

# Presenting Peanuts

**Standard –**

**SS5H1 The student will explain the causes, major events, and consequences of the Civil War.**

b. Discuss how the issues of states' rights and slavery increased tensions between the North and South.

## Overview

So, you've raised an herb or salad garden -- experienced the excitement of growing lettuce, tomatoes, and cucumbers to maturity right in your classroom. What's next? Have you considered peanuts? Although they have a fairly long growing season -- approximately 5 months -- a few humble peanut plants indoors can provide a backdrop for studying history, geography, nutrition and more.

## Planting and Care

You can order peanuts from a mail order seed company or purchase raw unroasted peanuts from a grocery or health food store. Try to get them in the shell, so students can examine these pods in their original form. For fastest germination, remove the individual peanuts (actually, the seeds) from the shells and soak them overnight before planting.

Be sure to save some soaked peanuts for close observation with a magnifying glass. As with beans, when the seed is split, students can see the young plant or embryo surrounded by its food source, the cotyledon. Your class may choose to experiment by soaking some and not others, and planting some that have been left in the shell.

Like other seeds, peanuts are very nutritious. They have more protein than eggs, dairy products, and many types of meat. They're full of vitamins and minerals too. Challenge your class to discover why seeds of plants are so nutritious. If they've discovered the young plant inside the peanut, they might have a good guess. (These stored nutrients enable the young plant to live until its roots develop and its green leaves can make their own food.)

Peanuts prefer light, well-drained soil. The type of potting mix recommended for indoor classroom gardens will be fine for peanuts. You can save space by starting them in small containers, but will need to transplant each plant to at least a six-to-eight-inch pot to grow to maturity. Peanuts will germinate most quickly if they're planted with the pointed end (where the embryo is) facing down. Of course, your students may already have discovered that roots will grow down and stems will grow up regardless of seed orientation. Perhaps they can experiment to determine whether the orientation affects how fast they germinate. Plant the peanuts 1/2 to 1 inch below the soil. Like other seeds, they should be kept warm and moist during this time.

Your peanut plants should grow to about 18 inches tall. Once the plant has used up the stored food, the green cotyledons will shrivel up and fall off. You might want to remove one or both cotyledons from a plant or two to explore their importance to the plant. After about 6 weeks, bright, saffron-colored, pea-like flowers will develop. The peanut flowers are self-pollinated. The lower flowers on the plant, or the "pegs," lose their petals, and these ovaries grow downward on a vine toward the ground. As the peg approaches the soil, you can help it work its way down by adding some soil around it. Under the soil, these pegs mature into peanuts. With plenty of light and warmth in your indoor garden, you should have a few peanuts per plant develop underground in four to five months.

- They're Nutritious! A doctor originally developed peanut butter for the elderly and invalids because it was so nutritious and easy to digest.
- Peanuts contain 26% protein -- more than eggs, dairy and much meat and fish.
- Peanuts contain many B vitamins, polyunsaturated fats, calcium, phosphorus, potassium, iron, magnesium and no cholesterol.

## **Peanuts Across the Curriculum**

**Nutrition.** Find out what nutrients peanuts contain; compare their nutrient value to other foods; make peanut butter and peanut snacks; and develop your own recipes.

**Language Arts.** Discover the origin of the name "goober peas" for peanuts; develop a peanut book to share with other classes; record daily observations of your peanut plants.

**Science.** Any activity that focuses on germination, plant growth, phototropism, plant needs, etc. can be adapted and used with peanuts. Try Magic Beans and Giant Plants from *GrowLab: Activities for Growing Minds*, found in the KidsGardening store.

**Math.** Calculate germination percentages; predict future height of plants based on growth graph; calculate the amount of protein in a peanut butter sandwich; find a recipe containing peanut butter and multiply it to make enough for the class.

**History/Geography.** Research where peanuts were first grown; discover where they traveled to throughout history; learn about the different uses people had for peanuts; find out how peanuts are grown today; learn about the life and accomplishments of George Washington Carver.

**Other Areas.** Produce and do a play for other classes about the history and life of peanuts; make your own cat litter using peanut shells and baking soda; make collages of products made from peanuts; challenge your students to invent new peanut products.

## **Peanuts: World Travelers**

- There is evidence that peanuts were grown in South America more than 3000 years ago.
- The Spanish probably took peanuts from Mexico back to Spain; from there traders and explorers took them to Africa and Asia. When Africans were brought as slaves to North America, they brought peanuts for food, and planted them in the South.
- In the 1700s, peanuts were mainly regarded as food for pigs, and later for the poor; during the Civil War, peanuts gained popularity with soldiers.
- At the turn of the century, better equipment for planting, cultivating, and harvesting peanuts was developed. George Washington Carver, a botanist, researched peanuts as an alternative to cotton crops which were hurt by pests. He developed over 300 uses for peanuts.
- Peanuts are versatile plants; they've been used in ink, lipstick, cooking oil, paint, soap, paper, shaving cream, pet litter, and wallboard. Many of these products contain oil extracted by pressing peanuts.

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