

# Food Foundations

An integrated unit of study for kindergarten



*Food Foundations* is a hands-on unit of study which aims to increase awareness of and encourage healthy food choices by offering each student opportunities to develop his or her own scientific and culinary curiosity. The lessons integrate learning, introduce students to the healthful benefits of eating well, develop basic cooking skills and cultivate scientific habits of mind while discovering a diversity of foods. Creating a comprehensive beginner's guide to the universally engaging topic of food, this unit can act as an important foundation for a lifetime of food exploration and fun.

*Developed in collaboration with the teachers, students, and community partners at Lawrence Barnes Elementary School in Burlington, Vermont.*

## Lesson One: Fab Five Food Groups

Asks "What is healthy?" and explores how what we eat affects how we feel, grow, think and live. Students sort foods by shape, color and food group as they are introduced to the FDA's food pyramid.

## Lesson Two: Great Grains

Emphasizes serving size and daily allowances while encouraging teamwork and math skills. Students use all five sense to experience multiple grain-based foods.

## Lesson Three: Variety of Veggies

Students connect food products they commonly eat with the corresponding vegetable, such as pickles to cucumbers, and wash and slice their own vegetables for sampling.

## Lesson Four: Fantastic Fruit

Students "eat the rainbow" as they sample fruit from Vermont and beyond, learn how different fruits grow, explore the health benefits of eating different colors, and make their own rainbow smoothie.

## Lesson Five: Milk, Cows and Me

Explores the life cycle of dairy cows and the different products made from milk. Students prepare and eat a yogurt parfait.

## Lesson Six: Protein Power

Explores meat, beans, nuts and seeds, and includes a discussion of the value of protein in a healthy diet. Students research protein sources through books, play, and taste-tests.

## Lesson Seven: Balancing Act

Returns to a discussion of healthy choices and places these choices within the broader context of a healthy, balanced life that includes nourishing food, exercise, sleep, learning and fun. Culminates in a celebration of making, sampling, and sharing hand-churned ice cream from Vermont-grown ingredients.



# Food Foundations

## Overview

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Grade Level:	Kindergarten
Essential Questions:	What is healthy? What is food and where does it come from? What does it look like to be part of a community that takes care of each other?
Potential Partners:	Farmers, bakers, cafeteria staff, local co-op member workers, etc.
Objectives:	Students will: Identify items we eat on a daily basis Identify the origins of the food we commonly eat Sort/classify food based on the food pyramid Identify healthy food choices Taste and prepare foods from each food group
Big Ideas/Concepts:	Health Community and Place Interdependence Diversity
Skills:	Identification Sorting and classification Food preparation

### Standards:

*Healthy Choices 3.5g:* Can identify and classify foods according to the food guide pyramid.

*Sustainability 3.9a:* Identify items that they consume on a daily basis and analyze the resources used in producing these items, including the origins of the resources.

*Natural Resources and Agriculture 7.16a:* Identify natural and agricultural resources and where they come from, and distinguish between natural resources and things made by humans (milk vs. ice cream, wheat vs. bread, sap vs. syrup, etc).

**A note on using this unit:** Food Foundations is a seven lesson unit of study written for the kindergarten classroom by Shelburne Farms' Sustainable Schools Project in collaboration with the kindergarten teachers, students, and community partners at Lawrence Barnes Elementary School in Burlington, Vermont. In each lesson you will find these components: objectives, focusing questions, materials list, literacy connections, procedural frame work and, where applicable, pre-activities and extensions. The lesson plans are followed by two appendices: Appendix I contains materials and tools for use within the seven lessons and Appendix II contains information for extensions. Each lesson takes approximately one hour. Please note that while this unit is a reflection of our work with specific teachers and students, it is our intention to provide tools and insights that are applicable to a range of classroom and other learning environments.

*Spring 2006*

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# Food Foundations

## The Story

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Nine kindergarteners sit patiently around a brightly colored table, passing bowls of granola and dried cranberries to add to the yogurt in their cups. These children are engaged in what Angela McGregor, an educator with Shelburne Farms' Sustainable Schools Project, calls "Kitchen Research," working together as a research team to explore new foods. When each has been served, the students delve into their parfaits, nodding to each other and Angela. "Very good!" one of them intones; "Delicious, thank you," another smiles. While the children eat, Angela invites each student to share a story about an encounter he or she has had with a cow. "It was really muddy," one explains, speaking of a morning spent at Shelburne Farms, while another student delivers a great punch line at the end of a story about milking a cow at a fair: "It turned out to be a fake cow!" When they are finished, Angela asks, "Is this a healthy snack?" "Yes!" the students respond enthusiastically, continuing, "Because it gives you energy," and, "Because of the fruit." Angela agrees, "Yes, and when eaten together, foods like these can give your body what it needs to be healthy."

By the fifth week of the Food Foundations unit, the kindergarten students at Lawrence Barnes Elementary School in Burlington, Vermont have worked their way across the Food and Drug Administration's Food Pyramid, studying grains, vegetables, fruit and milk. They have learned about serving sizes, tasted new fruits and vegetables and practiced perfecting recipes like granola. They have learned to identify fruits, vegetables and other products grown in Vermont, and they have marveled at how kiwis and cranberries grow. Next, they will turn to the meat, bean and nut group, followed by a culminating lesson on healthy lifestyle choices and a celebration.

This place-based, hands-on unit about healthy food choices covers a wide range of foods throughout the five food groups, introducing students to the healthful benefits of eating well while developing basic cooking skills and scientific habits of mind. Students who enter the unit hesitant to try new foods are encouraged to sample different foods in a fun and understanding environment. Each lesson is supported by a range of literacy connections and extensions, which include simple art projects and taste tests, such as making a rainbow of fruits and vegetables and sampling bread from around the world, as well as more complex cooking projects, such as applesauce and granola making. Through this comprehensive unit about food, educators hope to offer each



student the opportunity to develop his or her own scientific and culinary curiosity and discover new ways of selecting and eating healthy foods.

Lesson One begins with the question, “What is healthy?” and the notion that what one eats can affect how one feels, grows, thinks and lives. Students are asked to sort foods by shape, color and food group and are introduced to the FDA’s food pyramid. Lesson Two focuses on grains, emphasizing serving size and daily allowances while encouraging teamwork and math skills. Students also have the opportunity to hear, smell, see, touch and taste multiple grain-based foods, including rice cakes, corn chips and granola. Lesson Three focuses on vegetables, and students match vegetable-based products with their components, such as tomato sauce with tomatoes, and wash and slice their own vegetables for sampling. Lesson Four discusses the health benefits of eating a wide range of fruit, and children are encouraged to “eat the rainbow,” sampling fruit from around the world (and also from Vermont) and learning how different fruits grow. This lesson concludes with the making of an “eat the rainbow” smoothie, made with peaches, kiwi, blueberries, strawberries and banana, which students enthusiastically enjoy. In Lesson Five, students examine the dairy group, learning about the life cycle of dairy cows and the different products made from milk, and prepare and eat a “yogurt parfait” that serves as another example of a delicious and healthy snack. Lesson Six explores the fifth food group—meat, beans, nuts and seeds—and includes a discussion of the value of protein in a healthy diet. Students are then divided into two groups. The first group researches different types of meat through books, stuffed toys and a matching game, and the other group taste-tests beans, nuts and seeds and discovers how each grows. The final lesson returns to a discussion of healthy choices and places these choices within the broader context of a healthy, balanced life that includes nourishing food, exercise, sleep, learning and fun. Kids discuss treats and “sometimes” foods, like French fries and candy, and engage in two matching games that revisit the topics covered in the unit. The lesson culminates in a celebration focused around making and sampling hand-churned (or in this case, “hand rolled down a hill”) ice cream.

One hopes that by the end of this series of lessons, students have developed the skills to make healthier food choices, a taste for new and diverse whole foods and a willingness to—and enthusiasm for—trying new foods. These important life skills complement new teamwork, mathematical and scientific skills. Together, these lessons create a comprehensive and important beginner’s guide to the universally engaging topic of food that can act as a great foundation for a lifetime of food exploration and fun.



# Food Foundations

## Sampling How To's: Encouraging Children To Try New Foods

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*"I didn't like tomatoes while I was young, but when I grew older I tried it, and I liked it, so you just have to try!" – one Barnes Elementary School kindergartener to another*

One of the central components of this unit is the introduction of healthy foods to students. Often, these foods are new and in order to encourage children to try new things, it is important to create an environment that supports exploration and experiential learning in the classroom. Children are often naturally picky eaters. In fact, all people, young and old, may have to try a new food up to seven times before being able to determine whether or not they like it. Remember how many times you had to try broccoli or mushrooms before they finally became delicious, or even tolerable, to you? As we adults know, a once hated food from childhood can become a favorite to us as long as we keep trying it. By creating an atmosphere in which students feel safe to try new foods, you can help them expand their palettes and their minds and become open to new experiences, culinary and otherwise. Here are a few tips on how to run successful food sampling exercises in your own classroom:

**Make it fun.** Trying new foods is one of life's pleasures. In this unit, we present food taste testing as part of a scientific exploration using one's taste buds. You can also decide as a class what to try based on a book you have read, the colors of the rainbow or a letter of the alphabet. Don't bribe or punish students who refuse to try something; instead, set a festive tone and offer the food in a kid-friendly way with no consequences for trying or not trying. Bite-sized or small portions with the option of seconds works well, since students are less intimidated by one bite than by a plateful of food. Furthermore, having students help prepare the food will give them ownership of the finished product, thus making them more likely to try it. People are also more likely to try new foods if they are not over-stimulated; in a calm, organized classroom, students will be less distracted and therefore braver in the face of new foods.

**Keep offering new foods.** No one can try something one time and make a definitive decision about whether or not that something tastes good. Offering the same foods multiple times and/or in a variety of preparations over several weeks or months often yields great results. For example, offer raw carrots, carrot bread, carrots with hummus dip, cooked carrots, oatmeal carrot cookies and carrot-raisin salad. Students will become familiar with a food over the course of several weeks and lessons. They will also become more willing to try new foods as sampling becomes a routine part of school life. You may also offer particularly exotic foods in combination with familiar ones, such as baba ghanouj with a familiar snack chip, or rice cakes with peanut butter.

**Be a positive role model.** Children's food choices and patterns are influenced by the people around them. By modeling healthy eating for your students, you set a positive example for them. By trying new foods with your students, you also demonstrate that all people, young

and old, find it fun—and necessary—to try new foods. Be honest with them about foods you don't like or don't eat for dietary, religious or environmental reasons. Everyone likes different foods, and it is perfectly okay to like some foods and not like others. The learning is in the trying.

**Don't force kids to try new foods.** If a student is positive she does not like a food, do not force the student to try it. Drawing attention to students' hesitance or unwillingness will distract other students and disrupt the positive, fun tone you have set. Instead, simply tell this student that it's okay, that you'd really like for her to try the food, and that if she changes her mind, she should let you know. Often, a child who passes something up most adamantly the first time around will see other students—and you—enjoying the new food and change her mind.

**Set a tone for food tasting and disposal that supports positive learning.** An unwilling student who acts up can have a detrimental effect on other students' willingness to try new foods. For this reason, it is important to have your students develop a “politeness protocol” together before tasting any new foods that includes the procedure for disposing of food students do not like, as well as the reasons for being polite. By allowing students to develop rules themselves, you give them ownership of the rules and encourage them to police each other's behavior. Before every new test, have a student review the protocol to remind everyone of the process. A general protocol is something like, “If you don't like it, don't holler or say, ‘Ew,’ or, ‘this is disgusting!’ Just get up from the table, go over to the trash can and spit it out.” And why? “Because someone might like the food, and if you make a big deal out of not liking it, you might make them feel bad.” Perfect.

**Don't get discouraged if most of the food goes into the compost or garbage.** Success is measured by how many children taste a new food, not by how many children like it. Teaching them how fun it is to make adventurous food choices is an invaluable lesson that will broaden their horizons, support their health and sustain them throughout their lives.

#### **References:**

Bellows, Laura and Jennifer Anderson. May 2006. *Encouraging Preschoolers to Try New Foods*. Journal of the National Association for the Education of Young Children. Also available online: <http://www.journal.naeyc.org/btj/200605/BellowsBTJ.asp>

“Tips to Expand Your Child's Taste for Exotic Food”:  
<http://www.hotelfun4kids.com/parenttravel/newfood.htm>

Young, L., J. Anderson, L. Beckstrom, L. Bellows, & S.L. Johnson. 2003. *Making New Foods Fun for Kids*. Journal of Nutrition Education and Behavior 35: 337-38.

## Objectives

Students will:

- ★ create a class definition for the words “healthy” and “food”
- ★ practice sorting food into groups based on a variety of characteristics such as color and shape
- ★ be introduced to the food pyramid—it’s shape, the five food groups and what is not included in the food groups

## Literacy Connection

Where Does Food Come From? by Shelley Rotner and Gary Goss

## Focusing Questions

- ★ What is healthy?
- ★ What is food?
- ★ How are foods we eat alike?
- ★ How are foods we eat different?
- ★ What are the five food groups?

