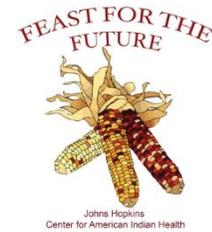


Edible School Garden Program: Curriculum Overview Chart

GRADE 4, Spring LESSONS



Updated 5/27/16

Lesson Number and Title	Learning Objectives	Lesson Activities	Workbook Pages	Teacher Resources	Materials and Preparation
1 Eating A Rainbow	<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>Optional: Sample one fruit or vegetable or “7-color salsa” or a “rainbow salad”.</p>	<p>Warm-up. <u>Choose 1:</u> Warm-up game <u>OR</u> Workbook page “Reviewing the 5 food groups”</p> <p>Finding the Rainbow</p> <p>Elder Discussion</p> <p>Taste the Rainbow-rainbow salad or six color salsa (optional)</p>	<p>Taste Test Observations</p> <p>Finding the Rainbow</p> <p>Reviewing the 5 Food Groups</p>	<p>Fruits/Veggies by Color</p>	<ul style="list-style-type: none"> • 🗣️ Invite a Tribal Elder to discuss how the traditional Native diet has changed over the years with students. • Blank paper- two sheets for each group of about 4 students. • Pens or pencils- 1 for each group of about 4 students • 2-minute timer • Ingredients for optional recipes: 6-color salsa or rainbow salad. Ingredients and preparation listed in activity section of the lesson plan. • Warm-up game “Reviewing the 5 Food Groups” materials and preparation <ul style="list-style-type: none"> • 15 sheets of plain paper • Markers • Tape • 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”). • Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student • *If you do not do the Taste the Rainbow activity, prepare vegetable snack of the week – 1 for each student

<p>2 Processed or Unprocessed Food?</p>	<p>Define the terms “unprocessed foods” and “processed food”.</p> <p>Understand that unprocessed or minimally processed foods are generally more healthy than highly processed foods.</p> <p>Identify unprocessed, minimally processed and highly processed foods by looking at an ingredient list on a food label.</p>	<p>Orange Juice Demonstration</p> <p>Processed or Unprocessed?</p> <p>Game Time</p>	<p>Taste Test Observations</p> <p>Processed or Unprocessed Food?</p>	<p>Unprocessed and Processed Food Pictures</p>	<ul style="list-style-type: none"> • 1 large piece of poster paper OR space on a white board • Tape and markers for poster paper OR dry-erase markers for white board • 2-3 large Navel oranges • Blender • Kitchen strainer • Clear glass • Sugar- a few tablespoons • Prepared vegetable snack of the week – 1 for each student • Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student
<p>3 Balance in the Natural World: Our Ecosystem</p>	<p>Recognize the dynamic interconnection of soil, water, air, sun, plants and animals in the garden.</p>	<p>The Connected Ecosystem- Making Garden Links</p> <p>Observing Ecological Interactions - Choose outside <u>OR</u> inside activity</p>	<p>Taste Test Observations</p> <p>Making Garden Links</p>	<p>None</p>	<ul style="list-style-type: none"> • For inside activity option- Index cards or scraps of paper with the following labels (adjust total number to your class size): <ul style="list-style-type: none"> • Coyote Fish Algae Mouse • Earthworm Tree Rabbit Sparrow • Cattails Snake Robin Hawk • Grass Bear Grasshopper Owl • Salmon Duck Snail Mountain Lion • Beetle Mite Fly Deer • Lizard Vulture Gopher Human • Prepared vegetable snack of the week – 1 for each student • Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student
<p>4 The Water Cycle</p>	<p>Observe, describe and illustrate the water cycle.</p> <p>Define and describe the words “precipitation” and “evaporation”.</p> <p>Listen to a Tribal Elder discuss traditional beliefs</p>	<p>Overview of the Water Cycle</p> <p>Water Cycle Experiment</p> <p>Elder- Traditional beliefs about water and</p>	<p>Taste Test Observations</p> <p>The Water Cycle</p> <p>Water Cycle Definitions</p>	<p>None</p>	<ul style="list-style-type: none"> • 🗣️ Invite a Tribal Elder to discuss traditional beliefs about water and rainfall • Tea kettle or saucepan to heat water • Electric Hot plate (electric outlet necessary) • Cardboard or plastic cup • Oven mitts • Colored pencils/crayons • Blank paper plates or paper – 1 per student

	about water and rain/water preservation.	rain/preservation of water			<ul style="list-style-type: none"> • Prepared vegetable snack of the week – 1 for each student • Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student
5 Soil Discovery	<p>Identify the three components of soil: sand, clay and silt.</p> <p>Describe how each component of soil looks and feels.</p> <p>Appreciate the necessity of soil for plants to grow.</p>	<p>Soil Discovery</p> <p>Planting</p> <p>Making Mudshakes</p>	<p>Taste Test Observations</p> <p>Soil Discoveries</p> <p>Making Mudshakes</p>	Soil Images	<ul style="list-style-type: none"> • Soil – 1 large bag • Different types of seeds (flowers and/or vegetables) – at least 1 per student • Samples of sand, silt and clay (if available) • Planter containers or paper cups – 1 per student • Clear jars with lids (e.g. Mason jars) – 1 per every 3 students • Trowels – 1 per every 3 students • Water – 1 gallon • Masking tape • Markers – 1 per every 3 students • Before class, prepare the jars by filling them 2/3 full with water and put a piece of masking tape on each jar so that the students can label it during the activity. • Prepared vegetable snack of the week – 1 for each student • Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student
6 Seeds and Whole Grains	<p>Explain the role of seeds in the plant cycle.</p> <p>Explore the structural and nutritional difference between whole grains and refined grains.</p> <p>Appreciate that whole grains are more healthful than refined grains.</p>	<p>Waynabozho and the Wild Rice</p> <p>Whole Grains Have it All</p> <p>Seed Growth Chambers</p>	<p>Taste Test Observations</p> <p>Waynabozho and the Wild Rice</p> <p>Seed Growth Chamber Instructions</p>	Wild Rice Salad Recipes	<ul style="list-style-type: none"> • Sealable plastic bags (sandwich size), 1 per student • Paper towels, 1 per student • Stapler • Pre-soaked bean or pea seeds (at least 2 per student) <ul style="list-style-type: none"> • Seed Preparation: Soak beans or peas overnight in water before using for the activity. • Watering can or cup • Masking tape or adhesive labels • Popped popcorn kernels • Optional: Prepare and bring a wild rice salad. Ingredients are listed on the Teacher Resource “wild rice salad” • Prepared vegetable snack of the week – 1 for each student

