

Connecting kids to healthy food in authentic ways is the easiest and most direct way to positively influence their eating habits. Teaching nutrition through the context of food not only strengthens the message, it makes it real. Recent studies indicate that students who grow food are more likely to try and enjoy fresh produce. “Eat your veggies,” becomes fun for kids when they learn to grow vegetables in their own garden. In addition to teaching kids to grow vegetables and fruits in the organic school garden, the Seeds of Nutrition educators will teach them how to prepare delicious and nutritious recipes using the fruits of their labor. While we are emphasizing the consumption of nutrient-dense whole foods in all our lessons and activities, we will focus on the fact that the healthiest food choices for our bodies are also the best choices for the planet. In addition, we will explore our shared historical and cultural connections to food and the role food plays in the lives of our families and communities.
Mendez Foundation’s Seeds of Nutrition

Program Description

By collaborating with teachers and administrators, the Seeds of Nutrition Educators will co-create lessons in language arts, math, science, social studies and the arts, that further explore the world of food in the garden environment while focusing on the discipline of the core curriculum. Writing about garden insects and butterflies or measuring ingredients for healthy salad dressing bring language arts and math to life for kids and teachers alike.

About Us

*Seeds of Nutrition program coordinator* Nichole Lupo brings many years of working with food, farms, and kids to the table. As a passionate advocate of healthy kids, farm-fresh sustainably grown food, and education as the key that unlocks all doors, Nichole is grateful for the opportunity to work with Atlanta’s youth in the garden, kitchen, and classroom. She believes that empowering kids to make nutritious food choices through positive experiences with food not only improves the health of families and communities, but in addition, helps to create kids who are invested in their own health and the health of the environment, for a lifetime.

*Seeds of Nutrition program manager* Seth Freedman is also a professionally trained chef who’s passionate about food and its powerful influence and presence in our lives. He believes that through growing, preparing, and enjoying healthy food with friends and family, kids not only develop a profound appreciation for the expansive and glorious world of food, but also come to understand how our food choices affect our health and the health of our communities. Working along side kids in the kitchen, Seth emboldens them with the creative skills and knowledge necessary to prepare their own delicious, nutritious dishes. He believes creating positive hands-on food experiences is the best way to foster a generation committed to preparing and eating healthy food.

*Seeds of Nutrition farmer* Joseph Reynolds has been working in sustainable agriculture for several years in the capacities of grower and educator. "Farmer Joe," as students at our partner schools have dubbed him, believes that sound, conscientious food choices are at the heart of healthy bodies and a healthy food system. Interconnecting food plants and animals, ecology, and nutrition through garden, kitchen, and classroom activities offers students the opportunity to view themselves in a larger context. At the root of this food empowerment begins the growth of future sustainable eaters, growers, and the seeds of their work.
Mendez Foundation’s Seeds of Nutrition

Program Description

As a national leader in prevention education, the Mendez Foundation is committed to affecting healthy outcomes in kids’ lives with its Seeds of Nutrition programs and Too Good programs. The Foundation began its prevention education work in partnership with the Hillsborough County Public Schools in Tampa, Florida in the late seventies. Recognizing the need for a comprehensive drug prevention program to address the growing drug problem among our youth, the Foundation developed a sixth grade curriculum which grew into a complete kindergarten through high school program. Pioneering efforts in drug prevention education provided practical life skills instruction emphasizing goal setting and decision making skills combined with factual information about drugs and the long-term effects of their use. Successful drug prevention education was followed by successful violence prevention education. Thirty years on, the award winning Too Good Programs continue to teach kids they are too good for drugs and violence in more than 3000 school districts throughout the United States.

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Conducting Cooking Activities
with Elementary Students

Rules

Establish clear rules and guidelines before your cooking activities. When students know clearly what is expected of them, everyone can benefit from the activity, and have great fun too! Respect is rule number one! Students should respect each other, themselves, their teacher, and the tools and food they will be working with.
1. Always wait for instructions, ask if you don’t understand what to do. Don’t touch any tools without permission.
2. Take your time! Better to do it slowly and well than fast and poorly.
3. Treat kitchen tools (knives, graters, peelers, stoves, cutting boards, etc.) with extreme respect and care.
4. Treat someone using a tool with the same care you would the tool. Kids like to see what’s happening and will sometimes crowd in and bump someone using a knife or a stove, so this rule is especially useful.

Planning

Classroom teachers are essential collaborators when planning an in-school food activity. Talk with the teacher(s) you’ll be working with. Find out what the students are currently studying. Ask what they’ve recently studied that may need reinforcement. Many of the standards that teachers must focus on can be covered or enhanced through food activities. Encourage the teacher(s) you’ll be working with to view the activity as a teaching opportunity. Every teacher in Georgia has a set of teaching standards to meet, these are available at:

www.georgiastandards.org

Additionally we have summarized the standards in simple language in the section of this toolkit titled ‘Connecting Curriculum, Elementary Georgia Performance Standrads’

What to cook? Start with simple and kid friendly recipes. Keep in mind the abilities of the age group you’re working with and the time available for your activity. Plan your time budget with some extra time for hand washing, transitions, and other unexpected delays.

Consider the number of students, grade level, and what type of activity you’ll be conducting when determining the number of supervising adults you’ll need. Having helping hands can make a huge difference in the success and impact of a cooking activity. Teachers can request parent volunteers to assist. Other chefs can be a great resource, too. As you begin to get involved in

Chef to School
February 25, 2009
**Conducting Cooking Activities**

**with Elementary Students**

**Planning, cont.**

Teaching kids about food and where it comes from, working together with chefs who have the same interest benefits you and the students.

Here is what we suggest:

1. **Hands-on Cooking Activities**: 15 to 25 students, a minimum of two supervising adults should be on hand and prepared to lead the activity. Have extra help if multiple students will be using sharp or hot cooking tools at the same time. Each child using a tool should be directly supervised.

   Lower grade levels require greater supervision, and/or simpler cooking activities. See the included ‘Cooking Capacities of Elementary School Students’ section for help in planning activities with lower grade levels.

2. **Cooking Demonstrations with Tasting**: up to 100 students or more, can be lead by one adult. This type of activity has a broader, but not nearly as deep, an impact.

**The Setting**

Unless a school is equipped with a teaching kitchen, the setting for a cooking activity will usually be an area not designed for food prep. With a little planning and improvising, though, you can make just about any classroom space work. Art and Science rooms usually have a water source and lots of counter space, and therefore work very well for conducting food activities.