## Materials

- ★ chart paper with the questions “What is healthy?” and “What is food?”
- ★ Markers
- ★ masking tape
- ★ five bags with assorted foods and food products

# Food Foundations

## Lesson 1: Fab Five Food Groups

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### Pre-assessment

1. Have each student complete the pre-assessment activity, “Food Matching Fun”, drawing a line to connect a food source with its corresponding food product (see Appendix I). As a class or one on one, discuss with the students what each picture is.

### Pre-activity

1. To get students accustomed to thinking about foods they consume on a daily basis, have them create a food journal, as a class or individually. See attached template and VT FEED lesson plan, “Food Journaling: Snack or Meal Monitoring Lesson” (see Appendix I). Journaling can be done daily for 1-2 weeks and completed before the unit begins. To compare any changes in food habits, journal again the week after the unit ends. This may also be done on a weekly basis or as an ongoing activity.
2. Read Where Does Food Come From? By Shelley Rotner and Gary Goss. This informational text has wonderful pictures that show the food source, part of the process or cycle it undergoes before we eat it and what it looks like on our plate. This is a great opportunity to incorporate any informational text features you may be working on with your students.

### Opening Circle

1. Using chart paper, ask the students, “What is healthy?” and “What is food?” and record responses. Develop a collective definition/list for each. Guiding questions for “What is healthy?”: What are healthy choices we make each day? How do we know we’re healthy? What are healthy activities? How do we feel when we’re healthy? Guiding questions for “What is food?”: What are foods we like to eat? Why do we need to eat? What does food do for our bodies? Our minds? What kinds of food are good for us? What is in food that our bodies need?
2. Discuss with the students the purpose of this unit of study: together we will become food scientists, exploring food, where it comes from and healthy choices we can make for ourselves and for our community. Guiding questions could include: What is a scientist? What skills do scientists use? How does a scientist act? What does a scientist look like? How do we know someone is exploring something scientifically?



### Materials (continued)

Note: The cumulative bags should include all five food groups with various colors, shapes and sources represented: some fresh/raw and processed foods and a dessert or two (something not represented in the food pyramid). Our bags included: small ziplocs of Cheerios, empty lunch milk cartons, whole potatoes, dried beans, cookies, crackers, almonds, grapefruit, red pepper, kiwi, onion, bread slices, whole eggplant, fake chicken nugget, fake egg, peanuts, carrots, cooked rice, canned green beans, spinach, broccoli, string cheese, yogurt cup, cooked macaroni, canned tomatoes, fake steak, apples and raisins.

### Extensions

- ★ Have students draw foods that share similar characteristics, such as foods that are round, foods that are red, foods that are made from milk, foods that grow on trees, foods that grow underground, etc. This can also be a collage activity.
- ★ Read Gregory the Terrible Eater by Mitchell Sharmat. Discuss junk food vs. healthy food. This book is an excellent springboard to discuss moderation.

### Small Group Activity

1. The first thing scientists do when they begin to study something new is sort it into groups, looking for ways things are alike and ways they are different. Are all foods alike? How can we group foods together based on characteristics? Tell the students that they will sort real food by color, shape and size. Model a food sort for the students. Be sure to ask students to handle food with care—do not open bags, do not squeeze or eat food—be scientific.
2. Break students into five teams. Give each team a bag with a variety of foods. Direct students to work together to sort foods first by color, then by shape or size. Challenge students to sort food by where it comes from—plant or animal, a tree/not a tree, a cow/not a cow, etc.
3. Bring the teams back together. Select a team to sort their foods based on source, keeping the source a secret. Challenge their classmates to guess how they sorted their foods.

### Closing Circle

1. Create a large food pyramid on the carpet with tape and the students' help. Add five mini-pyramids to represent each food group. Tell the students that food scientists, or nutritionists, sort food in the shape of a pyramid with each mini pyramid representing a different kind of food, or a food group.
2. Discuss the shape. Use a 3-D triangle to demonstrate how a pyramid must be balanced. Have one student balance it on a long edge. Have another try to balance it on a corner. Discuss the conclusion that pyramids must have a strong foundation in order to be balanced. Count how many mini pyramids there are.
3. Ask the students to observe as you place foods in each triangle. Direct the students to silently think to themselves how the foods in each triangle are alike. There is no talking, but you may make sounds like “Hmmm...” or gestures like scratching your chin.
4. How are these foods grouped? What do we call these groups? What are some characteristics of each? How do the food groups work together to balance the pyramid? What do we eat and drink that is not included in the food pyramid? Does this mean we shouldn't eat these foods at all? Introduce the idea of moderation. If time, begin discussing the idea of “junk food.” What do students think about junk food? What is it? What is it made from? Why do we like it? Why isn't it part of the food guide pyramid?
5. Discuss with the students the plan for future lessons—taking a closer look at the fab five food groups and how they work together to keep us happy and healthy!

## Objectives

Students will:

- ★ identify foods that are in the grain group of the food pyramid
- ★ make connections between raw grain and foods we commonly eat
- ★ explore similarities and differences of these foods
- ★ taste a variety of grains and grain products

## Literacy Connections

The Wheat We Eat by Allen Fowler

You Are What You Eat by Sharon Gordon

## Focusing Questions

- ★ What is a grain?
- ★ How do grains keep your body fueled and healthy?
- ★ What are foods we eat from the grain group of the food pyramid?
- ★ What grains are the foods we commonly eat made from?
- ★ How are various grains alike and different?

## Materials

See page 9 for complete list

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## Lesson 2: Great Grains

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### Opening Circle

1. Revisit the food pyramid and name all five groups. Tell the students that today we are focusing our explorations on the grain group—oh those great glorious grains!
2. What do we know about grains? What are they? How do they fuel our body? Grains are the seeds of cereal grasses. Some are eaten whole after their inedible outer skin or hull has been removed, some are ground into flour and meal, some are refined, which means their nutritious and sometimes chewy outer skin or hull has been removed, leaving what's called a "polished" grain. Grains give our body energy to burn, helping us stay active and healthy! Eating grains daily helps keep our body's regular functions in check such as our heart and...well, they help us poop, too! Grains contain many vitamins and minerals. Some keep our blood moving, build bones, release energy from muscles allowing us to run, play, think and fight off germs.
3. Grains make up the largest mini pyramid in our food pyramid, which means to stay healthy you should eat one to two servings of foods that are made from grains such as wheat, corn, rice and oats with almost every meal. How much do you need? Four to five-ounce equivalents/servings each day. What does that look like? A grain for breakfast, lunch, dinner and maybe a snack!
4. Show students examples of serving sizes. Ask for a volunteer to create a day's worth of grain servings starting with breakfast and don't forget to include a snack if there's a serving left over.

1 slice of bread=1 serving  
5-7 crackers=1 serving  
½ english muffin=1 serving  
1 packet of instant oatmeal=1 serving  
1 pancake=1 serving  
3 cups popcorn=1 serving  
1 cup cereal=1 serving  
½ cup cooked rice=1 serving  
½ cooked pasta=1 serving  
1 corn tortilla=1 serving  
1 small muffin=1 serving  
1 mini bagel=1 serving  
1 large flour tortilla=4 servings  
1 large bagel=4 servings

### Extensions

- ★ Invite a parent or community partner in to lead the class in a grain based cooking activity. We made granola with a City Market member worker.
- ★ Hold a bread tasting. A City Market member worker joined our classes to read paired informational and fiction texts about bread. This is also a great opportunity to taste breads from around the world, integrating social studies with literacy and guest teachers/ community partners.
- ★ Create your own Grainbows! Have students glue different whole grains in half circles to create a rainbow out of grain. It can have four grains/colors to reinforce how many servings a day your students should be eating of grain.
- ★ Growing wheat grass is fast and easy (see Appendix II for instructions).
- ★ Project Seasons activities: A-Maize-ing Grain (page 11) and Magic Bread (page 15)

### Main Activities: Serving Size, Grain Explore

1. Divide students into five groups of three. Tell the students that using teamwork skills, they will create three different combinations of a day's worth of grains—one combination for each student—using the prepared bags with samples in ziploc bags. Encourage students to use their imaginations and develop a “story” about their grain servings. For example, at first glance they may only see a corn tortilla in a bag, but they can elaborate with details like, “My favorite food for dinner is tacos. I like my tacos filled to the top with beef, beans, cheese and lettuce.” Remember to remind students that foods don't work in isolation; the Fab Five Food Groups work together to keep us strong and healthy.
2. Bring students back together and ask them to share some sample combinations.
3. Ask students if their bodies will always be the size they are today. As you grow, so does your body's needs and so you need to increase some of the foods you eat as you get bigger. Ask the students if they have older brothers or sisters. Teenagers and adults need to eat 6-8 servings of grains per day. Ask a student to create a day's worth of grain servings for their teenage brother or their mom or dad.
4. Give instructions for grain explore: Use your senses and scientific skills, keep stations clean and tidy, listen for directions. Revisit the five senses if necessary. *Look* closely at grains with magnifiers, *taste* the grains that are set aside for eating, *touch* the different grains and notice what they feel like, *listen* to the sounds different grains make and *smell* the grains up close (though they might smell better as part of a baked good!). Allow students to take about 15-20 minutes total to explore all five stations.

### Closing Circle

1. Bring students back together for closing circle. Ask the students if their body would be as healthy as it could be if they only ate grains. Grains keep us healthy as part of a balanced meal. What does it mean to have good balance? Grains are good for us when we eat them with the other four food groups. Ask the students to share what they now know about grains. Tell them that they will be cooking with grains and doing some grain art projects...and maybe even doing some more grain tasting!

### **Serving Size Activity**

- ★ 5 bags, each with a set of several examples of one serving size of grain (we used all real food in ziploc bags)

Examples of single servings of grain:

- ★ 1 slice of bread
- ★ 5-7 crackers
- ★ ½ english muffin
- ★ 1 packet instant oatmeal
- ★ 1 pancake
- ★ 3 cups popcorn
- ★ 1 cup cereal
- ★ ½ cup cooked rice
- ★ ½ cup cooked pasta
- ★ 1 corn tortilla
- ★ 1 small muffin

### **Other**

- ★ 1 regular bagel or 1 large flour tortilla (burrito size) = 4 servings of grain

### **Materials**

- ★ magnifying glasses (if you don't have bug boxes)
- ★ 4 plastic trays, plates or bowls for tasting
- ★ 4 feely boxes

### **Grain Explore Activity**

*To set up the Grain Explore, give each station its own table or a separate desk so each group has plenty of space to move around and explore each station.*

#### *Oat station*

- ★ In bug boxes or clear small jars: whole oats, oatmeal, oat flour
- ★ In feely box: oatmeal
- ★ Tasting: granola
- ★ Photos: bowl of oatmeal, oatmeal cookies/bars, oat plant

#### *Corn station*

- ★ In bug boxes or clear small jars: uncooked corn kernels, corn meal, popcorn
- ★ In feely box: uncooked corn kernels
- ★ Tasting: blue corn tortilla chips
- ★ Photos: corn stalks, corn on the cob, corn bread

#### *Rice station*

- ★ In bug boxes or clear small jars: white rice, brown rice, wild rice, rice flour
- ★ In feely box: uncooked rice grains
- ★ Tasting: rice cakes
- ★ Photos: cooked rice, rice plant, rice paddy

#### *Wheat station*

- ★ In bug boxes or clear small jars: wheat berries, white flour, whole wheat flour
- ★ In feely box: wheat berries
- ★ Tasting: pretzels
- ★ Photos: wheat field, wheat plant, bread loaf

#### *Other station*

- ★ In bug boxes or clear small jars: quinoa, millet, bulgur, spelt
- ★ In feely box: quinoa
- ★ Tasting: none
- ★ Photos: quinoa, millet, bulgur, spelt
- ★ Sort by sight grain matching
- ★ Sort by sound (in film canisters)



## Objectives

Students will:

- ★ identify foods that are in the vegetable group of the food pyramid
- ★ pair raw vegetables with their processed counterpart
- ★ chop and taste a variety of vegetables

## Focusing Questions

- ★ What is a vegetable?
- ★ How do vegetables keep your body fueled and healthy?
- ★ How do you stay safe with kitchen tools?

## Materials

- ★ chart paper
- ★ markers
- ★ cutting boards
- ★ serrated butter knives
- ★ variety of vegetables for chopping—radishes, bell peppers, green beans, zucchini, cucumbers, carrots, etc.
- ★ plastic bowls/plates for serving chopped vegetables
- ★ Five bags with sets of raw vegetables and their processed counterpart—tomato/pizza sauce, cucumber/pickles, potato/frozen french fries, green bean/canned green beans, corn cob/frozen corn, etc.

