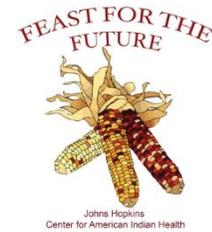


# Edible School Garden Program: Curriculum Overview Chart

## GRADE 3, Spring Lessons



Updated 5/27/2016

Lesson Number and Title	Learning Objectives	Lesson Activities	Workbook Pages	Teacher Resources	Materials and Preparation
<b>1</b> <b>Eating A Rainbow</b>	<p>Explain the concept of a balanced diet.</p> <p>Define and discuss the benefits of “eating a rainbow” of colors from fruits and vegetables.</p> <p>Practice brainstorming fruits and vegetables of all different colors.</p> <p>Listen to an Elder describe how the traditional Native diet has changed over the years.</p>	<p>Warm-up. Choose 1: Warm-up game OR Workbook page “Reviewing the 5 Food Groups”</p> <p>Eating a Rainbow</p> <p>Elder Discussion</p> <p>Taste the Rainbow-rainbow salad or six color salsa (optional)</p>	<p>Taste Test Observations</p> <p>Reviewing the 5 Food Groups</p> <p>Eating a Rainbow - 2 pages</p>	<p>None</p>	<ul style="list-style-type: none"> <li>• <b>Invite a Tribal Elder</b> to discuss how the traditional Native diet has changed over the years with students.</li> <li>• Crayons (red, yellow, orange, green, blue and purple) enough for each student to color.</li> <li>• Glue – enough for each student to use and share.</li> <li>• Scissors-1 pair for each student, or enough for them to share in small groups.</li> <li>• Ingredients for optional recipes: 6-color salsa or rainbow salad. Ingredients and preparation listed in activity section of the lesson plan.</li> <li>• Warm-up game “Reviewing the 5 Food Groups” materials and preparation</li> <li>• 15 sheets of plain paper</li> <li>• Markers</li> <li>• Tape</li> <li>• Preparation: Write the name of each of the 5 food group on 5 separate sheets of paper (“Grains”, “Fruit”, “Vegetables”, “Protein”, “Dairy”). Write the names of these 5 nutrients on 5 separate sheets of paper (“Carbohydrates”, “Vitamin C”, “Vitamin A”, “Protein”, “Calcium”). Write the names or draw pictures of these 5 nutrient functions on 5 separate sheets of paper (“Energy”, “Immune system cuts burns scrapes”, “Eyes”, “Muscles” and “Bones”).</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> <li>• *If you do not do the Taste the Rainbow activity, prepare vegetable snack of the week – 1 for each student</li> </ul>

<p><b>2</b> <b>Be Sugar Smart!</b></p>	<p>Identify the amount of sugar (in teaspoons) in some examples of common sugar sweetened beverages. Compare with the daily recommended maximum intake of 5 teaspoons for added sugars.</p> <p>Discuss why drinking water is best for health.</p> <p>Know how many cups of water are recommended to drink every day.</p>	<p>How Much Sugar?</p> <p>Water</p> <p>Drink Water! Posters (optional)</p>	<p>Taste Test Observations</p> <p>How Much Water is in Your Body?</p> <p>Water - Sweet Drinks</p>	<p>Sugar Drink Label Answer Sheet</p>	<ul style="list-style-type: none"> <li>• 12, 8-ounce clear plastic cups</li> <li>• White, granulated sugar (At least 4 cups of sugar)</li> <li>• Teaspoon measure</li> <li>• Permanent marker</li> <li>• Pitcher</li> <li>• Water</li> <li>• Optional activity: large pieces of paper or poster board, crayons or markers</li> <li>• Prepared vegetable snack of the week – 1 for each student</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>
<p><b>3</b> <b>The Fantastic Food Chain</b></p>	<p>Describe the concept of a food chain.</p> <p>Explain where the energy begins in a food chain.</p> <p>Analyze how one ingredient in a food is linked back to the sun. For example, the cheese in a cheese sandwich (cheese-milk-cow-grass-sun).</p>	<p>Where Did My Cheese Come From?</p> <p>Food Chain Game</p>	<p>Taste Test Observations</p> <p>Food Chain</p>	<p>None</p>	<ul style="list-style-type: none"> <li>• Index cards or scraps of paper with the following labels (adjust total number to your class size, but keep the ratios roughly the same): <ul style="list-style-type: none"> <li>• 1- Sun</li> <li>• 14- Plant</li> <li>• 4- Snail</li> <li>• 2- Chicken</li> <li>• 1- Coyote</li> </ul> </li> <li>• Prepared vegetable snack of the week – 1 for each student</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>
<p><b>4</b> <b>Water and Precipitation</b></p>	<p>Define and describe the word “precipitation”.</p> <p>Appreciate the necessity of water for the garden to grow.</p> <p>Listen to a Tribal Elder discuss traditional beliefs about water and rain/water preservation.</p>	<p>Reading a Rain Gauge</p> <p>Outside Water Hunt</p> <p>Elder Discussion</p>	<p>Taste Test Observations</p> <p>Precipitation</p> <p>Water Hunt</p>	<p>None</p>	<ul style="list-style-type: none"> <li>•  <b>Invite a Tribal Elder</b> to discuss traditional beliefs about water and rainfall</li> <li>• 5 clear (glass or plastic) jars</li> <li>• 5 Rulers</li> <li>• Water to fill the jars to varying levels</li> <li>• Classroom whiteboard</li> <li>• Dry erase markers</li> <li>• Copy of local rainfall average sheet</li> <li>• Prepared vegetable snack of the week – 1 for each student</li> </ul>