If adequate counter or desk space is not available, folding tables can be employed. Ask your contact at the school if they have some that can be provided or bring your own.

Bring bus tubs or similar containers to take out dirty dishes and pans. If time allows for students to conduct the cleanup, bring the necessary equipment for washing, rinsing, and drying the dishes. This helps impart the importance of responsibility and follow through.

**Hygiene**

Involve the students in cleaning before and after cooking to emphasize the importance of cleanliness and hygiene.

1. Wash hands before getting started
Conducting Cooking Activities
with Elementary Students

Hygiene, cont.
2. Once hands are clean, keep them clean: don’t touch anything you wouldn’t want your food to touch.
3. Clear off tables, and clean them with soap and water before cooking.
4. Foods fresh from an organic garden need only a rinse or bath with fresh water before preparing.

Equipment

It takes some very basic equipment to get started cooking with students in the classroom or garden. A kit can be put together for one classroom or the whole school. If well cared for, it can be used for years, by many classrooms and thousands of students. The table below lists basic equipment needs for conducting cooking activities with a class of 20 students or less. There are also a few items which should always be brought along: All-purpose surface cleaner, hand sanitizer, cleanup towels, first-aid kit, salt, and pepper

<table>
<thead>
<tr>
<th>Class Equipment</th>
<th>Student Equipment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2ea electric hot plates, or</td>
<td>10ea small plastic cutting boards</td>
</tr>
<tr>
<td>2ea portable fuel burners, or</td>
<td>10ea serrated knives with rounded ends</td>
</tr>
<tr>
<td>1ea 2-burner tailgating stove</td>
<td>5ea vegetable peelers</td>
</tr>
<tr>
<td>2ea large frying pans</td>
<td>5ea measuring spoon sets</td>
</tr>
<tr>
<td>1ea 6-quart pot with lid</td>
<td>5ea measuring cup sets</td>
</tr>
<tr>
<td>1ea 2-quart sauce pan</td>
<td>5ea box graters</td>
</tr>
<tr>
<td>1 ea blender</td>
<td>20ea forks</td>
</tr>
<tr>
<td>1ea chef’s knife</td>
<td>20ea spoons</td>
</tr>
<tr>
<td>2ea large wooden spoons</td>
<td>20ea plastic bowls</td>
</tr>
<tr>
<td>2ea spatulas</td>
<td>20ea plastic plates</td>
</tr>
<tr>
<td>3ea whisks, assorted sizes</td>
<td></td>
</tr>
<tr>
<td>3ea mixing bowls, assorted sizes</td>
<td></td>
</tr>
<tr>
<td>1ea colander</td>
<td></td>
</tr>
<tr>
<td>1ea ladle</td>
<td></td>
</tr>
<tr>
<td>1ea slotted spoon</td>
<td></td>
</tr>
<tr>
<td>1ea potato masher</td>
<td></td>
</tr>
<tr>
<td>1ea can opener</td>
<td></td>
</tr>
<tr>
<td>2ea large plastic wash containers</td>
<td></td>
</tr>
<tr>
<td>5ea sponges with abrasive side</td>
<td></td>
</tr>
<tr>
<td>1ea dishwashing detergent</td>
<td></td>
</tr>
<tr>
<td>4ea kitchen towels</td>
<td></td>
</tr>
<tr>
<td>Salt</td>
<td></td>
</tr>
<tr>
<td>Pepper</td>
<td></td>
</tr>
<tr>
<td>1ea food mill</td>
<td></td>
</tr>
<tr>
<td>1ea rolling cart for storage</td>
<td></td>
</tr>
<tr>
<td>3ea plastic storage containers</td>
<td></td>
</tr>
<tr>
<td>2ea folding tables</td>
<td></td>
</tr>
</tbody>
</table>
Conducting Cooking Activities
with Elementary Students

Hot Items - Stoves

Instruct students to treat any item that might be hot like it is hot. Have pot holders or folded kitchen towels to handle pots and pans. Remember that steam causes most kitchen burns, show student the proper way to remove a lid so that the steam dissipates away from any part of themselves or others.

Sourcing Food

Obviously, the best source for foods to cook in the classroom is the school’s garden. Studies and experience show that when students are involved in growing and preparing fresh fruits and vegetables they will eat them, and love ‘em! If your school doesn’t have a garden, local farmers’ markets are a great source. Emphasizing seasonal products helps students to have a closer relationship between where they live and what they eat. Also, fresh seasonal produce tastes better, you don’t need to use complex recipes or lots of flavoring ingredients and students can learn to appreciate natural food flavors.

Learning to use Knives

If proper precautions are taken, and good rules established handling kitchen knives can not only be a fun learning experience, it also empowers students and gives a tremendous sense of pride. Being safe should also include having a first aid kit on hand in case of accidents. Be aware of where the point and edge of your knife is at all times. Introducing your students to the parts of the knife is always a good way get started with knife skills, and can be integrated to meet science standards dealing with simple machines (fourth grade). Demonstrate using and holding knives safely. Emphasize that students are only to use knives at the cutting board, and with permission.

Image available at: http://www.chefdepot.com/graphics40/basic_knife.gif
Conducting Cooking Activities with Elementary Students

Learning to use Knives, cont.

1. Hold a knife with your dominant hand, but remember that your other hand requires most of your focus. Learning to safely hold the item you are cutting is the most difficult part of developing knife skills. Teach kids to hold the tips of their fingers back by telling them to hold the item with a Kung-fu grip (finger tips folded in behind knuckles) \textit{Remember: Mistakes don’t cut the hand holding the knife.}

2. Begin with softer foods and simple knife cuts. For example: cutting the stems from leafy greens, or slicing strawberries.

3. Every knife cut is a slice. Draw the knife through the food using a front-to-back or back-to-front motion. Don’t try to press the knife through or chop down. Even complex cuts are a series of slices, so learning to slice properly is key. Have students practice this motion before attempting to cut, after a few tries they can practice their grip at the same time. Then have them start on some real food!

Other Helpful Tips

Print copies of the recipe for the students to take home with them. Remember to make the recipe easy to follow and understand for a home cook, and include sourcing suggestions.

Children will naturally try to emulate what you do. Demonstrating professional knife skills, easily flipping of a sauté pan are great ways to get kids excited about cooking. Remember to emphasize that years of practice go in to making these actions look so easy. Remind students that doing something safely and well is more important than doing it fast or making it look cool.