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## Lesson 3: A Variety of Veggies

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### Opening Circle

1. Begin by asking the students “What is a vegetable?” Is it a plant or an animal? How does it grow? What does it need? A vegetable is a plant that has parts we can eat—leaves, roots, stems, buds and flowers. Make a class list of vegetables.
2. How many servings of vegetables should we eat each day? Three to five (roughly 2 ½ cups per day) and the fresher, the better, though canned and frozen are a great option, especially in winter when fresh vegetables are not growing in Vermont. Examples of one serving size:
  - 1 cup raw, leafy vegetables
  - ¾ cup (6 oz) vegetable juice
  - ½ cup fresh, frozen or canned vegetables
  - ½ cup cooked, frozen or canned beans
3. The key to vegetables is in the variety. Eat your colors—blue/purple, green, white, yellow/orange, and red—a rainbow of veggies! Each vegetable and each color offers our bodies something different. Vegetables, along with fruits, are best known for keeping us healthy. They’re filled with awesome vitamins like Vitamin C that help us heal, Vitamin A to fight infections, etc.

### Main Activities: Food Match-Up, Veggie Chopping and Tasting

1. Students will work in small groups (five groups of three). Each group will get a bag with several sets of match-up vegetables—raw and processed. Working together, they will pair up like items such as a raw tomato with jar of pizza sauce, raw potato with a bag of frozen fries, cucumber to a jar of pickles, etc.
2. Next have students pick one pair and act out the process starting from seed. Remind students of what plants need to grow, and which people are involved in the process (farmer, truck driver, factory worker, store clerk) to begin to get an idea of the people and resources involved in getting food from farms to our tables.
3. Bring students back together and have a group or two act out the life of their food from seed to table.
4. While students are still seated in circle, give directions and model skills for chopping and tasting. Discuss kitchen safety, proper knife use, hygiene, etc. Healthy eating requires kitchen skills and safety. Have all students wash hands, break into small groups (five groups

## Extensions

- ★ Introduce your students to the needs of plants with a scavenger hunt—The Fab Five: What plants need to stay alive. See the clues in Appendix II for ideas. Adapt these clues to suit your school yard.
- ★ Grow your own vegetable starts or leafy greens in a classroom Grow Lab. For curriculum resources and grant opportunities visit the National Gardening Association’s website at <http://assoc.garden.org/grants/>. For a wealth of garden resources in Burlington and beyond, connect with Friends of Burlington Gardens and The Vermont Community Garden Network at [www.burlingtongardens.org](http://www.burlingtongardens.org).

of three would be wonderful, but each group must have an adult with them so you may have less), and meet at their kitchen research stations/tables. Depending on supplies and adult supervision, you may have a cutting board and butter knife for each student or the whole group may share one and pass it around taking turns chopping. Continue to remind students of their science skills and encourage discoveries by counting seeds, making observations, smelling and touching, etc. Students can also make predictions about what the inside of the vegetable will look like before it is chopped.

5. Once all vegetables are chopped it’s time for the tasting. If each group chopped something different, return to the circle and pass out samples.

## Closing Circle

1. Ask students to reflect on their new knife safety skills. What are some key things we should always remember when using tools, especially sharp ones, in the kitchen?
2. Ask students to reflect on the tasting. Were there any surprises? Had you ever tried a radish before? How did it taste? Do you think you would be willing to give the things you didn’t like so much another try?



## Objectives

Students will:

- ★ identify foods that are in the fruit group of the food pyramid
- ★ taste fruits from each color group
- ★ observe and record data about fruits in each color group
- ★ help make a rainbow smoothie

## Literacy Connection

Growing Colors by Bruce McMillan

## Focusing Questions

- ★ What is a fruit?
- ★ How do fruits keep your body fueled and healthy?
- ★ What foods do we eat from the fruit group of the food pyramid?
- ★ How are fruits alike and different from each other?
- ★ How many servings of fruit does your body need each day?
- ★ What five colors of fruit do our bodies need to stay healthy?
- ★ How does each color group help us stay healthy?

# Food Foundations

## Lesson 4: Fantastic Fruit

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### Pre-activity

1. Read Growing Colors by Bruce McMillan.

### Opening Circle

1. Revisit the food pyramid and name all five groups. Tell the students that today we are focusing our explorations of the fruit group—oh those fantastic fruits! What is a fruit? Record the students' words as they describe what a fruit is. Ask for a few students to come up and draw some examples.
2. Slice some fruits with the group. Have the students continue to make observations about fruits. Fruits are home to seeds! Their job as part of a plant is to be the keeper of the seeds. If everything else is in place (sun, water, soil, space, air), another plant will grow! And we'll have more fruit to eat! Fruits are a part of plants. Fruits are also sweet...some people call them nature's candy.
3. What does fruit do for our bodies? They have wonderful vitamins that help keep us healthy. Ever heard of Vitamin C? What does it do for our bodies? What fruits have a lot of Vitamin C? It helps fight colds, keeps your eyes working well and keeps your heart healthy. Vitamin C is found in foods that are yellow and orange like oranges, grapefruit, mangoes and peaches (bananas are considered a white fruit).
4. How much fruit should we eat each day? About two to three servings of different colors! That's two to three whole pieces of fruit such as apples, bananas, oranges or kiwi; a wedge of larger fruits like melons; ½ cup of sliced fruits and 100% juices or ¼ cup dried fruit.

### Main Activities: Color Stations, Rainbow Smoothie

1. When it comes to fruits and vegetables it's all about the colors. Each color means that particular food has something special to keep our bodies healthy that foods of other colors may not have. We group fruits (and vegetables) by blue/purple, green, white, yellow/orange and red.
2. Explain to the students that we are going to break into five groups to explore the colors of our fruit rainbow. Each student will get a worksheet prompting him or her to color and draw the fruit found at that station. Go over the worksheet with the group, modeling the directions and proper behavior, including our tasting protocol and scientist skills.

## Materials

- ★ markers
- ★ chart paper
- ★ knife for cutting (adult)
- ★ cutting board
- ★ 3 sample fruits to cut
- ★ several servings of fruit for visuals

## Set up Rainbow Stations and give each color group its own table:

- ★ “Eat the Rainbow” worksheet for each student (Appendix I)
- ★ color labels (Appendix I)
- ★ photos of each fruit growing in the garden (Appendix I)

Fruit for tasting—one cube/bite per student:

- ★ *Blue/Purple* possible fruits: blackberries, blueberries, raisins
- ★ *Green* possible fruits: kiwi, green grapes, green apples, green pears, honeydew
- ★ *White/Brown* possible fruits: bananas, brown pears, white peaches, white nectarines
- ★ *Yellow/Orange* possible fruits: mangoes, oranges, pineapples, tangerines, peaches, papayas
- ★ *Red* possible fruits: red apples, cherries, blood oranges, red grapes, red pears, raspberries, strawberries, watermelon, pomegranates

3. Rotate stations until students have explored all five.
4. Gather the students back in a circle or at their desks, collect worksheets and ask for a few favorite fruits they tried.
5. Explain to the students that we are going to make a rainbow smoothie together. What colors will a rainbow smoothie need? Discuss the other ingredients in our smoothie—yogurt and apple cider. Where do these foods come from? Were they made in Vermont?
6. Have a few students help put a scoop of fruit from each color group into the blender, a couple scoops of yogurt, and some apple cider. Blend it all together and serve to students in small cups. Celebrate fantastic fruit!

## Extensions

- ★ Create a giant wall-sized rainbow of fruits and vegetables as a class, filled in with vibrant color cut outs from magazines or student drawings. This would be great to hang in the hallway or cafeteria to share the students’ learning!
- ★ Focus on fruits grown in Vermont. Discuss fruits that grow in Vermont/their community. Why do these fruits grow well in our Vermont weather/climate while others do not? You can introduce needs and wants (see “The Needs and Growth of Plants and Animals” in attached bibliography). Discuss the seasons of Vermont fruits and vegetables and ways Vermonters get fruit even in the middle of winter (canning, freezing, shipping from other places, etc).
- ★ Make applesauce! Read books about apples and things you can make with them, conduct an apple taste test and then make applesauce! This is a great way to tie in seasons as described in the above extension. See lesson plan in Appendix II created by City Market member worker Jasmine Walker.
- ★ Introduce your students to the needs of plants with a scavenger hunt—The Fab Five: What plants need to stay alive. See the clues in Appendix II for ideas. Adapt these to suit your school yard. At each stop students gather a corresponding bead that can be made into a Fab Five bracelet. The first clue leads students to the first stop on the scavenger hunt. At each stop they will find the answer to the previous clue. For example, if the clue leads you to water, students may find a watering can filled with water. Attached to it will be a blue bead and the next clue.



- ★ plastic bowls or plates for each fruit
- ★ crayons for each color group

**Set up for smoothie on a desk or table where students can either gather around or see from their seats:**

- ★ blender
- ★ apple cider
- ★ non-fat vanilla yogurt
- ★ spoon
- ★ reusable small plastic cups (or clean small yogurt containers) for each student
- ★ ½ cup scoop
- ★ fruits from each color group (fresh or frozen): blueberries, kiwi, banana, peaches, strawberries

- ★ Project Seasons activities: Plant Parts We Eat (page 18), Harvest Blanket (page 3), A Year in the Life of a Seed (page 23), Soil Recipe (page 59), Wiggle Worms (page 91), As The Worm Turns (page 93), Little Sprout (page 211), Awesome Air (see Appendix II), Soil Grab Bag (see Appendix II).



## Objectives

Students will:

- ★ identify foods that are in the milk group of the food pyramid
- ★ explore where milk comes from
- ★ taste foods from the milk group

## Focusing Questions

- ★ What is milk?
- ★ How does milk keep your body fueled and healthy?
- ★ What foods do we eat from the milk group of the food pyramid?
- ★ How many servings of milk does your body need each day?
- ★ Where does milk come from?
- ★ What is a healthy snack you can make with milk?

## Materials

- ★ photos of a variety of cows (in books that will be used at the Cow Library works well)
- ★ a variety of cow and milk related books
- ★ cow stuffed animals
- ★ Dress Up a Cow costume (Appendix I)
- ★ cheddar cheese samples
- ★ maple yogurt
- ★ granola
- ★ dried fruit

# Food Foundations

## Lesson 5: Milk, Cows and Me

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### Opening Circle

1. Revisit the food pyramid and name all five groups. Tell the students that today we are focusing our investigations on milk and foods we eat that are made from milk. Ask for volunteers to draw milk-based foods on the board and label them. Note: Butter is a solid fat and not considered a food in the same sense as yogurt or cheese.
2. Why do you eat these foods? Do you know how they fuel your body? Milk has calcium in it. Write the word calcium on the board and draw a bone. How is calcium important to your body? It builds strong bones! Why are bones important? Who cares if bones are strong? Have the students pretend they have weak bones. Would they be able to play on the monkey bars at recess? Or draw beautiful pictures in class?
3. How much milk do you need to drink for strong bones? Two cups = 1 lunch milk carton and a few slices of cheese. Or a little yogurt container with lunch and milk with dinner. Or pizza for lunch and ice cream for dessert! Once in awhile...the tricky thing about foods made from milk is that they have a lot of fat in them. And we have to be careful about how much fat we eat to have strong healthy bodies. So you should stick to 2 kinds of milk foods and then fill up on veggies and fruit! Or better yet, have your fruit with your milk!

### Main Activities: Dress Up a Cow, Cow Research Library, Cow Kitchen

1. Where does milk come from? Does it grow on trees? No, and that's what makes the milk group very different from grains, vegetables and fruit. Because milk comes from animals! Milk is not a plant, but guess what! What do cows eat? Plants!
2. Most of the milk we drink comes from cows. Show the students pictures of cows. Do we drink milk from other animals? What about sheep, goats and water buffalo? Show students pictures of each.
3. These animals may look different but they all have something very important in common—they must have a baby before they can make milk for us and their baby to drink. Ask the students if the cows that make us milk are boys or girls. So not all cows make milk? Ask the students to name the two characteristics of milk cows. They are all girls who have had a baby. Has anyone ever been up close to a cow? Anyone ever milked a cow? I know how we can get close to a cow—turn one of you into a cow!

### Materials (continued)

- ★ small plastic cups or clean reusable yogurt containers, 1 for each student and adult in class
- ★ scooping spoons x 6
- ★ spoons for eating, 1 for each student and adult in class
- ★ blank paper
- ★ crayons and colored pencils
- ★ plates or bowls (for granola, fruit, cheese and yogurt)

### Extensions

- ★ Invite a community partner or parent volunteer in to hold a milk or yogurt tasting.
- ★ Visit a dairy farm or invite a dairy farmer to your classroom.
- ★ Visit a cheese maker or invite a cheese maker to your classroom.
- ★ Project Seasons activity: Farm Barnyard (page 35), Cow Grab Bag (Appendix II).

