**Module 2

“Just The Berries”

Spring Semester**

 **Lessons 6-8**

 **Driving Question(s)**

* How do we best produce and care for strawberries in the classroom?
* What is the best tool to use when measuring a certain object or length?
* What is the best way to get our parents involved in our strawberry project?

 **Overview**

This module has students observing the growth of strawberry plants over time by recording observations and data in their science notebook. Students also use the runners from the strawberry plants to do a math lesson on measurement where students estimate, measure, write comparison statements and write word problems. The end of this module coincides with the end of the school year. Students write an opinion/persuasive letter to their parents about their project and ask for help caring for the plants over the summer. Students also help make a presentation and present their project to their parents and ask for parents to sign up to take care of the garden over the summer. A class discussion is needed to determine how parents should care for the garden and then a caretaker’s guide is made for the parents to use.

**Major Products & Performances**

* Science Notebook/journal
* Runner Length – Math Sheet
* Opinion/Persuasive Letter
* Capstone Event – Parent Night Presentation
* Outdoor Strawberry Bed

**Teacher Background**

**About Strawberries:**

Strawberries can be classified as June bearers, everbearers, and day-neutral. June-bearers bear fruit over a 3 to 4 week period in the spring. Everbearers bear fruit twice a year in the spring and fall. Day-neutrals will bear fruit in spring, summer and fall. Strawberries are grown from year-old roots or from seed. The plant will produce berries within 60 days from a root and around 122 days from seed. We have had the most success with Quinault (everbearing) and Allstar (June-bearing). It is suggested to remove blooms as they appear the first year so that the plant can get established; however, we choose not to do this so the students can see the whole cycle and observe berries on the plant. When harvesting the berries we remove each fruit with its stalk and handle it carefully to give it a longer shelf life. Strawberry plants contain runners. June-bearing strawberries produce more runners than everbearing. The proper name for strawberry runners is “stolon.” Stolons are defined as horizontal connections between organisms, and they can arise from the organism. Strawberry stolons, or runners, are horizontal stems that run above the ground and produce new plants at nodes spaced at various distances. The long stems containing no leaves, between the main plant, plant-growing nodes, and growing tip of the stolon are called “internodes.” Runners can be planted to grow new plants. (See Caretaker’s Guide example on how to properly plant runners, propagate.)

 **Growing Tips:**

When strawberries are planted in the EarthBox it is best to fill the water reservoir once a week through the tube. If transplanting the strawberries to outside bed you will need to acclimate them to the outside temperature by putting the EarthBox outside 2 hours the first day, 4 hours the second day, and 6 hours the third day. On the fourth day you can leave them outside or transplant them into an outside bed. If transplanting the strawberries, handle the plant and roots with care.

 **Measuring Runner Length Lesson:**

Runner Length Student Handout attached to this lesson.

Group sizes will depend on how many runners your plants have that you can cut.

**Parent Letter Lesson:**

We taught our students how to write a letter earlier in the school year.

The rubric to share with your students and to use to grade the letters is attached to this lesson.

**Parent Night / Presentation Lesson:**

The Gigapan picture can be found at <http://gigapan.com/gigapans/154691> . This site allows you to zoom in on a strawberry terrace through a high-resolution image.

The PowerPoint we used is attached to this lesson as a printout for you to use as an example.

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