



NUMi[®]
FOUNDATION
Celebrating People, Planet & Possibility

The fifth grade curriculum is the least scripted of all class years. Students work in the garden, but on helping other students with their plants. The goal is that fifth graders are taking ownership of their nature education, helping direct the flow of conversations, and identifying the projects that need to be accomplished.

The main theme of fifth grade gardening is systems. Students spend all year learning about the ways that nature, communities, and cycles work together. Students also discuss the consequences of disrupting natural cycles and systems.

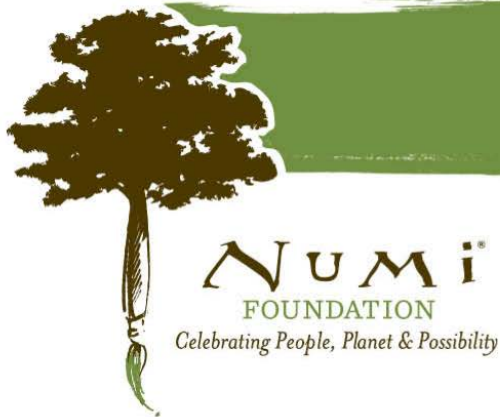
At the end of the year, fifth graders read *Seedfolks*, a young adult novel about a neighborhood transformed by a community garden project. This story is the foundation from which students design, plan, and carry out a community action project. With your guidance, students will become the agents of change in the garden, in class discussions, and in your community.

The Numi Foundation is deeply grateful to the writers of open-source materials for their contributions and inspiration to this curriculum.

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Welcome Back!

1.1 STANDARDS 5.SL.1

OBJECTIVES

- Students make observations after an extended break from the garden
- Students review and practice garden rules
- Students make class agreements

MATERIALS

- Poster board and pens
- Garden tools

Preparation:

Be clear about the difference between garden rules and classroom agreements. Perhaps your garden has rules posted that are school-wide, otherwise know beforehand what the rules are. (For example: Always walk, Ask before harvesting, etc). It is more effective to have fewer rules, but be sure that they are clear.

Procedure:

- Students enter the garden and gather in opening circle.

- Welcome students back to their outdoor classroom.
- “We need to review the rules of the garden and decide on some classroom agreements.”
- Call on students to name garden rules, and have students act them out.
- “We have garden rules to make sure everyone, including the animals and plants, stay safe in the garden. We also need to decide on our class agreements for this year. These are so that everyone feels safe and welcome here, and that all of our voices are heard. How do we want to agree to treat each other in this space? What do we want to bring into the garden? What do we want to leave out?” Draw a large circle in the center of the poster.
- Record student responses on the poster board: inside the circle write what students want to bring into the garden, and outside the circle write what they want to leave out. Discuss and clarify where needed. Have students sign the back. Keep this in your indoor classroom and review as necessary.
- Give students an extended explore time. Practice garden rules and class agreements. Decide on a gathering signal first. Guide students in looking for different things: Colors, something taller than you, a plant that looks healthy, a weed, a plant at the end of its lifecycle, a seed pod, something you don’t recognize, evidence of an insect.
- Practice your gathering signal. Gather students in the classroom.
- Share out observations from the garden explore time.
- “You are fifth graders now, and already have several years of experience in the garden. Fifth grade gardeners have more responsibilities and more jobs than kids in lower grades. As you learn to work together, you will be given more jobs. What are ways you can show that you’re ready for more responsibility in the garden?” Discuss.
- “Fifth grade is also a special year in the garden because we start to help the lower grades with their plants. As we discuss the interconnectedness of all living things, we will be able to help other grades with pest problems. We are going to learn about modern agriculture, and the effects that we have on our natural resources. At the end of the year, we are going to plan and do a project to better our community. I am looking forward to a fun, enjoyable year of learning. What are you excited about doing this year?”
- Review names of tools, tool safety, and their proper use.

Wrap up:

Return all materials.

Notes/Feedback:



Scavenger Hunt

1.2 STANDARDS 5.SL.1

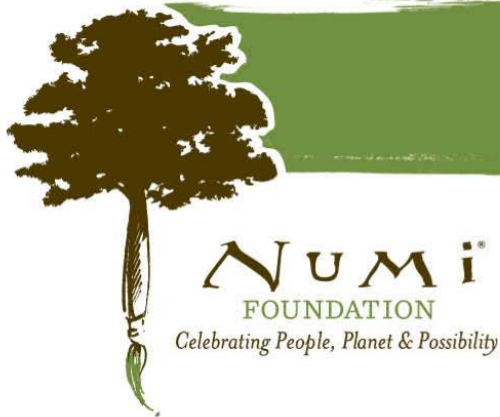
Preparation:

Know what you are going to ask students to find. For example: a healthy plant, a plant that you don't recognize, evidence of a bird, three insects, a seed pod, something soft, something you do not recognize, a plant that is taller than you, a plant that you have tasted, etc.

Procedure:

- Students enter the garden and explore.
- Gather students. "I am going to send you on a scavenger hunt. I want to see that you are able to explore the garden while practicing our garden rules."
- Begin the scavenger hunt; have students find each item, and then come back to you before you say the next item to find.
- If there is time, let students help suggest items to find in the garden.

Notes/Feedback:



Teamwork makes the Dream Work

2.1

STANDARDS

5.SL.1

OBJECTIVES

- Students learn the meaning of teamwork, and practice teambuilding
- Students understand that teamwork is required for success in the garden
- Students find an example of nature working together in the garden

MATERIALS

- 4 bandanas
- Materials for cooperative garden work

Preparation:

The first few gardening classes really set the tone for the year. A lack of cooperation amongst students can be very destructive. Take time with team building exercises, and practice them as necessary. Be sure to debrief thoroughly at the end.

Also, have some tasks set up at the end for students to practice cooperatively.

Procedure:

- Students enter the garden and explore.

- Gather students; check in about season and weather.
- Review your class agreements. Ask a student to read the garden rules.
- “Today we are going to work on team building. Why do you think we start the year with team building? What are some jobs in the garden that we need to do cooperatively?” (All of them!)
- “I am going to give you a task. The job is to line up by birthday, January 1 is here, and December 31 is there. You may not touch another person, and you may not talk! If someone talks, the class has to sit down and start over.”
- Be clear with where the class should line up, and have them begin.
- After your students are lined up, have them say their birthday to check if they are in the correct order. Have students return to sitting.
- Debrief with questions like “Was that difficult? What was difficult? Was it frustrating when one person talked and you had to start over? What ways did you figure out to communicate without your voices?”
- “We are going to another task. You need to line up height. You may not talk. Shortest is here, and tallest over there. This will be harder, because four students will be blindfolded.”
- Choose four students to blindfold, and be sure that you are in a place without obstacles. “If you can see, you may gently help those who are blindfolded, but otherwise, you should not be touching anyone else.”
- After students are in height order, remove blindfolds, and have them seated.
- Ask the students who had been blindfolded, “How did it feel that you didn’t know what was happening? How did it feel to be helped? When in the garden might you need help? How do you want to be helped?”
- To the students who could see, “How did it feel to help someone else?”
- Have the students line up one more time by number of siblings. Tell them they can talk.
- After students have lined up, and have been seated again, ask “How was it to be able to talk? What was easier? What was difficult? What was it like when everyone spoke at once? How did you take turns?” Also ask questions based on your own observations.
- “When we are having a class discussion and everyone is talking at once, what happens? If one student keeps talking out, and I keep asking them to stop talking, how does it feel for the rest of the class? If three students are supposed to water the garden with one watering can, how can they cooperate?”
- Have students act out scenarios for the class, for example: 3 students are to share one watering can, 5 students are trying to look at the same insect and there is not enough space, or someone needs helping pulling out a weed.
- Put students in groups, give students each group a task, and have them practice working together cooperatively.

Wrap up:

Have students look for examples of animals and plants working together in the garden.

Notes/Feedback:

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Cooperation and Systems

2.2

STANDARDS

5.SL.1, 5.LS2.1

Procedure:

- Students enter the garden and explore.
- “Earlier this week we did team building exercises. We thoroughly discussed the importance of being able to work together to achieve our goals. If you see someone not cooperating, or someone not helping the team, can we brainstorm some ways we can gently ask them to help?”
- Practice asking others to help, and/or cooperate.
- “This year we are going to learn, at length, about the ways different systems in the world work together. From the people in communities, to the water drops in the water cycle, we are going to discuss it all. What are some parts of nature that you already know work together?” Discuss.
- Students continue to explore the garden, naming examples of “systems” in the garden.

Wrap up:

In partners, show examples of systems in the garden.

Notes/Feedback:



Ecosystems

3.1

STANDARDS

5.SL.1, 5.LS2.1

OBJECTIVES

- Students can define ecosystem to mean an environment composed of living and nonliving things
- Students know that ecosystems can vary greatly, but are consistent in being comprised of living/nonliving
- Students learn that a plant or animal's must be met within its ecosystem

MATERIALS

- Tools to prepare a garden bed
- A list of what other grades are planting this fall

Preparation:

Write ECOSYSTEM on the top of your whiteboard.

Find out what other grades are planting, and have a list.

Know which area in the garden you will prepare for planting.

Background Information:

An ecosystem is a community of living and non-living things that work together. Ecosystems have no particular size. An ecosystem can be as large as a forest or as small as a tree. This lesson is meant as a review. In past grades, ecosystems are defined relatively simply. Here the idea is to reinforce that all elements in a system work together. This lesson will serve as a foundation for following lessons in interconnectedness, food webs, non-native species, and integrated pest management.

Procedure:

- Students enter the garden and explore
- Gather students; check in about the season and weather.
- “Let’s look around our garden. Can you name what you see?”
- List student responses on whiteboard. List responses into two columns, one with living organisms and one with nonliving, but do not tell students why you are organizing it that way. If students aren’t listing nonliving things, some prompting may be necessary. Nonliving things should include soil, water, air and heat/sunlight.
- After all responses have been taken... “I have listed your answers into two columns. Can anyone see the pattern? Why did I separate your responses? How are the things in column A different from column B?”
- Facilitate a class discussion.
- “You just described our garden ecosystem here in Oakland. You figured out that it is made from living and nonliving elements. The living things depend on the nonliving, and the nonliving can be affected by the living. They work together. The point here is that all elements here are connected, and not one can be separated from the rest without there being a large effect. We are going to see how this works in the coming weeks.”
- “A forest ecosystem is also comprised of living and nonliving components. Living things must find food and shelter in its ecosystem. You can imagine that plants and animals have specific needs—a whale needs different things than a bear, right?”
- “Turn to a partner and discuss the forest ecosystem, and some animals that live within it. Do the same for the ocean, compare and contrast.”
- Give students time to discuss.
- “Could we call our community an ecosystem? What kinds of people and places exist within our community? What do people need to live? How do people meet their needs within their community? What if needs are not met? How can we help?”
- Discuss.
- “We are working within the garden ecosystem here in our school. (Tell the students what other grades are planting.) What do you think we should plant? What could we plant to share with other grades, and with people in our

community? Be mindful that it is the fall, and we need to plant a cool weather plant.”

- Class discussion; agree on a plant or two.
- Go to the area where you will be planting, and pull weeds, pick stones, revive soil.

Wrap up:

Return materials, wash hands.

