



LiveWell Kids

Garden and Nutrition Program

Lesson 2: Planting Cool-Season Crops & Food Groups

OBJECTIVES

By the end of this lesson, students will:

- Learn about cool-season crops and seasonal planting. (K-5)
- Understand how to prepare soil for planting. (K-5)
- Learn and experience proper seed planting procedures. (K-5)
- Recognize that gardening is a form of moderate exercise and adds to daily physical activity. (K-5)
- Name the five MyPlate food groups. (K-5)
- Identify foods in the various food groups. (K-5)
- Understand the importance of eating foods from all five food groups. (K-5)
- Describe a healthy meal containing foods from each food group, including whole-grain options and a variety of colorful fruits and vegetables. (2-5)

SUPPLIES

Supplies to bring from classroom to garden – *arrange with teacher ahead of time:*

- Paper – one piece per student
- Writing tools – such as crayons, colored pencils or markers

Supplies to bring from the shed to the garden:

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| <ul style="list-style-type: none"> • Garden <ul style="list-style-type: none"> ○ Laminates: 2 specific seed packets for your grade level ○ 1 Brown paper bag, labeled by grade, containing your seeds and plant labels ○ 2 Sharpies ○ Cultivators ○ Rake ○ Compost bucket and scooper (only if your bed doesn't have a bag of soil leaning on it) | <ul style="list-style-type: none"> ○ Watering cans ○ Scissors ○ Ruler ○ 2 Popsicle sticks ○ Yarn & 2 more popsicle sticks (only if needed) ○ 6 Kneelers ○ Optional: Gloves |
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- Nutrition
 - Grade K: Laminates – *The Five Food Groups, Farrah Fruit, Reggie Veggie, Dean Protein, Mary Dairy, Jane Grain*
 - Grade 1: All of the above, plus *Food Cards Packet*
 - Grades 2-3: Laminates - *MyPlate, Food Cards Packet, What Am I? Clue Card*
 - Grade 4: Laminates – *MyPlate, Snack of Champions*
 - Grade 5: Laminates - *MyPlate, Quiz Show*

PREPARATION

- Refer to the [LiveWell Kids Volunteer Manual](#) on the [LiveWell Kids webpage](#) for details about preparing for the lesson one week prior and the day of. The information can also be found on the inside of the shed door.
- Allow **30 minutes** for set-up and preparation on the day of the lesson.

SET-UP INSTRUCTIONS

The ***Planting Guide*** is posted on the inside of the shed door. You will refer to it during the planting section.

- Fill the watering cans (half full for younger students.)
- If you DON'T have a bag of soil, use the compost scooper to scoop compost from the compost bin into the bucket. You will see a sign in the compost bin telling you which line to fill to, either line "A" or line "B." The line is labeled on the inside of the bucket.
- Set the following items near the garden bed to be used first:
 - Nutrition laminates (See your grade's nutrition section for applicable laminates.)
 - Cultivators
 - Kneelers
 - Rake
 - Filled watering cans
 - Compost bucket with compost (if no soil bag)
 - A wheelbarrow or your largest container
 - Optional: gloves (Note: Not all students are comfortable with gloves.)
- Create a 'row-planting guide tool' by cutting a piece of yarn to be longer than your bed's length and tying a popsicle stick to each end.
 - **Check to see if someone has already made one.** If the beds are the same size, you can **reuse it**. If there isn't one and you need to make one, leave it with the lesson supplies for others to reuse.
- Set the following supplies near (but not right next to) the garden bed to be used second:

○ Ruler	○ Bag of seeds and labels
○ 2 Popsicle sticks	○ 2 Sharpies
○ Yarn/popsicle sticks row-planting guide tool	○ 2 Seed packet laminates
- Remove the irrigation lines from the garden bed (following the instructional video on the website under "Lesson 2") and lay them on a nearby bed or the ground, away from where the kids will be working.



INTRODUCTION & MINDFUL BREATHING

(ALL GRADES: 1 MINUTE)

- Greet the class and introduce any new volunteers.
- Guide students through a mindful breathing exercise.
- Explain the purpose of this lesson is to:
 - Explore the garden.
 - Plant cool-season crops.
 - Learn about the food groups (all grades) and MyPlate (older grades only).
- To grab the students' attention, show the seeds from one of your seed packets to help them visualize the number of plants that come from one seed packet.

