

Science

The Huntington Library, Art Collections, and Botanical Gardens

Growing Your Own Seed

Time: 1 hour

Grade K-2

California Science Content Standards

Grade K

Life Science

2c. Students know how to identify major structures of common plants (e.g., stems, leaves, roots).

Investigation and Experimentation

4b. Describe the properties of common objects.

4d. Compare and sort common objects by one physical attribute (e.g., color, shape, texture, size, weight).

4e. Communicate observations orally and through drawings.

Grade 1

Life Science

2b. Students know both plants and animals need water, animals need food, and plants need light.

2e. Students know roots are associated with the intake of water and soil nutrients, and green leaves are associated with making food from sunlight.

Investigation and Experimentation

4a. Draw pictures that portray some features of the thing being described.

4b. Record observations and data with pictures, numbers, or written statements.

Grade 2

Life Science

2.0 Plants and animals have predictable life cycles.

Investigation and Experimentation

4b. Measure length, weight, temperature, and liquid volume with appropriate tools and express those measurements in standard metric system units.

4d. Write or draw descriptions of a sequence of steps, events, and observations.

4e. Construct bar graphs to record data, using appropriately labeled axes.

4f. Use magnifiers or microscopes to observe and draw descriptions of small objects or small features of objects.

California English-Language Arts Content Standards

Language Arts

Grade K

Reading Comprehension

2.1 Locate the title, table of contents, name of author, and name of illustrator.

2.2 Use pictures and context to make predictions about story content.

2.4 Retell familiar stories.

2.5 Ask and answer questions about essential elements of a text.

Literary Response and Analysis

3.1 Distinguish fantasy from realistic text.

Grade 1

Reading Comprehension

2.6 Relate prior knowledge to textual information.

2.7 Retell the central ideas of simple expository or narrative passages.

Grade 2

Reading Comprehension

2.3 Use knowledge of the author's purpose(s) to comprehend informational text.

2.4 Ask clarifying questions about essential textual elements of exposition (e.g., why, what if, how).

2.5 Restate facts and details in the text to clarify and organize ideas.

Indicators of Achievement

- Student identifies the anatomy of a plant and applies important concepts for growing a seed.
- Student plants a lima bean seed and successfully observes and records its growth over the next couple of weeks.
- Students successfully answers questions about the book *The Tiny Seed* by Eric Carle.

Materials

The Tiny Seed by Eric Carle, lima beans (dry and soaked for 3 hours), magnifying glasses, soil, terra cotta pots, empty milk cartons, plastic soda bottles or plastic pots, water, a variety of seeds (students may be asked to bring some in to class), word chart of manipulatives to reinforce concepts learned about plant life cycles from the reading activity.

Preparation

Create stations for children to examine plant seeds. Plan cooperative learning groups of four children each. Create a supply checklist for children to review. Prepare two beans per child, one soaked, and the other dry.

Background

Read aloud *The Tiny Seed* by Eric Carle. Discuss how a seed grows, including how a plant begins, how a seed turns into a plant, what seeds need to grow and how seeds travel. Use the word chart or manipulatives to reinforce what the children learned about a plant's life cycle from the reading and discussion.

Activity

1. Upon arriving at their stations, ask the students to check the supply list to make sure they have all of the materials needed.
2. Give each child two seeds.
3. Have the students examine seeds, looking at structure, texture, size and differences.
4. Have students carefully split the soaked lima bean in half so that they can examine the inside and identify the parts.

5. Have the students use the magnifying glass to observe the seed up close and find the baby plant. Some students may need guidance in using the magnifier successfully. Ask them to discuss their findings with their group.
6. Ask each child to take another seed, which they will use for planting.
7. Ask students to scoop a small amount of soil and place it in their planting container.
8. Have students place their seed in the middle of the container and fill the rest of their container with soil covering the seed.
9. Show students how to lightly water their newly planted seed and place the container in a place where it will receive light.
10. Explain how to take the care of the newly potted plant (a little water every two days). Tell students that as the plants grow you will be helping them measure the growth of their plants in inches and keep a graph of each plant's growth.

Assessment

Observe and question students as they respond to the story, plant their seeds, care for their plants, and observe and record the growth of their plants. Did the students show understanding in their discussion of the book *The Tiny Seed* by Eric Carle?

Can the students identify the anatomy of a plant and describe the plants' life cycle? Did the students successfully plant the seeds and care for them? Did the students successfully observe and record the growth of their plants?

Extensions

Create an extension to the Eric Carle book.

Create a picture of what student's plant will look like once grown.

Create a garden on the school yard.

Create a seed museum that exhibits seeds from home, neighborhood or world.

Contact and Field Trip Information

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Field Trips, 626-405-2127

www.huntington.org