Notes/Feedback:



Seed Planting

3.2

MATERIALS

- Seeds for planting
- Materials for planting: compost, watering cans, craft sticks, marker
- Hand tools

Preparation:

Based on the plants you are planting, become familiar with the seed requirements, such as planting depth and row spacing.

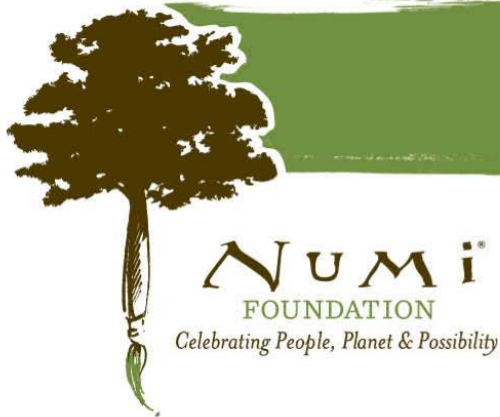
Procedure:

- Students enter the garden and explore.
- Bring students to the area that they began to prepare earlier this week.
- Add compost, dig it in.
- Plant seeds that students chose earlier this week.
- Water the garden bed and label with plant name and date.

Wrap up:

Return materials.

Notes/Feedback:



Food Webs

4.1

STANDARDS

5.LS2.1, 5.SL.1

OBJECTIVES

- Students review the concept of a food web
- Students learn surprising connections among elements in a web
- Students discuss consequences of altering the web

MATERIALS

- Blank stickers (i.e. name tags)
- Permanent markers
- A ball of yarn or string
- Watering cans

Preparation:

This lesson assumes that students are already familiar with the roles of plants, animals, decomposers and the nonliving elements of the environment.

For this activity to work properly, the class must represent all categories within a system. Remember that decomposers can “eat” anything (and return it to the soil),

plants can “eat” sun, soil, water and get eaten by animals. Animals eat plants or other animals, and get eaten by other animals or decomposers.

Procedure:

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- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- “Sometimes we hear people talk about the food chain. A food chain refers to the order in which things are eaten. You could say that a shark is at the top of the food chain, a shark eats other fish, those fish maybe eat other fish, and those fish eat plants, and plants get nutrients from the soil. And so on. Can someone give another example?”
- “As we will continue to explore all year, nature actually works in a system, in a community, where all parts work together. I will show you how. Just like last week, can you name everything you see in the garden?”
- If a student says “Greens”, give him/her a sticker that says “Greens” on it. Continue until all students are labeled. Push students towards naming the less obvious (sun, soil, water) and decomposers (fungus, bacteria, invertebrates). Once all students are labeled, gather everyone in a standing circle.
- Give one student the string to start. Instruct him/her to hold on to one end. “Pass the rest of the string to someone that you eat, or get eaten by.” The next person holds onto the string, and passes the ball of string to someone they eat or get eaten by. Continue until everyone is in the web.
- (This could look something like: Greens□soil□Lettuce□Caterpillar□Bird□Fig tree□Fungus□Ladybug□Aphids□Wheat...etc).
- “This is not a chain, this is a web! We are all connected to each other. This is a system, an ecosystem. When we talk about animals at the ‘top of the food chain’ the animals that don’t get eaten, we can see now they do get eaten, by the decomposers. The decomposers return everything to the soil, where new plants grow from. It is all connected in an intricate web of life.”
- Ask the ‘fungus’ to pull on his/her part of the string. Ask “Who else feels the tug? Who is connected to the fungus?” Ask the ‘ladybug’ to pull the string. Continue, finding interesting connections between unexpected members of the ecosystem.
- “What would happen if I sprayed a chemical that killed all the ladybugs? Would that affect the rest of the ecosystem?” Discuss.
- I am going to ask the ‘ladybug’ to drop his/her part of the string. If you feel your string move when his/her drops, then you can drop yours as well, and so on. Ask the ‘ladybug’ to drop his/her part of the string.
- The whole web should collapse very quickly.
- Gather students. “What did you learn from that activity?”
- Discuss.
- Probe, “What connections surprised you? What did you learn from the part when the whole web collapsed? If a farmer came to you and said they wanted to kill all the aphids on their farm, what might you say to them?” (Aphids provide food for ladybugs, etc).
- “Some animals on our planet are going extinct. How does that affect the habitat in which it lives?”
- Discuss.
- Water your plants.

Notes/Feedback:



Journaling

4.2

STANDARDS

5.SL.1

MATERIALS

- Journals, pencils

Preparation:

Think about the procedures you wish to share with your students for journal-writing days. Will you share the prompt beforehand? Will it be written on a board somewhere? What are the parameters of where students can sit?

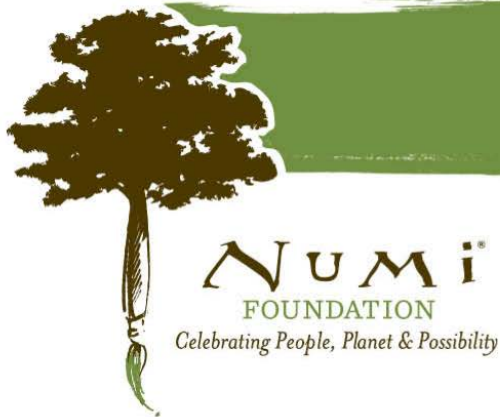
Procedure:

- Students enter the garden and explore.
- Students look for examples of plants and animals interacting in the garden.
- Distribute journals. "These will be your garden journals for the year. We will be writing and drawing in here this school year."
- "Today we are going to do our first journal prompt to practice how we use our journals, and how we sit in the garden to write. Often in our journals, we will think and talk about nature. Today we are going to write about our discussion about food webs and community."
- Go over procedures for journal-writing days.
- Students sit somewhere they enjoy and write in their journals, "What are you connected to? Write down as many as you can think of. Explain how 3 of them are connected to you. It can be people, animals, plants, or whatever inspires you."

Wrap up:

Share, in partners.

Notes/Feedback:



Integrated Pest Management

5.1

STANDARDS

5.SL.1, 5.LS2.1, 5.ESS3.1, 3.PS2.1

OBJECTIVES

- Students hear an example of an ecosystem being damaged
- Students reflect on the many consequences of altering an ecosystem
- Students are introduced to integrated pest management

MATERIALS

- Tools for garden work

Preparation:

Know what garden work needs to be done.

Background Information:

There are varying reports on this story of parachuting cats into Borneo. Some believe it to be something of a myth, or at least slightly exaggerated. Whatever the case, it is an important story to tell, and to learn from. Introducing, or removing, something from an ecosystem can have disastrous consequences.

Procedure:

- Students enter the garden and explore.

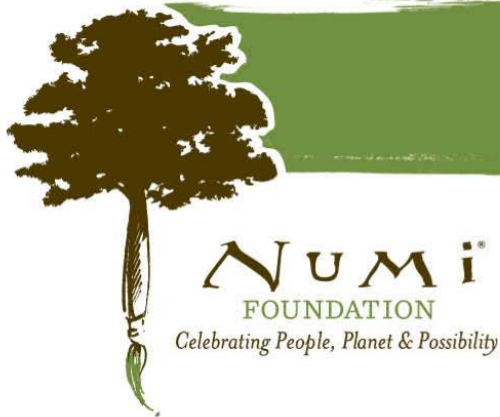
- Gather students; check in about the season and weather.
- “Last week we discussed the interconnectedness of elements in a system. When we built our food web, we saw how changing one thing can really affect everything else, sometimes in surprising ways.”
- “I am going to read you a story. Listen carefully.”
- Read, “In the early 1950s, there was an outbreak of a serious disease called malaria amongst the Dayak people in Borneo. The World Health Organization tried to solve the problem. They sprayed large amounts of a chemical called DDT to kill the mosquitoes that carried the malaria. The mosquitoes died and there was less malaria. That was good. However, there were side effects. One of the first effects was that the roofs of people's houses began to fall down on their heads. It turned out that the DDT was also killing a parasitic wasp that ate thatch-eating caterpillars. Without the wasps to eat them, there were more and more thatch-eating caterpillars. Worse than that, the insects that died from being poisoned by DDT were eaten by gecko lizards, which were then eaten by cats. The cats started to die, the rats flourished, and the people were threatened by outbreaks of two new serious diseases carried by the rats, sylvatic plague and typhus. To cope with these problems, which it had itself created, the World Health Organization had to parachute live cats into Borneo.”
- “Can someone explain the sequence of events that happened here? What do you think about this? What surprises you?”
- “If the chemical DDT gets into the soil, then what happens?” (The plants absorb it through its roots and then people eat plants with DDT in it).
- “What does this have to do with our garden?” Discuss.
- “We do have ‘pests’ in our garden. Aphids, snails, and slugs can be a really problem. Imagine you are a farmer and your family depends on you to be able to sell your fruits and vegetables. One pest can ruin a whole crop, so a farmer must think about the way she takes care of her plants. What kinds of pest damage have you seen in our garden?”
- “One of our jobs as fifth grade gardeners is to help other grades with any pest problems that we see. This is called ‘Integrated Pest Management’, or IPM, and we are going to talk about it more in the coming weeks. Some people are experts in IPM and help farmers with their crops. We are going to help our schoolmates by taking time to look for pest damage and offer suggestions.”
- “For example, let’s say we noticed a caterpillar eating the fourth graders’ greens. What could we suggest? Should we spray a chemical to kill all the caterpillars? No? What could be other side effects of doing that? What’s a better idea?” Discuss.
- “It is helpful to think about an insect’s natural predators. What eats caterpillars?” (Birds).
- “How could we attract birds to our garden?” Discuss.
- “Right, we could build bird feeders, add bird baths, and so on.”
- “In the meantime, let’s take care of our plants.”
- Do garden work.

Wrap up:

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Return materials.

Notes/Feedback:



Journal Prompt: Creative Writing

5.2

STANDARDS

5.LS2.1, 5.SL.1

MATERIALS

- Journals, pencils

Procedure:

- Students enter the garden and explore.
- Students look for signs of pest damage, and try to identify which pest it may be. Caterpillars usually leave holes, aphids can cause leaf discoloration, snails leave slime, etc.
- In their journals, “Imagine someone took all the birds out of the forest. Write a story describing what happens next.”

Wrap up:

Share, in small groups.

Notes/Feedback:



Soil Made my Lunch

6.1

STANDARDS

5.PS3.1, 5.SL.1, 3.PS2.1

OBJECTIVES

- Students can trace their diet to the soil
- Students know that animals depend (some directly, some indirectly) on plants for food
- Students understand the connection between healthy soil and healthy people

MATERIALS

- Small whiteboards and pens for students

Preparation:

Know which plants are ready for harvest, if any.

Background Information:

This is a straightforward lesson that many students enjoy. The idea that our health and the health of our planet are dependent on the state of our soil is a concept that students should be introduced to from an early age. However, the standard 5.PS3.1 states, in part: “Use modelsto describe that energy in animals’ food was once energy from the sun”. It is important be clear that our food can be traced to the soil AND that all plants depend on the sun to grow. This will be addressed in the next lessons as well, but this lesson builds

a foundation for students to think about how depleted or polluted soil affects their health.