Sample Script

Do you know that I can hold more than 200 (insert seed name here) in my hand? How is this possible? (Allow a few students to respond, then pour some of the seeds from the packet into your hand.) This is how! Each seed develops into its own (insert seed name) plant, producing many (insert name, i.e., beets.) You will experience this for yourself, beginning with today's lesson when you get to plant cool-season crops. In the spring, you will harvest these crops to make and sample a tasty, healthy dish. You're also going to play games to help learn about food groups. Let's begin!

****Divide Class into Two Groups****

Split the students into two groups. Keep one group at the garden bed where the students will prepare the soil for planting. Send the other group with your co-volunteer to the nutrition activity. Both activities will run simultaneously. After completing the nutrition lesson and this first part of the garden activity, both groups will come back together and finish the garden lesson by planting, labeling and watering the seeds.

Sample Script

Now I'm going to divide the class in half. Everyone will have a chance to prepare the soil for planting, but it will be easier with smaller groups. Some of you (Group 1) will stay with me now to remove the old plants, and the others (Group 2) will go with (insert name) to the nutrition activity. Then you'll switch. Afterward, we'll all come back together to finish the garden lesson.



NUTRITION: FOOD GROUPS & MYPLATE (10 – 13 MINUTES)

** Happening at the same time as the garden activity.

NOTE: MyPlate is a nutrition guide published by the USDA and serves as a recommendation based on the Dietary Guidelines for Americans. When discussing food groups and MyPlate, it's important to keep in mind that eating looks different to everyone and will depend on many factors including culture, access, availability, personal taste, allergies and personal life experiences.¹

Grades: K-1st	Food Groups² Supplies: Laminates – (1) <i>The Five Food Groups</i> , (2) <i>Farrah Fruit</i> , (3) <i>Reggie Veggie</i> , (4) <i>Dean Protein</i> , (5) <i>Mary Dairy</i> , (6) <i>Jane Grain</i> , (7) <i>Food Cards Packet</i> (1 st grade only)
Discussion: K-1 st	<ul style="list-style-type: none"> • Ask: Have any of you ever organized your toys or clothing into different groups? <ul style="list-style-type: none"> ○ For example, have you put trucks in one group and cars in another? Separated dolls and stuffed animals? Placed shirts in one drawer and socks in another? ○ There are many objects we can sort by color, shape, size or some other way. • Foods can be sorted into groups too. These are called food groups! <ul style="list-style-type: none"> ○ Foods in the same food group are similar in some way. • Show the laminate, <i>The Five Food Groups</i>, as a visual reference to introduce the five food groups: Fruits, Vegetables, Grains, Protein and Dairy. • Foods from the different food groups provide our bodies with things we need to stay healthy. Some things foods can help us with include: <ul style="list-style-type: none"> ○ Build strong bones, muscles and teeth. <ul style="list-style-type: none"> ▪ Let's all point to either our teeth. ○ Give us energy to move and play. <ul style="list-style-type: none"> ▪ Let's move by jumping up and down 5 times! ○ Have healthy eyes and skin. <ul style="list-style-type: none"> ▪ Show me your eyes... and your skin! ○ Heal cuts and scratches. <ul style="list-style-type: none"> ▪ Do any of you have a cut or scratch that's healing right now? • Use laminates to introduce students to <i>Farrah Fruit</i>, <i>Reggie Veggie</i>, <i>Jane Grain</i>, <i>Dean Protein</i>, and <i>Mary Dairy</i>. <ul style="list-style-type: none"> ○ Show each Food Group Friend and talk about how they are made up of foods from a particular food group. ○ Point out that each food group is a certain color: Fruit/Red, Vegetable/Green, Grain/Orange, Protein/Purple, Dairy/Blue. ○ The Food Group Friends can help us remember which foods belong to which food group: <ul style="list-style-type: none"> ▪ Farrah Fruit — e.g., apple, blackberries, bananas, watermelon, strawberry, kiwi, grapes, orange, cherries ▪ Reggie Veggie — e.g., carrot, broccoli, snap peas, spinach ▪ Jane Grain — e.g., whole-wheat bread, whole-grain pasta, whole-grain cereal, brown rice, popcorn (plain)