					<ul style="list-style-type: none"> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>
<p><b>5</b> <b>All About Soil</b></p>	<p>Identify the three components of soil: sand, clay and silt.</p> <p>Appreciate the necessity of soil for plants to grow.</p>	Soil Discovery	<p>Taste Test Observations</p> <p>Soil Discovery</p>	None	<ul style="list-style-type: none"> <li>• Soil – 1 large bag</li> <li>• Dixie cups – 2 per student</li> <li>• Paper bowls – 1 per student</li> <li>• Soil sifters (or drain stoppers) – 1 for every 2 students</li> <li>• Magnifying glasses</li> <li>• Watering can (full) or a gallon of water</li> <li>• Dropper</li> <li>• Before class, prepare the activity stations outside or on plastic cloths on the classroom floor; the activity can get messy</li> <li>• Prepared vegetable snack of the week – 1 for each student</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>
<p><b>6</b> <b>Discovering Seeds</b></p>	<p>Observe and compare two different types of seeds; beans and nuts.</p> <p>Explain the structure and function of seed parts including seed coat, embryo and cotyledon.</p> <p>Explain the purpose of a seed.</p>	Seed Exploration Rotations	<p>Taste Test Observations</p> <p>Discovering Seeds</p>	None	<ul style="list-style-type: none"> <li>• Unshelled lima beans (or any other bean in a pod such as green beans, edamame or soybeans), 1 for every group of 2-3 students</li> <li>• Unshelled almonds (or any other unshelled nut such as walnut, acorn, hazelnut or chestnut), 1 for every group of 2-3 students</li> <li>• Magnifying glasses or microscopes, enough for student groups to share</li> <li>• 2 large pieces of poster paper</li> <li>• Markers for the poster paper</li> <li>• Whole seed foods for tasting: any beans, nuts, whole grains or seeds (or products made from them). Ideas include hummus, whole wheat bread, whole corn tortillas, nuts and seeds, etc.</li> <li>• Napkins or paper towels</li> <li>• Paper plates for food samples</li> <li>• Prepared vegetable snack of the week – 1 for each student</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>