Procedure:

- Students enter garden and explore.
- Gather students; check in about the season and weather.
- “Often farmers will use dangerous chemicals on their crops to protect them from pest damage. Last we were talking about the disastrous effects that a single change to an ecosystem can cause. So not only can a chemical dramatically affect the other insects and animals in the area, but it can also end up in the soil. We are going to talk a lot more about soil health in the following weeks, but today we are going to discuss why the soil matters so much.”
- “Gardeners and farmers often talk about the importance of growing healthy soil, and that our health is directly connected to eating strong plants from healthy soil. Is
 - everything we eat from the soil? Can anyone think of anything we eat that is not from the soil?”
- Ask students to think to themselves, and after a moment ask them to turn to a partner to see if they can think of a food that does not come from the soil. Listen to the discussions, and pick out a food that is named.
- For example: “I heard someone say that pizza is not from the soil. Let us discuss!”
- List all of the components of a pizza on your board: Crust, tomato sauce, cheese, mushrooms, chicken, etc. Let students “build” a pizza with their suggestions, be sure to have at least one vegetable topping, and one meat topping.
- “Let’s start with crust. What is the main ingredient?” When a student responds with “wheat”, write Wheat on the board, and ask where wheat grows, and then write Soil. Repeat with all ingredients. Eventually your board will look like this:

Crust Wheat Soil
Tomato sauce Tomato plant Soil
Cheese Milk Cow eats Grass Soil
Mushrooms Soil
Olives Olive tree Soil
Chicken eats Grains and worms Soil

- Split the class into groups of 5-6 students, and allow them to choose a meal and diagram it’s components to return to the soil.
- When students have finished, allow them to present to their classmates.
- “Was there anything that surprised you during this lesson? What ingredients did you have a hard time retracing to soil? What can you assume about an ingredient that is many steps away from the soil? If you can’t figure out what something is made from, what can you say about its wholesomeness?”
- Class discussion.
- “So, if everything we eat essentially grows from the soil, what can we say about the connection between our health and the health of the soil?” (Healthy soil grows healthy plants which grow healthy people!) Discuss.

- “What are some ways that you know of to keep soil healthy? How do you ‘grow’ healthy soil?”
- After concluding the discussion, encourage students to walk around the garden and see what kinds of meals they could make from the produce ready to harvest.

Wrap up:

Harvest something ready to eat, and acknowledge the soil from which it came.

Notes/Feedback:



Journal Prompt: Soil

6.2

STANDARDS

5.SL.1

MATERIALS

- Tools for garden work

Preparation:

Is there garden work to be done?

Procedure:

- **Students enter the garden and explore.**
- **Continue looking for evidence of pest damage.**
- **Do garden work.**
- **Return materials.**
- **Encourage students to feel and smell the soil from different places in the garden. See if they can describe what soil smells like, feels like, looks like.**
- **In their journals, “What does the soil remind you of? What memories does it bring back?”**

Wrap up:

Share, in partners.

Notes/Feedback:



It Starts from the Sun

7.1

STANDARDS

5.PS3.1

OBJECTIVES

- Students learn that energy from plants was once energy from the sun
- Students know that animals depend on plants that make energy from the sun
- Students trace living things to the sun

MATERIALS

- Tools for garden work

Preparation:

Prepare garden work.

Check to see if anything is ready to harvest and taste.

Background Information:

Photosynthesis is the process by which plants convert Carbon Dioxide, Water and Light into Sugar and Oxygen. Assuming that students have studied photosynthesis in depth outside of the garden, this lesson only touches on photosynthesis conceptually.

In this lesson, we are making a distinction between the fact that the sun is the main source of energy for all plants and animals, and the idea that healthy soil grows healthy plants while polluted soil grows polluted plants.

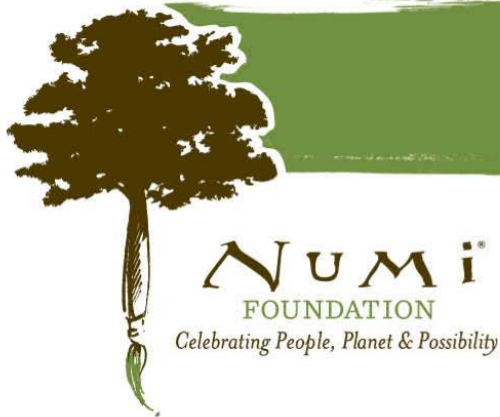
Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- “Last week we traced everything in our diet back to the soil. Why is it important to think about the health of the soil? What else is connected to the health of the soil? What are ways to build healthy soil?”
- On your board write Beef□Cow□Grass□Soil.
- “When we diagrammed some meals last week, we saw that we could trace our food to the soil. However, we need to make a distinction. Scientifically, most of the mass, or substance, that makes up a plant is made from sun energy. What do you think that means?”
- Class discussion.
- “During photosynthesis, plants convert sunlight into sugar, which is energy for the plant. The plant stores this food, and uses it to grow big and strong. So even though plants need to get nutrients and water from the soil, the plant builds new cells and can grow because of the energy from the sun. One example is that the leaves of a carrot make energy from the sun, the stem of the carrot sends these sugars down to the root and stores it there for later. A carrot root grows big and strong from the sugars that the leaves produced. Have you tasted a carrot? Isn’t it sweet?”
- “Everything we eat, though it comes from the soil, is made from energy from the sun. Can animals make food from the sun? No? So what do we depend on?” Discuss.
- “Let’s go back to the example that some people eat beef, cows eat grass, grass grows from energy from the sun. Without grass, there’d be no cows! Cows cannot produce their own food, no animal can for that matter. All animals depend on energy from plants, which get their energy from the sun.”
- Class discussion.
- Students go into the garden, find 5 living (or previously living) things, and trace its origin to the sun. (i.e. The garden beds are made from wood, wood is from trees, trees grow from energy from the sun. OR Lettuce grows from energy from the sun.)
- Do garden work.
- Find something to harvest and taste. “How did this plant get energy to grow?” (The sun!). “We are eating sun food!”
- Taste, and enjoy.

Wrap up:

Return materials, wash hands.

Notes/Feedback:



Assessment

7.2

STANDARDS

5.PS3.1, 5.LS2.1

MATERIALS

- Journals, pencils

Preparation:

This week's journal prompt is long, you may want to write it on the board before class.

- Name 10 things in the garden. Write them in a circle. Make sure you have plants, animals, decomposers, and nonliving elements. Draw lines to connect them in a web.
- Write a few sentences describing what would happen if some chemicals leaked into our soil. What would be affected?
- Write a few sentences describing what would happen if we took the sun away.
- What is something in the garden that you are thankful for?

Procedure:

- Students enter the garden and explore.
- Gather students. "Over the past weeks, we have been talking about interconnectedness, ecosystems, and the sources of energy of all living things. I am interested in seeing where you are with all of this information. I am going to give you a journal prompt, and am going to come around to see what you are working on."
- Give students, plenty of time to work. Go around and check in with students and their thought processes.

- As students finish, give them time to look for plant damage in the garden.

Wrap up:

Discuss some possible responses to the prompts as a whole class.

Notes/Feedback:



Modern Agriculture

8.1

STANDARDS

5.PS2.1, 5.SL.1, 5.ESS3.1

OBJECTIVES

- Students discuss some characteristics of modern agriculture
- Students understand that a declining farmer population is required to grow more food
- Students discuss consequences of some modern agriculture practices

MATERIALS

- “The Vegetables We Eat” by Gail Gibbons
- Journals, pencils
- Tools for garden work

Preparation:

“The Vegetables We Eat”, though meant for younger grades, does a good job of introducing some aspects of modern agriculture. The point here is not that modern agriculture is good or bad, just that it exists as a result of an increased demand on fewer people.

Prepare garden work.

Procedure:

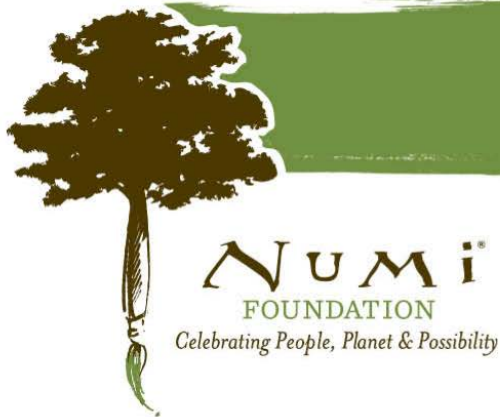
- Students enter the garden and explore.
- Gather students; check in about the season and weather.

- “What do you know about farms? What do you think of when I say farm, or farmer?” Discuss.
- “If you go to the store and buy an apple, where did it come from? How many people do you think it took to get you that apple?”
- “A long time ago, most people grew their own food, and otherwise traded something of theirs in exchange for crops. All over the world, people have a history in agriculture—growing food or raising animals. Even less than a hundred years ago, much of Oakland was covered in fruit trees, and eventually canning factories that preserved the fruit. The Fruitvale neighborhood of Oakland was one of these places, covered in trees and canning factories. Nowadays, many of us are very far away from the people and places that grow our food. When we talk about the system that brings that apple to the grocery store, we are talking about modern agriculture.”
- Read “The Vegetables We Eat”, and discuss the parts about food production and distribution. Challenge students to name all the jobs that they see.
- “Modern agriculture can mean all kinds of things. In this book, we see farmers, farm workers, buyers, distributors, and markets all involved in the process of bringing you food. In recent history, more and more people have moved from the country to the city, leaving less people to farm. There are less and less farmers every year, and this small amount of people have to grow more and more food. Farms have become enormous. What kinds of problems do you think could arise from big farms?”
- Class discussion. Pose some scenarios:
- “You go to the store and buy an apple. It was harvested two weeks ago, and traveled 2000 miles to get to your store. What do you think about that?”
- “Imagine you are a farmer and there is an aphid infestation on your broccoli crop. What would you do?”
- “Imagine you only grow corn, because the supermarket will not buy your other crops. What is going to happen to your soil?”
- Discuss. (The point here is that because a small population is required to grow a lot of food, sometimes shortcuts are taken, often with large consequences.)
- “What are the consequences of using pesticides? What are the consequences of not talking care of soil? What are the consequences of growing only one type of crop—what would happen to your crop during an infestation?”
- Class discussion.
- Give students time to look for pest damage in the garden. Students record their observations in their journals, and make suggestions.
- Garden work.

Wrap up:

Return materials.

Notes/Feedback:



Journaling: Pests

8.2

STANDARDS

5.ESS3.1

MATERIALS

- Journals, pencils
- Paper

Procedure:

- Students enter the garden and explore.
- Distribute journals; students continue to look for pest damage.
- Gather students, and discuss their findings. Discuss solutions for a particular pest problem.
- Have a couple of students write a letter to the classroom whose plants need help: naming the problem, and offering a solution. The rest of the class can continue exploring, or choose something to draw in their journal.

Wrap up:

Deliver the letter to the appropriate classroom.

Notes/Feedback:



Cesar Chavez

9.1

STANDARDS

5.ESS3.1

OBJECTIVES

- Students learn about the life and work of Cesar Chavez
- Students learn about the struggle of farm workers on large farms
- Students learn about organizations that encourage fair labor practices

MATERIALS

- “Harvesting Hope: The Story of Cesar Chavez” by Kathleen Krull (or something similar)
- Products labeled “Fair Trade USA” (perhaps Numi Tea)
- Watering can

Preparation:

In the beginning of class, you are pretending to be an unrelenting farm owner. Try your best to be convincing! You will be giving your students a difficult, tiresome task. Look around the garden and come up with something. (Washing the garden beds, collecting all the stones, pulling weeds...)

