Lesson 11: Ho`opiha
Growing in knowledge: Terrarium Project

Summary
Students will spend the second portion of the quarter growing plants at home in preparation for their culminating assessment project. Students choose a recycled container to grow two different types of plants, take daily observations, and give a final report and presentation.

Objectives
- Students will be able to communicate the results of their project to an audience.
- Student will demonstrate accurate record keeping.
- Students will be able to write a report based on their project.
- Students will gain personal pride and experience in growing plants.

Materials
Supplied at home.
Teacher may choose to supply seeds.

Making Connections
Most students are excited about the plants growing in the classroom and offer lots of suggestions about more plants you can grow. This is a chance to channel that enthusiasm into a home project. Simply letting the students know this is a project that is completely their own is enough to motivate.

Concepts
Daily care is required to raise plants successfully. Children can grow their own plants. Two different plants will grow differently in the same environment.

HCPS III Benchmarks
SC.2.1.1
SC.2.4.1

Duration
4 to 5 weeks at home.

Two 40-minute report-writing sessions (optional)

One hour for presentations in class at end of quarter.

Source Material
FOSS

Vocabulary
Terrarium
Report
Presentation
Recycled
Observation

New Plants

Lesson 11 Ho`opiha
1
Teacher Prep for Activity
1. Copy the Home Plant Project Calendar.
2. Schedule Presentations Session.
3. Copy the parent letter.

Background
Vegetables and herbs like lettuce and basil are easy to grow in small containers at home. A two-liter bottle, cut in half, then reattached, makes an ideal plant terrarium, or greenhouse. Cupcake containers, hot fudge sundae cups and lids, Iced Café Mocha cups and domed lids, pickle jars, and donut clam-shell shaped containers have all been used successfully. Over-watering is the most common problem for students growing their own seeds, followed by choosing seeds off the ground that are not viable. Containers with lids should be in well-lit areas, but not be left in direct sun—it gets steamy inside.

Procedure
1. EXPLAIN THE PROJECT AND REQUIREMENTS
   a. Grow two different kinds of plants.
   b. Use a recycled container—something that has been used before for something else. The container should have a clear lid, with a few holes for ventilation.
   c. Record observations every day.
   d. Care for your plant: Plants need
      i. water
      ii. air
      iii. nutrients
      iv. light
      v. support (soil)
   e. Explain when the report is due and when the presentations will be.

2. PASS OUT THE HOME PLANT PROJECT PARENT INFO SHEET
   a. Students should give this to the parents to get help on getting started.

3. REMIND STUDENTS FOR SEVERAL DAYS
   a. Students need to get started right away.
   b. If students can’t tell you quickly what they are growing, they haven’t started—consider a note or call home.

4. CHECK IN WITH STUDENTS ON PROGRESS
   a. Two weeks after the project is assigned, formally ask each student for a quick report on how his or her project is going. Help them problem solve—if nothing has sprouted, suggest some fast-growing fresh seeds, such as beans or corn.

5. REPORTS
   a. Depending on the students’ experience with report writing, you may want to schedule one or two periods to work on the reports in class.
6. PRESENTATIONS
   a. Make it an event—invite parents and the principal, serve refreshments, take pictures of the students proudly showing off their plants.
   b. Go over behavior during presentations. No teasing or put-downs. Explain how to ask thoughtful, relevant questions. Each student should answer at least one question from the audience.
   c. Be sure to explain ahead of time that the presentation should not be reading their calendar out loud or reading right off their report. The students are the experts on their plant projects—they should simply tell about how it went and what they felt they learned.

Assessments
Project:
Student planted two different kinds of plants
Student gave plants the resources they needed
Student made daily observations in the calendar
Student used an appropriate, recycled container

Report:
Student included the names of the plants grown.
Student explained the methods and materials used.
Student described the observations recorded.
Student drew interesting conclusions or had thoughtful reflections on the project.
Student posed possible explanations for unexpected observations.

Presentation:
Student made eye contact with and spoke to the audience.
Student talked about their project and did not read off their calendar.
Student stayed on topic, discussing the plants, their growth, and their experience.
Student mentioned some interesting things observed or learned during the project.
Dear Parents and Guardians,

We are asking each student to conduct a home plant project this quarter. This is an opportunity for your child to be in charge of his or her own project for a whole month. This will be the final project for the quarter, and each child will bring their project into class to deliver a report and presentation on (date)___________.

Instructions for child:
- Grow two different kinds of plants in a single container.
- Use a recycled container—something that has been used before for something else. The container should have a clear lid, with a few holes for ventilation. A cut two-liter bottle, Starbucks clear cup and lid, or large plastic pastry container all work well.
- Record observations every day on calendar provided.
- Care for your plant: Plants need:
  ✓ water
  ✓ air
  ✓ nutrients
  ✓ light
  ✓ support (soil)
- Write your project up as a one-page report.
- Bring your plant project, calendar, and report back to school on _________________ for a presentation.

It is important that students get started right away! Thank you for help in getting them started.

Mahalo,
Students will be expected to meet the following standards for an outstanding evaluation of their project:

Project:
Student planted two different kinds of plants.
Student gave plants the resources they needed.
Student made daily observations in the calendar.
Student used an appropriate, recycled container.

Report:
Student included the names of the plants grown.
Student explained the methods and materials used.
Student described the observations recorded.
Student drew interesting conclusions or had thoughtful reflections on the project.
Student posed possible explanations for unexpected observations.

Presentation:
Student made eye contact with, and spoke to the audience.
Student talked about their project, and did not read off their calendar.
Student stayed on topic, discussing the plants, their growth, and their experience.
Student mentioned some interesting things observed or learned during the project.

You can help your child meet these goals throughout the project.
<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
</table>

Name:

Home Plant Project Calendar

Lesson 11 Ho`opiha
6