

Outdoor Odyssey Spring Seed Starting Lesson for First Grade

Overview: Students are preparing to plant vegetables for a soup garden. Reflecting the first grade curriculum, they will discuss cycles (seasons and plant life cycles), temperature and plant growth, and the food pyramid. This “lecture” should last 15-20 minutes. It is better to cut it short to make sure that the students will be able to complete planting. It takes 20 minutes for first graders to fill pots, label, and plant four pots.

1. Preparation
 - a. Draw a circle on the board and divide it into quarters. Fill it in with the four seasons.
 - b. Write the names of all the plants that will be planted by the first grade. Put stars next to the plants that will be planted by the class you will lecture
 - i. Cabbage
 - ii. Onion
 - iii. Carrots
 - iv. Potatoes
 - v. Peas
 - vi. Zinnia
 - c. Put a star next to everything this class will be planting.
2. Visual aids- these are helpful but if you want to just sketch it, that works too:
 - a. Vegetables: a cabbage- to show the leaves. Onion cut in half – to show how they are like leaves and the roots emerging. A carrot- preferably one that has been left wrapped in a moist paper towel in a ziplock bag for two weeks so that root hairs and leaves are growing. A potato left out for two weeks so it starts to sprout- this will help the children understand the “potato eye” concept. Pea seeds- some from a first grade seed bag. A picture of a zinnia flower from the OO book of plants- a binder in abc order. This should be with the general seed starting stuff.
 - b. Food pyramid. The kids learn about the food pyramid in first grade, you can show them a poster available at mypyramid.gov (click the link to “for kids” on the left hand toolbar) to remind them at the end of the lecture.

As class arrives, welcome them to a central location focused on board

1. Introduce yourself and the other parents
2. Why are we here
 - a. Outdoor Odyssey Seed Starting
 - i. Brief recap last year – stone soup
 1. Mention kindergarten- what did you plant? If they don’t know, it was potatoes, peas, carrots and sunflowers (for squirrels)
 - ii. A year has gone by and we are starting again
 1. Talk about the plant life cycle
 - a. Seed in a pot

- b. Root grows down. Absorbs nutrients and water from the soil
 - c. Shoot grows up. Cotyledons (thick seed leaves) collect the energy from sun.
 - d. After growing lots of leaves, the plant will make flowers. The plant notices how long each day is and how warm it is and knows to use those cues to make flowers. Ask why they make flowers (you'll get surprising interesting answers). Ultimately plants make flowers to make baby plants, ie seeds.
 - e. Seeds start the cycle again.
2. Point to the plants on the board and discuss each one for first grade
- a. Cabbage. We grow from a seed, but before it grows flowers, we harvest the plants and eat the leaves.
 - b. Onions that we eat are a kind of bulb. This bulb is different from a tulip bulb (you can ask about marching tulip bulb for spring project that first graders started last fall). Tulip bulbs are solid, but onions are special leaves that grow underground. They don't collect the sun's energy because they are always in the dark. The roots grow out the bottom of the bulb. The leaves grow directly from the bulb and if you let it grow long enough, it makes flowers and seeds too!
 - c. Carrots. Carrots grow underground, but they are not a bulb, they are a root. The carrot plant cannot absorb enough water from the ground just from that big carrot, it grows lots of little white roots off the side. (if your visual aid carrot doesn't show this, you can draw it on the board). The carrot plant stores lots of energy in its roots in the form of sugar and that's why carrots are sweet. But how do they get the energy? (From the sun via photosynthesis). So they have to have leaves. If you let a carrot grow long enough, it will make flowers. In fact, you may have seen a wild carrot growing- it's called Queen Anne's Lace. This is a pretty flower that blooms late in the summer and if you pull it up, you'll find a wild carrot growing underground. Even though it smells like a carrot, it's much woodier and hard to chew. We will start our carrots from seeds and pick them before they make seeds.
 - d. Potatoes- are tubers, which are special stems and also a place that plants store energy underground. Potatoes have "eyes" which are special places that

plants can grow from. You can start potatoes from seeds, but you never know exactly what kind of potato you'll get this way. People like to plant potatoes that come from "seed potatoes." These are potatoes that are cut into pieces so that there is an eye. Each baby potato will taste exactly like the kind it grows from. We will plant our potatoes outdoors in a few weeks.

- e. Peas. Peas are seeds that come after pea flowers. Some people grow peas just for the flowers. Some people grow peas and eat the pods and the seeds together- like snow peas. Some people let the peas get bigger and eat only the seeds. Show the children the dried peas from visual aid stock. These peas are peas you could eat except that they were dried and have some chemicals on them to help stop plant diseases. But if we grew the peas in our garden and instead of eating them, we planted them, we'd get more pea plants (this could be a novel concept to the children, the idea that the vegetables they may eat are seeds that could actually be planted!)
 - f. Zinnias- show them the pictures and tell them that butterflies love zinnias. They are pretty and we like them in the garden.
3. All our plants can grow through the whole plant life cycle and can do it through the four seasons.
 - a. Fall- things die down and prepare for the winter
 - b. Winter- plants that live across the years, perennials, like trees, go to sleep. We can plant our seeds indoors when it's freezing out and move them outside when it warms up...
 - c. Spring- lots of flowers so we can have fruits and vegetables
 - d. Summer- many plant mature their fruit over the summer but we have picked special types of plants, called varieties, that will be ready to eat before school is over.
 4. We plant and go through several steps
 - a. Plant indoors early when still winter to protect from frost in pots. Everyone will plant four pots with seeds today. Tell them what they will plant on that day.
 - b. Move our pots in about two weeks to the greenhouse where we can take care of them without being worried about frost or about making spills.