	<ul style="list-style-type: none"> ▪ Dean Protein — e.g., chicken, egg, beans, peanuts ▪ Mary Dairy — e.g., yogurt, milk, cheese, fortified soy alternatives (e.g., soy yogurt and milk) * <ul style="list-style-type: none"> • Try to eat a variety of foods from the different food groups so you can feel your best! <ul style="list-style-type: none"> ○ Just like some toys need batteries to work, you need different foods so your body works its best. Food gives you the energy to read a book, dance, play tag and all the other activities you like to do. <p>*NOTE: With MyPlate, fortified soy milk and yogurt with added calcium, vitamin A, and vitamin D are a part of the Dairy Group because their nutrition content is like dairy milk and yogurt. Other products sold as ‘milks’ but made from plants like almond, rice, coconut, oat, and hemp ‘milks’ may have calcium but they are not a part of the Dairy Group because their nutrition content is not like dairy milk and fortified soy milk. In addition, the Dairy Group does not include foods made from milk that have little calcium and a high fat content. Examples are cream cheese, sour cream, cream, and butter.³</p>
Activity: K	<p><u>Duck, Duck, Apple</u></p> <ul style="list-style-type: none"> • Instead of traditional Duck, Duck, Goose, play this game using foods from the food groups. • Have the students gather in a circle. • Instruct them to go around the circle saying “duck, duck...” • Then, when they want to tag a classmate to chase them, they will name a fruit or vegetable (or another food from a food group of your choosing.) • For example, if you decide to play a round or two using the fruit food group, then a child will go around the circle and possibly say: “duck, duck, duck, duck, apple!” That “apple” classmate will then chase the child who tagged him/her around the circle.
Activity: 1 st	<p><u>Food Group Race</u>⁴ (You will need the <i>Food Cards Packet</i> & 5 <i>Food Group Friends</i>.)</p> <ul style="list-style-type: none"> • Organize students into five groups: Fruits, Vegetables, Grains, Protein and Dairy. • From the <i>Food Cards Packet</i>, give each child a picture of a food that is in their assigned food group. <ul style="list-style-type: none"> ○ Note that the name of the food is printed in the same color as the corresponding food group: Fruit/Red, Vegetable/Green, Grain/Orange, Protein/Purple, Dairy/Blue. • Place the <i>Food Group Friend</i> laminates on the ground as “bases.” • Provide ample space between the five base colors so that children don’t run into each other. • Have the students stand at an appropriate distance from the five bases. This will be their starting line. <ul style="list-style-type: none"> ○ Volunteer choice: Students can either stand directly across from their matching base color or you can choose to have them run in a different direction. • After counting to five, have the children run, hop, skip, or jump to the different bases. • Have the children tag the base color matching the food card they are holding and run back to the starting line. <ul style="list-style-type: none"> ○ This can be done several times. Have children change food cards and try again.

Grades: 2nd-3rd	Food Groups & MyPlate⁵ Supplies: Laminates – (1) <i>MyPlate</i> , (2) <i>Food Cards Packet</i> , (3) <i>What Am I? Clue Card</i>
Discussion: 2 nd -3 rd	<ul style="list-style-type: none"> • Introduction: Think about what you ate for dinner last night or breakfast/lunch today. Were there different colors and types of foods on your plate? Hold onto your thought. We'll get back to it shortly. • Show the MyPlate laminate. <ul style="list-style-type: none"> ○ This is MyPlate, a food guide that can be used as a reminder to eat a variety of foods, so you get the nutrition you need each day. • Ask: What are some things that you notice about MyPlate? <ul style="list-style-type: none"> ○ There is a plate and a glass. ○ It looks like a puzzle that shows five food groups: fruits, vegetables, grains, protein and dairy. ○ The food groups are represented by different colors: red, green, orange, blue and purple. ○ Fruits and vegetables make up more than half (60%) of the plate. • There are all sorts of foods that benefit our bodies in different ways. Eating a variety of fruits, vegetables, whole grains, proteins and dairy can help: <ul style="list-style-type: none"> ○ Build strong bones, muscles and teeth. ○ Give you energy to move. ○ Have healthy eyes and skin. ○ Heal cuts and scratches. • Let's start with vegetables and fruits. <ul style="list-style-type: none"> ○ On MyPlate, the green section represents vegetables and the red section represents fruits – half of the plate. ○ Vegetables and fruits come in lots of colors! They can be red, orange, yellow, green, blue, purple and white. ○ Every color is good for you in its own special way. • Ask: Would anyone like to share their favorite vegetable? • Ask: How about your favorite fruit? • Now let's talk about grains. <ul style="list-style-type: none"> ○ The orange group represents grains. ○ Grains come from plants such as wheat, corn, oats and rice. ○ There are whole grains and refined grains. <ul style="list-style-type: none"> ▪ Whole grains have the entire grain kernel, making breads, pastas and tortillas with whole grains very nutritious. Other whole grain foods include oatmeal and brown rice. ▪ Refined grains, like white bread, white rice and white flour went through a process that removed nutrients such as fiber, iron and vitamins. • Try to eat whole grain foods when possible because they have more nutrients! They will give your body the energy it needs. • Ask: Who has a favorite food from the grain group? • Now it's time for the purple group – protein. <ul style="list-style-type: none"> ○ Protein Foods come from animals <u>and</u> plants. ○ Protein is important for healthy bones, muscles, skin, nails, teeth, hair and many other parts of your body. • Ask: Can anyone give us an example of protein?