4. Ask for a volunteer who would like to be magically transformed into a milk cow before our very eyes. Ask the students what our friend needs to become a cow. As they call out different characteristics of a cow, begin to dress up the student. Discuss what each part of the cow does. When you get to the udder describe its connection to the milk we drink. You mean if I tug on the ear the milk won't come out? What about the tail? What comes out there?
5. For our next investigation we're going to use our science skills and do some research. What is research? It means to study and learn, search for answers. We're going to explore books about cows and milk and draw pictures about what we learned. Maybe you want to draw a picture of a cow, where cows live, what they eat, draw pictures of milk and cheese and yogurt or ice cream.
6. While half of the class learns about milk through books and drawing, the other group will learn through their mouth and sense of taste. We're going to make snacks using 3 of the food groups—milk, fruit and grain! Each student will get to investigate cows at both stations as we rotate.
7. Divide the class in half. One half will go to the library research station. The other will come to the kitchen station. Have an adult go with each group and model the directions.
8. To make yogurt parfaits each student will get a small cup and can scoop their own bit of yogurt, fruit and granola in layers and snack on it. Remind students that it is a sampling—a tasting—where we might be trying new things. Ask students if a yogurt parfait is a healthy snack. What makes it healthy?

### Closing Circle

1. Gather the students back together in a circle. Tell them that Vermont is home to many cows (there used to be more cows than people!) and cheese makers who craft lots of wonderful cheeses for us to eat. To close, go around the circle and ask the students one thing they learned about milk or cows. As each student gives their answer pass around a plate of cheese samples (mild cheddar and jack cheeses are very kid friendly).



## Objectives

Students will:

- ★ identify foods that are in the meat and beans (nuts and eggs, too) group of the food pyramid
- ★ recognize the importance of proteins to their body and daily life
- ★ make connections between the meat we eat and the animal it comes from
- ★ taste nuts and beans

## Focusing Questions

- ★ What is meat?
- ★ Where does meat come from?
- ★ What is a bean?
- ★ What is a nut?
- ★ What is protein?
- ★ How do foods with protein keep your body fueled and healthy?
- ★ What are foods you eat from the meat and beans group of the food pyramid?
- ★ How many servings of foods from the meat and beans food group does your body need each day?

## Materials

See page 17 for complete list

# Food Foundations

## Lesson 6: Protein Power

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### Opening Circle

1. Revisit the food pyramid and name all five groups. Tell the students that today we are focusing our investigations on the meat and beans group and foods we eat that have protein. This group is a little tricky because it has much more in it than meat and beans. It also includes nuts, seeds and eggs. Tape pictures of examples of each food on the board.
2. Why do you think all these different kinds of foods are in the same group? They all contain the same important fuel for our bodies—protein. Write the word “protein” on the board above all the pictures with lines leading from the word to each one. Proteins are building blocks for bones, muscles, skin, cartilage and blood. Proteins are essential to helping you grow, rebuild and heal.
3. Ask the students if any have scraped their knee or cut their finger this week. Have them find a healed or healing cut or scrape. How long did it take your body to heal itself? Have you ever watched yourself heal? How about when you change the bandage every day, what do you notice? Slowly over a few days your body begins to repair and rebuild. That’s protein building your muscles and skin!
4. Speaking of muscles, have students show you their muscles by flexing their arm muscles. Next have the students use those strong muscles to hold themselves up in a push-up position for as long as they can. How do your muscles feel? Did you feel them working? As you eat and exercise and grow, your muscles get stronger and you are able to work your muscles for longer before getting tired.
5. Here’s another way to look at it: If you have a baby brother or sister or cousin, think about the kind of work their muscles can do. It takes time for babies to build their muscles up to hold their head up, then crawl, then stand, then finally after nearly a year of being alive babies can walk! Now think about you and how much you’ve grown since being a baby and how much you will continue to grow before you become an adult. Hold a student’s hand up to your hand. My hand used to be as small as yours. How did it get bigger? It grew! How? With the help of protein. And now that I probably won’t get any bigger since I’m an adult and am done growing, I still need to eat protein so my muscles and bones stay strong, my blood keeps flowing and my skin is able to repair when I get a cut.
6. You have muscles all over your body! You use them ALL THE TIME! There are the muscles that you can see working like those in your

## Materials

Enough for each student to sample:

- ★ hummus
- ★ baby carrots
- ★ peanuts in the shell
- ★ sunflower seeds in the shell
- ★ pumpkin seeds
- ★ almonds
- ★ dried garbanzo beans
- ★ pictures of each plant—pumpkin, sunflower, peanut, almond, garbanzo bean (Appendix I)
- ★ variety of dried beans and peas
- ★ books about animals we eat—chickens, turkeys, sheep, cows, deer, fish
- ★ pictures of a nut, meat, bean, seed, and egg (Appendix I)
- ★ stuffed animals—sheep, cow, chicken, pig
- ★ labels for each matching and tasting (Appendix I)
- ★ spoons
- ★ pictures of animals and meat for match up (Appendix I)
- ★ 7 bowls/plates for seed and nut tasting

arms and legs. And then there are the ones we can't see as well. Tell the students to look at you closely while you exercise a muscle that is hard to see. Move your eyes from side to side and see if they notice. Now flex/flare your nostrils. Ask everyone to exercise their smile muscles. What about when you laugh really hard? Where do you feel that? In your stomach. Put your hand on your chest and feel for your heart—a most important muscle. Try this exercise: close your eyes and think about writing your name. Think to yourself how to spell your name. What muscle were you just using? Your brain! Pretend to chew gum. There are muscles at work there. Pretend you're painting a picture. Muscles at work! Turn and say hello to your neighbor. Muscles. Clap your hands. Muscles! Count to three on your fingers. Muscles there too!

7. Our body gets the awesome power of protein mostly from foods that are in the meat and beans group. It's called that because meat and beans are a main source of protein power for most people. But this group also contains nuts, seeds and eggs. Note that not everyone eats everything in this group. Some people are vegetarians which means they do not eat meat. Others don't eat eggs or meat that comes from pigs. Some people are allergic to nuts. People have many reasons for not eating some of these things and they are all okay.
8. How much protein does your body need each day to help you grow tall and strong and so that you can repair and rebuild? It depends on what you eat. If you get your protein mostly by eating meat you really only need two servings such as a turkey sandwich, a small hamburger or a piece of chicken. If you get your protein mostly through beans, nuts, seeds and eggs then you need to eat three to four servings such as an egg for breakfast, a small handful of almonds for snack, a peanut butter and jelly sandwich and beans with dinner.

## Main Activities

1. For our next investigation we're going to use our science skills and do some research. We will break into two teams and explore the Animal Research Station and Plant Research Station. Protein power comes from both animals and plants we eat. The Animal Research Team will explore protein that comes from animals by playing a matching game and exploring books. The Plant Research Team will do some tasting of plant parts that have protein—seeds, nuts, and beans. We will rotate groups so everyone gets to research both stations.
2. At the Animal Research Station each student will get a picture of either an animal or a food we eat that comes from an animal. Then the students will find its match. This can be played several times so

### Extensions

- ★ Invite a community partner or parent volunteer in to lead the class in making a nut butter or bean dip.
- ★ Invite a chicken to the classroom or visit a chicken coop (Lucky Lady Egg Farm is in the Intervale).
- ★ Seed explore—look for seeds in the school yard and see who might be munching on them. Create a seed mosaic with collected seeds.

students get experience with a variety of animals and products. There are also books students can explore about animals that give us meat.

3. At the plant research station show the students each of the items there are to taste. Tell them the names of each food—pumpkin seeds or pepitas, sunflower seeds, almonds, peanuts and hummus made from garbanzo beans. All of these snacks come from plants. Have a student try to match the picture of the plant with each snack. Have another student tell the story of how the snack got from the plant to our table today. Give each student a few pumpkin seeds to taste. Taste as a group. Give them a few of the other seeds and continue tasting. Have students try the hummus with a baby carrot.

### Closing Circle

1. Gather the students back together in a circle. Introduce the word “balance.” Balance means sturdy, stable, strong—many parts coming together in a way that is stable. Have students balance on one foot. Is it difficult to catch our balance without waving once in a while? You may be able to balance for a little while but sooner or later you need two feet to stand on in order to be balanced. Foods with protein—meat, beans, eggs, nuts and seeds—allow our muscles to grow and work, our skin to heal. But what good are muscles if you don’t have a strong skeleton to hold them all together? And what good are strong bones if you’re sick all the time and have no energy? Your body needs a lot of different kinds of foods to stay balanced and healthy—foods from the five food groups, colorful food, fresh food, healthy food!



## Objectives

Students will:

- ★ Be introduced to the idea of balance and limits
- ★ Review the five food groups
- ★ Make ice cream

## Literacy Connection

Gregory the Terrible Eater  
by Mitchell Sharmat

## Focusing Questions

- ★ What is healthy?
- ★ What foods are not in the food pyramid?
- ★ Why are some foods not part of the food pyramid?
- ★ What is balance?
- ★ What are limits?

## Materials

See page 20 for complete list

# Food Foundations

## Lesson 7: Balancing Act

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### Opening Circle

1. Tell the students that our plan for today is to investigate balance and limits, work in two teams to review what we've learned during our time together, and to CELEBRATE! Today is our last day together investigating the food pyramid and healthy choices, but we've only just begun! We eat and use our bodies each day. To stay healthy and active we must continue to investigate. The more we learn, the more we discover there's more to learn! For example, we've explored the five food groups in the food guide pyramid, but I bet every single one of us eats foods that are not part of the food pyramid. What's that about? Has anyone ever wondered why we haven't talked about sweets, treats, soda and junk? Want to investigate?
2. Ask the students for examples of foods they eat that are not part of the food pyramid. Why do you think these are not part of the food guide pyramid? As students give examples and reasons why they are not part of the food pyramid, write these on the board and paste photos of examples. Examples: cookies, cakes, candy bars, sodas, milkshakes, potato chips, french fries, ranch dressing.
3. Revisit the question "What is healthy?" Remind students of their answers. Why is it important to be healthy? How does food keep you healthy? These foods are all treats, sweets, extras, junk—call them what you will. These foods don't keep you from getting sick. I call them treats. What is a treat? What makes a treat a treat? When do we have treats? How do treats make us feel? Treats are special, which means they aren't something we eat everyday. Maybe not even every week or month or year. Our body doesn't need them very often. In fact, if we have too many, too often what happens? How do you feel? Why? Treats have a lot of sugar and fat. This may give you bursts of energy, or make you slow like a slug; it might make you tired, might keep you awake. Have students act out each part/feeling. But treats are very important to us. They can make us happy, help us celebrate important days in our lives—birthdays, holidays, hard work!
4. Being healthy is about being balanced. Finding your balance between food and fun—what your body needs to grow and heal and stay healthy and what you like to eat when you celebrate or have fun. What is balance? Show the students a scale. Ask them what the scale looks like when it is balanced. Have a student come up and attempt to balance the scale using only the "Fun" block. Then only the "Food" block. Put one on each side of the scale and watch

## Materials

Ice cream (see recipe in Appendix I):

- ★ large metal coffee can with lid
- ★ smaller metal coffee can with lid (to fit inside large can with ice)
- ★ duct tape
- ★ ice
- ★ rock salt
- ★ cream
- ★ milk
- ★ sugar
- ★ vanilla
- ★ large spoon or scoop
- ★ small measuring cup
- ★ small cups (1 for each student and adult)
- ★ spoons (1 for each student and adult)
- ★ “Who Am I?” bags (Appendix I)

Fishin’ for Nutrition:

- ★ big box
- ★ sheet with holes
- ★ fishing poles (sticks with strings and magnets on the end)
- ★ fish with food photos and paperclips attached (Appendix I)

Other

- ★ scale with two sides
- ★ two blocks of equal weight, one with “food” the other “fun” or with pictures to depict each
- ★ pictures of treat foods
- ★ small jar filled with water
- ★ large jar filled with water

as it comes into balance. Have you ever seen someone trying to make a choice by using their hands as scales? They are imagining how to balance their choices. Give students some examples of balancing food and fun choices. Demonstrate the scale of your hands balancing out, or tipped out of balance. Another way to illustrate this is by acting like you’re walking a tight rope. When your balance gets shaky, how do you recover and become steady again?

5. We all have a different scale. We all have different limits. What is a limit? Show the students a small jar with water and a large jar with water. Both jars have different limits. Each of us has different limits. How do we know what our limits are? We listen to our body. Give personal examples: “I have a friend who can’t eat chocolate because she knows that it makes her really hyper for about five minutes and then for the rest of the day she wants to nap. Some people can open a bag of cookies and eat only one or two a day, or every few days. If I have an open bag of cookies in my house, I can nearly eat the whole thing in one day.” You need to know what foods are hard for you to say no to, which foods push you past your healthy limits. How do you think I feel after I eat a whole bag of cookies by myself?
6. Now wait a minute. Does this mean that healthy foods are not fun foods? What about the rainbow smoothie we made? That was fun! And how about those yogurt parfaits? Super fun! Healthy foods are fun foods, too.

## Main Activities

1. Tell the students we are going to break into two teams to review the five food groups.
2. One group will play “Fishin’ for Nutrition”. Demonstrate to the students that they will have fishing poles they’ll use to fish the food pond. Their goal is to catch one thing (fish) from each food group. Once they’ve done that they pass on their pole.
3. The other group will play “Who Am I?” with tastes.
4. Bring the students back together and tell them that today is a very special occasion. We’ve spent the last seven weeks together working and learning, investigating food and where it comes from and making healthy choices. How should we celebrate this accomplishment? Do you think it’s the kind of celebration that should have a treat? How about ice cream? Better yet, let’s make our own ice cream.