You will need to bring something Fair Trade USA certified.

Procedure:

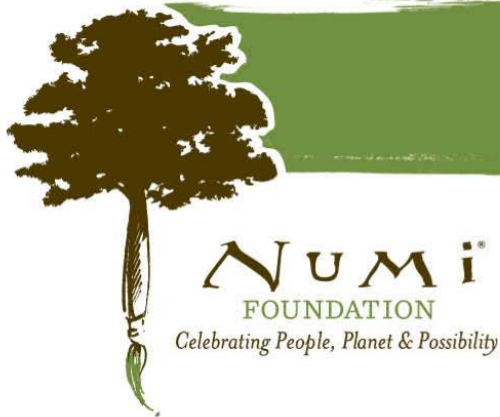
- Students enter the garden and explore.

- Gather students; check in about the season and weather.
- With your best authoritative voice, put your students to work. Tell them they may not stop to rest, to talk, or to drink water. Students who disobey will be sent to the principal's office.
- After students get the point, gather students. Read "Harvesting Hope: The Story of Cesar Chavez" and discuss.
- Discuss the effects that a large farm can have on the environment: the soil and water, AND the effects it has on farm workers. The struggle of the farm worker is a terrible, and important, topic of discussion.
- Show students the products you brought labeled "Fair Trade USA". "As we learned, in some modern farms, farmers end up using chemicals that hurt the soil and end up in the water. Some farm owners have so much land that they must hire many people, yet they do not pay them enough or treat them well. Thankfully, many people, like Cesar Chavez, believe in protecting the environment and farm workers from these terrible practices. There is an organization called "Fair Trade USA" that goes to farms around the world and checks to see that the farmers take care of their employees and their land. Then the organization labels their products with this stamp, so buyers can know a little more about the product that their buying."
- Discuss, and show Fair Trade products.
- "Some foods, like bananas, chocolate, tea and coffee are grown very far away—and therefore is it hard for buyers to know anything about where they came from. It is important to have organizations and people that are dedicated to making sure that the people producing their products are healthy, safe and well taken care of."
- If there is time, and if it's dry, water the garden. Allow students to take breaks, talk and drink water!

Wrap up:

Return materials.

Notes/Feedback:



Numi Guest Speaker

9.2

STANDARDS

5.ESS3.1

Preparation:

Arrange a guest lecture with someone from Numi Tea.

Procedure:

- Students enter the garden and explore.
- Have a guest lecture with a Numi Organic Tea employee. Have him/her discuss the process that their company goes through to ensure the health and safety of the farmers and farm workers that grow their tea.
- Give students plenty of time to ask questions.
- Students take their guest on a tour of the garden.

Notes/Feedback:



Organic Farming

10.1

STANDARDS

5.ESS3.1, 5.LS2.1

OBJECTIVES

- Students learn about organic farming practices
- Students understand that organic farming is a systems approach
- Students prepare for their upcoming guest lecture

MATERIALS

- “Molly’s Organic Farm” by Carol L. Malnor
- Journals, pencils
- Tools for garden work

Preparation:

Prepare garden work.

Background Information:

These days, organic farms can vary greatly in size, mission, and practice. The generally idea is that organic farmers try to use a systems approach in maintaining the health of

the land, plants and people. Some methods organic farmers use instead of noxious pesticides are:

- Practicing crop rotation (So pests and diseases do not get used to a certain crop always being in a certain place)
- Maintaining high soil fertility through composting and cover crops (Often pests attack weak plants)
- Planting a diverse set of crops (Diverse crops attract diverse insects, encouraging natural pest control)

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- “We have been discussing modern agriculture for the past few weeks. Not that all modern agriculture is bad, there are plenty of large farms that do try to take care of the environment. However, you can see how easy it is for practices to become harmful when farms become huge. Last week we learned about an organization that promotes farms and farmers that take care of their workers, and their land.”
- “Another type of farming is called Organic Farming. What do you know about organic farming?” Discuss.
- “Organic farmers tend to have smaller farms, with many types of crops. Why might it be easier to take care of a smaller farm?”
- Read “Molly’s Organic Farm”.
- Discuss different ways that organic farmers take care of their soil, and their crops. “Organic farmers try to copy nature when they take care of their garden.” Discuss crop rotation, soil fertility, and biodiversity.
- “There are many ways that you can take care of your soil and plants. Some are a little more complex, like practicing crop rotation, and some are quite simple. When we cover a plant with row cloth, we are also preventing snails from eating our plants in the night. When we attract birds to our garden, we are managing the caterpillar population. There are many solutions, if we take the time to learn about them.”
- Students go into the garden with their journals and pretend to be organic farmers. Students take note of all the ‘organic practices’ they notice in the garden. (Cover crops growing, compost pile, bird feeders, row cloth, etc).
- In their journals, students write all the questions they would like to ask an organic farmer in preparation for the guest lecture later this week.
- Garden work.

Wrap up:

Return materials.

Notes/Feedback:



Guest Speaker: Organic Farmer

10.2

STANDARDS

5.ESS3.1, 5.LS2.1, 5.SL.1

MATERIALS

- Journals (with the students' questions from last class)

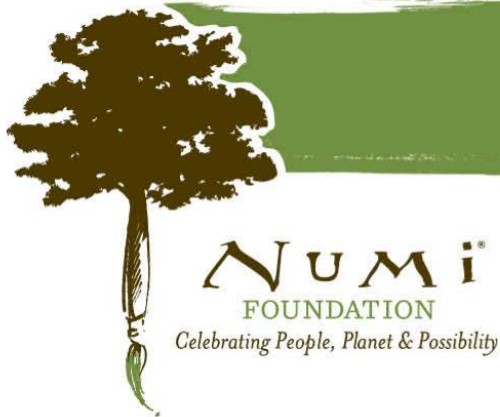
Preparation:

Arrange a guest lecture with a local organic farmer. There are many urban farmers in the greater Bay Area.

Procedure:

- Students enter the garden and explore.
- Guest lecture with visiting Organic Farmer.
- Students have time to ask the questions that wrote during the last class.
- Students take their guest Farmer on a tour of the garden. Students show the farmer the ways they take care of the garden naturally.

Notes/Feedback:



Winter Check In

11.1

OBJECTIVES

- Students notice winter changes on campus and in the garden
- Students decide on what garden projects need to be done
- Students do garden work to prepare the garden for winter

MATERIALS

- Tools and materials for garden work
- Pencils and paper (if students are going to be looking for pest damage)

Preparation:

There are many garden jobs to do as winter approaches: Watering, collecting leaves for mulching, adding compost to plants, weeding. Know which jobs are in the cards for today. Spend most of the class today working in the garden.

Procedure:

- Take students on a walk throughout the campus, looking for signs of seasonal changes.
- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- 'It is winter! What changes are you noticing on campus? In the garden? In our neighborhood? How are the plants changing? How is the weather changing? What have you noticed about the light? Is your mood changing? Your energy?'

- “It is important to spend extra time taking care of our garden as winter approaches. With the colder, shorter days, our plants need some extra attention. Go into the garden and come back with one or two suggestions of work that needs to be done.”
- As students return, discuss what they found. Split the class into groups to do garden work. Some students can look for pest damage and write a letter with advice on managing those pests.

Wrap up:

Return materials, wash hands. Deliver the letter to the appropriate classroom.

Notes/Feedback:



Journal Prompt: Winter

11.2

STANDARDS

5.SL.1

MATERIALS

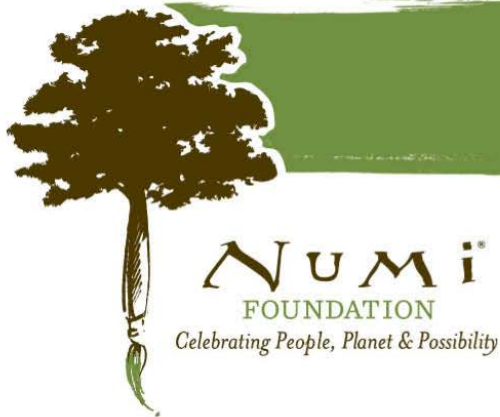
- Journals, pencils

Procedure:

- Students enter the garden and explore.
- Students find someplace they really enjoy to sit. Encourage students to sit silently for three minutes, just listening and looking.
- In their journals, “Winter is a time of rest. Many animals hibernate, many trees lose their leaves and save energy until the spring. How are you feeling this time of year? Do you notice any changes in yourself?”

Wrap up:

Share, in partners.



Water

12.1

STANDARDS

5.ESS2.1, 5.ESS2.2, 5.SL.1

OBJECTIVES

- Students explore what they know about water
- Students learn some interesting water facts
- Students explore the garden for evidence of water

MATERIALS

- A see-through water bottle
- Watering cans, if the garden is dry

Background Information:

Water Facts:

- Water is made up of two elements, hydrogen and oxygen
- Every living things on Earth requires water
- Water has three states, solid, liquid and gas. All three are found naturally on Earth
- Water covers around 70% of the Earth's surface
- Most of the Earth's water is in the ocean
- Water goes through a cycle
- About 70% of an adult's body is made of water
- Water dissolves more substances than any other liquid. Traveling water carries chemicals, minerals and nutrients with it
- Much of our fresh water is underground in aquifers
- The same water that existed on Earth millions of years ago, is the same water on Earth today

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- “We are changing topics for the next few weeks and we are going to learn all about water. Before we get started, I want to know everything that you know about water.”
- As students respond, write their responses on the board. Take your time with this; let them mull and explore their subconscious for a while.
- Review responses, and discuss any questions that may come up.
- “This is a really great start. We are going to go more in depth over the next couple of weeks. You are about to explore the garden for evidence of water, but first, take a look at the water in my water bottle.” (Hold up your bottle).
- “This is the same water that has existed since the beginning of the world. Water cannot be created or destroyed by humans. It can be used, cycled, and changed, but it is always here. The same water that flowed over mountains in Greece 10,000 years ago still exists on Earth today, just in another form. The water in this bottle could be the water that someone drank 500 years ago, combined with water from the Nile River in Egypt, combined with water from the polar ice caps. Water is infinite!”
- “With this in mind, go explore the garden. Find evidence of water.”
- Evidence could include, but is not limited to: Sand (weathered by water), dew, actually seeing water, feeling moisture deep in the soil, robust plants, looking inside a plant, etc.
- Water your plants, if they need it.

Wrap up:

Return materials.

Notes/Feedback:



Journal Prompt: Tree Drawing

12.2
STANDARDS
5.SL.1

MATERIALS

- Journals, pencils
- Tools for garden work

Preparation:

Write on the board:

Roots: Who or what keeps you grounded?

Trunk: Who or what keeps you standing tall?

Branches: What are you reaching for?

Leaves: What talents do you have?

Fruit: What are your big goals?

Procedure:

- Students enter the garden and explore.
- Do garden work.
- For this journal activity, students need to see the board. In their journals, “Draw a tree with roots, a trunk, branches, leaves and fruit. Pretend you are the tree. Label the different parts.”

Wrap up:

50

Take volunteers to share in front of the class.

Notes/Feedback:



The Water Cycle

13.1

STANDARDS

5.ESS2.1, 5.ESS2.2, 5.SL.1

OBJECTIVES

- Students learn about the basic stages of the water cycle
- Students can define evaporation, condensation, precipitation
- Students learn the difference between fresh water and salt water

MATERIALS

- Book about the Water Cycle
- Definitions of evaporation, condensation, precipitation printed

Preparation:

Find a book that you like that explains the water cycle. I do not suggest one here, and there are so many options!