	<ul style="list-style-type: none"> ○ Animals: chicken, fish, beef, pork, eggs ○ Plants: beans, sunflower seeds, tofu, nuts, veggie burger ● Ask: Would anyone like to share what protein they ate or plan on eating today? ● Finally, we have dairy – the blue group. ● Dairy has calcium which is important to keep our bones and teeth healthy and strong. ● Ask: Can you name some foods in the dairy group? <ul style="list-style-type: none"> ○ Hint: Foods in the dairy group have milk in them so think of foods that come from cows, goats and sheep. ○ Examples: milk, cheese, cottage cheese and yogurt. ○ *See NOTE to volunteers about the dairy group in K-1 lesson. ● Now, think back to when I asked you about your meal from last night/today. ● Ask: Did your meal look like MyPlate and include a variety of foods from the different food groups? <ul style="list-style-type: none"> ○ If not, think about how tonight’s dinner or tomorrow’s breakfast/lunch could look like MyPlate? ○ Keep in mind that not every meal or snack will have something from every food group and that’s okay! For example, if breakfast or lunch didn’t have a vegetable or protein, you can consider adding those food groups later in the day, like eating baby carrots and hummus for an after-school snack. ○ Ask: Would anyone like to share their ideas?
<p>Activity: 2nd-3rd</p>	<p><u>What Am I?</u>⁶ (You will need the <i>Food Cards Packet</i> and the <i>What Am I? Clue Card</i> laminate.)</p> <ul style="list-style-type: none"> ● Explain to students that they will play the game What Am I? and will need to guess what food they are by asking classmates “Yes” or “No” questions. ● Have available the <i>Food Cards Packet</i> and <i>What Am I? Clue Card</i>. ● Each card in the packet has the name of a specific food from each of the five food groups. ● Distribute one food card to each student without them seeing what it says. No peeking! ● Once the game begins, they will hold the card on top of their head facing outward so the other students can see the front of their card with the food picture showing. ● Review the What Am I? Clue Card laminate with the students. ● Welcome students to brainstorm any additional questions. ● Encourage them to think with their five senses: taste, smell, sight, sound and touch. ● After reviewing the questions as a group, place the laminate in a convenient location so the students can reference the sample questions while playing the game. ● Instruct students to walk around and ask each other questions. If they receive a “no” as an answer, then they should move on to a new person. ● Once they guess their food correctly, have students sit down. ● They may enlist your help if they are having trouble guessing.

<p>Grades: 4th – 5th</p>	<p>Food Groups & MyPlate⁷ Supplies: Laminates – (1) <i>MyPlate</i>, (2) <i>Snack of Champions</i>, (3) <i>Quiz Show</i>, (4) Optional: <i>Food Groups Addendum</i> found at https://www.bchd.org/LiveWellKids</p>
<p>Discussion 4th – 5th</p>	<ul style="list-style-type: none"> • Tell the students to close their eyes and think about their favorite meal. Think about: <ul style="list-style-type: none"> ○ What specific foods and drinks are part of your favorite meal? ○ Why is it your favorite meal? (Prompts: Is there a specific memory around the meal, when it is served or who prepares it?) ○ How would you describe it to someone? Think about the taste, what it looks like, the colors, the texture, and the feelings you get when you eat the meal. • Ask: Would anyone like to share their favorite meal with the group? • Show the <i>MyPlate</i> laminate. • This is MyPlate and it may look familiar to many of you. <ul style="list-style-type: none"> ○ It's a food guide that can be used as a reminder to eat a variety of foods, so you get the nutrition you need each day. • Now, thinking about your favorite meal, let's see how it fits with MyPlate. • Ask: What are some things that you notice about MyPlate? <ul style="list-style-type: none"> ○ There is a plate and a glass. ○ It shows five food groups: fruits, vegetables, grains, protein and dairy. ○ The food groups are represented by different colors: red, green, orange, blue and purple. ○ Fruits and vegetables make up more than half (60%) of the plate. • OPTIONAL: Supplement the information below by referring to the <i>Food Groups Addendum</i> found at https://www.bchd.org/LiveWellKids. <ul style="list-style-type: none"> ○ <u>Fuel up with fruits</u> at meals and snacks. Besides fruits like oranges, apples and watermelon, this group also includes berries, raisins and applesauce (without added sugar). ○ Think of a rainbow and <u>color your meals with red, orange, yellow, green, blue, purple and white vegetables</u>. Each color vegetable has nutrients that are good for you. ○ Try making <u>at least half your grains</u> whole grain foods, such as whole-wheat bread, oatmeal, whole wheat tortillas, brown rice and plain popcorn. <ul style="list-style-type: none"> ▪ Whole grains have the entire grain kernel, making breads, pastas and tortillas with whole grains very nutritious. ▪ In contrast, refined grains, like white bread, white rice and white flour went through a process that removed nutrients such as fiber, iron and vitamins. ○ <u>Vary your protein</u> foods. Do you know in addition to chicken, beef and fish, beans, peanut butter and tofu are also proteins? That's because protein is found in both animals and plants! Try some delicious protein foods like a bean burrito, hummus, veggie chili, fish tacos, chicken stir-fry or grilled salmon.

