

Bay Area Scientists in Schools Presentation Plan

Lesson Name: All About Seeds!

Presenters: Rachel Okrent, Molly Sharlach, Alexander Jones

Grade level 1

Standards Connections(s) external features and needs of living things, how plants meet needs, draw and discuss pictures, record observations with pictures, numbers

Abstract:

Seeds are the parts of plants that contain the growing instructions for new plants! We will explore lots of things about seeds: what parts of plants seeds come from, lots of different sizes and shapes of seeds, how seeds find a place to grow into new plants, and what's inside a seed. We'll also talk about some fun facts, like how some things we call vegetables, like cucumbers and tomatoes, are actually fruits! We will look inside different fruits, observe the seeds, and compare seeds from different fruits. We will also learn about how seeds move, by making good-tasting fruits, by wind, water, and by hitchhiking on animals. Finally, we will open up some seeds to observe the baby plants inside.

Vocabulary:

Fruit
Seeds

Materials:

What you'll bring with you -
A variety of fruits: cucumbers, strawberries, apples, oranges, bell peppers, green beans
A variety of other seeds: poppy seeds, dandelion, coconut
Paper plates
Ziploc bags
Cutting board and knife
Worksheets

What students should have ready: pencils and crayons

Classroom Visit

1. Personal Introduction:

5 minutes

We are Rachel, Molly, and Xander and we are scientists who study plants. Scientists like us ask questions about the world, and carefully study it. We write down or draw what we find out in lab notebooks. Today you are going to be scientists like us.



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Topic Introduction: (Molly)

5 minutes

Who here eats fruits and vegetables? Ask another presenter: When you're at the grocery store, and you want to pick out some fruits, what kinds do you get? [apple, banana, etc] What kinds of vegetables do you pick out? [lettuce, broccoli, etc] What about a cucumber [hold up a cucumber], is this a fruit or vegetable? Sometimes it can be tricky to tell if something is a fruit. Scientists have a special definition for a fruit that different than the one we use when we pick out fruits and vegetables in the grocery store.

Ask kids: "who knows what a fruit is?" "Who knows what a seed is?" Build definition from their responses.

Fruit: A fruit is the part of a plant that holds seeds

[Cut an apple in half to show the seeds inside, students will write in their notebook]

Seeds: Part of plant that protects and feeds baby plants

2. Learning Experiences:

35 min

a) What's inside fruit? (Rachel)

What are parts of a plant? Plants have roots, stems, and leaves. We eat different parts of plants [show carrots and lettuce].

Display fruits and vegetables to students: apples, oranges, tomatoes, peppers, cucumbers, pumpkin, etc. Ask a question, "What would happen if we cut open this cucumber and look inside? What would we find?" Allow students to answer. Follow up with "Why do you think that? How do you know?" Cut open the cucumber and show the seeds. It's a fruit! Now it's time for you to be scientists and observe the other fruits we have. [Cut open others, and pass them out to students in groups. Give them paper plates, cups, and plastic spoons to sort the seeds.

Ask students: "What are some differences between seeds from different fruits at your table": [looking for size, color, shape, etc.]. Make a list on the board of these categories. Ask: If you wanted to figure out if something is a fruit, what could you do? (Acorn for example)

Discuss sizes and shapes of different seeds, passing around seeds from different tables.

Then, students fill out the worksheet for this section.

b) What's inside a seed? (Xander)

Here is a big seed called a lima bean. Has anyone ever eaten a lima bean? Today we're not going to eat them. Instead, we're going to look inside them. [Pass out pre-soaked lima beans and toothpicks]

[First go over drawing (big copy on the board), and have them fill out the corresponding page on their worksheet. Then, have them open up the beans with the toothpicks and draw and describe what they see.]

If time allows:

c) Moving seeds demonstration (Xander)

What do plants need to grow? (Light and water) If an apple drops from a tree, will it be able to grow where it lands? Why not? (What's it like under a tree? Shady – not enough light)



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Seeds need to move to a new place where there is enough light and water for them to sprout and grow into healthy plants. But how do they move? One way is to make nice, sweet fruit to cover the seeds. When an animal eats a fruit with the seeds inside, the seeds won't get digested. Instead they'll go right through the animal into a new place. (review: What are examples of some fruit?) Have you ever seen seeds moving in a different way? How do they do it? We're going to talk about three other ways they can move: by wind, by water, or on an animal. I'm going to hold up a seed. Your job is to guess how it can travel. Demonstration: [Hold it up, have them guess how it can travel] Now draw a circle around your guess in your lab notebook: wind, water. Have three volunteers, one for each test. Wind test: Hold the seed in the air, let it drop, see if it floats. Water test: drop seed into a cup of water, stir, and see if it floats. Hitchhiker: put a stuffed animal on top of the seed, press down and see if it sticks.

3. Wrap-up: Sharing Experiences and Building Connections: (Molly) 10 min

How do we know if something is a fruit? Try with an unfamiliar fruit.

Why did we use the lima bean to look at the baby plants? Why didn't we use poppy seeds, for example? How can we guess which method seeds use to travel?

4. Close: 5 min

What did you learn today? What else would you like to learn about seeds and plants? What was your favorite thing we did today?

Clean-up

Follow-up – After Presentation

Ask students to write a letter about what they learned and include drawings.

When you're eating fruits and vegetables, think about which vegetables are actually fruits. If you're walking in the park, maybe you'll see some seeds moving around. Students can take beans home.

Reading Connections:

- A Fruit is a Suitcase for Seeds by Jean Richards

<http://www.amazon.com/Fruit-Is-Suitcase-For-Seeds/dp/0761316221>

- From Seed to Plant by Gail Gibbons

<http://www.scholastic.com/teachers/book/seed-plant>

- A Seed is Sleepy by Diana Hutts Aston

<http://www.amazon.com/Seed-Sleepy-Dianna-Hutts-Aston/dp/0811855201>

- The Tiny Seed by Eric Carle

<http://www.amazon.com/Tiny-Seed-World-Eric-Carle/dp/0887080154>



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