Print out the definitions of evaporation, condensation and precipitation. Each definition should be on a different page.

Background Information:

The water cycle refers to the movement of water on, below and above the Earth. It is certainly a large, and complicated, topic to discuss in just a few weeks, but students should understand the basics. We often begin talking about the water cycle in the ocean. The sun warms the ocean surface, and water evaporates, changing from liquid to gas. Only fresh water evaporates (evaporation), the salt stays in the ocean. The gas

condenses (condensation) in the cooler temperatures of the atmosphere, and falls back to Earth (precipitation) as rain or snow. Water eventually flows back to the ocean. In the discussion around water being either salty or fresh, there are actually a few other categories, including brackish (less salty than ocean water) and brine (saltier than ocean water). You may choose to explore these categories as well.

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- “Last week we began to talk about water. You seem to know a lot about water, and today we are going to learn more. We are going to learn about the basic water cycle.
- There are three main words that you need to know: evaporation, condensation, precipitation. Do any of them sound familiar?”
- Split the class into three groups. Each group gets a definition, and has to figure out how to act out their action to the rest of the group.
- Gather students, and let them present.
- Ask the group questions to check for understanding.
- “The water cycle is the way that evaporation, condensation and precipitation work together. (Draw on your board as you narrate): The cycle generally works like this: Most of Earth’s water is in the ocean. The sun heats up the surface of the water from oceans, rivers and lakes. Even though the ocean is salty, the salt stays in the ocean. Only pure water is evaporated. Anyway, this gas goes into the atmosphere where it joins with other water molecules, and they condense into clouds and become liquid again. The cooler temperatures change the water gas into water liquid. Have you ever seen water drops on your bathroom window after a hot shower? This is condensation—the hot steam from the shower cools on the glass and goes back to liquid. Anyway, clouds become full of water and fall back to Earth—this is precipitation. If it rains, eventually the water falls down mountains and joins streams, streams join to form rivers, and rivers flow into the ocean. If it falls as snow, snow often stays on the tops of mountains for months, or maybe all year round. When temperatures warm in the spring or summer, snow melts and eventually this water flows back to the ocean as well. Here, the process begins again!”
- “The water in the ocean is salty, as you know. The water in clouds, streams, rivers, lakes and snow is called fresh water, that is, it does not have salt.”
- Read the book you chose about the water cycle.

- Check for understanding. Ask about different phases of the cycle. Ask if different water forms are fresh, or salty. For example, the Atlantic Ocean, Lake Merritt, the Mississippi River, a waterfall, a pond, etc.
- With extra time, check for pest damage in the garden.

Notes/Feedback:



Journal Prompt: Water

13.2

STANDARDS

5.ESS2.1, 5.ESS2.2

MATERIALS

- Pencil and paper for students doing a pest damage report
- Journals, pencils

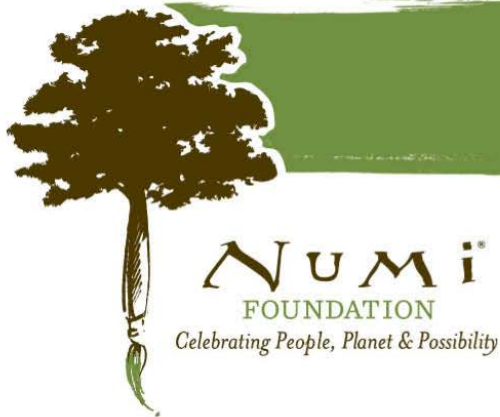
Procedure:

- Students enter the garden and explore.
- Again, check for pest damage. If students have a recommendation for another class, choose a few students to assess the damage and write a letter to the relevant classroom.
- In their journals, “Draw the water cycle. And then, if you could be inside a drop of water, where would you go and why?”

Wrap up:

Share, in partners.

Notes/Feedback:



From the Sierra to the Pacific

14.1

STANDARDS

5.ESS2.1, 5.ESS2.2, 5.SL.1

OBJECTIVES

- Students review the water cycle
- Students learn about the water cycle in the greater Bay Area
- Students name the geological features that water passes through in the local water cycle

MATERIALS

- A copy of the map on page 3 of the Supplement page
- Tools for garden work

Preparation:

This lesson borrows from the “Save The Bay’s San Francisco Bay Watershed Curriculum” simply because it is so excellent. I suggest that you use the activity where students model California’s landscape with their hands and arms. Become familiar with this, so that you can teach it.

Copy the map on the third page to have available for students to look at.

In Yosemite, which is in the Sierra Nevada Mountains, precipitation is often snow. Snow stays in on the mountain tops, and melts in the spring. Water flows, or falls, off

mountains (the longest continuous waterfall in North America is Yosemite Falls) and joins rivers and streams, and winds up in the Pacific Ocean.
Prepare garden work.

Background Information:

Refer to Teacher Supplement for additional information.

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- Review the water cycle.
- “When we have been talking about the water cycle, we have been discussing the general pattern of water from ocean back to the ocean. Now, we are going to give these mountains, streams, and rivers their names!”
- Do the “Watershed in Your Hands” activity.
- It is worth mentioning that as water evaporates and forms cloud, wind coming off the ocean blows the clouds East, towards the mountains. The clouds cannot blow over the mountains, so they sit there, and drop their rain and snow on the mountains.
- Review the names of the different landmarks; Sierra Nevada Mountains, San Joaquin River, Sacramento River, The Delta, The Bay, The Ocean.
- Which are fresh water? Which are salt water?
- Do the garden work you have prepared.

Wrap up:

Return materials.

Notes/Feedback:



Journal Prompt: Water Poem

14.2

STANDARDS

5.ESS2.1, 5.ESS2.2, 5.SL.1

MATERIALS

- Journals, pencils

Procedure:

- Students enter the garden and explore.
- Gather students. Repeat the “Watershed in Your Hands” activity, except have students narrate the cycle.
- “People have always been inspired by rivers. There are thousands of poems, stories, songs and paintings about rivers. Can you think of any? What do you think rivers often represent in poetry, and in art in general?”
- In their journals, “Write a poem about a river, or draw a picture.”

Wrap up:

Share, in partners.

Notes/Feedback:



Where Does Our Water Come From?

15.1

STANDARDS

5.ESS2.1, 5.ESS2.2, 5.SL.1

OBJECTIVES

- Students learn how people make drinking water from the water cycle
- Students learn about reservoirs and the water cleaning system
- Students begin drawing posters to show the water cycle

MATERIALS

- “The Magic School Bus at the Waterworks” by Joanna Cole (multiple copies, if available)
- 12 poster boards (14”x22” works well, but smaller is fine)
- 12 pieces of scratch paper
- Pencils, rulers, markers—class set

Preparation:

Read “The Magic School Bus at the Waterworks” and become familiar with it. This book was written in 1986, and so the process for treating water has changed a little bit.

Overall, though, the book does an excellent job of explaining how water is diverted from streams and rivers into reservoirs. If you want to have more facts about the Oakland reservoir system, look at the Water Education Foundation website: www.water-ed.org/watersources.

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- “All this talk about water, and we haven’t really gotten to an important part.” Turn on your garden hose, or faucet, if you have one in the garden. “Where is this water coming from?! Any ideas?” Discuss.
- Read “The Magic School Bus at the Waterworks” and discuss. “What did you know already? What did you learn? What surprised you?” Supplement with facts about the Oakland reservoir system, if you so choose.
- Ask students to list the 10-12 steps that brings water from Ocean to faucet. List these steps on the board. Be sure they include evaporation, condensation, and precipitation.
- Put students into small groups, each group gets one poster, one piece of scratch paper, as well as pencils, rulers, and markers. Assign each group one step. Students write their step on the bottom. Students illustrate their step, begin by using scratch paper. When you approve their sketch, students may begin on the poster board.
- Students will finish their posters later in the week.

Wrap up:

Return materials.

Notes/Feedback:



Garden Work

15.2

STANDARDS

5.ESS2.1, 5.ESS2.2

MATERIALS

- Posters, scratch paper from earlier this week
- Pencils, markers, rulers
- Tools for garden work, if necessary

Preparation:

Is there garden work to do?

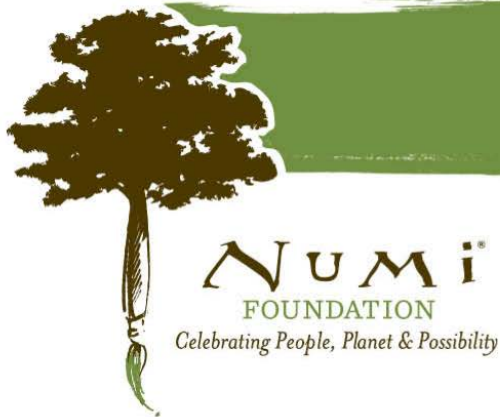
Procedure:

- Students enter the garden and explore.
- Garden work, if there is work to be done.
- Return materials, wash hands.
- Distribute group work. Give students the rest of class time to finish their posters.
- Students present their posters to the rest of class. Decide on a place on campus they want to hang their posters.

Wrap up:

Hang up posters, if there is time!

Notes/Feedback:



Assessment: Agriculture and Drought

16.1

STANDARDS

5.ESS2.1, 5.ESS2.2, 5.SL.1, 5.ESS3.1, 5.PS2.1

OBJECTIVES

- Students discuss the effects of the current California drought
- Students discuss the effects of water pollution
- Students brainstorm ways to save water, and keep water clean

Preparation:

This lesson pushes students to discuss “What are the effects of a drought?” It also introduces students to the effect of pollution on the water cycle. This lesson is an assessment because it requires students to consolidate their knowledge ranging from modern agriculture, the water cycle, and the water treatment system.

Background Information:

At the time of writing, spring 2014, California is considered to be in “severe drought”. 2013 was the driest year in recorded history in many parts of California. Snow pack in the Sierras (a main water source) is dramatically smaller than it should be. This lesson is not meant to frighten students, but rather encourage them to be environmental stewards: informing others of their knowledge, taking care to save water, and to keep it clean.

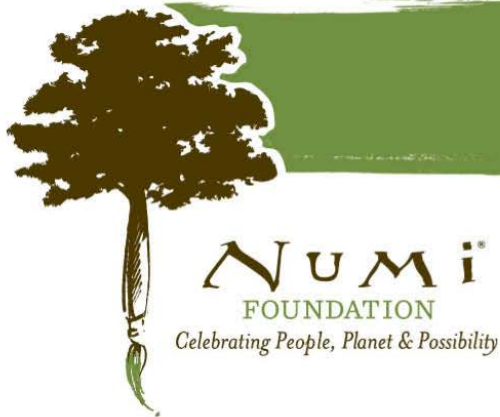
Procedure:

- Students enter the garden and explore.