	<ul style="list-style-type: none"> ○ Dairy foods have lots of good-for-you calcium. Foods in this group have milk in them so think of foods that come from cows, goats and sheep. Examples include milk, cheese and yogurt. (See NOTE to volunteers about the dairy group in K-1 lesson.) <ul style="list-style-type: none"> ▪ If you are allergic to dairy or lactose intolerant, then dairy may not be part of your meals or you may include dairy substitutes that you enjoy. ● Ask: Getting back to the meal you thought of in the beginning, are there substitutions you can make so it's more balanced with a greater variety of foods? <ul style="list-style-type: none"> ○ Not every meal or snack will have something from every food group and that's okay! For example, if breakfast or lunch didn't have a vegetable or protein, you can consider adding those food groups later in the day, like eating baby carrots and hummus for an after-school snack. ○ And go ahead and try new foods! ● Ask: Would anyone like to share their meal with the class and tell us how you made adjustments, if any, to fit into MyPlate?
Activity: 4 th	<p><u>Snack of Champions</u>⁸ (You will need the <i>Snack of Champions</i> laminate.)</p> <ul style="list-style-type: none"> ● The challenge is to create a fun and healthy snack for members of the U.S. Olympic team. ● Ask the students to imagine they are professional chefs and need to create a recipe for a snack that will be both nutritious and taste good. ● Divide the class into teams with an equal number of students on each team. ● Brainstorm with students by asking them what they should keep in mind when creating a snack for the athletes. <ul style="list-style-type: none"> ○ Explain that professional athletes need healthy meals with nutrients, just like the students do, so they can have the energy and strength to perform well. ○ Creating a snack using foods from different food groups helps make a snack more nutritious, interesting and fun. ● Explain that each team will create a recipe (including the ingredients and steps) and come up with a creative name for their Snack of Champions. ● If time allows, ask each group to present its snack recipe to the class. ● Before the teams get to work on their snacks, share the following example of a recipe for a healthy snack. Show laminate, <i>Snack of Champions</i>. <ul style="list-style-type: none"> ○ PB Power Fruit-Wich (Makes 1 open-faced sandwich) <ul style="list-style-type: none"> ▪ 1 slice whole-wheat bread ▪ 2 tablespoons peanut butter ▪ 1 /4 apple or banana, thinly sliced ▪ (Optional) 2 Tbsp sliced or grated carrot ▪ Spread 2 Tbsp peanut butter on bread. ▪ Place fruit slices on top. ▪ (Optional) Top with grated or sliced carrot.
Activity: 5 th	<p><u>MyPlate Quiz Show</u>⁹ (You will need the <i>Quiz Show</i> laminate.)</p> <ul style="list-style-type: none"> ● Today we are going to play a Quiz Show game with questions referring to the MyPlate food groups. ● Divide students into two teams.

	<ul style="list-style-type: none"> ○ You will ask both teams the same questions. ○ Teams will have 15 seconds to discuss their answer before they share it. ○ Whichever team gets the question correct gets a point. ○ If both teams are correct, then both win a point. ○ Some questions/answers earn bonus points. ○ Some answers may vary. ● Refer to the questions and answers on the Quiz Show laminate. ● Feel free to add to the list and make up your own questions. ● Play as long as you want, until you run out of questions, or get to a certain number of points.
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****Switch groups after 10 minutes for K – 2nd and 13 minutes for 3rd – 5th****



GARDEN: COOL SEASON CROPS (19 - 30 MINUTES)

1. Prepare the soil for planting cool-season crops, which includes amending and cultivating the soil (10-13 minutes.) ****Happening at the same time as the nutrition activity ****
2. Plant and label the seeds (8 - 14 minutes).
3. Watering the newly planted seeds: Grades 3rd – 5th only (3 minutes.)