Have students wait for everyone to be served before eating, this teaches patience and consideration.

Students should participate in preparation and cleanup of cooking activities in order to learn that every part of the process is important.
Connecting to Curriculum
Elementary Georgia Performance Standards

Kindergarten

- Raise questions about the world around you. Be willing to use your five senses to seek answers to these questions.
- Be willing to try things out
  - Exploring a variety of foods and beverages for good health, including those that are unfamiliar and culturally diverse
  - Associate common foods with their origins
- Use tools to measure and view
- Know the needs of living things, plants and animals
- Recognize that the sun supplies heat and light to the Earth
- Use senses to observe soils by smell, texture, color, and grain size
- Sort living and non-living materials. Group animals and plants according to observable features.

1st grade

- Observe the ways in which humans are similar to other organisms.
- Identify the needs of plants and animals.
- Investigate the needs of a variety of different animals: Air, Water, Food, Shelter, and Space.
- Identify the parts of a plant – root, stem, leaf, and flower.
- Discuss the wide variety of living things on Earth.
- Identify goods that people make and services that people provide for each other.
  - Understand that people have to make choices about goods and services because of scarcity
  - Describe that people are both producers and consumers
- Read about and describe the life of historical figures, and their everyday lives including food, clothing, homes and transportation
  - Thomas Jefferson, Meriwether Lewis & William Clark, Sacagawea, Harriet Tubman, Theadore Roosevelt, George Washington Carver
- Create simple tables and graphs
- Counting and comparing numbers
- Compare the length, weight, or capacity of two or more objects by using direct comparison.
- Observe, measure, and communicate weather patterns
- Recognize changes in water when it freezes, and when it melts
- Estimating quantities
- Developing single-digit addition and subtraction skills.
- Use numbers up to 100, exchanging equivalent quantities of coins by making fair trades involving combinations of pennies, nickels, dimes, and quarters. Count out combinations needed to make purchases less than one dollar.
- Telling time at the hour and half hour.
- Compare and order the sequence or duration of events.
- Change the beginning, middle, and ending sounds to produce new words.
- Compare and contrast similarities and differences among individuals and families.
Second Grade

- The student uses oral and visual strategies to communicate.
- Using letter sounds and phonics to find spelling patterns
- Beginning to read and interpret stories
- Understanding and using homophones, homographs, antonyms, and synonyms
- Beginning to write stories and letters
- Creating simple tables and graphs and interpreting their meaning
- Estimating, then measuring, temperature (Fahrenheit) and determining if estimations were reasonable
- Using money as a medium of exchange. Counting back change and using decimal notation and the dollar and cent symbols to represent a collection of coins and currency
- Building fluency with multi-digit addition and subtraction
- Understanding and comparing fractions
- Raising questions about the world around them and being willing to seek answers to some of the questions by making careful observations and measurements and trying to figure things out
- Using tools and instruments for observing, measuring, and manipulating objects
- Identifying the parts of things, such as toys or tools, and identify what things can do when put together that they could not do otherwise.
- Working as a team, students reach individual conclusions and share their understandings with each other in order to develop a consensus
- Using tools to get more information about things than can be obtained by just observing things without help
- Relating the length of the day and night to the change in seasons (for example: Days are longer than the night in the summer.)
- Investigating the life cycles of different living organisms
- Investigating the life cycle of a plant by growing a plant from a seed and by recording changes over a period of time
- Identifying and describing sources of light energy, heat energy, and energy of motion
- Understanding that because of scarcity, people must make choices and incur opportunity costs
- Students will identify ways in which goods and services are allocated (by price; majority rule; contests; force; sharing; lottery; command; first-come, firstserved; personal characteristics; and others)
- The student will explain that people usually use money to obtain the goods and services they want and explain how money makes trade easier than barter
- Students will locate major topographical features of Georgia and will describe how these features define Georgia’s surface
Connecting to Curriculum
Elementary Georgia Performance Standards

Third Grade

- Continuing to develop and expand reading and writing skills
- Creating and interpreting simple tables and graphs
- Measuring the length and area
- Understanding the meaning of division and developing the ability to apply it in problem solving
- Students will understand the meaning of decimals and common fractions in simple cases and apply them in problem-solving situations
- Using commonly encountered fractions – halves, thirds, and fourths (but not sixths, sevenths, and so on) – in scientific calculations
- Judging whether measurements and computations of quantities, such as length, weight, or time, are reasonable answers to scientific problems by comparing them to typical values
- Investigating the physical attributes of rocks and soils
  - The difference between a rock and a mineral
  - Comparing the similarities and differences of texture, particle size, and color in top soils (such as clay, loam or potting soil, and sand)
- Investigating the habitats of different organisms and the dependence of organisms on their habitat
- Identifying features of green plants that allow them to live and thrive in different regions of Georgia
- Identifying features of animals that allow them to live and thrive in different regions of Georgia
- Students will recognize the effects of pollution and humans on the environment
  - Explain the effects of pollution (such as littering) to the habitats of plants and animals
  - Identify ways to protect the environment
- Investigating how heat is produced and the effects of heating and cooling, and will understanding that a change in temperature indicates a change in heat
- Investigating how insulation affects heating and cooling
- Describing the four types of productive resources
  a. Natural (land)
  b. Human (labor)
  c. Capital (capital goods)
  d. Entrepreneurship (used to create goods and services)
- The student will give examples of interdependence and trade and will explain how voluntary exchange benefits both parties.
  a. Describe the interdependence of consumers and producers of goods and services.
  b. Describe that some things are made locally, some elsewhere in the country, and some in other countries
Fourth Grade