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- Gather students; check in about the season and weather.
- “We are coming to close our unit on water. We have discussed everything from the water cycle to the way that water gets into our faucet. Today, we need to talk about some of the ways that humans have affected the water in our world, and the effects of the current drought. We will discuss the drought first. Does anyone know what drought means?”
- “A drought is a period of time when a place receives less rain that it normally does. California is in a state of drought. Tell me all the effects of a drought that you can think of.”
- Discuss, take plenty of time. (Push students to think back to the food web—what is connected to water? Also discuss the effects on plants, animals, drinking water, irrigation for farms, etc).
- “What are ways we can save water in the garden? At home? At school? As a city?” (Ways to save water in the garden include mulching, planting native plants, not watering more than necessary, growing drought tolerant plants, and checking the weather as to not water before a rain).
- “One way that people have very negatively affected our water supply is by causing water pollution. Polluted water means that it is dirty, not from soil, but from chemicals. Water can dissolve many substances, and chemicals from factories and farms easily dissolve in water, or are liquid, and spill into water. As you know, water goes through a cycle, and is constantly moving. Even if water 200 miles from here becomes polluted, it will still flow to the ocean.”
- “Tell me all the ways you can think of that polluted water affects our planet, animals, and our health.”
- Discuss, take plenty of time.
- “How does modern agriculture contribute to water pollution?” (Run-off from pesticide use ends up in our streams, rivers and oceans—the effects of which are innumerable.)
- “How can we help keep our water clean?” (Not using pesticides in our homes and gardens, keeping pollutants out of storm drains, etc)
- “Although it is true that we are in a drought, and that water pollution is a serious problem, there are many ways you can help. Every action counts!”

Notes/Feedback:



Journal Prompt: Water Conservation

16.2

STANDARDS

5.ESS3.1

MATERIALS

- Journals, pencils
- Woodchips, straw, or store-bought mulch

Preparation:

Students mulched in the winter in order to keep plants warm. Mulching is just as important in the warmer months to slow evaporation of water from the soil, thereby requiring less watering.

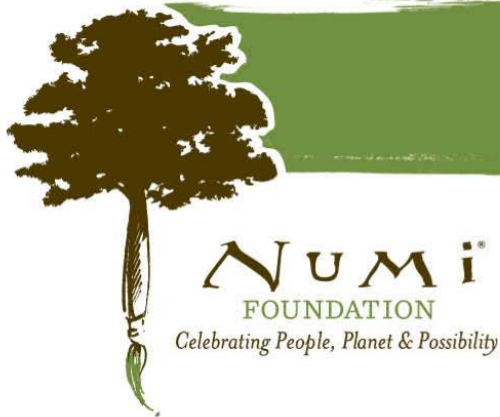
Procedure:

- Students enter the garden and explore.
- Students mulch garden, to slow evaporation.
- In their journals, "Write a letter to someone you know, explaining why it is important to save water, and to keep it clean."

Wrap up:

Take volunteers to read letters.

Notes/Feedback:



Field Trip to the Marin Headlands

17.1

STANDARDS

5.ESS2.1, 5.ESS2.2, 5.SL.1, 5.ESS3.1

OBJECTIVES

- Students have an outdoor learning experience on the California coast
- Students learn about watershed studies

Preparation:

Prepare for this field trip months in advance. Two excellent organizations that offer class trips to the Marin Headlands are the YMCA of San Francisco—Point Bonita, and NatureBridge.

Both offer overnight and day trips, watershed studies, and scholarships. The YMCA program offers service learning opportunities.

Procedure:

- Enjoy the beautiful California coast!

Notes/Feedback:



Journal Prompt: Field Trip Reflection

17.2

STANDARDS

5.SL.1

MATERIALS

- Tools for garden work
- Journals, pencils, colored pencils

Preparation:

Is this work to be done in the garden?

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- Garden work.
- Return materials.
- Class debrief: “What did you learn from the trip to the Marin Headlands? What was your favorite part? What surprised you? How did you feel, spending time by the ocean?”
- In their journals, “Think to your favorite moment from the field trip. Draw an illustration, be as detailed as possible.”

Wrap up:

66

Share, in small groups

Notes/Feedback:



Seedfolks I

18.1

STANDARDS

5.RL.5.2, 5.SL.1

OBJECTIVES

- Students reflect on the changing seasons
- Students interpret a character's intentions
- Students discuss their family history

MATERIALS

- "Seedfolks" by Paul Fleischman
- Tools for garden work

Preparation:

Over the next 6 weeks, you will be reading "Seedfolks" by Paul Fleischman. Read it before you start, it is quite short.

You will read one or two sections per class, and then discuss. Students will spend the five weeks following the reading of the story planning and executing a community service project. You can choose to read the chapters to your students, or to find a class set of books. In these lessons, I assume that you are reading aloud to your students.

Lastly, there is one chapter that I skip—Maricela's story, which deals with teenage pregnancy and abortion.

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.

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- “It is almost spring. What signs of spring do you see in the garden?”
- “Over the next 6 weeks, we are going to be doing something a little different in the garden. We are going to read this book, ‘Seedfolks’. I will read you a chapter or two, we will spend time discussing it, and then we will continue with our garden work. ‘Seedfolks’ is about community, and the way things work together in a system. After we read the book, we are going to do a project for our community, so I want you to start thinking about that now.”
- Make sure students are settled, and read Kim’s chapter.
- Discuss, based on the student’s observations and reflections.
- Dig deeper, “Why is Kim planting seeds? In anyone in your family history a farmer? Who do you feel connected to when you are in the garden?”
- Ask, “What works needs to be done in the garden?” Send students to explore, and to come back and report.
- Do garden work, based on students’ observations.

Wrap up:

Return materials.

Notes/Feedback:



Seedfolks II

18.2

STANDARDS

5.RL5.2, 5.SL.1

MATERIALS

- "Seedfolks" by Paul Fleischman

Procedure:

- Students enter the garden and explore.
- Gather students, and make sure they are settled.
- Read Ana's story, and let the students share their observations.
- "Ana describes changes in her neighborhood. Do you hear people talking about how Oakland is changing? Have you noticed changes? What do you think about that?"
- Read Wendell's story, and solicit the students' thoughts.
- "How did the young girl inspire him to start his own garden?"
- Students go into the garden and make moats around all the plants.

Wrap up:

Wash hands.

Notes/Feedback:



Seedfolks III

19.1

STANDARDS

5.RL5.2, 5.SL.1

OBJECTIVES

- Students summarize key plot details from the text
- Students interpret characters' intentions
- Students relate to the characters in Seedfolks

MATERIALS

- Paper, pencil

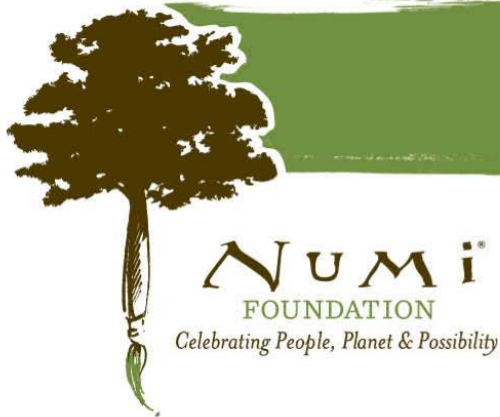
Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- Make sure students are settled.
- Read Gonzalo's chapter, and solicit students' thoughts.
- "What do you think Tío Juan was trying to tell Wendell? When have you been misunderstood?"
- "Describe what interactions have taken place so far in the story."
- Spend time in the garden looking for pest damage. As a class, discuss possible solutions to a particular problem.
- Choose one or two students to write a letter to the classroom who may need help with their plants.

Wrap up:

Deliver letter to appropriate classroom.

Notes/Feedback:



Seedfolks IV

19.2

STANDARDS

5.RL.5.2, 5.SL.1

MATERIALS

- “Seedfolks” by Paul Fleischman
- Garden gloves, class set
- Trash bags

Preparation:

Students will be picking up trash around campus, or in the garden. Know where you will go to pick up trash.

Procedure:

- Students enter the garden and explore.
- Gather students, and give them time to settle.
- Read Leona’s story.
- Ask students, “What do you think about Leona’s chapter? Does she remind you of anybody you know?”
- “When have you had a hard time being heard? What did you do?”
- Pick up trash around the garden or on campus.

Wrap up:

Throw trash away, wash hands.

Notes/Feedback:



Seedfolks V

20.1

STANDARDS

5.RL.5.2, 5.SL.1

OBJECTIVES

- Students reflect on community dynamics
- Students share their perspective on their neighborhood

MATERIALS

- “Seedfolks” by Paul Fleischman
- Tools for garden work, if necessary

Preparation:

Is there weeding, watering, or harvesting work? If not, students can explore the compost bin or the worm box.

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- “It is spring! What are you noticing in the garden?”
- Make sure students are settled. Read Sam’s chapter.

- Solicit students’ thoughts and reflections.
- “What was Sam’s job before he retired? What does he do now? Did anything surprise you about Sam’s story? Why do you think people separated and starting trying to

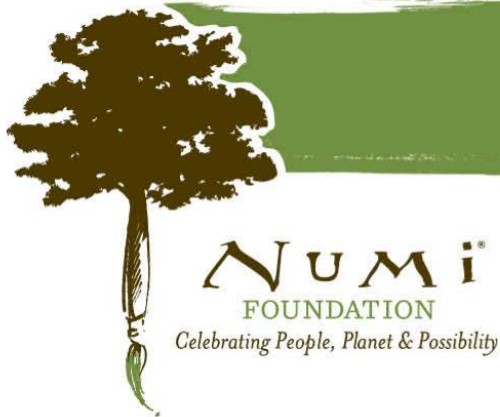
keep others out of their plots? Do you see this happening in your own neighborhood? What do you think will happen next?"

- Class discussion.
- Garden work or compost bin/work box exploration.

Wrap up:

Return materials, wash hands.

Notes/Feedback:



Seedfolks VI

20.2

STANDARDS

5.RL.5.2, 5.SL.1

MATERIALS

- “Seedfolks” by Paul Fleischman
- Poster board, markers, pens
- Seed packets, as many as possible

Preparation:

Students will be making two posters, one of warm season vegetables and one with cool season vegetables. The season a plant prefers is normally listed on the seed packet. If not, you can look at the soil temperature the seed prefers to get an idea. With some exceptions, plants that set fruit (cucumbers, melons, eggplants, tomatoes, beans) require warm temperatures, where plants that we harvest for the roots or leaves are typically cool season crops (lettuce, most greens, beets, radishes, carrots). Fava beans and peas, cool weather crops, are exceptions.

Procedure:

- Students enter the garden and explore.
- Gather students, and encourage students to settle.
- Read Virgil’s story, and pause when Virgil says that their lettuce is dying. Ask, “Do you have any ideas why their lettuce is dying?”

- Finish the chapter.
- “What did you think about Virgil’s story? Why do you think he was so surprised to see his Dad making mistakes, and lying? Why did their lettuce not grow well?”
- Discuss.
- “One of the first things you have to learn as a gardener is that plants prefer certain seasons. Some grow in the warm weather and others in the cool weather. Can you think of any examples?”
- “We are going to make posters for next year’s Kindergarteners. Some of you will work on the cool season poster, and the rest of you on the warm season poster.”
- As a class, separate the seed packets into cool weather and warm weather. Split the class into two, and have each group make a poster listing, for example, cool season vegetables, with corresponding pictures.

Wrap up:

Each group presents their poster. Return materials. Give posters to the Kindergarten teachers.