Grades	What You're Planting
K – 5 th	<ul style="list-style-type: none"> ● Each grade will plant two different cool-season crops. ● These plants do NOT like the long, intensely warm summer days. ● If we were to plant them in the summer, they wouldn't grow as well as they do in the cooler months. ● They like cooler air and soil, less intense sunlight and fewer hours of light compared to warm-season plants.¹⁰
K – 1 st	Will plant PEAS and BEETS. <ul style="list-style-type: none"> ● Peas grow on a vine and require staking.¹¹ ● Beets are root vegetables and grow underground.¹²
2 nd – 3 rd	Will plant SWISS CHARD and KOHL RABI. <ul style="list-style-type: none"> ● The edible leaves of Swiss Chard are large, smooth, beet-like and grow upright from a central crown.¹³ ● Kohl Rabi is a swollen stem that grows above the ground, like a small ball.¹⁴
4 th – 5 th	Will plant CARROTS and LETTUCE. <ul style="list-style-type: none"> ● Carrots are root vegetables and grow underground.¹⁵ ● These lettuce varieties grow as “loose-leaf” greens, as opposed to “head lettuce.”¹⁶

Grades	<p>Planting Procedure</p> <p><i>While soil prepping and planting, educate the students about the importance of each task. Assist students with jobs as needed.</i></p>
K – 5 th	<ul style="list-style-type: none"> • Direct the students to stand at the opposite side of the garden bed from you. • Explain that they will plant in the garden bed. • If sharing the bed with other classes, then show them where your class will be planting. • Define amend – <i>To amend soil is to add and mix in nutrients, usually in the form of compost, to the soil that is already there.</i>¹⁷ • We amend soil because the previous plants that grew in the same place already took the nutrients, leaving the soil depleted (without enough nutrients) for the new plants.¹⁸ • K: The Garden Angel volunteers already removed the plants from these beds. • 1st – 5th: Older students will remove the old plants before amending the bed with compost (or amended soil from a bag.) • All students will cultivate the soil. <ul style="list-style-type: none"> ○ Define cultivate – <i>Cultivating (fluffing up) the soil aerates it, which means creating air spaces throughout the soil.</i>¹⁹ ○ There are several benefits to aerating soil, including: <ul style="list-style-type: none"> ▪ Cultivating soil breaks up soil that has become hard and compacted over time. ▪ Decomposers living in the soil need air spaces so that they can breathe and move around. ▪ Fragile seedlings need soil to be light and fluffy for pushing their hair-like roots through. ▪ Water needs soil to be soft and loose so that it can soak in and reach the deeper layers.
Grades	Activity: Preparing the Soil for Planting
K-1 st	<ul style="list-style-type: none"> • All students will cultivate the soil. • Pass out the cultivators, kneelers & optional gloves to the students. • Have the students spread out around the bed and cultivate as deeply as they can. • Give students 3-4 minutes before adding either amended bagged soil or compost. • Resume cultivating to incorporate amendment. • Gently rake the soil surface until it is level.
2 nd – 5 th	<ul style="list-style-type: none"> • The two groups will each do a different soil-prepping activity in the garden bed. <p><u>Group 1 – Remove Old Plants</u></p> <ul style="list-style-type: none"> • Allow students to take turns removing the plants in the bed. • Instruct them to GENTLY shake or brush off the soil from the roots of each plant so that it falls back into the garden bed. • Place the removed plants in the wheelbarrow or large container. • Switch groups.

	<p>Group 2 - Cultivate the Soil</p> <ul style="list-style-type: none"> ● Pass out the cultivators, kneelers and optional gloves to the students. ● Instruct the students to spread out around the bed and cultivate as deeply as they can. ● Give students 3-4 minutes before adding either amended bagged soil or compost: <ul style="list-style-type: none"> ○ <u><i>If you have a bag of soil resting against your bed, this means that your soil level is low. Have the students cultivate the soil for 3 minutes before tearing the bag open and spreading the contents over the soil. Resume cultivating to thoroughly mix the new soil with the existing soil.</i></u> ○ <u><i>If you don't have a bag of soil resting against your bed, use the small bucket with the "A" and "B" markings on the inside. A sign inside the composter will let you know to either fill your bucket to the "A" line or the "B" line.</i></u> ● Resume cultivating to incorporate amended soil or compost. ● Gently rake the soil surface until it is level.
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****Bring the entire class back together at the garden bed.****

PLANT & LABEL THE SEEDS (8 - 14 MINUTES)

Refer to the Planting Guide inside the shed door to show you where to plant within the beds.

