







Mayan Companion Planting: The Three Sisters

Overview:



Students will learn that the Mayan civilization (2600 B.C.E to 900 C.E.) is well known for their companion planting technique called “The Three Sisters,” which involves planting corn, vine beans, and squash together on a mound for their mutual benefit.

Objectives:

At the end of the lesson, students will be able to:

-  **List** the three plants that represent “The Three Sisters.”
-  **Explain** how each kind of plant helps the other plants grow.
-  **Plant** “The Three Sisters” in a garden bed.
-  **Write** a script for their own Three Sisters play.

Preparation:

-  Review the handout.
-  Choose a learning activity (play or planting).






Vocabulary:

- | | |
|---|---|
|  companion |  mulch |
|  mutual |  microclimate |
|  mound |  biodiversity |
|  nitrogen |  balanced diet |



Learning Activities:

- I. Presentation (15 min.)
 - A. Tell students that today they will learn about how and why these three plants


Materials:

-  Corn, vine bean, and squash seeds; potting soil for container and amended soil for bed
-  A “three sisters” bed in your garden, growing corn, green beans, and squash
-  If this is not possible, find pictures online to illustrate the way the three plants grow together as “Three Sisters.”
-  Trowels and gloves
-  Handout: “Writing The Three Sisters Play”


On the Board:

-  Vocabulary
-  Student Reflection Questions

Suggested Snack:

-  Three Sisters Succotash:
[http://
www.eatingwell.com/
recipe/250780/three-
sisters-succotash](http://www.eatingwell.com/recipe/250780/three-sisters-succotash)

Other Resources:

-  Denee, Peduzzi and Hand, *In The Three Sisters Garden*, 1996.

can be planted together.

- The Mayans, and early Native Americans, used the technique of “companion planting” to help their crops grow and create a balanced diet for humans.

B. Ask students:

- Which three plants are called the “Three Sisters?” Corn, vine beans and squash.
- Why were they grown together? The corn serves as a structure for the vine beans to grow up, the vine beans’ roots put nitrogen back into the soil which nourishes all the plants, and the squash serves as a mulch to keep moisture in the soil from evaporating too quickly for all the plants.

C. Elicit definitions of Vocabulary words from the students:

- *companion*: one of a pair of things intended to complement or match each other
- *mutual*: held in common by two or more parties
- *mound*: a rounded mass projecting above a surface
- *nitrogen*: an element found in soil (and other places) that is important for plants to grow healthy
- *mulch*: material (such as decaying leaves, bark, or compost) spread around or over a plant to enrich or insulate the soil, keep in moisture, and to discourage weeds
- *microclimate*: the climate of a very small or restricted area, especially when this differs from the climate of the surrounding area
- *biodiversity*: the variety of life in the world or in a particular habitat or ecosystem
- *balanced diet*: a diet that contains the proper proportions of carbohydrates, fats, proteins, vitamins, minerals, and water necessary to maintain good health

2. Optional Garden Activity: Three Sisters Planting (25 min.)

- A. Prepare a bed or large outdoor container (such as a barrel) with holes or gravel in the bottom so that water does not pool there.
- B. Have the students create mounds of soil to plant corn, vine beans, and squash.
- C. The container or bed must receive at least four to six hours of sunlight (or 12 hours of grow lights inside) each day.
- D. Review the “Other Resources” section for more information on how to plant your Three Sisters garden.

3. Optional Classroom Activity: Writing the Three Sisters Play (25 min.)

- I. Have the students read the character descriptions of the Three Sisters cast and then write their own script.

2. If time allows, have students act out one or more of the scripts. Or, review the scripts and have students act them out in a follow-up lesson.
4. **Snack:** Serve a “Three Sisters Succotash”. (5 min.)
5. Have students answer the Reflection Questions in their garden journals. (5 min.)

Student Reflection Questions:

1. In what ways do you think corn, beans, and squash might provide a balanced diet for humans?
2. Is growing corn, beans, and squash an example of planting to increase biodiversity? Why or why not?

Assessment Questions:

1. Which plants are known as the three sisters?
 - A. Corn, potatoes, sugar cane
 - B. Squash, corn, vine beans**
 - C. Beans, pumpkins, potatoes
 - D. Sweet potatoes, tomatoes, avocados
2. What is companion planting?
 - **Companion planting is planting two or more crops near each other that have certain characteristics that are mutually beneficial to each of the plants.**

Standards:

Common Core State Standards

- CCSS.ELA-LITERACY.SL.7.1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.

- CCSS.ELA-LITERACY.RH.6-8.4

Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

- CCSS.ELA-LITERACY.RL.7.3

Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

- CCSS.ELA-LITERACY.W.7.3

Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

Acknowledgements:

Tonya Mandl, Teacher Advisor, LAUSD Nutrition Network

“The Three Sisters Play.” Project Web.

http://vintagegardens.weebly.com/uploads/4/7/2/3/4723610/three_sisters_play.pdf



Writing the Three Sisters Play

Name: _____

Teacher: _____

Date: _____

Read the character descriptions of the seven characters in this play below. Then write a script for the play using what you know about each character.

Cast:

Sister Corn

Sister Squash

Sister Bean

Mother Earth

Father Sun

Grandmother Rain

Grandfather Wind

Sister Corn is the oldest. She stands tall and her silken hair blows in the breeze. Sister Corn loves being the tallest. She knows she is strong and can care for her younger sisters.

Sister Squash is the middle sister. She is more active than her two sisters. She loves to run around looking for worms and roly-polies (pill bugs or sow bugs) to play with. She runs around the garden, taking up a lot of play space.

Sister Bean is the youngest. She looks up to her Sister Corn and loves her very much. She likes to cling onto her arms and legs. She has a special talent for climbing. She makes many nutritious treats in the soil for both of her sisters.

Once in awhile Sister Corn would like Sister Bean to stop holding on to her. And Sister Bean wishes she could run around the garden like Sister Squash. But most of the time these Three Sisters are very content to be who they are.

With **Mother Earth** supporting them, **Father Sun** shining down on them, and **Grandmother Rain** and **Grandfather Wind** giving them fresh water and air, the Three Sisters blossom into beautiful young women.

This is the way of the garden spirits. With healthy soil, air, water, and sun, our corn, beans, and squash grow and give us food for our families and help us to grow strong!