Corn or Kernel
"Which Came First?"

Third Grade

Objectives:

* Students learn nutrients in corn.
* Students learn history of corn.
* Students identify the role of a corn kernel.
* Students trace plant growth.
* Students learn corn parts and functions.
* Students will understand the process of photosynthesis.
* Students develop vocabulary.

Materials:

Activity "From Seed To Stalk"

* corn kernels (4 per group)
* clear plastic wrap
* clear plastic bag or cup (1 per group)
* shoe box (1 per class)
* soil (1 cup per group)

Note:

A **corn treat** can be shared after presenting the information in the lesson and planting the seeds. Further observation of each groups' plants will take several class sessions.

Lesson:

Share Nutritional Information:

In addition to vitamin C, corn has folate, thiamin and phosphorus. Yellow-kerneled corn also has a supply of vitamin A in the form of beta carotene.

Share Plant Parts and Functions:

Corn grows from kernels. A kernel has four parts. The **pericarp (seed coat)** is the outer covering for protection. The **endosperm** is the largest section and stores food for the seed. The **germ (embryo)** is the only living part of the kernel. The **tip cap** attaches the kernel to the cob.

Corn is a member of the grass family, made up of seed, ear (enclosed by husks), root, stalk, leaf and tassel. A corn kernel serves as the seed. Seeds need their own food supply to help them get started. The endosperm serves as the food supply for the corn kernel as it grows from embryo to plant.

Share How The Corn Plant Grows:

The seeds soak up water which makes them swell. Once they swell enough to burst through their covering (pericarp) and sprout, they start to grow. Part of the embryo grows down into the soil, then the root can pick up water and minerals to support the plant growth and serve as an anchor for the plant.

Share History Of Corn:

Corn, squash and beans were once known as the “Three Sisters” by our native peoples -sisters who should never be apart - sisters who should be planted together. These three plants were important sources of food. In fact, corn was very important to the survival of the first English colonists during their first winters in Northeastern America. The survival of the early colonists depended on what corn they could beg, borrow or steal from the native peoples plus what they were able to grow under their guidance.

It is believed that corn dates back even further than the inhabitancy of native people. Corn’s origin is believed to be in the Mexican plateau or the highlands of Guatemala. Fossil pollen grains of corn have been found in drill cores of lake sediment beneath Mexico City. These sediments could be 80,000 years old or more.

Corn belongs to the grass family. Theory suggests that at one time, each individual kernel was covered by its own floral parts similar to the kernels of oats and barley, and that the cob readily broke down into small segments. It is believed that this has allowed corn as a species to survive. The husk and cob as we know them today were gradually developed from wild varieties by the native population.

Corn is as important today to mankind as it was in the beginning to native peoples. According to Indian legend, corn was of divine origin - “it was the food of the gods that created the earth.”

Activity: “Planting Corn Kernels - From Seed To Stalk”

Procedure:

Give each group a clear plastic bag or cup. Have them fill the bag or cup with about 1 cup of soil. Next, make a 1 inch depression with finger for planting 3 kernels. Cover the kernels with about 1 tablespoon soil. Sprinkle 1/3 cup water over planted kernels. close bag, or cover cup, with clear plastic wrap and place plant in a sunny area. Check planted kernels daily to record progress.

Within 5 - 10 days, students should observe sprouts (root and shoot). Remove a sprout from the soil for students to observe the parts of the corn kernel as it sprouts and grow.

Students should observe how gravity has effected the roots to head down deeper into the soil. **Students** should observe how the stem grows to reach the sun, developing leaves to gather sun for photosynthesis. Without sunlight, photosynthesis stops.