

Three Sisters Native American Garden Activity

Activity Summary

Children will learn about how and why Native Americans planted beans, corn, and squash together and why it's called a "three sisters garden". They will plant seeds and water them. This activity allows for the class to be split into two groups – one can complete a dramatization of how the plants work together while one group plants, then they switch. Instructions for dramatization follow this activity.

Links for more information:

- http://www.theorganicreport.com/pages/519_the_three_sisters_corn_beans_and_squash_activities_for_the_classroom.cfm?searchterm=three_sisters
- <http://www.nativetech.org/cornhusk/threesisters.html>
- <http://www.ecoliteracy.org/publications/3sisters.html>

Materials Needed (in order of appearance)

- (Optional) Pictures of Corn, Beans, and Squash as mature plants *OR* bring samples of the vegetables themselves. .
- Pictures of items that Native Americans made from corn (some are in this document).
- 2-3 Native American Planting sticks for everyone to share. Should be a natural stick about 5-6 inches long that they can use to dig a hole for planting the seeds.
- Seeds for each child (about 6-8 each of corn, beans, and squash). It's best but not required to soak the seeds in water for about 12 hours to help germination. Make sure the seeds are *NOT* coated with fungicide or any other chemicals. The label should state whether the seeds have been coated.
- Several watering cans filled with water.
- Mulch

SOL Correlations

Science

- 2.4 – Plants go through changes in their life cycles.
- 2.5 – Living things are part of a system.
- 2.7 – Weather and seasonal change affect plants, animals, and surroundings.
- 2.8 – Plants provide oxygen and food, are sources of useful products and provide natural benefits.
- 3.7 – Importance of soil to plants and animals.
- 3.8 – Cycles in nature.
- 3.9 - Water cycle and relationship to life.
- 4.5 – Plants and animals are part of an ecosystem.

History and Social Sciences

- 2.2 – American Indians compared.
- 2.9 – Limited resources require people to make choices about producing and consuming.

Activity Script

What we're going to do here is plant a kind of garden that Native Americans planted and depended on for food and many other things for many, many years, long before settlers came to America.

Does anyone know what plants are in a Three Sisters Garden? (wait for a response...)

- Corn, Beans, and Squash are in a Three Sisters Garden. (SHOW ACTUAL VEGETABLES IF YOU HAVE THEM.)

Does anyone know why those three plants together are called "Three Sisters"? (wait for responses...)

- **Corn** – supports beans.
- **Beans** – returns nitrogen to the soil for all of the plants the following year.
- **Squash** – protects the soil and roots of all the plants from hot, drying soil and heavy rain. Has thorny stems that keep animals, like raccoons and rabbits, away from the plants.

Can you think of other reasons why the Native Americans would have planted this way? (wait for responses...)

- Saved space to plant this way. The woodland Native Americans who lived in the East had to remove very big trees before they could plant a garden, which was very hard work. They didn't want to remove more trees than they had to.

The Native Americans used all of the plants in a Three Sisters Garden very wisely. They ate the beans and corn and used them in ceremonies, they ate the squash and carved them into dishes and other useful items. But of all three plants, the corn was the most useful and important to them. They ate corn at every meal and used every part of the corn plant -- they didn't throw any of it away.

What are some things you think the Native Americans could make with corn other than food? (wait for responses)

- Wove corn husks into bed mats, baskets, bottles, moccasins, and dolls.
- Used corn for jewelry and ornaments.
- Made ceremony masks out of corn husks and had corn planting and harvesting ceremonies to ensure a healthy crop and give thanks for a crop.

Does anyone know how people know today when it's time to plant corn, or how the Native Americans knew? (wait for responses...)

- Native Americans planted corn "when oak leaves were the size of a squirrel's ear". Why do you think they did that? Because if the leaves have started to grow and are that big, then it means the soil is warm enough to plant.
- Today we could do the same thing. Look at the oak tree there – are the leaves as big or bigger than a squirrel's ear? So do you think the ground is warm enough to plant? It seems like they planted in the early spring, don't you think?
- It's around 60 degrees Fahrenheit. Corn, beans, and squash should be planted after the soil is 55 degrees Fahrenheit or greater, AND we also know it's late enough to plant because the oak leaves are bigger than a squirrel's ear!

Half of you will go over there with [volunteer's name] and use some imagination about how the corn, beans, and squash work together, and half of you will stay here, then we'll switch. (split up kids).

Explain that they'll be planting with a Native American Planting Stick which was the tool that Native Americans used for planting. Everyone get in groups (choose about 3 kids for corn, 4 for beans, and 4 for squash). Leader(s) have sticks and give to children for planting.

- Give each child a seed, tell children to get in line, starting with corn, then beans, then squash).
- Demonstrate one seed planting (poke hole with stick 1.5"-2" deep, drop seed in, cover it up), have first child start.
- After all kids have planted, get watering cans and have kids water the area. Distribute a thin layer of mulch over the area.
- OK, now does anyone know what these plants will look like in a few weeks and over the summer? Make sure you come back frequently over the next few weeks with your teacher to water your class's garden and see the plants (EACH CLASS'S AREA SHOULD BE MARKED WITH GRADE AND TEACHER. LET ALL TEACHERS KNOW THAT THEIR CLASSES SHOULD WATER AND WEED AS APPROPRIATE EACH WEEK).
- Come back over the summer to see how the plants are doing. Someone will be watering and caring for these plants over the summer, but just like the Native Americans, we never know how the crops will turn out. If the crop is successful, the corn, beans and squash should be ready when you get back to school in the Fall.
- After all children in group have planted, switch with dramatization group and repeat planting.

Another fact to share, in case there is time:

Does anyone know where the pollen is on a corn plant (wait for responses...):

- The pollen is in the tassels in the top of the plant. When the wind blows, the pollen shakes down into the silk "flowers" and they make the fruit, which is the corn in the husks.

Three Sisters Dramatization Companion Activity

This activity allows the children themselves to become the **three sisters**, and obtain a first hand understanding of the relationships between the plants. Describe the relationships: Corn is the tall grandfather who gives the beans a pole to climb up; the beans climb the corn and feed the soil for the corn; the squash keeps the soil moist for the thirsty crops, and it keeps away raccoons and other pests with its spiky stems. Ask children if they would like to pretend that they are the Three Sisters.

A teacher should act as director, placing the children into position. It is also helpful to have a narrator. One child should stand as the corn plant. Two children are bean plants, and each one holds onto a knee of the corn plant volunteer. Several children can squat in a circle around the corn and beans with their hands and fingers held outward like spines. One or more children can act as raccoons trying to get the crops. They are unable, however, to get past the squash. Another volunteer can act as the gardener, and pretend to water the crops. The squash plants react by grabbing the imaginary water and holding it in the circle.

(activity from The Organic Report at www.theorganicreport.com)