### Extensions

- ★ Make a cook book out of all the recipes we've used throughout the unit. The recipe can be printed on the lower half of the page with a student drawing on the top half of something related to the recipe or food. Attach a half sheet of paper to cover the "real" recipe and transcribe the student's version of the recipe. When parents flip through the book they will first see their child's drawing and recipe, then flip the half sheet to reveal the actual recipe that can be used at home.
- ★ Cut out pictures of foods from magazines and glue them to a paper plate to create a healthy, balanced meal with examples from all five food groups.
- ★ Students can create food pyramid or "Eat the Rainbow" place mats to use at snack time.

5. Talk about the difference between "homemade" ice cream, and the ice cream you buy in the store. Is that ice cream homemade?

### Closing Circle

1. Gather the students back together in a circle. Ask them what other things do we do to stay healthy besides making healthy food choices? Drink water, exercise, plenty of sleep, deal with our emotions, play, laugh...



# Food Foundations

## Literacy Connections

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*SF=Shelburne Farms*

*FF=Fletcher Free Library*

*B=Barnes Elementary School*

Biddulph, Fred and Jeanne. Different Kinds of Bread. Bothell, WA: The Wright Group, 1995. *SF*

A great scientific investigation into bread making. Includes a chapattis recipe.

Biddulph, Fred and Jeanne. What Goes Into Bread? Bothell, WA: The Wright Group, 1995. *SF*

A great social scientific investigation into the processes and places that bring us bread.

Brandenberg, Aliko. Milk: From Cow to Carton. New York: HarperCollins Children's Books, 1992. *SF*

Brandenberg takes readers on a guided tour that begins with grazing cows, proceeds through milking and a trip to the dairy, and ends with some different foods made from milk.

Carle, Eric. Walter the Baker. New York: Aladdin Paperbacks, 1998. *SF, B*

The story of a baker who invents the pretzel. Carle's whimsical, frenetic collages seem fresh from the oven, even though they were first published 25 years ago. Ages 4-8.

Chase, Edith Newlin and Barbara Reid. The New Baby Calf. New York: Scholastic, Inc., 1984. *SF, B*

A baby calf is born, and under his mother's guidance grows happy and fat.

Chick. New York: Lodestar Books, 1991. *SF*

Photographs and colorful artwork borders chart the early stages of a chick's life.

Clement, Claude. Be Patient, Little Chick. Reader's Digest Young Families, Inc., 2001. *SF*

Impatient to grow up, Little Chick learns to appreciate his mother's advice and protection when confronted by an angry rooster. Includes facts about hens and chicks.

Dooley, Norah. Everybody Bakes Bread. Minneapolis: Carolrhoda Books, Inc., 1996. *FF*

A rainy-day errand introduces Carrie to many different kinds of bread, including chapattis, challah and papusaa. Includes recipes.

Doughty, Sarah. Let's Visit a Dairy Farm. East Sussex, England: Wayland Publishers, 1989. *SF*

A photographic journey through the happenings of a dairy farm. Includes map of a farm and information on calves, milking, bottling and cheese making.

Doyle, Malachy. Cow. New York: Margaret K. McElderry Books, 2002. *SF, FF*

What is it like to be a dairy cow? Chewing your cud from dawn to dusk. Your long tail swishing from

side to side. Resting in the shade of a tree by the river. Being milked in the cool milking parlor. Sleeping under the stars.

Duffield, Katy S. Farmer McPeepers and His Missing Milk Cows. Flagstaff, AZ: Rising Moon, 2003. *SF*

A crafty herd of cows borrows Farmer McPeepers' eyeglasses so that they can have a day on the town.

Fowler, Allan. The Chicken or the Egg? Chicago: Childrens Press, 1993. *SF, SF, B*

A brief look at the physical characteristics, breeds, and habits of chickens and at how modern poultry farms produce eggs and chickens.

Fowler, Allan. The Wheat We Eat. New York: Scholastic Press, 2000. *SF*

This book discusses the growing, processing, and eating of wheat, one of the most common types of grain in the United States.

Gershator, David and Phillis. Bread Is For Eating. New York: The Trumpet Club, Inc., 1995. *SF, SF, B*

Mamita explains how bread is created in a song sung in both English and Spanish. A bilingual, rhythmic celebration of bread, from farmer to baker.

Gibbons, Gail. Apples. New York: Holiday House, 2000. *SF, B, FF*

An overview of apples which looks at their history in America, shows their parts, and explains their growth, harvest, and uses.

Gibbons, Gail. The Milk Makers. New York: Scholastic Inc., 1985. *B, F*

This is a succinct, enjoyable read about where milk comes from.

Gordon, Sharon. You Are What You Eat. New York: Children's Press, 2002. *FF*

This book discusses basic facts about nutrition, the food pyramid and the importance of making healthy food choices.

Hall, Zoe. The Apple Pie Tree. New York: Scholastic, Inc., 1996. *SF, SF, FF*

Describes an apple tree as it grows leaves and flowers and then produces its fruit, while in its branches robins make a nest, lay eggs, and raise a family. Includes a recipe for apple pie.

Hooper, Meredith. A Cow, a Bee, a Cookie, and Me. New York: Kingfisher, 1997. *SF, FF*

A young boy's grandmother explains how nature provides the different ingredients they need to make some cookies. Includes recipe.

Hubbell, Will. Apples Here! New York: Scholastic, Inc., 2002. *SF, FF*

Through the seasons, apples grow from buds to blossoms to fruit and become part of people's lives and celebrations.

Jackson, Ellen. Brown Cow, Green Grass. New York: Hyperion Books for Children, 1995. *SF, B*

A young boy learns about colors in a day at the farm.

Kleven, Elisa. Sun Bread. New York: Dutton Children's Books, 2001. *SF, FF*

The wind is whooshing, the snow is whirling, the rain is streaming, and everyone misses the sun. The baker misses it so much that she mixes some dough, then kneads and shapes it into a warm, round, golden sun bread. When the animals eat it, they not only stop grumbling, they begin to rise! Birds and beasts join in a joyous celebration that wakes up the real sun, who takes part in the feast and beams back down on the world continuing the work the sun bread started. With its cheery, chewy rhyming text—positively brilliant for reading aloud—and its host of expressive animal characters, this happy picture book salutes the alchemy of both the baker and the sun. A sun-bread recipe is included.

Leedy, Loreen. The Edible Pyramid: Good Eating Every Day. New York: Holiday House, 1996. *FF*

Learning about a healthy diet is fun with this bright picture book; though the text is a bit dull, teachers may still find it useful for explaining the food pyramid.

Lesser, Carolyn. What a Wonderful Day to Be a Cow. New York: Alfred A. Knoff, Inc., 1995. *SF, B*

Every month of the year, the animals on a farm enjoy their way of life and the weather that greets them.

McMillan, Bruce. Growing Colors. New York: HarperTrophy, 1994. *SF*

What color is a bean? Green? Or might it be purple? Does a plum grow in, on, or above the ground? Join award-winning photo-illustrator Bruce McMillan as he takes his camera in search of some of nature's gorgeous colors found in gardens and orchards.

Miller, Heather. My Chickens. New York: Welcome Books, 2000. *SF, B*

This short tale is told through simple language and multiple photographs of one girl as she takes care of her chickens.

Older, Jules. Cow. Watertown, MA: Charlesbridge Publishing, 1997. *SF, FF*

Ever wondered why an ice-cream sundae isn't called an ice-cream Thursday? Having trouble telling a Jersey from a Holstein? Confused about the difference between a cow and a bull? With bright, humorous illustrations and funny but factual text, this book presents everything you want to know about these popular bovines.

Peterson, Cris. Extra Cheese, Please! Mozzarella's Journey from Cow to Pizza. Honesdale, PA: Boyds Mills Press, Inc., 1994. *SF, FF*

Describes how cheese is made, from a sample's beginnings on a Wisconsin dairy farm until a cheese factory ships the final product across America.

Priceman, Marjorie. How to Make an Apple Pie and See the World. New York: Alfred A. Knopf, 1994. *SF, FF* (and DVD)

Since the market is closed, the reader is led around the world to gather the ingredients for making an apple pie. Includes recipe.

Reid, Mary. Let's Find Out About Ice Cream. New York: Scholastic, Inc., 1996. *SF*

Great photos show children how ice cream is made from cow to the ice cream store. The illustrated picture map at the end is a good summation of what was covered in the book.

Rotner, Shelley and Gary Goss. Where Does Food Come From? Minneapolis: Millbrook Press, 2006. *FF*

This book explores the places where some of children's favorite foods come from, including popcorn, peanut butter, milk and apples, through simple text and vibrant photographs.

Schertle, Alice. How Now, Brown Cow? New York: Browndeer Press, 1994. *SF, B*

The humble cow is revealed in all her physical and philosophical splendor in this varied and charming poetry collection.

Sharmat, Mitchell. Gregory the Terrible Eater. New York: Scholastic, Inc., 1980. *SF, FF, B*

A very picky eater, Gregory the goat refuses the usual goat diet staples of shoes and tin cans in favor of fruits, vegetables, eggs, and orange juice.

Shelburne Farms' Sustainable Schools Project. "The Needs and Growth of Baby Plants and Animals". Shelburne Farms: Shelburne, VT, 2005. *SF*

This kindergarten unit explores the needs and growth of plants and animals and is a great compliment to the *Food Foundations* unit, as it helps meet The Living World standards while providing opportunities to practice literacy and math skills. Students observe and interact with plants and animals while developing scientific skills, such as questioning and developing hypotheses. This unit guides students through an investigation of seeds, plants, tadpoles and frogs in order to underscore the needs of plants and animals.

Sykes, Julie. Dora's Chicks. Waukesha, WI: Little Tiger Press, 1997. *SF*

It's time for breakfast and Dora's Chicks are nowhere to be found. Dora searches the entire barnyard, and one by one her chicks appear in the strangest places.

Teitelbaum, Michael. Does Cheese Grow on Trees?: A Book About Food. New York: Muppet Press, 1995. *SF*

This book is a great exploration of many types of food and the places from which they come with Kermit the Frog and his nephew, Robin, acting as our friendly and knowledgeable guides.

Weninger, Brigitte and Anne Moller. Good Bread: A Book of Thanks. New York: North- South Books Inc., 2003. *SF*

In this, the third book in the Book of Thanks series, a girl and her mother bake a loaf of bread. It smells delicious and tastes good, too! In simple words, accompanied by vivid pictures, the girl describes the steps involved from planting the seed to baking the plump loaf and sharing her gratitude for the precious gift of good bread.

# Food Foundations

## Resources for Teachers

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Demas, Antonia. Food Is Elementary. New York: Food Studies Institute, 2001.

A unique curriculum integrating academic disciplines with food, nutrition, culture and the arts. This is a research-based program modeled after the award-winning Trumansburg, NY study, "Food Education in the Elementary Classroom," which demonstrated that a food-based curriculum results in dramatic dietary acceptance of diverse healthful foods among children in the elementary school lunch program. Meets state education requirements in most states and implements USDA guidelines with lessons that are hands-on, experiential and fun!

Duke, Nell K. "The Importance of Informational Literacy":

<http://teacher.scholastic.com/professional/literacypapers/duke.htm>

Duke, a leading scholar on childhood literacy, writes about the importance of teaching non-fiction in the "information age." This is a great introductory article about why informational texts are crucial to every student's development and includes some ideas on how to increase this type of reading in your classroom.

Duke, Nell K. and V. Susan Bennett-Armistead. "Nonfiction Reading in the Primary Grades":

[http://teacher.scholastic.com/products/classmags/files/Nell\\_duke\\_May04.pdf](http://teacher.scholastic.com/products/classmags/files/Nell_duke_May04.pdf)

This is a concise look into the importance of nonfiction texts and how to incorporate them into the classroom. Copies are downloadable as a pdf file.

Gardening with Kids and the "Growing Ideas" Newsletter:

<http://www.kidsgardening.com/>

Introducing Students to Animals:

<http://www.everythingsl.net/lessons/animals.php>

Lingelbach, Jenepher and Lisa Purcell, eds. Hands on Nature : Information and Activities for Exploring the Environment With Children. Woodstock, VT: The Vermont Institute of Natural Science, 1986.

This book is a gold mine of ideas for exploring nature with children and a must for those teaching natural science in any setting. It includes 5 lessons that focus on interdependence in a field habitat plus 2 pages of background information that provides an overview of the big picture, context and related vocabulary. None of the lessons were used specifically in this unit, but bits and pieces were adapted to an urban and farm setting and used in the food chain activities.

Mead, Nathaniel. "Food for Thought." East West September/October 1991, 4-8.

An incredibly interesting introduction to the importance of nutrition on brain chemistry and function, this article explores a variety of nutrients' impact of children's behavior and learning

ability.

Northeast Organic Farming Association of Vermont. "School-to-Farm Directory." NOFA-VT: Richmond, VT, 2004.