- Students will understand the concept of weight and how to measure weight
- Multiplication of 2-3 digit numbers by 1-2 digit numbers
- Using common fractions in computations
- Translating between decimals and commonly encountered fractions – halves, thirds, fourths, fifths, tenths, and hundredths (but not sixths, sevenths, and so on)
- Keeping records of investigations and observations and not altering the records later
- Carefully distinguishing observations from ideas and speculation about those observations
- Taking responsibility for understanding the importance of being safety conscious
- Measuring and mixing dry and liquid materials in prescribed amounts, exercising reasonable safety
- Writing instructions that others can follow in carrying out a procedure
- Explaining the sequence of the phases of the moon
- Demonstrating the revolution of the earth around the sun and the earth’s tilt to explain the seasonal changes
- Know the states of water and how they relate to the water cycle and weather
- Students will describe the roles of organisms and the flow of energy within an ecosystem
  a. Identify the roles of producers, consumers, and decomposers in a community
  b. Demonstrate the flow of energy through a food web/food chain beginning with sunlight and including producers, consumers, and decomposers
  c. Predict how changes in the environment would affect a community (ecosystem) of organisms
- Identifying factors that affect the survival or extinction of organisms such as adaptation, variation of behaviors (hibernation), and external features (camouflage and protection)
- Identifying external features of organisms that allow them to survive or reproduce better than organisms that do not have these features (for example: camouflage, use of hibernation, protection, etc.)
- Exploring Colonialism and Native Americans
- Describing how the American Indians used their environment to obtain food, clothing, and shelter
- Describing the impact of the steamboat, the steam locomotive, and the telegraph on life in America
Connecting to Curriculum
Elementary Georgia Performance Standards

Fifth Grade

- Students will measure capacity with appropriately chosen units and tools.
  a. Use milliliters, liters, fluid ounces, cups, pints, quarts, and gallons to measure capacity.
  b. Compare one unit to another within a single system of measurement (e.g., 1 quart = 2 pints)
- Understanding the meaning of percentage
- Classifying organisms into groups and relating how they determined the groups with how and why scientists use classification
  a. Demonstrate how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal)
  b. Demonstrate how plants are sorted into groups
- Recognizing that offspring can resemble parents in inherited traits and learned behaviors
  a. Compare and contrast the characteristics of learned behaviors and of inherited traits
  b. Discuss what a gene is and the role genes play in the transfer of traits
- Identifying beneficial microorganisms and explain why they are beneficial
- Identifying harmful microorganisms and explain why they are harmful
- Exploring the difference between a physical change and a chemical change
Capacities of Elementary School Students

Please note that these are intended to be a general guide; every child is unique and may have more or less capacity and skill. Used in combination with ‘Connecting Curriculum' and a preliminary discussion with the classes teacher, you can plan successful and meaningful cooking activities!

<table>
<thead>
<tr>
<th>Students : Adults</th>
<th>Ages</th>
<th>Grade</th>
<th>Capacity, Notes</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:4</td>
<td>5-7 yrs</td>
<td>K-1st</td>
<td>tearing, washing, stirring, kneading adding or combining pre-measured ingredients gross measurement of dry ingredients short attention pans! impulsive</td>
<td>wooden spoon, juicer, salad spinner</td>
</tr>
<tr>
<td>1:5or6</td>
<td>7-9 yrs</td>
<td>2nd-3rd</td>
<td>rudimentary measurement &amp; counting forming shapes taking turns and working together estimate and measure temperature read and understand simple recipes</td>
<td>measuring cups &amp; spoons, tongs, apple corer</td>
</tr>
<tr>
<td>1:10</td>
<td>9-11 yrs</td>
<td>4th-5th</td>
<td>use knives with careful supervision cracking eggs whisking, grating, peeling measure liquid and dry ingredients read and follow a recipe working as a team some cooking over heat with supervision</td>
<td>whisk serrated knives burner &amp; pans skewers ladles</td>
</tr>
</tbody>
</table>
Basic materials for any cooking activity:

- All-purpose surface cleaner
- Hand sanitizer
- Cleanup towels
- First-aid kit
- Salt
- Pepper

For tasting, 1 for each student:

- Tasting cups
- Forks or spoons
- Napkins

For Garlicky Greens:

Recipe Ingredients

- Large saute pan
- Portable Burner
- Dry kitchen towel or potholder
- Wooden spoon or high-temp spatula
- Knife to slice garlic
- Cutting board
- Salad Spinner
- Clean water for washing (bring in a container for transporting if classroom lacks a sink)

Materials for preparing greens, for each team of 4-5 students:

- 2ea Trays or baking pans to hold greens
- 1ea Container for washing water
Garlicky Greens

Yield: 6 servings or about 20 tastings

2 lbs  Winter greens (Kale, Chard, Mustard, Collards)
1 oz   Butter
2 ea   Garlic cloves, sliced thin
As needed  Water for cooking
As needed  Water for washing
          Salt & Pepper

1. Wash greens in water, handling gently so as not to bruise them.
2. Remove stem from greens and tear into pieces about 2” around.
3. Place pan over low/medium heat, add butter.
4. Once butter has melted add garlic, cook slightly, do not brown.
5. Add greans, stir as greens wilt.
6. Season once greens have wilted.
7. Cook till tender, taste, adjust seasoning, serve and enjoy!

Curriculum Connections

- This activity is a great way to explore adjectives and verbs. Using the senses to explore the textures, colors, sounds, smells, and eventually tastes, is an exciting way to incorporate adjectives. Comparing what the students are doing (verbs) versus what they are experiencing (adjectives) brings in the exploration of another part of speech.
- Plant parts can be referenced in the upper grades, as leaves are the site of photosynthesis.
- Tearing and cooking greens is an engaging way to investigate changes in objects, such as by tearing, squeezing, etc.

Kindergarten, first, and second grades all study sequencing, so any recipe or food preparation activity can be a wonderful reinforcement. Food activities are also a great way to teach measurement standards at many different grade levels. Any of these recipes would lend themselves nicely to covering nutrition specifics found in health standards at all grade levels.
Butternut Squash Soup

Yield: about 2 quarts, enough for 6 servings or 20 samples

1 Tbsp   Olive Oil
1 ea (1 ½ cups) medium Onion, diced small
1 ea (3 cups) large, Butternut Squash, peeled and diced small
3 cups   Water
t.t.     Salt & Pepper

1. Place pan over medium heat, add oil
2. Add onion, cook until soft
3. Add squash and mix well, season with salt and pepper
4. Pour in water, bring to a boil, lower heat to a simmer
5. Simmer for 20 minutes, or until squash is completely soft
6. Puree with hand blender
7. Taste, adjust seasoning, enjoy

Curriculum Connections

- This activity is super for an exciting discussion of states of matter. The squash starts out as a solid, ends up as a liquid, and releases gases during cooking.
- Preparing butternut squash soup is a wonderful way to explore plant adaptations. Exploring the biological implications of why a plant is colored the way it is, why a plant has a certain physical shape or appearance, or why it smells or tastes the way it does can all be part of an in-depth look at how and why plants adapt and evolve the way they do.