Grades	Create Rows for Planting
K – 5 th	<ul style="list-style-type: none"> ● Retrieve the measuring tool (yarn tied to sticks) and ruler to create rows for planting. ● Explain how the students will use this tool to create four equally spaced rows in the bed. ● Select 2 students to come forward and use the yarn tool to create a guide for the first row of seeds (a few inches away from the edge of the bed.) ● Instruct them to stretch it out lengthwise across the bed and secure it in the soil. ● Explain that when planting different plants in the same bed, it's best to understand how each plant grows so we can create the optimal growing situation for them – “tall plants in the back.” ²⁰
Grades	Measure Soil Depth
K – 5 th	<ul style="list-style-type: none"> ● Tell students that all seeds like to be planted at a specific depth. ● Inform them that when planting seeds, we read the instructions on the packet to learn the directions for that seed, or we risk the seeds not sprouting. <ul style="list-style-type: none"> ○ Show them the seed packet laminates and point out the information on the back, calling attention to the depth highlighted in yellow. ○ Demonstrate how to measure the depth on their finger with the ruler, starting at the tip of their index finger and measuring down their finger. ○ Hand off the ruler to your helper to assist them with measuring the depth on their fingers.

Grades	Place Seeds in Soil
K – 5 th	<ul style="list-style-type: none"> • Ask students to form two lines in front of the bed for planting and you will give them their seeds. • Tell them to cover their seeds with their other hand to avoid losing it. • Instruct them to approach the box two at a time and follow the yarn guideline to plant their seed beneath, making a straight row. • Direct them to poke a small hole, according to the depth they measured on their finger and drop in the seed. • Make sure they put the popsicle stick in the soil “above” their seed to mark the spot. • Have them pinch the soil to cover their seed with soil, leaving it fluffy and not patting the dirt down. • The next student approaching the box can see where the last seed was planted as indicated by the popsicle stick and determine where to plant their own seed. They will then move the popsicle stick to mark their own spot.

Grades	Continue Planting
K – 5 th	<ul style="list-style-type: none"> • After planting, have each student move to the back of the line to receive another seed, if there are still more seeds. • As each seed row fills up, have the last students that planted in the row move the yarn tool to start a new row. • If students are capable, select a new student to come forward to label each row. <ul style="list-style-type: none"> ○ Give them a Sharpie and a plant label. ○ Have them write the date on one side of the label and the plant name on the other. ○ Instruct them to insert the label at the end of the row. <ul style="list-style-type: none"> ▪ Each row gets one plant label. ○ If students are too young, have your helper write the label and give it to the students to put into the soil. • Continue until two rows of each seed type are planted (four rows total.)

WATERING (3 MINUTES)

Grades 3rd – 5th Only

Grades	Watering the New Seeds
K – 2 nd	<p><i>**Note: Now that the seeds are in the ground, they will remain in a dormant state until they are watered. Water stimulates the seeds to burst open, reach their root downward and sprout upward. The sprout is the baby stage of the new plant. The root is both the sprout’s anchor and its source for obtaining nutrients.²¹</i></p> <ul style="list-style-type: none"> • Tell students that you’ll give their seeds a thorough watering while they go back to class.
3 rd – 5 th	<ul style="list-style-type: none"> • Have your co-volunteer retrieve the half-filled watering cans and set them down in front of the bed.

	<ul style="list-style-type: none">• Instruct students to form a line behind each watering can so they can take a turn watering.• Demonstrate how to lightly distribute the water by constantly moving the can side to side over the newly planted seeds, pausing as needed to avoid flooding.<ul style="list-style-type: none">○ Inform them that we always use a sprinkle top watering can for new seeds. It is designed for gentle watering that simulates rain by distributing the water widely, allowing it to soak into the soil.○ We don't use watering cans with a stream spout for new seeds because the seeds would get pushed out of place from the big blast of water that would come out. This would happen because new seeds don't have roots to anchor them in place.• Allow each student to each have a 5-second turn before passing the can to the next student.• Once they finish their turn, have them return to the co-volunteer for "Did You Know? Fun Facts."
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CLOSING (1 MINUTE)

- Bring students together to close the lesson and thank the students, teacher and other volunteers.
- Recap what students learned in the lesson and tell them that when they return for the next lesson, the garden should have their cool-season crops growing.
- If time allows, have students draw/write a "Reflection Page" after the lesson, either in the garden or with their teacher when they return to class.
- If enough time, have students help clean up.
- Thank the students for joining you today and dismiss them.