<p><b>7</b> <b>Calcium Makes My Bones and Teeth Strong</b></p>	<p>Be introduced to the role of bones in the body and how to keep bones and teeth healthy.</p> <p>Learn about the need for 3 servings of calcium rich foods every day.</p> <p>Identify some dairy and non-dairy calcium rich foods, including foods from the traditional Native diet.</p>	<p>Building Strong Bones and Teeth</p> <p>Calcium Rich Foods: 3 a Day</p> <p>Choose 1 or 2 of the following activities:</p> <ol style="list-style-type: none"> <li>1. Chicken Bone Experiment</li> <li>2. Tums in Soda Experiment</li> <li>3. Catch the Calcium Relay Race</li> </ol>	<p>Taste Test Observations</p> <p>Bones and You</p> <p>Calcium Rich Foods that Build Strong Bones and Teeth</p>	<p>Food Cards</p>	<ul style="list-style-type: none"> <li>• <b>1. Chicken bone experiment</b></li> <li>• 1 glass jar</li> <li>• 2 clean chicken bones, 1 soaked in vinegar for 8-10 days and 1 not soaked</li> <li>• Vinegar, enough to fill the glass jar and cover the chicken bone</li> <li>• Plastic gloves, several pairs for students to share</li> <li>• <b>2. Tums in Soda experiment</b></li> <li>• Calcium carbonate tablets (like Tums brand), 1 or 2</li> <li>• 1 clear jar or cup</li> <li>• Soda such as Coca Cola or Diet Coca Cola brand, about 1 cup</li> <li>• <b>3. Catch the Calcium Relay Race Activity</b></li> <li>• Food Cards, printed and cut out (laminated if possible), 2 sets</li> <li>• 4 brown paper bags, lunch sized or grocery sized</li> <li>• Pen or Marker to label the bags</li> <li>• Prepared vegetable snack of the week – 1 for each student</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>
<p><b>8</b> <b>The Rotten Pile</b></p>	<p>Be introduced to the concepts of recycling, decomposition, and composting.</p> <p>Recognize how decomposition relates to food cycles and the garden.</p> <p>Identify ways that we can add nutrients to soil.</p>	<p>Rotten Food</p> <p>Exploring the Garden</p> <p>Compost Measurements (optional)</p>	<p>Taste Test Observations</p> <p>Rotten Food</p> <p>Measuring Our Compost Pile</p>	<p>Pictures of Compost</p>	<ul style="list-style-type: none"> <li>• Rotten fruits or vegetables – at least 2 pieces to show the class</li> <li>• Fresh fruit or vegetables (use the same type of produce as the rotten ones) – at least 2 pieces to show the class</li> <li>• Crayons or markers – at least 3 per student</li> <li>• Brown paper bags – 1 for each group of 3 students</li> <li>• Spoons or trowels – 1 for each group of 3 students</li> <li>• Supplies for optional Compost Measurements activity: Thermometers – 1 for each group of 3 students</li> <li>• Prepared vegetable snack of the week – 1 for each student</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>

<p><b>9</b> <b>Plant Parts: Identifying Parts of a Flower</b></p>	<p>Learn the structure and function of flower parts: petals, pollen, pistil and stamen.</p> <p>Identify traditional uses of flowers and/or pollen.</p>	<p>Basic Flower Dissection</p> <p>Elder Discussion</p>	<p>Taste Test Observations</p> <p>Flowers in Bloom</p> <p>Flower Dissection: Identifying Parts of a Flower</p> <p>Parts of a Nasturtium Flower</p>	<p>Flowers to Fruit</p>	<ul style="list-style-type: none"> <li>•  <b>Invite a Tribal Elder</b> to discuss traditional uses of flowers and/or pollen</li> <li>• Tulips for dissection, 1 per pair of students</li> <li>• Toothpicks, at least 1 per pair of students</li> <li>• Q-tips, at least 1 per pair of students</li> <li>• Magnifying glasses, several</li> <li>• Tape, several rolls</li> <li>• Prepared vegetable snack of the week – 1 for each student</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>
<p><b>10</b> <b>Our Favorite Fruits and Vegetables</b></p>	<p>Repeat the food preference study from the beginning of the year (Fall Lesson 1) to understand how the class' preferences for fresh fruits and vegetables have changed.</p> <p>Review how fruits and vegetables support health.</p> <p>Know how many servings of fruits and vegetables they should eat every day (5) using their fingers.</p>	<p>Food Preference Study</p> <p>My Daily Five</p>	<p>Food Preference Study</p> <p>My Daily Five</p>	<p>None</p>	<ul style="list-style-type: none"> <li>• Completed Food Preference Study poster board from Fall lesson 1</li> <li>• 1 blank sheet of 22" x 28" white poster board <ul style="list-style-type: none"> <li>• Title the board, "Food Preference Study"</li> </ul> </li> <li>• Hang poster boards in a visible space in the classroom</li> <li>• Markers for writing the poster boards</li> <li>• Pins or tape for hanging up the poster boards</li> <li>• Fruits and vegetables for the plant snack food preference study; washed and chopped into snack sized pieces <ul style="list-style-type: none"> <li>• Use the same 4 varieties of fruits and vegetables that were used for the first food preference study in the Fall (i.e., carrots, broccoli, radishes, apples, tomatoes, celery)</li> <li>• Each student receives a total of 4 pieces; 1 piece of each variety</li> </ul> </li> <li>• Napkins; at least 1 per student</li> <li>• Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student</li> </ul>
<p><b>FLOATER LESSON: Starter Plants</b></p>	<p>Learn how to plant seeds using seed packet information.</p> <p>Learn why it is important to plant starter plants.</p> <p>Prepare starter plants in trays.</p>	<p>Reading Seed Packets</p> <p>Starter Plant Trays</p>	<p>None</p>	<p>None</p>	<ul style="list-style-type: none"> <li>• Seed packets (1 per student or pair)</li> <li>• Popsicle sticks</li> <li>• Markers</li> <li>• Shovels</li> <li>• Watering cans</li> <li>• Starter trays (find these at any greenhouse store, or online)</li> <li>• Composted soil</li> </ul>