This small book is an in depth guide for teachers who wish to welcome Vermont farmers into their classrooms. It includes the contact information for many types of farms – from dairies to Christmas tree farms - throughout Vermont.

Parrella, Deborah. Project Seasons. Shelburne, VT: Shelburne Farms, 1995.

This book is a wonderful collection of creative teaching ideas and activities for integrating science-based environmental education into any classroom.

Project WILD. Bethesda, MD: Project Wild, 1992.

Project WILD is an interdisciplinary, supplementary environmental and conservation education program for educators of kindergarten through high school age young people.

Smith, Gregory A. "Place-Based Education." Phi Beta Kappan April 2002, 584. *FF*

An interesting look into the multi-dimensional world of place-based education, with particular focus on the following areas: Cultural Studies, Nature Studies, Real-World Problem Solving, Internships and Entrepreneurial Opportunities and Induction into Community Processes.

Sobel, David, "You Learn What You Eat: Cognition Meets Nutrition in Berkeley Schools" The Center for Ecoliteracy, Berkeley, CA Summer 2001. Available at <http://www.ecoliteracy.org>.

At the beginning of this essay, Sobel discusses how he first recognizes the disconnection between children and food. He had asked a group of kindergarteners a seemingly simple question – what do we need to make French fries – and got no response. From there, we learn how in Berkeley, California, food has become the organizing principle for systemic change, as the Edible Schoolyard program addresses the root, nutritional causes of poor academic performance, psychological and behavioral disorders and escalating children's health issues by enabling children to grow their own local, organic food and feed themselves. Programs, like those in Berkeley, can help us imagine how to make affordable, healthy, delicious and sustainably cultivated food available to every student in the United States.

"A Quick Consumer Guide to Safe Handling to Avoid Food Poisoning." Vermont Department of Health, 1-800-439-8550.

This booklet is filled with quick reminders and at-a-glance information about safe food handling, from short-but-safe storage limits for refrigerated food to cooking temperatures for a wide variety of meat to what to do when the power goes out.

Zimmerman, Marcia. "Colorful Cuisine: Brighten up your meals with vibrant recipes." Taste For Life March 2006, 28-31.

This short article reviews the seven color groups fundamental to all nutrition (yellow, tan, pur-

ple, white, orange, red and green) and details several recipes that can help you widen your own color palette.

**Links to food pyramid-related web-based resources:**

[http://www.atozteacherstuff.com/Themes/Food\\_\\_\\_Nutrition/](http://www.atozteacherstuff.com/Themes/Food___Nutrition/)

<http://teamnutrition.usda.gov/kids-pyramid.html>

<http://www.mypyramid.gov/>

<http://www.phschool.com/atschool/paso/Tips/tip03.html>

<http://www.5aday.org>





# Food Foundations

## Community Resources

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*In Chittenden County and Northern Vermont:*

**Burlington School Food Project\*:** Jen Cirillo at Shelburne Farms 802-985-8686 x 31

**Vermont Farmers:** <http://www.nofavt.org/> 802-434-4122

**Community Volunteers:** City Market Coop: <http://www.citymarket.coop/> 802-863-3659

**Vermont Chefs and Farmers:** <http://www.vermontfresh.net/> 802-434-2000

**The Intervale Center:** <http://www.intervale.org/> 802-660-0440

**Vermont FEED:** <http://www.vtfeed.org/> 802-434-4122

**Sustainable Schools Project:** <http://www.sustainableschoolsproject.org/> 802-985-8686 x 31

*Beyond Northern Vermont:*

**Brattleboro, Vermont Food Coop:** <http://www.brattleborofoodcoop.com/>

**Farmers:** <http://www.wwoof.org/>; <http://www.nofa.org/index.php>

**United Plant Savers** (directory of botanical sanctuaries throughout North America):  
<http://unitedplantsavers.org/index.php>

**Nature Conservancy:** <http://www.nature.org/>

Local parks and recreation department, state parks departments

Local restaurants, grocery stores and cooperatives

\* The Burlington School Food Project is a partnership of local organizations that work together to provide better quality, local food and food education opportunities to area schools. Organizations include the Burlington Legacy Project, Burlington School District, The Intervale Center, The Sustainable Schools Project, the University of Vermont and the members of VT FEED.

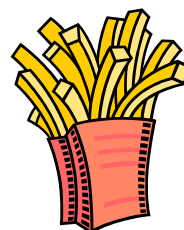
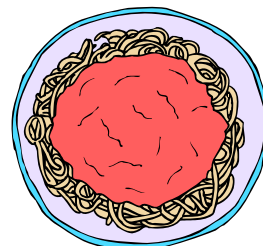
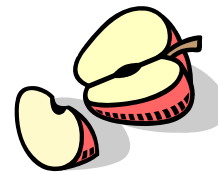
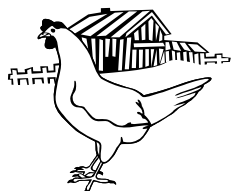
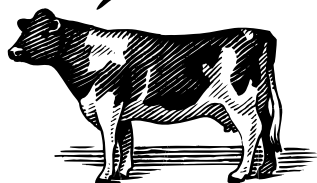
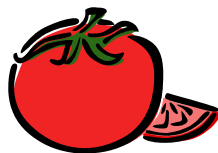
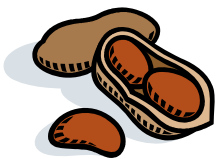


# **APPENDIX I**

## **MATERIALS**

# Food Matching Fun

Match the food source on the left to the food product on the right.



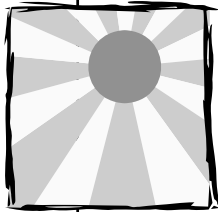


Breakfast

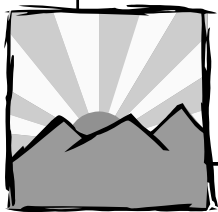


Snacks

Lunch



Dinner



My Food Journal

## **Food Journaling : Snack or Meal Monitoring Lesson**

**Essential Question:** What do you eat?

**Major Concepts:** Healthy Choices

**Standards Met:** Healthy Choices 3.5e

**Grade Expectations:** For all grade levels: HE 2b

**Background:** Food Journaling is a great way to document what you eat on a daily basis. Many people aren't aware of the amount and the types of food they actually eat. Most of us are aware of the Food Pyramid and how much food we are "supposed" to eat, but do we know if we are actually eating it? By keeping a food journal you can match what you eat on a daily basis with that of the food pyramid. Using food journals in the classroom can create an awareness of students food choices, preferences and behaviors. There are many different types of journals you can use. Your journal could be shaped like a pyramid. Students can add stickers to the pyramid for each food item they eat in a day. You could also have a journal just for snacks. Students could write down the snack and recipe. Your students could also document what they eat by listing breakfast, lunch and dinner on each page. Another strategy to use in food journaling is reflection. Have your students look back on what they ate and make goals for eating healthier.

**Materials:** Various paper and cardboard or cardstock, yarn, markers, old magazines, stickers glue, crayons...all kinds of journal making goodies

### **Activity:**

*Pre-Activity:* Have students list what they ate the day before. Keep a big list in front of the classroom. You could also introduce the Food Guide Pyramid and ask students if they think they ate from the Food Guide Pyramid.

*Opening Circle:* Ask students what they ate yesterday. Discuss whether or not they remember. Ask them if they think it is important to be able to remember. How could they remember better?

### *Main Activity:*

Review the Food Guide Pyramid. Have a large Food Guide Pyramid on the wall. Ask students what they ate and put a sticker on the pyramid. Discuss how we could track what we ate so we were sure to eat healthier.

Make Journals with students. Have them decorate the journal.

Do the first entry together.

Discuss the journal entry.

Make goals for improving eating habits.

Throughout the journaling be sure to make healthy snacks and food items. Discuss vitamins and minerals and the Food Guide Pyramid. Whenever you make a healthy snack or food with your class fill in the journal with them to model how to complete entries.

*Wrap-up:* Did we meet our goals? What did we learn?

**Extensions:** Incorporate exercise into journal for a well rounded nutrition and fitness unit.

# Food Foundations

## Pictures for Rainbow Stations

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Apples





Pineapples





Kiwi







Grapes and raisins





Bananas



Mangoes





Cranberries and cranberry bog





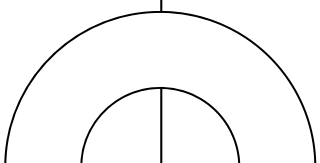
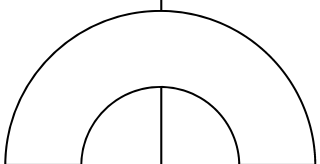
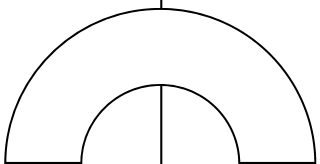
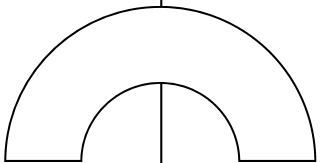
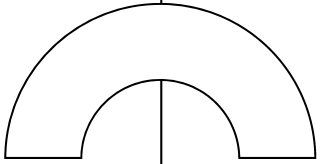
Pear

Blueberries



# Eat the Rainbow

To stay healthy we need to eat our colors everyday! Color a rainbow at each station and draw the fruit you tasted there. Write the letter V if this fruit is grown in Vermont.



## Objective:

- ★ Students will be introduced to the parts of a cow by dressing up one of their classmates.

## Materials

Gather the following into a large bag:

- ★ pretend udder (*cool whip container with baby bottle nipples for the teats*)
- ★ tail (*fly swatter*)
- ★ horns and ears (*headband with cardboard ears and horns attached*)
- ★ hooves (*4 socks with hoof prints on the bottom of them*)
- ★ tongue (*sand paper cut to the size of a real cow's tongue*)
- ★ stomachs (*four balloons tied together*).

## Extensions

Explain to the students that they are going to work in groups of three to design the “ultimate cow.” Thinking of all of the parts of the cow and letting your imagination go wild, use markers or crayons to draw your ultimate cow. Get back together as a class and have each group share their cow drawing and what special features their cow has. What will they call their cow breed? List some real breeds of cow .

# Food Foundations

## Lesson 5 Extension: Dress Up a Cow

### Procedures

1. Explain to the students that they are going to dress up one of their classmates as a cow. Ask them to try to imagine what a cow looks like and what special parts it has. What makes a cow unique?
2. Pick a volunteer from the class to be dressed up. Have him or her stand so everyone can see.
3. Ask the students to suggest how to make the volunteer look more like a cow. As they come up with ideas, pull the appropriate prop that you have made from your bag, and dress up the volunteer with the prop.
4. After you have dressed up the volunteer with all the cow props you have, ask the students what they could add to make the student look even more like a cow (e.g., fur, eyes on each side of their head, big wet nose, teeth, etc...) Discuss how different we are from cows. How are we similar?

**Udder** - *A female cow has an udder that produces milk after she has had her first calf.*

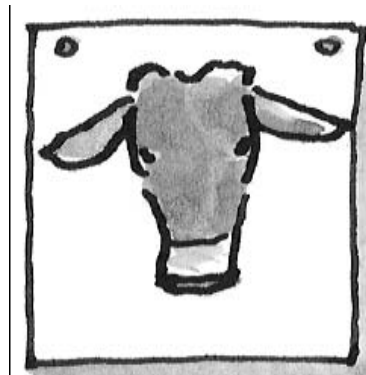
**Tail** - *Cows use their tails as fly swatters.*

**Horns and ears** - *Both male and female cows are born with horns (unless they are a polled breed), and the farmer has a veterinarian remove them (called dehorning). Cows have big ears to help them hear.*

**Hooves** - *Cows have four legs with hooves on the bottom. Each hoof has two toes.*

**Tongue** - *Cows use their sandpaper-like tongue, which is long, to help pull in the grass and hay that they eat.*

**Stomachs** - *Unlike humans, cows are ruminants, which means they have four parts to their stomach to help them digest their food.*



# Food Foundations

## Color Group Labels

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### Blue and Purple

This food helps my...memory!



### Green

This food helps my...eyes, bones, and teeth!



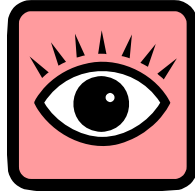
### White and Brown

This food helps my...heart!



## Yellow and Orange

This food helps my...heart, eyes, immune system  
(so I don't get sick and heal faster)!



## Red and Pink

This food helps my...heart and memory!





# Food Foundations

## Protein Pictures for Introduction

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# Food Foundations

## Animal Meat Match Up

Cut each picture out and paste to card stock or a reused cereal box for durability. Label the back of each card appropriately: scrambled eggs, chicken, turkey, turkey sandwich, roast turkey, etc. Give each student a card and have them find their matches. Each animal has two food products it matches up with. Or forego the labeling on the back and have students play it like a memory game.