We only work in the Exploratory Arts room today because it is easy for our classes to meet here.

- c. We plant our little pots directly outdoors from the greenhouses in the raised beds. Those are the gardens that are next to the playground. We will have all kinds of veggies to put in our soup.
 - d. We will water our plants in the raised beds and they will grow until it is almost time for first grade to be over and then we will harvest them. We will pull the carrots, potatoes and onions out of the ground. We will take the peas out of the pods. We will pick the cabbage and chop it up.
5. We have power to eat delicious things
- a. When you grow a garden yourself, the things taste really good! You may not always enjoy veggies, but these will taste so good because we will take care of the plants every step of the way.
 - b. When you go to the supermarket, you can ask your parents for healthy foods. Ask the children to list some healthy foods. They will probably mention many familiar fruits and veggies. Be prepared for the occasional exotic plant. Emphasize that lots of colors mean lots of nutrients. Try to get the children to mix up the colors. Ask for red. Then orange, green, blue.
 - c. Tell the children to tell their parents that they want this stuff. Tell them how if they jump up and down in front of the grapes, their parents will almost certainly say yes.
 - d. Show the children a food pyramid (try mypyramid.gov for a miniposter and other resources- a copy may be with the OO website). Emphasize that a quarter or more of the food the food they eat should be fruits and veggies.
 - e. Tell the children that life has lots of choices. Every day we can choose to grab something fast and easy that is good for us or that is bad for us. Only if we choose the good for us will we build strong minds and strong bodies. This is a way to show respect to yourself (ties with Churchill Cheers concept).
6. Today we are recycling and planting.
- a. Recycling station is making flower pots out of old newspaper. Recycling – making something new out of used resource. Reducing – Not buying new flower pots, we are reducing what we consume. Reuse – we are reusing the newspaper.

A LIST OF MANY COLORED FRUITS AND VEGGIES (adapted from Dole.com)

	Fruit	Veggies	Promotes
RED	<ul style="list-style-type: none"> • Blood Oranges • Cherries • Cranberries • Pink/Red Grapefruit • Pomegranates • Raspberries • Red Apples • Red Grapes • Red Pears • Strawberries • Red Watermelon 	<ul style="list-style-type: none"> • Beets • Red Peppers • Radishes • Radicchio • Red Leaf Lettuce • Red Onions • Red Potatoes • Rhubarb • Tomatoes 	HEART HEALTH
ORANGE/YELLOW	<ul style="list-style-type: none"> • Apricots • Cantaloupe • Golden Kiwifruit • Grapefruit • Lemons • Mangoes • Nectarines • Oranges • Orange Juice • Papayas • Peaches • Persimmons • Pineapples • Tangerines • Yellow Apples • Yellow Pears 	<ul style="list-style-type: none"> • Butternut Squash • Carrots • Pumpkin • Rutabagas • Sweet Corn • Sweet Potatoes • Yellow Beets • Yellow Bell Peppers • Yellow Potatoes • Yellow Summer Squash • Yellow Tomatoes • Yellow Winter Squash 	REDUCE CANCER
WHITE	<p>Bananas</p> <ul style="list-style-type: none"> • Brown Pears • Dates • White Nectarines • White Peaches 	<ul style="list-style-type: none"> • Cauliflower • Garlic • Ginger • Mushrooms • Onions • Parsnips • Potatoes • Shallots • Turnips 	GOOD CHOLESTEROL

		<ul style="list-style-type: none"> • White Corn 	
GREEN	<ul style="list-style-type: none"> • Avocados • Green Apples • Green Grapes • Green Pears • Honeydew Melon • Kiwifruit • Limes 	<ul style="list-style-type: none"> • Artichokes • Asparagus • Broccoli • Brussels Sprouts • Celery • Cucumbers • Green Beans • Green Cabbage • Green Leaf Lettuce • Green Onions • Green Bell Pepper • Leafy Greens • Peas • Romaine Lettuce • Snow Peas • Spinach • Sugar Snap Peas • Zucchini 	GOOD VISION
BLUE/PURPLE	<ul style="list-style-type: none"> • Blackberries • Black Currants • Blueberries • Dried Plums • Elderberries • Plums • Purple Figs • Purple Grapes Raisins 	<ul style="list-style-type: none"> • Black Salsify • Eggplant • Potatoes (Purple Fleshed) • Purple Asparagus • Purple Belgian Endive • Purple Cabbage • Purple Carrots • Purple Corn • Purple Peppers • Purple Heirloom Tomatoes 	GOOD MEMORY