					<ul style="list-style-type: none"> Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student
7 Vitamins and You!	<p>Be introduced to 5 essential dietary vitamins (A, B, C, D, E) and how they support health.</p> <p>Identify various food sources for each essential vitamin.</p>	<p>Vitamins and You</p> <p>Vitamin Posters</p> <p>Poster Presentations</p>	<p>Taste Test Observations</p> <p>Vitamins and You!</p>	<p>Vitamins and You! Answer Key</p> <p>Vitamin Information Sheets</p>	<ul style="list-style-type: none"> 5 poster boards or large blank pieces of paper Magazines with pictures of foods to be cut up, at least 5-10 or more Scissors, at least 5 pairs Glue or glue sticks, at least 5 Markers, at least 5 A food package with a Nutrition Facts Food Label Prepared vegetable snack of the week – 1 for each student Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student
8 Making Compost	<p>Understand the concepts of decomposition and composting.</p> <p>Identify materials needed to make compost.</p> <p>Describe the impact of different variables in scientific experiments.</p>	<p>Making a Compost Column</p>	<p>Taste Test Observations</p> <p>Making a Compost Column</p>	<p>Pictures of Compost</p> <p>Do the Rot Thing</p>	<ul style="list-style-type: none"> Rotten fruit or vegetable – 1 to show the class Fresh fruit or vegetable (same type as the rotted one) – 1 to show the class Empty and clean 2-liter plastic soda bottles – 6 per class to make 3 compost columns (2 bottles are needed for each column) Prior to class, cut the bottles and assemble them as directed in the instructions in the workbook Cheesecloth – 3 squares (1 for each compost column) Rubber bands – 3 (1 for each compost column) Scissors – 1 pair sharp enough to cut the soda bottles Thermometer – 3 (1 for each compost column) “Browns” and “greens” for the compost columns – enough to fill 3 columns <ul style="list-style-type: none"> Browns: dry/dead leaves, top soil, straw, paper, cardboard, wood chips or ashes Greens: vegetable scraps and peels (no animal materials such as meat, bones, fat), coffee grounds, green/alive leaves, plants and plant cuttings, grass clippings Prepared vegetable snack of the week – 1 for each student Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student

<p>9 Plant Parts: Pollination</p>	<p>Describe the purpose of flowers in the lifecycle of a plant.</p> <p>Understand the relationship between flowers and pollinators.</p> <p>List methods that flowers of varying characteristics use to attract pollinators.</p> <p>Identify traditional uses of flowers and/or pollen.</p>	<p>Flower Tasting</p> <p>Pollination</p> <p>Elder Discussion</p>	<p>Taste Test Observations</p> <p>Edible Flowers</p> <p>Pollination Observation</p>	<p>Choosing and Using Edible Flowers</p>	<ul style="list-style-type: none"> • Invite a Tribal Elder to discuss traditional uses of flowers and/or pollen • Variety of edible flowers for tasting (examples include: cauliflower, broccoli, squash blossoms, violets, chive flowers, artichokes, chrysanthemum, hibiscus, nasturtiums, etc.) See teacher resource, “Choosing and Using Edible Flowers” for an extensive list of safe ideas. • Paper plates, several • Preparation for Flower Tasting Activity: Wash and cut selected edible flowers into bite sized pieces. Set them out on the paper plates at a table, buffet style, so students may taste a few samples of each variety. • Preparation for Pollination Activity: Write the information about pollinators/type of flower preferred on the board. See the chart within the lesson plan. • Prepared vegetable snack of the week – 1 for each student • Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student
<p>10 Our Favorite Fruits and Vegetables</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 may 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"> • Completed Food Preference Study poster board from Fall lesson 1 • 1 blank sheet of 22” x 28” white poster board <ul style="list-style-type: none"> • Title the board, “Food Preference Study” • Hang poster boards in a visible space in the classroom • Markers for writing the poster boards • Pins or tape for hanging up the poster boards • Fruits and vegetables for the plant snack food preference study; washed and chopped into snack sized pieces <ul style="list-style-type: none"> • 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) • Each student receives a total of 4 pieces; 1 piece of each variety • Napkins; at least 1 per student • Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student

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

FLOATER LESSON: What is a Weed?	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"> • Ziploc bags (1 per student) • Blank paper (1 per student) • Markers • Optional Activity: Weeding materials (shovels, gloves, etc.)
FLOATER LESSON: Terrible Weeds	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"> • Weeding materials (shovels, gloves, etc.) • Markers and/or crayons • Tape
FLOATER LESSON: Jeopardy Review Game	Review knowledge gained during the Edible School Garden Program.	Jeopardy!	None	Jeopardy Game PowerPoint Presentation	<ul style="list-style-type: none"> • Computer • Projector • Prior to class, review Jeopardy Game PowerPoint Presentation and familiarize yourself with the answers.