Kindergarten, first, and second grades all study sequencing, so any recipe or food preparation activity can be a wonderful reinforcement. Food activities are also a great way to teach measurement standards at many different grade levels. Any of these recipes would lend themselves nicely to covering nutrition specifics found in health standards at all grade levels.
Beet Apple Salad

Yield: 6 servings, or about 20 tastings

2 ea medium-size Beets
2 ea Small Apples, one tart and one sweet, the crisper the better
(You want an equal amount of grated beets and apples)
1 ea Lemon, juiced
1 tsp Honey
Dash Salt

1. Peel beets, wash apples, juice lemon
2. Grate beets, grate apples
3. Add honey, lemon juices, and salt
4. Mix well, and enjoy!

Curriculum Connections

• This activity would be excellent for a unit on Native Americans’ use of vegetables as dyes.
• Plant parts can be discussed, as the recipe includes fruits as well as roots.
• Any grade-level appropriate literature that pertains to foods found in this recipe is a great way to address many English/Language Arts standards at all grade levels.

Kindergarten, first, and second grades all study sequencing, so any recipe or food preparation activity can be a wonderful reinforcement. Food activities are also a great way to teach measurement standards at many different grade levels. Any of these recipes would lend themselves nicely to covering nutrition specifics found in health standards at all grade levels.
Radish Sandwiches

Yield: 20 Tastings

1 ea Loaf Bread, light crumb, thinly sliced (one slice per sandwich
20 ea Fresh Radishes, about quarter-sized
8 oz Butter, softened at room temperature
t.t. Sea Salt, or similar coarse salt

Method:

1. Wash radishes and slice thinly.
2. Cut in half each slice of bread.
3. Spread one half with butter, arrange radish slices on other half.
4. Sprinkle radishes with salt.
5. Enjoy the smiles and sighs of contentment!

Curriculum Connections

- Great recipe for discussing the spice route and the value of salt as a commodity for trade.
- Given that these sandwiches are frequently enjoyed for breakfast in France and with tea in other parts of the world, it would be interesting to explore the cultural origins of this tea sandwich.
- Growing and preparing radishes are great for investigating seed parts, as they tend to carry their seed coat briefly after germination.

Kindergarten, first, and second grades all study sequencing, so any recipe or food preparation activity can be a wonderful reinforcement. Food activities are also a great way to teach measurement standards at many different grade levels. Any of these recipes would lend themselves nicely to covering nutrition specifics found in health standards at all grade levels.
Tomato-Basil Salad

Yield: 20 Tastings, or 6 servings

2 lb   Tomatoes, ripe
2 oz (small bunch) Fresh Basil
t.t.   Olive Oil
t.t.   Salt and Pepper

Method:

1. Wash and remove stem from tomatoes and cut into bite-size pieces.
2. Wash and dry basil, tear leaves into dime-size pieces.
3. Combine all ingredients in a large bowl, season, taste, and enjoy!

Curriculum Connections

- Tomatoes are a great vehicle for exploring the factors that determine what constitutes a fruit and a vegetable.
- Recipes with fresh tomatoes lend themselves well to lessons on plant life cycles.

Kindergarten, first, and second grades all study sequencing, so any recipe or food preparation activity can be a wonderful reinforcement. Food activities are also a great way to teach measurement standards at many different grade levels. Any of these recipes would lend themselves nicely to covering nutrition specifics found in health standards at all grade levels.
Eating local means eating seasonal. This harvest calendar reflects the diverse array of sustainable produce available from local farms during peak season and season extension periods.

Visit us online at www.georgiaorganics.org
## Georgia Planting Guide for School Gardens