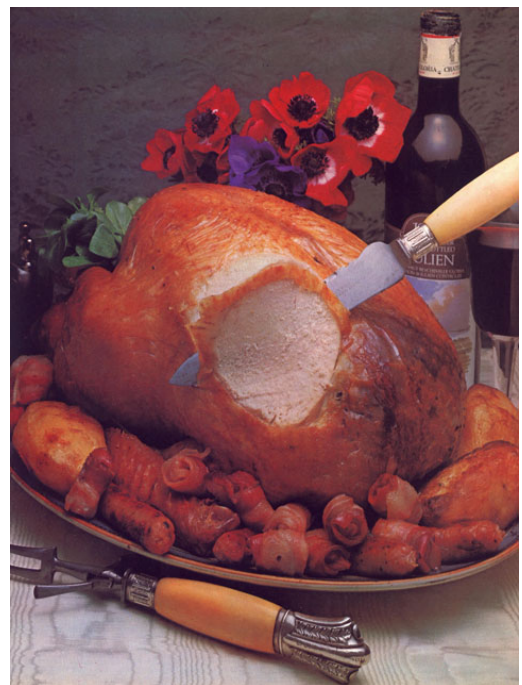
Chicken nuggets, chicken, scrambled eggs



Beef cow, hamburger, steak



Turkey, roast turkey, turkey sandwich



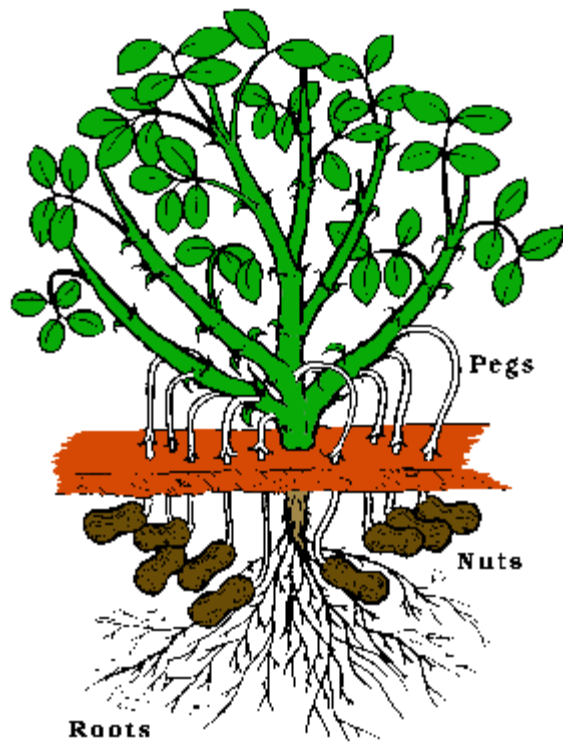
# Food Foundations

Photos for Plant Research Station

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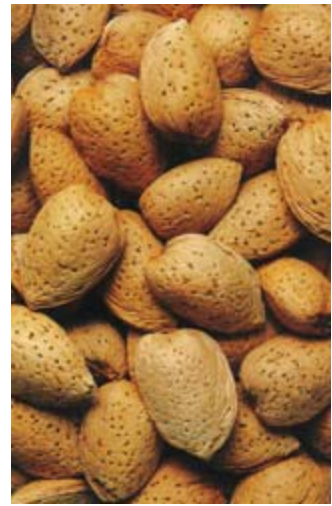
Pumpkin plant, pumpkin seeds



Peanut plant diagram, peanut plant photo



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www.hlasek.com  
*Amygdalis communis* 6560



Almonds on the tree, in the shell,  
almond orchard



Garbanzo bean (chick pea) plant



Sunflower

# Food Foundations

## Who Am I? Bags

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Cut out each clue and attach it to a paper bag. Put samples of each food in its corresponding bag and fold over the top so students can't see inside. Read the clue to students and have them guess the food inside. Reveal the food inside and sample! The order is flexible but the ice cream clue should be last.

I'm the perfect size for holding in your hand and munching on the go  
I come in lots of colors—red, green, and yellow

I grow on trees  
In my middle, you'll find seeds

I'm a fruit you see  
Nature's very own candy

Harvest me in the fall  
You won't have far to haul

In Vermont I grow  
To help you stay healthy, you know!

Who am I?

(Apple)

I come from a very tall plant  
Each seed on my cob, bigger than a large ant

I grow toward the sky  
Then I'm left in the sun to dry

Yellow, white, red, orange, blue  
My seeds become a snack for you

On the stove or in the microwave  
At the movies I'm what you crave

I give you energy so I must be a grain  
Season me with salt or eat me plain!

Who am I?

(Popcorn)

I'm crisp and I'm cool  
Growing in gardens and on farms near your school

I grow in the summer  
But winter's not a bummer

You can save me in a jar  
With sandwiches I go far

I'm green and long  
You really can't go wrong

Eat me for one veggie serving  
In salad or use me for dipping

Who am I?

(Cucumber)

For growing and healing  
Your body needs protein

Meat and beans  
Eggs and seeds

Nuts like me!  
I grow on a tree!

I'm brown and I'm wavy  
I even look a little brainy

Who am I?

(Walnut)

I can be white, yellow, orange, even blue  
I come from animals that say "Mooooo"

I've got calcium for your bones  
Strong and healthy they've grown

Milk is my food group  
Eat me on a sandwich with chicken soup

On pizza or with crackers  
I'm good with meals or for snackers

Who am I?

(Cheese)

Mix sugar, milk, and cream  
For me, some even scream

Crank it, shake it!  
Kick it, mix it!

I'm a cool treat  
Something special to eat

I'm good with cake  
I'm something YOU can make

No need to eat me everyday  
I help you celebrate—hooray!

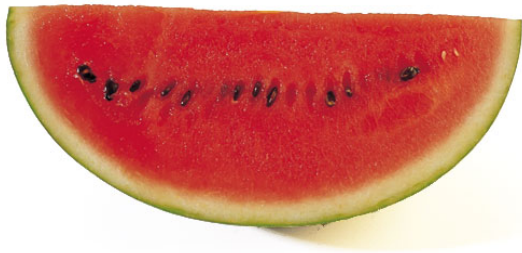
Who am I?

(Ice Cream)

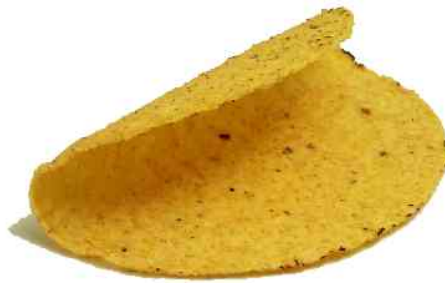
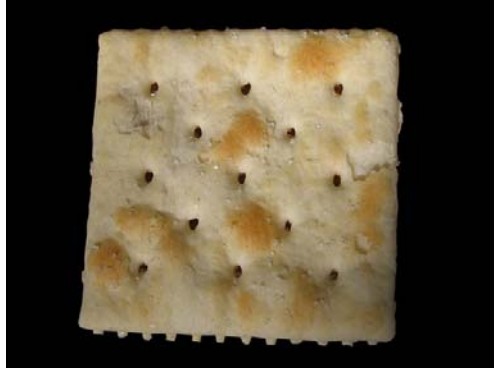
# Food Foundations

## Fishin' For Nutrition Pictures

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# Food Foundations

## Make Your Own Ice Cream

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General Info from [www.frugalliving.about.com](http://www.frugalliving.about.com) about making your own ice cream without any special equipment:

You'll need two containers, one that will fit inside the other with at least an inch to spare.

Two sizes of coffee cans work well for this, but any food safe containers will do. Metal is best, but glass will work, too. Plastic does NOT work, as it doesn't conduct the cold very well. Be sure to tape or tie the lid down firmly on the smaller container. Place it in the larger coffee can or other container and put in enough ice, alternating with layers of rock salt two or three times, to completely pack the cavity between the two cans.

Seal the larger can well, too, then go play 'kick the can' with it, or roll it back and forth between kids, or just hold and jiggle it like you would to hand churn butter for anywhere from 10 to 20 minutes. You can also make drain holes in the bottom of the larger container, punching them with a nail, but it can be messy if the can will be passed back and forth.

To check for "doneness", it won't hurt to take off the lid and stir. If it's not frozen solid enough, drain the water caused by melting ice, repack and shake or roll again.

Recipes for homemade ice cream vary from the super smooth, egg-and-cream-rich ices of the old south to the plain milk and sugar kind, but all can be adapted to a coffee can ice cream maker - just use a half recipe or less.

Here's the recipe we like to use:

**Ingredients:**

1 cup milk  
1 cup cream  
½ cup sugar or honey  
1 tsp vanilla

**Other supplies needed:**

2 coffee cans with lids—one should be small enough to fit inside the other  
Rock salt  
Ice  
Duct tape  
Measuring spoon  
Measuring cup

Fill the smaller coffee can with all ingredients. Seal lid with duct tape—you don't want any of that rock salt contaminating your sweet ice cream. Place the smaller can in the larger coffee can. Fill the cavity with alternating layers of ice and rock salt. Seal the lid of the larger can with duct tape, find a small hill and take turns rolling it down for 20 or so minutes. Stop every five minutes or so to check the ice—if it's melted add more ice and rock salt. You can check for doneness by shaking the small can. If you can still hear it sloshing around in there, keep rolling or kicking. If it sounds like it may be solidified in there, time to open and enjoy! This makes enough for each student in your class to have a small cup. There are lots of flavor possibilities depending on the season: maple syrup, fresh mint leaves, fresh berries or other fruit.



# Food Foundations

## Other Recipes

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### Rainbow Smoothie

Add the following fruits and yogurt to a blender or food processor:

- ½ banana [white and tan color group]
- ½ kiwi fruit scooped out of it's furry skin [green color group]
- ¼ cup fresh or frozen blueberries [blue and purple color group]
- ¼ cup fresh or frozen strawberries [red and pink color group]
- ¼ cup fresh or frozen peaches [orange and yellow color group]
- 1 cup yogurt
- ½ cup apple cider [or enough to make the smoothie blend nicely]

Blend until smooth, pour into a cup, drink, enjoy, be healthy, eat the rainbow!

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### Yogurt Parfaits

- 1 cup plain, vanilla or maple yogurt
- ¼ cup granola
- dried fruits and nuts

Add these ingredients to a bowl or glass in layers. Enjoy this healthy snack by the spoonful!

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### Granola

- 4 cups uncooked rolled oats
- ½ cup sesame seeds
- ¾ cup sunflower seeds
- 1/3 cup honey
- ¾ cup almonds, chopped
- 1/3 cup sunflower oil
- 2 tbs water
- ¾ cup raisins
- salt to taste

Mix oats, sesame seeds, sunflower seeds, and almonds in a large bowl. Add honey, sunflower oil, and water. Stir until well mixed. Add salt to taste. Spread evenly on a cookie sheet and bake 35-40 minutes in a 300 degree oven. Stir granola every 5-10 minutes so it doesn't brown too much on one side. Let cool. Add raisins or other dried fruit. Eat in a yogurt parfait, with milk for breakfast or add to your favorite oatmeal chocolate chip cookie recipe.

## **Applesauce**

Cut five sweet red apples in half and remove the seedy center.

Chop apples into small squares. Place apples in a medium sauce pan, skins and all. Add some water to the bottom of the pan—just until there is a layer about ½-1” of water. Cover pan and simmer on stove, stirring occasionally. Once apples are soft enough to smash, remove from heat and smash gently with a fork or potato masher. Add a little cinnamon if you like and enjoy!

## **APPENDIX II**

### **LESSONS AND AIDS FOR SELECT EXTENSIONS**

## WHEAT GRASS

### Basic Supplies

- Wheat Grass Seed Clay Pot and Saucer (or other container of choice)
- Potting Soil

### Basic Instructions

1. Fill the container with potting soil, leaving a good amount of space at the top (at least here inches). As the grass grows, it will push up dirt. If you don't leave enough space, dirt will fall out of the container onto your table top!
2. Put a layer of wheat grass seed on top of the soil Use a generous amount in a single layer over the potting soil. Cover the seeds with a bit of potting soil. You don't need too much soil, just enough to cover the seeds.
3. Repeat step 2, making a second layer of grass seed and soil.
4. Water well and keep in the soil moist. Wheat grass will grow best in a bright room.

### Tips and Techniques

- Wheat grass grows very fast. In less than a week you'll have about an inch of grass.
- Keep the soil moist but not wet. If you plant wheat grass in a container with no drainage (such as glass), we recommend misting the grass rather than watering.
- Depending on how much sun your arrangement gets, they will last from 5 to 10 weeks. Since they grow so quickly, just replant your pots and you'll have no arrangements in no time.
- Cats love wheat grass! It aids their digestive systems and is often prescribed by veterinarians.

# Food Foundations

## Pickle and Dilly Bean Recipes

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**Materials:** Apple cider vinegar, water, dill, cayenne pepper, mustard seeds, garlic, salt, fresh green beans, cucumbers, large pot for brine, medium-sized pot for sterilizing lids and rings, large canning pot and jar rack, quart or pint canning jars, labels, tongs, funnel, jar grippers, towels, chop sticks, compost bucket.

