

George Washington Carver – The Peanut Wizard

A lesson from the New Jersey Agricultural Society Learning Through Gardening program

OVERVIEW: Born a slave 150 years ago, George Washington Carver became a world-famous scientist and teacher who revolutionized the American agriculture industry. He was the first African American to be honored with a national monument. In this lesson, students learn about the work of the “Peanut Wizard” to improve the lives of poor Southern farmers following the Civil War. This lesson also looks at peanut farming today, how the peanut grows, and how peanuts and other legumes enrich the soil with nitrogen.



*Photo courtesy of Tuskegee University,
Tuskegee, AL*

GRADES: 2-5, can be modified for younger grades

OBJECTIVES: The student will be able to:

- Describe some of the obstacles George Washington Carver had to overcome to get a good education.
- Describe the work George Washington Carver did to improve the lives of poor farmers following the Civil War.
- List some of the uses George Washington Carver found for peanuts.
- Describe the peanut life cycle.

MATERIALS:

The Peanut Wizard – The Life of George Washington Carver New Jersey Agricultural Society power point presentation, available for download from the Learning Through Gardening Teacher Tool Box:

<http://www.njagsociety.org/teaching-social-studies-in-the-garden.html>

Peanut seeds

Potting soil

Transparent container such as a rectangular container for lettuce from the grocery store or an old fish tank. If you are planting in small groups, you will need enough containers for each group of three or four students. *(Transparent containers are not essential, but will allow students to observe the development of the peanut pods underground.)* Poke holes in the bottom of the plastic container or line the bottom of the fish tank with about one inch of pebbles for drainage.

Optional: Books about George Washington Carver (see list in Extensions below)

Modification: If students in your class suffer from a peanut allergy, you can plant soybeans instead of peanuts.

PROCEDURE:

Tell students that today they will learn about the life of George Washington Carver, who was born a slave and worked hard to get an education to become a world-famous scientist and teacher of American agriculture. Explain that agriculture is another word for farming. Show the power point presentation *The Peanut Wizard – The Life of George Washington Carver*.

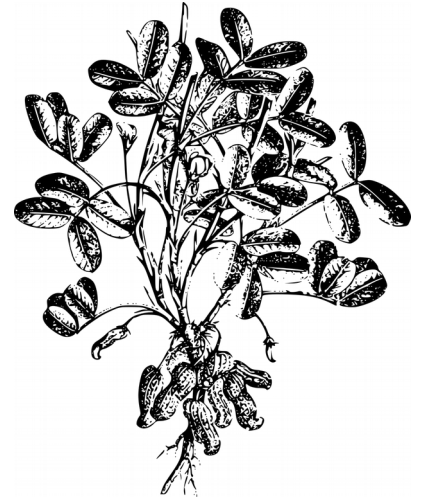
Note to teachers: This power point presentation has three parts.

Part 1: Slides 1-15 describe events in the life of George Washington Carver and his accomplishments in American agriculture, particularly with peanuts.

Part 2: Slides 16-18 describe the life cycle of a peanut plant.

Part 3: Slides 19-20 explain how legumes like the peanut plant can replenish nitrogen in the soil

Depending upon the time available for the lesson or the grade level of your students, you might choose to show only part of the power point presentation or choose to show different parts on different days.



Following the presentation, ask students what they learned, what surprised them, or if they have any questions.

Next, tell students that they are going to plant peanuts in the classroom, in order to observe how a peanut plant grows. This can be done as a whole class presentation, or you can divide the class into small groups of three or four to plant the peanuts.

Fill the containers about two-thirds full with potting soil. Add water to the soil so that it is moist but not soaked. Plant peanut seeds about one inch deep and about four inches apart. Place the container in a sunny spot. Water the peanuts when the soil is dry to the touch, again making sure the soil becomes moist but is not soaking wet.

Next, be patient! Peanut seeds will take up to 14 days to sprout. Peanuts have a long growing season; they take about four months to grow.

When the plants are about six inches high, it is time to 'hill' them. To do this, gently loosen the soil around each plant and create a hill with this loosened soil.

The plant should flower in about 40 days. Do not pick flowers or petals off the plant. They will develop stems called pegs that will extend to the ground.

In New Jersey, peanuts plants can be transplanted outside in mid-May, after the danger of frost has passed.

Do not use much fertilizer containing nitrogen on the peanut plants.

Harvest the peanuts when the leaves begin to yellow. Pull one plant and check the shells before harvesting the entire crop to be certain about the peanut harvest time. The peanuts should nearly fill the shells. Have students check the roots to see if they have developed nodules for the rhizobia bacteria.

EVALUATION:

Students can write a paragraph (or paragraphs depending on grade level) about what they learned about George Washington Carver's life and accomplishments.

Students can write a paragraph (or paragraphs depending on grade level) describing the unusual life cycle of the peanut plant.

Students can make regular observations in a science journal about the development of the peanut plant.

EXTENSIONS:

Read books about George Washington Carver or ask individual students to read different books and report new facts they learned.

Books on George Washington Carver:

George Washington Carver, Margo McLoone

George Washington Carver, The Peanut Wizard, Laura Driscoll

In The Garden With Dr. Carter, Susan Grigsby

Journey to Freedom, George Washington Carver, Charles W. Carey, Jr.

The Life and Times of the Peanut, Charles Micucci

The Little Plant Doctor, A Story About George Washington Carver, Jean Marzollo

A Man For All Seasons, The Life Of George Washington Carver, Stephen Krensky

A Picture Book of George Washington Carver, David A. Adler

A Weed is a Flower, The Life of George Washington Carver, Alike

Peanuts are not grown in New Jersey, but soybeans are one of the state's top 10 crops. Invite a soybean farmer to your classroom to tell students how soybeans are grown and used in the state.

New Jersey Learning Standards

Science: 2:LS2.A 3:LS1.B 4:LS1.A, ESS2.E 5:LS2.A, ESS3.C

Social Studies: 2: 6.1.2.EconEM.1, 6.1.2.HistoryCC.3, 6.1.2.HistoryUP.3
3-5:6.1.5.EconEM.2, 6.1.5.EconNM.2,4,7; 6.1.5.HistoryCC.4, 7

English Language Arts: 3:W.3.2.A-D, W.3.4,8 4:W.4.2.A-E, W.4.4,8
5: W.5.2.A-E; W.5.4,8