<table>
<thead>
<tr>
<th>Crop</th>
<th>Days to Maturity</th>
<th>Spring Planting Dates</th>
<th>Fall Planting Dates</th>
<th>Seed/Plants 100 ft</th>
<th>Distance Between Rows</th>
<th>Distance Between Plants</th>
<th>Depth to Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asparagus</td>
<td>2nd season</td>
<td>Jan 15-Mar 15</td>
<td>Nov &amp; Dec</td>
<td>50 roots</td>
<td>3 to 5 ft</td>
<td>1 1/2 to 2 ft</td>
<td>6 in</td>
</tr>
<tr>
<td>Bean, bush</td>
<td>50-60</td>
<td>Apr 1-May 1</td>
<td>July 15-Aug 20</td>
<td>1/2 lb.</td>
<td>3 ft</td>
<td>2 to 4 in</td>
<td>1-1/2 in</td>
</tr>
<tr>
<td>Bean, pole</td>
<td>65-75</td>
<td>Apr 1-May 1</td>
<td>July 15-Aug 10</td>
<td>1/2 lb.</td>
<td>3 ft</td>
<td>6 to 12 in</td>
<td>1-1/2 in</td>
</tr>
<tr>
<td>Bean, lima</td>
<td>65-75</td>
<td>Apr 1-June 1</td>
<td>July 1- Aug 1</td>
<td>1 lb.</td>
<td>2 to 2 1/2 ft</td>
<td>3 to 4 in</td>
<td>1-1/2 in</td>
</tr>
<tr>
<td>Beet</td>
<td>55-65</td>
<td>Feb 15-Apr 1</td>
<td>Aug 1-Sept 20</td>
<td>1 oz.</td>
<td>2 to 2 1/2 ft</td>
<td>2 in</td>
<td>1 in</td>
</tr>
<tr>
<td>Broccoli</td>
<td>60-80</td>
<td>Feb 15-Mar 15</td>
<td>Aug 1-Sept 1</td>
<td>100 plants</td>
<td>2 1/2 ft</td>
<td>14 to 18 in</td>
<td></td>
</tr>
<tr>
<td>Cabbage</td>
<td>65-80</td>
<td>Jan 15-Mar 15</td>
<td>Aug 15-Oct 1</td>
<td>100 plants</td>
<td>2 1/2 ft</td>
<td>12 in</td>
<td></td>
</tr>
<tr>
<td>Cantaloupe</td>
<td>80-90</td>
<td>Mar 25-Apr 20</td>
<td>Not recommended</td>
<td>1 oz.</td>
<td>4 to 6 ft</td>
<td>3 1/2 to 4 ft</td>
<td>1 1/2 in</td>
</tr>
<tr>
<td>Carrot</td>
<td>70-80</td>
<td>Jan 15-Mar 20</td>
<td>Aug 20-Sept 15</td>
<td>1/2 oz.</td>
<td>2 ft</td>
<td>2 to 3 in</td>
<td>1/2 in</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>55-60</td>
<td>Mar 1-Apr 1</td>
<td>Aug 1-Sept 1</td>
<td>100 plants</td>
<td>3 ft</td>
<td>12 to 18 in</td>
<td></td>
</tr>
<tr>
<td>Collard</td>
<td>55-70</td>
<td>Feb 1-Mar 20</td>
<td>Aug 1-Oct 1</td>
<td>1/2 oz.</td>
<td>2 1/2 ft</td>
<td>8 to 16 in</td>
<td>1/2 in</td>
</tr>
<tr>
<td>Corn</td>
<td>80-100</td>
<td>Mar 15-June 1</td>
<td>June 1-July 20</td>
<td>1/4 lb.</td>
<td>3 to 3 1/2 ft</td>
<td>12 to 18 in</td>
<td>2 in</td>
</tr>
<tr>
<td>Cucumber</td>
<td>60-65</td>
<td>Apr 1-May 15</td>
<td>Aug 20-Sept 1</td>
<td>1 oz.</td>
<td>3 1/2 to 5 ft</td>
<td>3 to 4 ft</td>
<td>1 1/2 in</td>
</tr>
<tr>
<td>Eggplant</td>
<td>75-90</td>
<td>Apr 1-May 15</td>
<td>July 10-15</td>
<td>50 plants</td>
<td>3 ft</td>
<td>2 1/2 to 3 ft</td>
<td></td>
</tr>
<tr>
<td>Kale</td>
<td>50-70</td>
<td>Feb 1-Mar 10</td>
<td>Aug 10-30</td>
<td>1/2 oz.</td>
<td>3 ft</td>
<td>10 in</td>
<td>1/2 in</td>
</tr>
<tr>
<td>Lettuce</td>
<td>60-85</td>
<td>Jan 15-Mar 15</td>
<td>Sept 1-Oct 1</td>
<td>1/2 oz.</td>
<td>2 to 2 1/2 ft</td>
<td>10 to 12 in</td>
<td>1/2 in</td>
</tr>
<tr>
<td>Mustard</td>
<td>40-50</td>
<td>Jan 15-Apr 1</td>
<td>Aug 20-Oct 1</td>
<td>1/2 oz.</td>
<td>2 ft</td>
<td>1 in</td>
<td>1/2 in</td>
</tr>
<tr>
<td>Okra</td>
<td>55-60</td>
<td>Apr 1-June 1</td>
<td>June 15-July 1</td>
<td>1 oz.</td>
<td>3 to 3 1/2 ft</td>
<td>6 in</td>
<td>1 in</td>
</tr>
<tr>
<td>Crop</td>
<td>Days to Maturity</td>
<td>Spring Planting Dates</td>
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<td>-------------------------</td>
<td>------------------</td>
<td>-----------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>-----------------------</td>
<td>------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Onion (mature)</td>
<td>100-120</td>
<td>Jan 1-Mar 15</td>
<td>Sept 1-Dec 31</td>
<td>300 plants or ½ gal sets</td>
<td>1 to 2 ft</td>
<td>3 to 4 in</td>
<td>¾ in</td>
</tr>
<tr>
<td>Peas, garden</td>
<td>60-80</td>
<td>Jan 15-Feb 15</td>
<td>Not recommended</td>
<td>1 lb.</td>
<td>2 ½ ft</td>
<td>1 in</td>
<td>1½ - 2 in</td>
</tr>
<tr>
<td>Peas, southern</td>
<td>60-70</td>
<td>Apr 1-Aug 1</td>
<td>½ lb.</td>
<td>3 ft</td>
<td>4 to 6 in</td>
<td>1½ - 2 in</td>
<td></td>
</tr>
<tr>
<td>Pepper</td>
<td>65-80</td>
<td>Apr 1-June 1</td>
<td>50 plants</td>
<td>2 ½ ft</td>
<td>1½ to 2 ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potato, Irish</td>
<td>70-90</td>
<td>Jan 15-Mar 1</td>
<td>Aug 1-15</td>
<td>1 peck</td>
<td>2 ½ to 3 ft</td>
<td>10 to 14 in</td>
<td>5 in</td>
</tr>
<tr>
<td>Potato, sweet</td>
<td>90-150</td>
<td>Apr 15-June 1</td>
<td>100 plants</td>
<td>3 ½ ft</td>
<td>12 in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radish</td>
<td>25-30</td>
<td>Jan 15-Apr 1</td>
<td>Sept 1-Oct 15</td>
<td>1 oz.</td>
<td>1 ½ ft</td>
<td>1 in</td>
<td>½ in</td>
</tr>
<tr>
<td>Spinach</td>
<td>40-45</td>
<td>Jan 15-Mar 1</td>
<td>Sept 1-Oct 15</td>
<td>1 oz.</td>
<td>1½ to 2 ft</td>
<td>1 to 2 in</td>
<td>¾ in</td>
</tr>
<tr>
<td>Squash, bush</td>
<td>50-55</td>
<td>Apr 1-May 15</td>
<td>Aug 1-20</td>
<td>1 oz.</td>
<td>3 to 4 ft</td>
<td>2 ft</td>
<td>1½ - 2 in</td>
</tr>
<tr>
<td>Squash, winter</td>
<td>85-90</td>
<td>Apr 1-Aug 1</td>
<td>½ oz.</td>
<td>5 ft</td>
<td>3 ft</td>
<td>1½ - 2 in</td>
<td></td>
</tr>
<tr>
<td>Tomato</td>
<td>70-85</td>
<td>Mar 25-May 1</td>
<td>June 1-Aug 10</td>
<td>50 plants</td>
<td>3 to 4 ft</td>
<td>2 ½ to 3 ft</td>
<td></td>
</tr>
<tr>
<td>Turnip</td>
<td>45-65</td>
<td>Jan 15-Apr 1</td>
<td>Aug 10-Sept 15</td>
<td>½ oz.</td>
<td>1 to 2 ft</td>
<td>1 to 2 in</td>
<td>½ in</td>
</tr>
<tr>
<td>Watermelon</td>
<td>80-90</td>
<td>Mar 20-May 1</td>
<td>Do not plant</td>
<td>1 oz.</td>
<td>10 ft</td>
<td>8 to 10 ft</td>
<td>1½ in</td>
</tr>
</tbody>
</table>

*Note: Planting dates in this chart are for middle Georgia. North Georgia plantings should vary about two weeks later in the spring and earlier in the fall. South Georgia plantings can be made two weeks earlier in the spring and somewhat later in the fall. Information in this chart comes from Bulletin 577 of the Cooperative Extension Service of the University of Georgia College of Agriculture and Environmental Sciences.*
Classroom and cafeteria taste tests were started in the VT FEED program when staff realized that students wouldn’t necessarily eat the fresh foods and whole grains being introduced in the school food program. Students needed some experience with the food first, because they can be hesitant to try new foods. In the school lunch line, there is barely enough time to get food and eat, much less be introduced to a new food item.