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### Dill Pickles with Garlic

**Ingredients:**

- 3 large cloves
- 10-12 cucumbers, pickling size or chopped
- 1 bunch fresh dill
- 2 1/3 cups water
- 3 2/3 cups white wine vinegar
- 1/3 cup sea salt
- 2 tsp pickling spice
- 1 tsp dill seeds
- 1 tsp whole black peppercorns

**Procedure:**

1. Peel the garlic cloves and pack them into a sterilized jar with the cucumbers and sprigs of dill.
  2. Pour the water and white wine vinegar into a saucepan and add the salt, pickling spice, dill seeds, and black peppercorns. Bring to a boil, and boil rapidly over high heat for 3 minutes. Leave to cool.
  3. Pour the cooled mixture over the cucumbers to cover then by 1/2 inch.
  4. Seal the jar and label. Keep in refrigerator for 3 weeks before using to allow the flavors to develop. Keep refrigerated and eat within 2-3 months from date made.
- 

### Dilly Beans

**Ingredients:**

- |                        |   |
|------------------------|---|
| 4 lbs green snap beans | 5 cups apple cider vinegar or white vinegar |
| 5 cups water           | 1/2 tsp whole mustard seeds                 |
| 1/2 cup salt           | 1/4 tsp cayenne pepper                      |
| 1/2 tsp dill seed      | 1 or 2 garlic cloves                        |



**Procedure:**

1. Wash and sterilize 6 quart or 12 pint jars in several inches of boiling water for 10 minutes. Place jars open side down on a clean, dry towel until ready to fill. It is important to avoid touching the insides or mouths of jars once sterilized.
2. Sterilize dome lids in boiling water.
3. Create the brine in a large pot; mix and bring to a boil: 5 cups vinegar, 5 cups water, 1/2 cup salt.
4. Prepare vegetables to be pickled. Rinse well, cut and remove stems if necessary.
5. Put dill, cayenne mustard, and garlic into jars.
6. Pack jars full with beans and cucumbers.
7. Ladle the hot brine over the vegetables, filling jar to 1/2 inch from the top. A funnel helps with this.
8. Tap jars on table top to release any trapped air bubbles. Place sterilized lids on jars and secure rings.
9. Place full capped jars into a canning pot, making sure water covers the tops of jars. Boil for a few minutes.
10. Using jar grippers remove jars from water and cover with a cloth. Remove rings and make sure lids are sealed. Store in a cool dark place. Pickles are best after at least two weeks.



# Food Foundations

## Barnes Fab Five Clues

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### Barnes Fab Five Clues

- |          |   |
|----------|---|
| 1. Sun   | Bead: yellow<br>Visual: drawing of a sun                                    |
| 2. Water | Bead: blue<br>Visual: garden watering can                                   |
| 3. Air   | Bead: clear or clear with sparkles<br>Visual: pinwheel                      |
| 4. Space | Bead: green<br>Visual: drawing of plants growing with space in between each |
| 5. Soil  | Bead: brown<br>Visual: small bucket filled with soil                        |
- 

In order for me to grow big and strong,  
you're going to need to help me along.

Five things I need to stay alive—  
We'll call them the fabulous five!

The first will surely help me wake,  
It's cold in here for goodness sake!

I must warm up and feel the light—  
Take me where it's warm and bright.

---

I'm much warmer now, thanks a bunch  
But I think it's getting time to munch  
I make my own food whenever I'm hungry  
But the problem is, I'm really thirsty!

Look around—you need to think, and find something for the plants to drink.

---

You need me and I need you!  
Soon you'll learn a step or two  
We eat and drink and need to share,  
'Cause both of us must breathe the...

Look around—think and observe. Can you see the wind pushing air in a swerve?

---

Even though I'm little now  
I'll soon be big—somehow.  
I'll grow with others—it's not a race  
Just don't plant me too close...I need my...

Look around—there's a sign you'll see—showing plants with room, growing happ-ily.

---

Sun, water, air and space—all things I need to live  
But there's one more, to me, you must give  
It's dark and brown, under your feet  
Without it my life will be incomplete!

Look around—a bucket and a sign—complete the Fab Five and your plants will grow fine!

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# Food Foundations

## Shelburne Farms Fab Five Clues

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Take a bean seed along the way, looking for just the place to plant it—in the garden!

In order for me to grow big and strong, you're going to need to help me along.  
Five things I need to stay alive—we'll call them the fabulous five!

The first will surely help me wake...it's cold in here for goodness sake!

I must warm up and feel the light—take me where it's warm and bright.

---

I'm much warmer now, thanks a bunch  
But I think it's getting close to lunch  
I make my own food whenever I'm hungry  
But the problem is, I'm really thirsty!

Walk up the hill—you need to think, and find a place where the sheep drink.

---

You need me and I need you!  
Soon you'll learn a step or two  
We eat and drink and need to share,  
'Cause both of us must breathe the...

Follow the trail up the hill...boogie when you find the wind-mill!

---

Even though I'm little now  
I'll soon be big—somehow.  
I'll grow with others—it's not a race  
Just don't plant me too close...I need my...

---

Follow the trail into the woods

Sun, water, air and space—all things I need to live  
There is one more that's dark and brown, to me, you must give  
It's under our feet—even here, but this place just won't do  
Trees are plants, but that's not me—I'm a treat for you!

Follow the trail back down where you'll meet at a place where you grow plants to eat!

**PLANT ME HERE!**

# Awesome Air

## Objectives:

The children will experiment with qualities of air.

*Grade Level:* Preschool-2

## Materials:

plastic basin filled with water, plastic jar with a cloth stuffed in the bottom, ping pong balls, straws, paper, book, two empty soda cans tied with string to a stick, cloth cut into 8 inch squares, string, large paper clips, dowel rods, scrap sail cloth of varying lengths, glass bottles filled with water to varying heights

## Extensions:

a. Put a piece of paper between the leaves of a book and blow along the top. The paper blows upward due to the slower moving air below.

b. Fold a piece of paper to resemble an airplane wing. Tape the edges together. Attach thread to a safety pin stuck through the rounded end of the paper. Pull the wing quickly across the top of the table and watch it take off. The air has further to go over the top of the wing, so it must move faster. The slower moving air under the wing pushes the wing up.

## Directions:

1. Have the classroom filled with objects that use/need air: kites, air mattresses, balloons, plants, airplanes, birds, wind-chimes, and wind instruments. Ask your students what all these things have in common. Work together on a definition of air. Make a list of qualities that air possesses.
2. To demonstrate that air takes up space, place a plastic jar with a cloth in the bottom directly into water in a plastic basin. Observe what happens to the rag. Discuss. Have the students try and discuss their results.
3. To demonstrate that air can move objects, have students blow through straws and race ping pong balls across the floor.
4. To demonstrate that slow and fast moving air work together to makes things move, hold two empty soda cans tied three inches apart on a dowel rod. Predict what will happen when you blow air between the two cans. Blow. Discuss the results. The cans came together because the faster moving air does not push against the cans as much as the slower moving air on the outside of the cans.



# Soil Grab Bag

## *Objective:*

Students will connect the foods they eat and the fibers they wear back to a soil origin in order to gain an understanding and appreciation of soil as a natural resource.

*Grade level:* K - 6

## *Materials:*

A bag full of everyday objects, including but not limited to:

- cotton T-shirt
- wool sock
- leather belt
- leather sneaker/boot
- apple
- bread bag
- peanut can
- potato chip bag
- wooden chair
- milk carton
- metal spoon
- cereal box
- notebook
- pencil
- teabags
- jewelry
- maple syrup
- candy bar, etc...

## *Extensions:*

*a. Challenge the students to think of something that doesn't come from soil.*

*b. Have students connect what they last ate or what they are wearing back to soil.*

*c. Pass out the objects in the bag and have each child draw or write the connection between the product and soil.*

## *Directions:*

1. Can everything that we are wearing, everything we eat, everything we see, be traced back to the soil? There are several ways to modify this activity to suit your needs in a classroom setting. First, share with the students that you have a bag filled with very familiar objects. We wouldn't have any of these objects without soil. Pull one item out of the bag and discuss how it originated with soil. For example, if a wool sock is pulled out of the bag: *The yarn is made out of wool, wool comes from a sheep that eats grass and hay that comes from soil.*

2. Have each student pull out one of the objects from the bag and figure out how it relates to soil. Then discuss each object with the rest of the class. Be sure to emphasize our connection to soil and dependence upon it.

## Objectives

Students will:

- ★ Review the number of servings of fruits they should eat in a day
- ★ Practice their knife handling and cutting skills
- ★ Learn how applesauce is made and taste test their own applesauce

## Focusing Questions

- ★ Where and how do apples grow?
- ★ Are apples good for us?
- ★ How do you make applesauce?
- ★ What is a healthy snack?

## Materials

- ★ Large pot
- ★ 10 butter knives
- ★ 35 cups and spoons (or as many as you will need in your classroom)
- ★ Wooden spoon
- ★ Sharp knife
- ★ 5 cutting boards
- ★ 30 apples, sliced and cored
- ★ 2 whole apples
- ★ Books about apples

# Food Foundations

## Lesson 4 Extension: Applesauce Making

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### Opening Circle

1. Review the number of fruits we should eat in a day.
2. Ask the students if apples grow in Vermont. Has anyone been to an orchard? How do apples grow?
3. Tell students about the process for making applesauce, i.e. cutting up apples into small pieces, cooking them in a pan on medium heat with a little bit of water (and the help of an adult) until the apples are melted into sauce.
4. Demonstrate safe knife skills.

### Activity

1. Return the students to their tables. Give each table two butter knives, a cutting board and four apple slices per student.
2. Walk around and help students cut the apples into very small pieces.
3. Collect apple chunks into the pot.
4. Have a paraeducator, guest or teacher read books about apples and/or apple orchards to students while three students at a time come to the stove to smell and stir the applesauce.
5. Taste the applesauce, giving each student a small amount to try.

### Closing Circle

1. Review how simple it is to make apple sauce. What did students like about it? Will they make it at home? Is applesauce a healthy snack? Why?

## Objectives

Students will:

- ★ Review the number of servings of fruits and vegetables they should eat in a day
- ★ Depict graphically the importance of eating a rainbow of fruits and vegetables
- ★ Practice color, fruit, vegetable and healthy food identification and cutting and pasting skills

## Focusing Questions

- ★ What is healthy?
- ★ Why is eating the rainbow important?

## Materials

- ★ 3'x3' outline of a rainbow
- ★ seed catalogues and/or home, garden or food magazines
- ★ sheet for each color group with summary and pictures of how each color is helpful to the body
- ★ glue sticks
- ★ scissors

# Food Foundations

## Lesson 4 Extension: Eat the Rainbow

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### Opening Circle

1. Review the number of servings of vegetables we should eat everyday and the importance of eating vegetables that are all colors.
2. Hold up sheets for each color with pictures of how that color food helps out bodies (i.e. eyes, immune system).
3. Call on students to tell the class the benefits of each color and have students give examples of foods that fit into each color group.
4. Review tricky fruits and vegetables, such as bananas, which look yellow but are actually white.
5. Review foods that are colorful but not nutritious. For example, are green M&Ms a good green food to eat? Why not?

### Activity

1. Assign groups of students to each color group. Dividing them by seating chart or table works well.
2. Give students seed catalogues and magazines to cut out pictures of vegetables that fit into their color group and send kids back to their tables to cut out pictures.
3. Once students have cut out several pictures, have them come over to the rainbow on the rug (or in a centralized location) and glue their pieces onto the rainbow.

### Closing Circle

1. Gather students back together to marvel at their work and talk about how healthy all of these foods are. Can they think of any additional foods that are not pictured? What are some colors the students have eaten today?
2. Hang the rainbow in a prominent spot for the children to see.

## Objective

- ★ Students will learn what four products come directly from a cow.

## Materials

Gather the following into a bag:

- ★ empty milk carton
- ★ piece of leather
- ★ pretend piece of meat
- ★ bag of “manure” (you can use dark soil)

# Food Foundations

## Lesson 5 Extension: Cow Grab Bag

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### Procedures

1. Tell the students that there are a lot of things we use that come from a cow, but there are only four products that come directly from the cow.
2. Have students reach in the bag and pull out one item at a time. Identify each one and discuss how it comes from the cow.
3. Brainstorm with the students about other items that are made from these four products that come directly from a cow. (Examples: Ice cream and butter are made from milk; beef jerky, steak and tongue are all forms of beef that people eat.)

**Milk** - Dairy cows are raised mainly for their milk which comes from their udders.

**Meat** - Beef cows are raised for beef, but dairy cows eventually end up as meat, too.

**Leather** - Cow’s hides, or their skin, are treated to become leather.

**Manure** - One of the most important! Farmers spread manure as fertilizer on their fields to make the soil really healthy.

### Extensions

- ★ Have students look throughout their kitchen and home and make a list of all the things they have that came from a cow.
- ★ Make a cow products bulletin board at school that includes items from all the students in the class and possibly examples or pictures of things that could come from a cow.