<b>FLOATER LESSON: Garden-to-Market Sales Activity</b>	Learn how to calculate which garden-related items can be purchased using the proceeds that were made from the garden-to-market sales.	Garden-to-Market Sales Activity	None	Garden-to-Market Sales Teacher Handout *Revise items if they are not available to you and/or item cost if the cost is different in your area.	<ul style="list-style-type: none"> <li>• Pictures of harvested vegetables/fruit</li> <li>• Pictures of the market where the harvest was sold</li> <li>• Computer</li> <li>• Projector</li> </ul>
<b>FLOATER LESSON: Lasagna Beds</b>	Learn what lasagna beds are and why they are used.  Learn how to prepare a lasagna bed.	Building Lasagna Beds	None	None	Please note: quantity of lasagna bed materials will depend on how large the bed is <ul style="list-style-type: none"> <li>• Cardboard</li> <li>• Shredded paper</li> <li>• Saw dust (go to your local wood shop and they can fill bags)</li> <li>• Coffee or espresso grounds (go to your local coffee shop and ask for old grounds)</li> <li>• Scraps of vegetable and fruit trimmings</li> <li>• Fish meal/emulsion</li> <li>• Grass trimmings</li> <li>• Wood chips</li> <li>• Peat moss</li> <li>• Manure</li> <li>• Leaves</li> <li>• Straw</li> <li>• Composted soil</li> <li>• Watering cans</li> <li>• Shovels <ul style="list-style-type: none"> <li>○ Prior to class, review <b>Building Lasagna Beds</b> in the Reference Manual</li> </ul> </li> </ul>
<b>FLOATER LESSON: What is a Weed?</b>	Explore where and why weeds grow.  Learn how to identify weeds.	Weed Quiz  Identifying Weeds  Optional Activity: Weeding in the garden	None	None	<ul style="list-style-type: none"> <li>• Ziploc bags (1 per student)</li> <li>• Blank paper (1 per student)</li> <li>• Markers</li> <li>• Optional Activity: Weeding materials (shovels, gloves, etc.)</li> </ul>

<b>FLOATER LESSON: Terrible Weeds</b>	Learn how weeds affect the school garden and the environment.  Create wanted posters for their weeds.	Weed Collection  Wanted: Weeds	None	Wanted Weeds Handout	<ul style="list-style-type: none"> <li>• Weeding materials (shovels, gloves, etc.)</li> <li>• Markers and/or crayons</li> <li>• Tape</li> </ul>
<b>FLOATER LESSON: Jeopardy Review Game</b>	Review knowledge gained during the Edible School Garden Program.	Jeopardy!	None	Jeopardy Game PowerPoint Presentation	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Projector</li> <li>• Prior to class, review Jeopardy Game PowerPoint Presentation and familiarize yourself with the answers.</li> </ul>