Even the most creative school food providers have difficulty changing kids’ tastes without education. Vermont FEED has found that by connecting the three C’s (the Classroom, Cafeteria, and Community) taste tests of new food can be successfully carried out in either the classroom, often during snack time, or in the cafeteria during lunch. The most important thing is to make it a hands-on experience for students; “If they make it they will eat it.”

You will need key players involved from the beginning: administration, food service, community/parent volunteers, school nurse, and a least one classroom teacher. Start small and set up a system that can be easily coordinated, hopefully by a volunteer. Whatever food you test, it needs to be at a price and in a form that will work within a school food program. Otherwise you may be exposing students to new foods, but they won’t connect it to the school food they see every day.
Taste Testing in the **CLASSROOM**

Some teachers have successfully introduced new foods in the classroom in a short, informal, and regular weekly session. Working with the food service is crucial so that food tested in the classroom will be featured on the school menus. Parent and community volunteers can help organize the taste testing for more than one classroom or provide some of the foods to be tested. The key is to keep it simple: sliced cucumbers, different types of lettuce, or sliced pear can be part of a dynamic taste testing lesson. Accompanying the tasting with some ‘fun food facts’ helps students become more familiar and accepting of the new food. Also, if they can be involved in preparing the food to be tested, they will be more likely to eat it.

Excerpt from Janet Lynch, teacher, Milton Elementary School, research on taste testing in her classroom:

Another component of the nutrition education unit was taste testing in the classroom. A study by Baxter and Thompson (2002) reported that children would not eat fruits and vegetables offered in school lunches if they had not tasted them previously. After observing plate waste in the cafeteria, I targeted eight fruits and vegetables that had been on the menu that week. Using observation, I determined how much of a portion the children had eaten.

We then taste-tested four of these fruits and vegetables in the classroom: fresh pears, canned pears, fresh carrot sticks and different types of lettuce. After the nutrition unit, I again observed plate waste in the school cafeteria to determine how much of a portion my students had eaten. Three of the four foods tasted in the classroom showed an increase in the portion eaten by my students. The third item, salad greens, decreased very slightly. The fresh carrot sticks, which increased from 14% of a portion to 45% of a portion, showed the most significant increase. The fresh pears also showed a significant increase, from 11% of a portion to 25% (see Table 1). On average, the consumption of these targeted fruits and vegetables increased by 59.1%.

I then examined the portions consumed of the four fruits and vegetables not tasted in the classroom: canned corn, canned pineapple, cooked broccoli and canned peaches. The average portions eaten by my students stayed the same or decreased in size (see Table 2).

Although sample size was small, it appeared obvious that taste testing had increased the consumption of the targeted fruits and vegetables. Children’s comments also supported the findings that taste testing in the classroom encouraged them to try new foods. They reported being more willing to try new foods at home and in restaurants. The children perceived taste testing in the classroom as a safe and fun thing to do. Even the children labeled by their parents as fussy eaters were willing to try new foods in the classroom.
Taste Testing in the CAFETERIA

Successful cafeteria taste tests involve sampling new foods in the cafeteria during lunch, but at a separate tasting table. With some teamwork, and advertising of your efforts, this can build school-wide excitement. VT FEED encourages you, and can help you to find local farmers willing to be partners for testing their products.

A committee of people can share the responsibilities and make taste testing a regular event. As students become familiar with the taste tests, they will become more accustomed to change and be more open to trying new foods.

Keys to successful taste tests in the cafeteria:

- Start with regular taste tests (monthly is usually not too overwhelming to organize) and focus on simple preparation of fresh fruits and vegetables
- Find parents or community volunteers who can coordinate the classrooms with cafeteria activities. The food service staff will not have the time to do this, although they can participate in some parts. Remember to involve them from the beginning in deciding what food to test, where to get it, and how to prepare and serve it.
- Involve students in any way you can to foster their relationship with food service staff.
- Get teachers to involve some students in preparing the food to be tested. It can be as simple as cutting up cabbage or mixing a vegetable and rice casserole. This gives students a chance to become acquainted with the food and the cafeteria staff, and to spread the word about the new food.
- Have someone announce the taste testing on the day it occurs.
- Offer the taste tests during regular lunch on a table that looks appealing (a tablecloth shows that something special is happening!).
- The students who prepared the food often can help serve the samples, at least for some of the lunches.
- It is important to survey students who try the new foods so that students feel involved in what could be served in school. (SEE SAMPLE OF A TASTE TEST SURVEY).
- When the taste testing is finished, have someone announce the results of the survey to the whole school, along with plans for featuring the food in the regular menu.
Taste Test Survey

DIRECTIONS: Use this form to collect information about your recipe!
1. Visit either each class in the school or the cafeteria during lunch times.
2. Highlight the whole grain, local fruit, or vegetable that is in your product.
   (For example: if you are making zucchini bread, bring a zucchini)
3. Column One: Record the number of participants who you are surveying (give them time to taste the new food).
4. Column Two: Record the number of participants who tried the food.
5. Column Three and Four: Record the number of participants who liked the food and then will eat it again (at lunch or breakfast).

Product_____________________________________________

<table>
<thead>
<tr>
<th>Number of Participants (at testing table)</th>
<th>&quot;I tried it&quot;</th>
<th>&quot;I liked it&quot;</th>
<th>&quot;I'll eat it again&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Tips & Procedures for Successful Taste Testing in the Cafeteria

**Preparation:** Things to think about and do before you make your product!

- Well before you plan to make your product, talk to Food Service Staff about their needs and possible resources they have to share.
- Identify community and parent volunteers who can work with you and/or donate product.
- Decide with food service staff what fresh and whole grain foods or recipes might be acceptable to students (don’t start with seaweed salad!). Foods must be affordable and simple enough to be repeated if the students like it! (Don’t forget to use local produce when possible and invite your local farmer or processor to join your taste testing efforts)
- Estimate how many students will take the taste test so you can be sure to prepare enough for all. **FOR EXAMPLE:** 5 classes, with 25 kids each = 125 tastes (remember small servings)
- When thinking about a food item to make, try to feature a healthy, local product as the main ingredient. **FOR EXAMPLE:** Carrot muffins with carrots from a local farm
- If at all possible, work with the food service to have a small group of students prepare the food with them. Food education works best through hands-on experiences.

