

New Earth Classroom



ACTIVITY 4

CORN & COMPANION PLANTING: *Masa Grinding*

SUMMARY

Following are three activities that focus on corn as a staple food and companion plant. Each activity can stand alone, or students can rotate between them, spending 15-20 minutes at each activity station. We recommend having no more than 10 kids do each activity at one time.

Here is a summary of what each activity entails:

Four Friends Skit

Students participate in a short skit that shows how the Four Friends, also known as Four Sisters (corn, squash, beans and sunflower), have acted as companion plants for centuries. The adult leader narrates a story while students wearing simple costumes to represent the four crops demonstrate their dependency on each other. Students also fill the roles of the sun, earth, and sound effects for wind and rain.

Masa Grinding

Students take turns grinding corn into masa using a replica of a traditional stone metate and mano. If possible, they use corn native to the students' home region that has been soaked in water overnight, which is how corn for masa is customarily prepared. While students are grinding the masa, the adult leader talks about the meanings of "metate" and "mano," where corn comes from, how corn is grown, and how we use corn.

Corn Tortillas

Students flatten prepared masa balls in a tortilla press, or using a rolling pin or jar, and then the adult leader cooks their tortillas on a hot plate. As students prepare and eat their tortillas, the group discusses the translation of "tortilla," how masa harina is prepared, and how tortillas are used in regional cuisine.



MASA GRINDING

LEARNING OBJECTIVES

1. Students will grind corn into masa using a replica of a traditional stone metate and mano.
2. Students will discuss the meaning and history of the metate and mano.
3. Students will examine where corn comes from, how it's grown, and various uses of corn.

KEY WORDS

mano, metate, Mesoamerica, Native American, maize, masa

EQUIPMENT

- Stone mano & metate (replicas)
- Whole corn* (soaked overnight)
- Small bowl of water (for sprinkling on corn while grinding)
- Bowl or tray to collect masa
- Bucket of clean water (for kids to rinse hands, if needed)
- Towel

* preferably corn that is native to students' region

BEGIN GRINDING CORN

- I. Begin grinding the soaked corn (maize) using the mano and metate: Scatter a handful of soaked corn on the **metate**. Dip your fingers in the small bowl of water and sprinkle on the corn to moisten. Using the **mano**, pull the soaked corn toward you, and then pulverize the corn as you push the mano down and away from you. Place a bowl or tray at the low end of the metate to catch the masa.

(There are some great videos online about how to grind masa using a mano and metate.)

As you grind the masa, explain & discuss:

- A. What is a **metate**?

(A metate is a stone slab tool used to grind maize, seeds, and other grains and foods.)

- B. What does **mano** mean in Spanish?

(Mano translates to "hand." A **mano** is also a handheld stone used to crush and grind grains and seeds on a metate.)

- C. For thousands of years, **Mesoamericans** (people living in Mexico, Central America and South America) and **Native Americans** living in the southwest US grew maize, sunflowers and chili peppers and used metates and manos to grind these and other foods.

EXPLAIN MASA

- II. Explain that you are grinding **masa**. **Masa** is corn soaked in water containing ashes from cooking fires (the ashes contain the mineral lime). This soaked corn has been ground to make masa for centuries. Tortillas and tamales are made from masa.

GRIND & DISCUSS

- III. Have the kids take turns grinding the soaked corn, putting more on the metate as needed. Sprinkling the corn lightly with water will make it easier to grind.

As they are grinding, ask & discuss:

A **Who likes to eat corn?**

B **Where does corn come from?**

(Scientists believe that Mesoamericans developed corn at least 7000 years ago. It comes from a wild grass called teosinte that still grows in Mexico today.)

C **What does corn need to grow?**

(A lot of water, a long growing season with soil temperatures of at least 60 degrees, and nitrogen-rich soils.)

D **How do we use corn?**

1. There is **cornstarch** in batteries, cosmetics, deodorant, baby powder, matchsticks & vitamins.
2. Corn is fermented to make **ethanol**, used in gasoline.
3. A byproduct of corn fermentation is lactic acid, which can be used to make plastic.
4. Food!

E **What foods are made from corn?**

1. Corn on the cob, grilled corn, salsa, corn chowder
2. Corn syrup is in candies and baked goods
3. Ground corn makes porridge, polenta, cornbread, and breading for corn dogs.
4. Hominy (posole) is made from soaked corn
5. Masa, corn that is treated with lime, is used to make tortillas and tamales.
6. Corn tortillas are used in enchiladas, tacos, tostadas, chilaquiles and tortilla chips.

F **How did Native Americans eat corn?**

(raw on the stalk, roasted in coals, dried and ground into cornmeal and baked in tortillas and tamales)

G **How did they grind corn?**

(They used a metate and mano!!)

H **How could Native Americans use the whole corn plant?**

1. Corn husks could be woven into mats or baskets and used to make dolls.
2. Cobs could be burned as fuel or made into ceremonial rattling sticks.
3. Seeds were used in a variety of foods.