***Don't forget to report your lesson as delivered with the online form!**

Scan this QR code with your phone for scheduling and reporting lessons as delivered:



From the computer, click the link that was emailed to you by your Lead Volunteer:

[LWK Tracking Links 2023-24](#)

Did You Know? Fun Facts!

Swiss Chard

- Swiss chard can reach 28 inches in height.²²
- It was once grown exclusively to be eaten at Christmas in the south of France and constituted the highlight of the Christmas Eve meal.²³
- There are many varieties of Swiss chard available. The main differences are petiole and leaf color. Petiole and midrib colors vary from white to yellow, orange, red or green, while leaves may be green, bronze, or purple.²⁴

Peas

- Just one serving of freshly frozen garden peas and petits pois contains as much vitamin C as two large apples!²⁵
- On average everyone in Britain eats nearly 9,000 peas per year.²⁶
- They're very low maintenance – being freshly frozen, there's absolutely no preparation needed and there's zero waste.

Beets

- The leaf, leaf stalks and roots of beet plants are edible. The leaves are high in vitamin A and minerals including calcium, iron, potassium, and magnesium.²⁷
- Beets have been around since 800 BC and used commonly by 812 AD. By 1975, the beet was made into a Borscht soup and sent to the Apollo 18 astronauts.²⁸
- While beets themselves are rich in calcium, vitamin A, iron and other healthy minerals, their leaves are excellent sources of vitamin A, vitamin C, protein and dietary fiber.²⁹

Carrots

- Carrots were originally white or purple. Then a yellow carrot appeared through mutation and the familiar orange carrot was bred from it.³⁰
- The biggest carrot recorded is more than 19 pounds and the longest is more than 19 feet!³¹
- Carrots clean your teeth and mouth. They scrape off plaque and food particles just like toothbrushes or toothpaste.³²

Kohl Rabi

- The largest kohlrabi was grown by Scott Robb (USA) and weighed 43.98 kg (96 lb. 15 oz) at the Alaska State Fair, Palmer, Alaska, USA, on 30 August 2006.
- Kohlrabi is the same species as cabbage, broccoli, cauliflower, kale, Brussels sprouts, collard greens, savoy and gai lan.
- Kohlrabi is not a root vegetable. The edible part of the plant is a bulbous, modified stem that grows above the ground.³³

Lettuce

- Lettuce is a member of the sunflower family.³⁴
- The lettuce we see today actually started out as a weed around the Mediterranean basin.³⁵
- China is the world's largest producer of lettuce. Almost 50% of the lettuce being consumed today is grown by the Chinese.³⁶

Resources

- ¹ "Navigating the Food Guide - Guiding Principles for Educators." *HealthySchools BC*, 2023, healthyschoolsbc.ca/teach-food-first/guiding-principles/
- ² *Meet the Five Food Group Friends*. (n.d.). Retrieved April 25, 2023, from <https://fns-prod.azureedge.us/sites/default/files/resource-files/dmp-tg-lesson1.pdf>
- ³ USDA. (2020). *Dairy | MyPlate*. [www.myplate.gov](https://www.myplate.gov/eat-healthy/dairy). <https://www.myplate.gov/eat-healthy/dairy>
- ⁴ *for children ages 3-4½ concept*. (n.d.). Retrieved September 8, 2023, from <https://www.floridahealth.gov/programs-and-services/childrens-health/child-care-food-program/nutrition/documents/lesson-plans/lesson1.pdf>
- ⁵ *Serving Up MyPlate: A Yummy Curriculum | USDA-FNS*. (n.d.). [www.fns.usda.gov](https://www.fns.usda.gov/tn/serving-myplate-yummy-curriculum). <https://www.fns.usda.gov/tn/serving-myplate-yummy-curriculum>
- ⁶ *Get to the Source THEME: MAKING HEALTHY FOOD CHOICES 3 RD*. (n.d.). <https://foodcorps.org/wp-content/uploads/2018/07/Grade-3-Get-to-the-Source.pdf>
- ⁷ *Standards-Based Nutrition Education*. (n.d.-b). https://fns-prod.azureedge.us/sites/default/files/sump_level3.pdf
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