**Surveying at Lunch:** Things to think about for doing taste tests during lunch!

- You need 1-2 students to serve at each lunch period.
- You need 1-2 students to survey participants at each lunch period.
- Have your students use the survey on the back of this sheet. (You may want to go over the survey procedure with them first.)
- Collect and tally the data from the survey. (This can be a great student math project with graphing.)
- Report the data to school newsletter or local media and report whether the items will be on a menu in the future.

**BE SURE TO HAVE STUDENTS DO THE SURVEYING FOR THE TASTE TESTING. OTHER STUDENTS RESPOND WELL WHEN SERVED BY PEERS WHO MADE THE PRODUCT!**
Top 10 Reasons to Buy Local

1. LOCALLY GROWN FOOD TASTES BETTER
Food grown in your own community was probably picked within the past day or two. It's crisp, sweet and loaded with flavor. Several studies have shown that the average distance food travels from farm to plate is 1,500 miles. In a week-long (or more) delay from harvest to dinner table, sugars turn to starches, plant cells shrink, and produce loses its vitality.

2. LOCAL PRODUCE IS BETTER FOR YOU
A recent study showed that fresh produce loses nutrients quickly. Food that is frozen or canned soon after harvest is actually more nutritious than some "fresh" produce that has been on the truck or supermarket shelf for a week.

3. LOCAL FOOD PRESERVES GENETIC DIVERSITY
In the modern industrial agricultural system, varieties are chosen for their ability to ripen simultaneously and withstand harvesting equipment; for a tough skin that can survive packing and shipping; and for an ability to have a long shelf life in the store. Only a handful of hybrid varieties of each fruit and vegetable meet those rigorous demands, so there is little genetic diversity in the plants grown. Local farms, in contrast, grow a huge number of varieties to provide a long season of harvest, an array of eye-catching colors, and the best flavors. Many varieties are heirlooms, passed down from generation to generation, because they taste good. These old varieties contain genetic material from hundreds or even thousands of years of human selection; they may someday provide the genes needed to create varieties that will thrive in a changing climate.

4. LOCAL FOOD IS GMO-FREE
Although biotechnology companies have been trying to commercialize genetically modified fruits and vegetables, they are currently licensing them only to large factory-style farms. Local farmers don't have access to genetically modified seed, and most of them wouldn't use it even if they could. A June 2001

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survey by ABC News showed that 93% of Americans want labels on genetically modified food - most so that they can avoid it. If you are opposed to eating bioengineered food, you can rest assured that locally grown produce was bred as nature intended.

5. LOCAL FOOD SUPPORTS LOCAL FARM FAMILIES
With fewer than 1 million Americans now claiming farming as their primary occupation, farmers are a vanishing breed. And no wonder - commodity prices are at historic lows, often below the cost of production. The farmer now gets less than 10 cents of the retail food dollar. Local farmers who sell direct to consumers cut out the middleman and get full retail price for their food - which means farm families can afford to stay on the farm, doing the work they love.

6. LOCAL FOOD BUILDS COMMUNITY
When you buy direct from the farmer, you are re-establishing a time-honored connection. Knowing the farmers gives you insight into the seasons, the weather, and the miracle of raising food. In many cases, it gives you access to a farm where your children and grandchildren can go to learn about nature and agriculture. Relationships built on understanding and trust can thrive.

7. LOCAL FOOD PRESERVES OPEN SPACE
As the value of direct-marketed fruits and vegetables increases, selling farmland for development becomes less likely. You have probably enjoyed driving out into the country and appreciated the lush fields of crops, the meadows full of wildflowers, the picturesque red barns. That landscape will survive only as long as farms are financially viable. When you buy locally grown food, you are doing something proactive about preserving the agricultural landscape.

8. LOCAL FOOD KEEPS YOUR TAXES IN CHECK
Farms contribute more in taxes than they require in services, whereas suburban development costs more than it generates in taxes, according to several studies. On average, for every $1 in revenue raised by residential development, governments must spend $1.17 on services, thus requiring higher taxes of all taxpayers. For each dollar of revenue raised by farm, forest, or open space, governments spend 34 cents on services.

9. LOCAL FOOD SUPPORTS A CLEAN ENVIRONMENT AND BENEFITS WILDLIFE
A well-managed family farm is a place where the resources of

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fertile soil and clean water are valued. Good stewards of the land grow cover crops to prevent erosion and replace nutrients used by their crops. Cover crops also capture carbon emissions and help combat global warming. According to some estimates, farmers who practice conservation tillage could sequester 12-14% of the carbon emitted by vehicles and industry. In addition, the patchwork of fields, meadows, woods, ponds and buildings - is the perfect environment for many beloved species of wildlife.

10. LOCAL FOOD IS ABOUT THE FUTURE
By supporting local farmers today, you can help ensure that there will be farms in your community tomorrow, and that future generations will have access to nourishing, flavorful, and abundant food.
Farmer/Chef  Presentation Form for Schools

Please complete the short form so that we can help pair you with the appropriate presenter for your school! Please note that some presenters may need to be compensated for their time. If you have any questions, please contact Erin Croom at erin@georgiaorganics.org

Date form submitted:

Contact information
Name of school coordinator: Position:

Phone number:
Email:

Please check the type of presenter that you would like to have at your school:
☐ Farmer ☐ Chef ☐ Other (Please specify:____________________________________)

Name of farmer or chef invited (if known):
___________________________________________________

Email of presenter: ____________________ Phone number of Presenter: ____________________

Presentation activity/topic:
____________________________________________________________________

Proposed times for presentations
1st Choice: Date/Day: ____________________ Time: ______________________

2nd Choice: Date/Day: ____________________ Time: ______________________

3rd Choice: Date/Day: ____________________ Time: ______________________

Presentation details & content (Please feel free to use the back of this page to elaborate)

1. Number of children attending presentation: _______ Grade (s) of children: ____________