Notes/Feedback:



Seedfolks VII

21.1

STANDARDS

5.RL5.2, 5.SL.1

OBJECTIVES

- Students have a class discussion based on their own thoughts and observations
- Students reflect on the formation of a community
- Students distinguish between a community and a neighborhood

MATERIALS

- “Seedfolks” by Paul Fleischman
- Journals, pencils

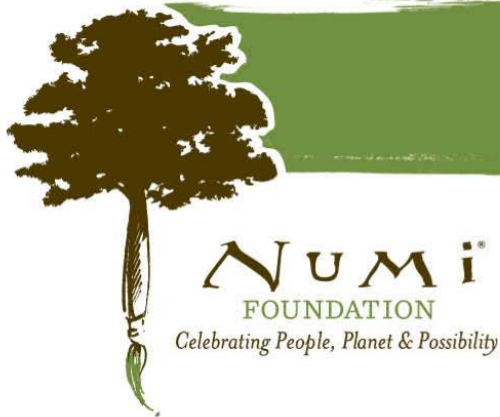
Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- Settle students. Read Sae Young’s chapter.
- Solicit students’ thoughts and reflections.
- “What was the winning idea to bring water to the garden? Could that work in our garden?”
- “What is the difference between a neighborhood, and a community?”
- Class discussion.
- In their journals, “What do you think of the story so far? How do you see the community forming around the garden?”

Wrap up:

Share, in partners.

Notes/Feedback:



Seedfolks VIII

21.2

STANDARDS

5.RL5.2, 5.SL.1

MATERIALS

- "Seedfolks" by Paul Fleischman
- Wooden garden stakes
- Outdoor paint
- Paintbrushes
- Newspaper

Preparation:

Wooden garden stakes are available at garden and hardware stores.

Lay out newspapers, paint, and paintbrushes in the area of the garden where students will work.

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- "What do you think about the story so far? What do you think is going to happen next? How do you think the garden will evolve?"

- Read Curtis's story. Solicit students' thoughts and reflections.
- "What do you think about Curtis? Is his plan going to work?"

- Each student can choose a plant in the garden to label. Students should find a plant in the garden they want to label. Walk around the garden and distribute stakes to students when they have found their plant. Students can take their stakes to the working area, and paint their stakes. Lay them on the newspaper to dry.

Wrap up:

Gather materials, wash hands.

Notes/Feedback:



Seedfolks IX

22.1

STANDARDS

5.RL5.2, 5.SL.1

OBJECTIVES

- Students discuss character relationships and interactions
- Students reflect on another character's intentions
- Students plant flowers

MATERIALS

- "Seedfolks" by Paul Fleischman
- Several packets of warm weather flower seeds
- Tools for garden work

Preparation:

Students will be planting flower seeds. Do you want them to distribute seeds within the garden, or on campus? Decide before class. If you decide to plant on campus, find places near sprinkler systems so that the seeds will be watered regularly.

It has been a few weeks since students have done garden work. Is there weeding, watering, or harvesting to be done?

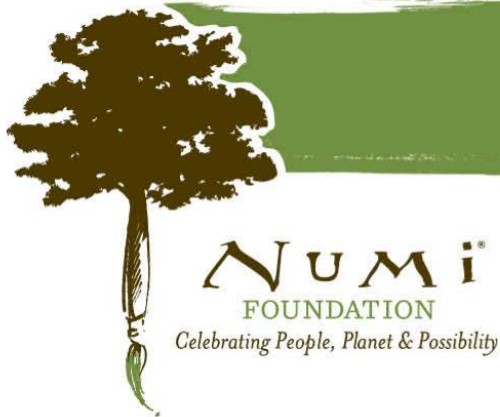
Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- “Like I mentioned before we started reading ‘Seedfolks’, we are going to plan and complete a community service project after we finish this story. Do you have any ideas? I want you to keep thinking about them as we continue through the story.”
- Read Nora’s story. Ask students for their thoughts and reflections.
- “What is Nora’s relationship to Mr. Myles? Why do you think Mr. Myles wanted to plant flowers? What do you think he was thinking about as he inspected his flower sprouts?”
- Distribute flower seeds. Plant in the garden, or around campus.
- Further garden work, as planned.

Wrap up:

Return materials.

Notes/Feedback:



Seedfolks X

22.2

STANDARDS

5.RL5.2, 5.RL5.3, 5.SL.1

MATERIALS

- “Seedfolks” by Paul Fleischman
- Journals, pencils

Preparation:

As mentioned before, Maricela’s chapter is skipped. However, the last paragraph of her story is very powerful. If you so choose, you can read this paragraph to your students, starting with “She talked on...” and ending with “...flowers growing and changing.”

Procedure:

- Students enter the garden and explore.
- Take the painted garden stakes, and place them in the garden.
- Optional: “We are skipping the next chapter, because its themes are not necessarily appropriate for a class discussion. However, I am going to read you the last paragraph of this chapter.” Read the paragraph, and ask for thoughts.
- Read Amir’s chapter.
- Solicit thoughts and reflections from students. Discuss stereotypes, appearances, and apologies.
- In their journals, “You are part of nature, you are connected to everything alive. Write about your place in nature.” OR “Stereotypes can be difficult to overcome. What do you wish people knew about you, that they can’t tell by looking at you?”

Wrap up:

Share, in partners.

Notes/Feedback:



Seedfolks XI

23.1

STANDARDS

5.RL5.2, 5.RL5.3, 5.SL.1

OBJECTIVES

- Students reflect on the story as a whole
- Students compare the characters' experiences to their own
- Students discuss the transformation that occurred over the course of the story

MATERIALS

- "Seedfolks" by Paul Fleischman
- Tools for garden work

Preparation:

What works needs to be done in the garden?

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and weather.
- "We are about to read the last story in this book. What are your thoughts? How do you expect the story to conclude?"

- Read Florence's story.
- Solicit students' thoughts and reflections.

- “Seedfolks means ancestors. Do any of the characters remind you of your ancestors?”
- “How does the garden change through the seasons? How does our garden change through the seasons?”
- “Compare the neighborhood from the beginning of the story, to the community described at the end of the story.”
- Students explore the garden, looking for garden work to be done. Gather students; have them suggest what projects there are to do today.
- Do garden work.

Wrap up:

Return materials.

Notes/Feedback:



Seedfolks XII

23.2

STANDARDS

5.RL5.2, 5.SL.1

MATERIALS

- Journals, pencils

Procedure:

- Students enter the garden and explore.
- Gather students. “This week we finished reading ‘Seedfolks’. You’ve had a few days to think about it. Do you have any more thoughts or feelings you would like to share? Were there any characters that you connected to? Any of the events that you thought were powerful?”
- “Above all, this story is about community. What was it that brought the community together? What pulled it apart?”
- Discuss.
- “All year we have been talking about systems, and interactions, and communities. Everything in nature and in life works together. The famous naturalist John Muir once wrote, ‘When we try to pick out anything by itself, we find it hitched to everything else in the Universe.’ What do you think he meant by this?”
- “As a class, we can make a powerful change in our community by working together. I want you to spend the rest of class time sitting somewhere you enjoy in the garden, and writing down your ideas. Think about what project we can do as a class that will help build community.”

- Students sit in the garden and write.

Wrap up:

With extra time, students can share in partners.

Notes/Feedback:



Community Project—Brainstorm

24.1

STANDARDS

5.SL.1

OBJECTIVES

- Students brainstorm ideas for a community project
- Students vote on a project to do as a class
- Students understand scope and sequence of community project

MATERIALS

- Journals, pencils

Preparation:

Write on your board:

- Explain the project.
- Who will this project help?
- What we can prepare on our own.
- What we need help with.

Background Information:

Refer to Teacher Supplement for additional information.

Procedure:

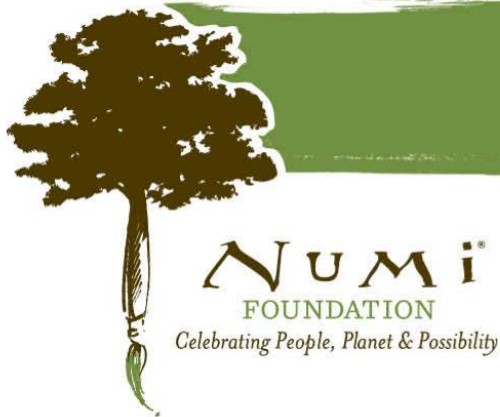
- Students enter the garden and explore.

- Gather students; check in about the season and weather.
- “Last week you wrote in your journals ideas for a community project. Who would like to share their ideas?”
- As a class, discuss different ideas. Keep students accountable to a 4-week planning, 1-week executing timeline.
- Narrow down suggestions to the 3-4 most popular ideas. Have students choose the idea they feel most interested in, and split the class into these groups.
- In their groups, students flesh out their idea a little more. One student records in their journal the prompts from the board.
- Gather class. Each group presents their idea, and after all groups have presented, vote on which project the class will undertake.
- Explain, “Now that we have chosen a project, let me tell you a little more about the timeline we are working with. Next week we will be indoors, using computers to do research about our project. We will work on writing an action plan—that is, the steps we need to take to do our project. The following week, we will continue planning our project, and contacting all the people we need help from. The week after that, we will gather our materials, and practice for our project. The final week, we will do our project. Our second lessons of the week will be devoted to either finishing our work from the first part of the week, or exploring and taking care of the garden.”

Wrap up:

With extra time, continue exploring the garden.

Notes/Feedback:



Teacher Supplement: Brainstorm

ADDITIONAL INSTRUCTIONS

Suggested timeline for the community project

- Week 24.
 - Lesson 1: Brainstorm and vote
 - Lesson 2: Garden work
- Week 25.
 - Lesson 1: Research and action plan
 - Lesson 2: Continue action plan
- Week 26.
 - Lesson 1: Planning, make phone calls
 - Lesson 2: Garden work
- Week 27.
 - Lesson 1: Gather materials, practice
 - Lesson 2: Continue practicing
- Week 28.
 - Lesson 1: Action
 - Lesson 2: Reflection

If students need help with brainstorming ideas for a community action project, some possibilities are:

- Organizing a letter writing campaign about a cause they feel passionate about
- Build a garden box for someone in the community

- Organize a block party to clean the neighborhood
- Organize a tree planting in the neighborhood
- Educate the school about ways to save water
- Organize a food drive for a local food bank



Class Discussion

24.2

STANDARDS

5.SL.1

MATERIALS

- Tools for garden work

Preparation:

Students will be in the garden less over the coming weeks. Think about what maintenance projects they will need to do to keep up with the garden.

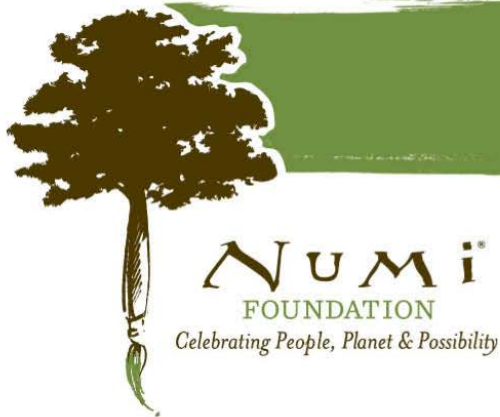
Procedure:

- Students enter the garden and explore.
- Check in about the season and the weather.
- “Look around the garden. What needs to be done? Go back out and explore, and let’s gather to discuss.”
- Class discussion of work that needs to be completed. If several jobs, split the class into groups to work.
- Small group work in the garden.

Wrap up:

Return materials, wash hands.

Notes/Feedback:



Community Project—Action Plan

25.1

STANDARDS

5.SL.1

OBJECTIVES

- Students conduct research to plan for their project
- Students work as a class, or in small groups, to think through their project
- Students finish their action plan

MATERIALS

- Copies of the action plan template, pencils

Preparation:

Based on the project that your students have chosen, draft an action plan that you and your class will fill out together. You may want to fill out a sample plan so students have an idea of what is expected.

Will you need to do research on computers? Or can you work outside in the garden?

Background Information:

Refer to Teacher Supplement for additional information.

Procedure:

- Class begins, either in the garden or indoors.
- Go over action plan template. Discuss each aspect of the plan. Students can work in groups on a certain area, or you can fill out each section as a whole group.

Wrap up:

Review action plan as a group.

Notes/Feedback:



Teacher Supplement: Action Plan

ADDITIONAL INSTRUCTIONS

Example of an action plan

Type of project: Organizing a weeklong Food Drive in Our Community

Project goal: To educate our community about local food insecurity and to organize a food drive that will support our local food bank

Materials Needed	People we need to contact	Tasks	Project location	Off-campus permission slips?	Day of action plan
<ul style="list-style-type: none"> -Bags for each classroom to collect cans -Bags to distribute to neighbors -Fliers to distribute to 	<ul style="list-style-type: none"> -Volunteer coordinator at local food bank -Principal; tell him/her our plan 	<ul style="list-style-type: none"> -Call contacts -Learn about local food insecurity -Prepare assembly to tell school body what we are doing 	<ul style="list-style-type: none"> -Assembly: on campus -Distributing fliers/bags: in the neighborhood -Collecting bags of food: on campus -Teacher brings bags of food to 	<ul style="list-style-type: none"> -Walking permission slips in order to post fliers in the neighborhood 	<ul style="list-style-type: none"> -9am: Collect materials -10am: Distribute bags/fliers to neighbors -11am: School-wide assembly and rally. Distribute bags to all

classrooms , neighbors		-Make fliers for campus -Make fliers for neighbors, staple fliers to bags which will be distributed to neighbors	local food bank		classrooms . -Next week: teacher will drive all bags to local food bank
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Journal Prompt: Seedfolks

25.2

STANDARDS

5.SL.1

MATERIALS

- Action plan
- Journals, pencils

Preparation:

If the action plan template needs to be completed, begin indoors where you can work as a class. Otherwise, you can begin class outside in the garden.

Procedure:

- Begin class.
- Continue working on community action plan.
- Once finished, bring students to the garden to explore.
- In their journals, “Kim, from Seedfolks, started something big from just 6 seeds. Can small actions have big consequences? Write your thoughts, or draw a picture.”

Wrap up:

Share, in partners.

Notes/Feedback:



Community Action—Planning

26.1

STANDARDS

5.SL.1

OBJECTIVES

- Students take their action plan and make steps toward realizing their plan
- Students engage in small group work
- Students share out progress

MATERIALS

- Action plan from last week
- Paper, pencils

Preparation:

Think about your end goals for your planning day today.

It will be helpful to have second adult to help you today; perhaps to take students to make phone calls and work on logistics.

Procedure:

- Students enter the garden and explore.

- Gather students; check in about the season and weather.

- Show students their completed action plan. Discuss the next steps, “Who did we decide that we need to call? What materials do we need? Who can we ask to help? Remember—teamwork makes the dream work!”
- Group work.
- Close with a class discussion—“What is the end goal here? How do we stay focused on the goal?” If students worked in small groups, have each group share out what they worked on.

Wrap up:

Collect materials.

Notes/Feedback:



Nature's Paintbrush

26.2

MATERIALS

- Cups of black paint; one cup per 3-4 students
- Clipboard and paper; one per student

Preparation:

This is a very fun project, and a great break for students planning the Community Action Project.

Place cups of black paint in different spots in the garden. Students will be using something that they find in the garden to use as a paintbrush. You can allow them to harvest an entire plant, or a leaf, or a flower as a brush. You may choose to restrict them to only using plant material that has already fallen on the ground. Decide on your parameters before class.

Procedure:

- Students enter the garden and explore.
- Distribute clipboards and paper to students.
- “You have a clipboard, a piece of paper, and in the garden there is paint. I want you to paint a picture. What is missing?”
- “Right! A paintbrush. Your paintbrush is in the garden!” Explain your parameters about what may or may not be used as a brush. Remind students that they can use their brush also as a stamp!
- Give students plenty of time on their artwork. When finished, collect paintings in the classroom and give students time to appreciate each other’s’ work.

Wrap up:

Collect all materials, wash hands.

Notes/Feedback:



Community Action—Practice

27.1

STANDARDS

5.SL.1

OBJECTIVES

- Students gather their materials for the community action day
- Students go through a “dress rehearsal” of the community action day
- Students reflect on their project

MATERIALS

- Action plan
- Materials that you need for your project

Preparation:

What materials will students need? If students are doing their project on campus, use that space today to space. If the project is off campus, choose somewhere on campus to mimic the process.

Procedure:

- Class begins.
- “Today we will need to gather all of our materials for the community action day. We will also practice what we will be doing on the day off, so that we can be prepared.”
- Gather materials.

- Rehearse community action project, discuss as you go along.
- “How are you feeling about this project? What are you looking forward to? What are you nervous about? How do you think this will affect the community?”

Wrap up:

Store materials in an accessible place for next week.

Notes/Feedback:



Rehearsal

27.2

STANDARDS

5.SL.1

MATERIALS

- Any materials you need for your project

Preparation:

Do you need to have anything ready for your students to help with their rehearsing?

Procedure:

- Practice makes perfect! Continue practicing and organizing so that next week's project goes as planned.
- With extra time, explore the garden.

Notes/Feedback:



Community Action Project

28.1
STANDARDS
5.SL.1

OBJECTIVES

- Students complete their community action project

Preparation:

You have been preparing for weeks, enjoy! Considering having someone record or photograph the students' work.

Procedure:

- Students do their project!

Notes/Feedback:



Class Discussion

28.2
STANDARDS
5.SL.1

MATERIALS

- Journals, pencils

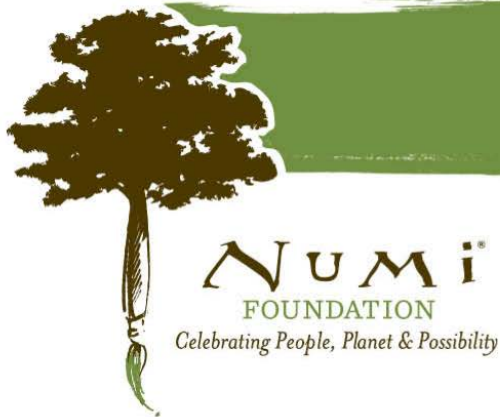
Procedure:

- Students enter the garden, and enjoy an extended explore time.
- Gather students; check in about the season and weather.
- “Summer is near, do you notice any changes in the garden, or in the weather?”
- “We completed our action project! Let’s debrief. What are your thoughts and experiences?”
- “How did this impact our community? How did you see community forming? What was meaningful for you? What would you have done differently? What advice would you give to next year’s fifth graders?”
- Students find a quiet spot in the garden with their journals, “What are you connected to in this world? Can you name 10 things? 20? 50? What inspires you to connect to yourself, your community, and nature?”

Wrap up:

Share, in partners.

Notes/Feedback:



Cleaning the Garden for Summer

29.1

OBJECTIVES

- Students suggest projects to clean the garden for summer
- Students have agency in preparing the garden for summer
- Students work in groups to do garden work

MATERIALS

- Tools for garden work

Preparation:

What better way to unwind from a month of planning a community action project than some garden work? Look around the garden—what needs to be cleaned, harvested, composted, and rearranged before summer? Have a list of tasks ready, and know that the students may have suggestions of their own.

Procedure:

- Students enter the garden and explore.
- While exploring, ask students to notice what garden jobs need to be done.
- Gather students; check in about the season and weather.
- “What garden jobs need to be done?” Write a list on the board.
- Students break into groups based on the work they would like to do. Spend the class period cleaning the garden for summer.

Wrap up:

110

Return materials, wash hands.

Notes/Feedback:



Reflection

29.2
STANDARDS
5.SL.1

MATERIALS

- Tools for garden work

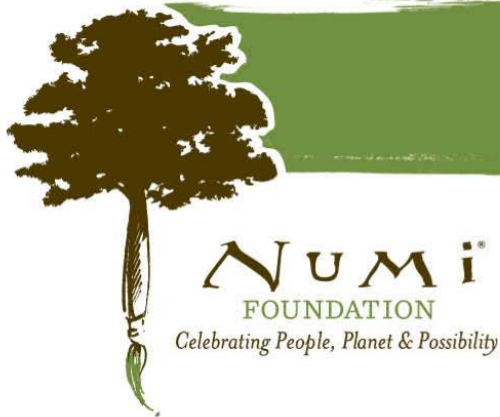
Procedure:

- Students enter the garden and explore.
- Continue cleaning the garden, and doing garden work, as needed.
- “Does anyone want to share out any of their favorite memories of the year?”
- Class discussion and reflection about the year.

Wrap up:

Return tools.

Notes/Feedback:



Miss Rumphius

30.1

STANDARDS

5.RL5.2

OBJECTIVES

- Students meditate on the power of a seed
- Students feel encouraged to play a role in taking care of the earth

MATERIALS

- “Miss Rumphius” by Barbara Cooney
- Sunflower seeds, at least one per student (or another summer-loving seed of your choice)

Procedure:

- Students enter the garden and explore.
- Gather students; check in about the season and the weather.
- “Over this year, we talked about how we are all connected on this earth, and in this community. Here is a story about the same idea.” Read “Miss Rumphius” and discuss the many lessons within the book.
- Hand each student a seed, and instruct them to hold it tight and close their eyes.
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- “You may be thinking, ‘One seed?!’ but think about this. Inside your hand is one seed. It is a sunflower seed, and if you plant it and take care of it, it will grow in a tall, beautiful sunflower plant. The flowers are pollinated, and turn into seeds. One plant can produce 1000 seeds. So now you have 1000 seeds. Imagine you plant 1000 sunflower seeds, and then have 1000 sunflower plants. If each sunflower grows, and produces 1000 seeds, you will have one million seeds. Can you even imagine one million seeds? If you harvested the seeds from one million plants, you’d have one trillion seeds. Can you even imagine that? And this can go on forever, and in fact, it has been going on forever. Open your eyes, and look at your seed. Your one seed.”
- “One way you can help our community is by planting this seed, and taking good care of it. Think about how much beauty you can bring to the world with a single flower. Think about how much joy you can bring the world with one kind word.”
- Students put seeds in their pockets.
- Explore the garden, enjoying and noticing the flowers, plants, birds and bugs that make it all happen.

Notes/Feedback:



Reading from Journals

30.2

MATERIALS

- Materials for garden work
- Journals, pencils

Preparation:

Is there more garden work to be done?

Procedure:

- Students enter the garden and explore.
- Gather students, reflect on the year. “What did you learn? What surprised you? What will you never forget from the community project?”
- Help clean the garden for the summer: pulling weeds, taking out the compost, whatever needs to be done.
- Distribute journals, give students time to look through their work from the year.
- In their journals, “You are a part of nature, and it is part of you. When this year did you feel connected to nature the most?”

Wrap up:

Gather students; take volunteers to read their journal entry.

Notes/Feedback:

