

Celebrating Black History Month: An Exploration of George Washington Carver with Storyteller Charlotte Blake Alston Pre/Post Activities

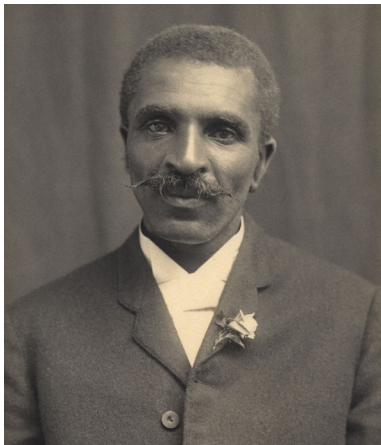


Purpose

To honor and celebrate the strength, resilience, and contributions of the African American community through the lens of horticulture and the power of story.

At a Glance

Acquaint yourself with the ingenuity of one African American man, George Washington Carver, who changed the way farmers grew crops and invented new ways to use the common peanut, soybean, and sweet potato. He was a teacher, an artist, an inventor, a scientist, and a botanist!



Did you Know?

George Washington Carver was born a slave in the state of Missouri in 1864, a year before slavery was abolished. Carver grew up in several different foster homes in the Midwest. After graduating high school, he studied botany at the Iowa State Agricultural School, now Iowa State University, and would become the first African American to earn a bachelor of science degree. Botany is the scientific study of plants. He also earned a master's degree in agricultural science from Iowa State. Not long after graduation, Carver was offered a teaching and research position at Tuskegee University in Alabama. He would end up working the rest of his life at Tuskegee.

Carver was nicknamed the “plant doctor” because of his love and knowledge of plants. He used his artistic skills to draw plants he studied. His botanical illustrations were used to teach other horticulturists who were studying plants at Iowa State. As a botanist, he had a passion for helping poor farmers find ways of improving their harvest. He studied the soil and encouraged cotton farmers to move away from only planting cotton every year and move to growing soil-enhancing, protein-rich crops like soybeans and peanuts. He pushed farmers to be self-sufficient, to conserve their resources, and to rotate their crops. Carver even took an educational lab on the road with a Jessup wagon he invented, to train the farmers in crop rotation methods.

While doing research at Tuskegee University, Carver experimented with peanuts, soybeans, and sweet potatoes. He eventually became known as the “peanut man,” which is what he became most famous for. Farmers ended up having a large quantity of peanuts and needed to find new ways of using them. Carver mixed, tested, and invented more than 300 uses for the peanut. He found ways of using peanuts in cosmetics, soaps, antiseptics, cooking oil, and even wood stains. He was a scientist and an inventor, learning from trial and error.

Soon after Carver's death in 1943, President Franklin D. Roosevelt signed legislation to place a national monument in the Missouri town of his birth. This was the first national monument of an African American. He would later be inducted into the National Inventors Hall of Fame.

Experimenting with Sweet Potatoes

Activity



Materials:

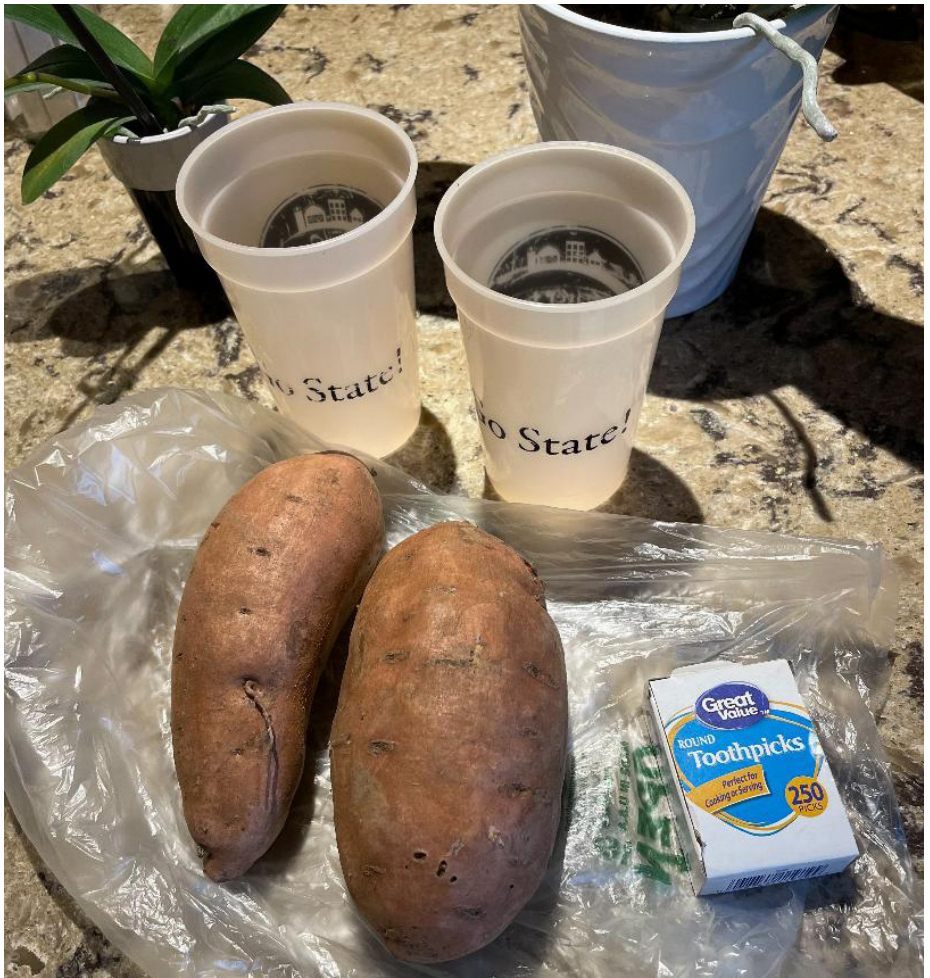
- Two clear containers
- Two sweet potatoes
- Pencil or pen
- Sweet potato Observation Sheet
- Toothpicks
- Water

Did you Know?

Scientists do experiments!

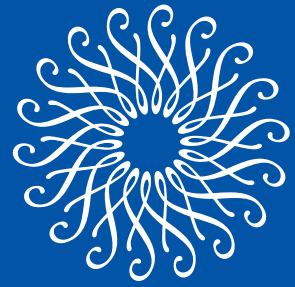
George Washington Carver loved to try out new ideas and ways of doing things. He found that when farmers grew sweet potatoes the soil became rich with nutrients. Crops of sweet potatoes were soon being used in new ways thanks to Carver's ingenuity. He came up with more than 100 uses for the sweet potato including vinegar, molasses, and other non-food products like rubber and stamp glue!

Now it's your turn to experiment with sweet potatoes!



Experimenting with Sweet Potatoes

Activity



Directions:

1. Place three toothpicks spaced around the mid-section of each sweet potato.

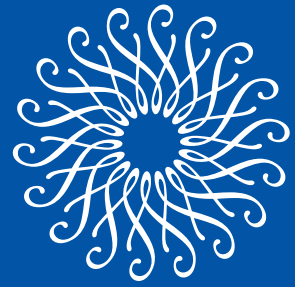


2. Fill each clear container half full of water.
3. Place one sweet potato into each clear container, making sure the toothpicks hold the sweet potato in place. Add more toothpicks if necessary.



Experimenting with Sweet Potatoes

Activity



Directions:

4. Place one sweet potato container in a sunny window.



5. Place one sweet potato container in a dark cabinet or closet.



6. Record your hypothesis.
7. For 10 days record your observations for each sweet potato.
8. Every two days, empty and refill the water in each container (this will prevent water from becoming smelly).
9. Sweet potatoes with roots and green growth can be planted in the ground in late spring.

**Experimenting with
Sweet Potatoes**
Activity



**Sweet Potato
Observation Sheet**

Plant One:
Sweet Potato in the Sun

Hypothesis:

(Think about how the two plants will differ. Will both sweet potatoes grow? How many days will it take to see any growth?)

Start Date: _____

Date of First Root: _____

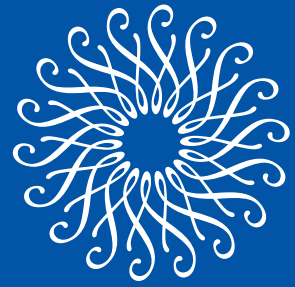
Date of First Leaf: _____

Conclusion: _____

| Day | Growth Data |
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Experimenting with Sweet Potatoes

Activity



Sweet Potato Observation Sheet

Plant Two:
Sweet Potato in the Dark

Hypothesis:

(Think about how the two plants will differ. Will both sweet potatoes grow? How many days will it take to see any growth?)

Start Date: _____

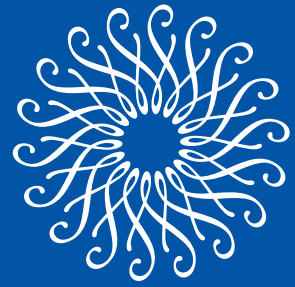
Date of First Root: _____

Date of First Leaf: _____

Conclusion: _____

| Day | Growth Data |
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Sprouting Your Own Plant Activity



Materials:

- Clear snack-size baggie
- Dried beans (lima or pinto work well) or raw peanuts removed from the shell
- Cotton ball
- Water
- Scotch tape
- Bean or Peanut Observation Sheet
- Container and soil (optional)

Did you Know?

George Washington Carver experimented with soybeans and found they could be used in things like animal feed, cooking oil, printing ink, candles, and even clothing.

He experimented with peanuts and their shells to invent new ways to make soap, face creams, glue, and medicines.

Soybeans and peanuts are legumes, and belong to the same family as beans, chickpeas, lentils, and peas. These plants grow pods with seeds inside. Many legumes close their leaves at night, a fact most people do not know. The closing movement at night is called "nyctinasty."

The soybean, like most other legumes, produces a flower and grows above the ground. Peanuts, however, produce flowers above the ground, send "pegs" into the soil, and grow pods under the ground!

Now it's your turn to experiment and see what you discover on your own.



Sprouting Your Own Plant Activity



Directions:

1. Start with one dried bean or peanut removed from the shell.
2. Wet a cotton ball with water. Make sure to squeeze out the excess water.
3. Place the cotton ball in a clear snack-size baggie.
4. Add one dried bean or peanut on top of the cotton ball.
5. Seal the baggie.
6. Tape the sealed baggie to a sunny window.
7. Record your hypothesis and daily observations on the Bean or Peanut Observation Sheet.
8. Once your bean or peanut grows its first leaf, remove it from the baggie and plant it in a container with some soil.

Sprouting Your Own Plant: Extension

1. Challenge yourself to bring your plant through its entire life cycle. Will the plant flower? Will you get to harvest beans from the plant this season?

Optional: Experiment with several types of beans or peanuts. Compare the amount of time it takes each type of bean or peanut to grow.



Drawing Your Plant Activity



Materials:

- Paper bag
- Pencil
- Eraser
- Colored pencils
- Paper
- Plant material from the outdoors or an indoor house plant
- Magnifying glass
- Printed copy of a flower sketch (optional)
- Tape (optional)

Did you Know?

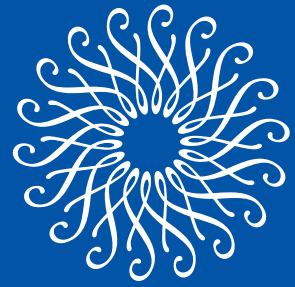
George Washington Carver had great artistic ability.

He combined his love of art with his love of plants and science. Carver collected plant material from all over and used his eye for detail to complete realistic drawings and paintings of the plants he studied. This type of artwork is called "botanical illustration." He was then able to use his illustrations to help teach others about plants.

Now it's your turn to collect plant samples and try to recreate what you see on paper.



Drawing Your Plant Activity



Directions:

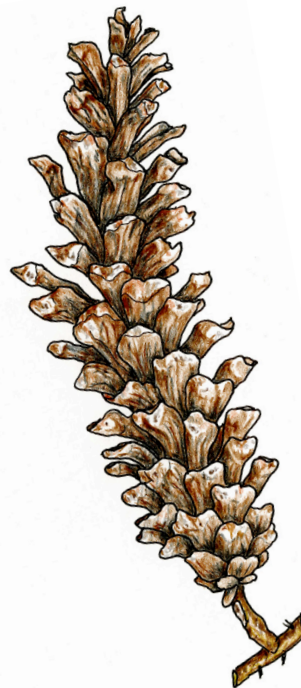
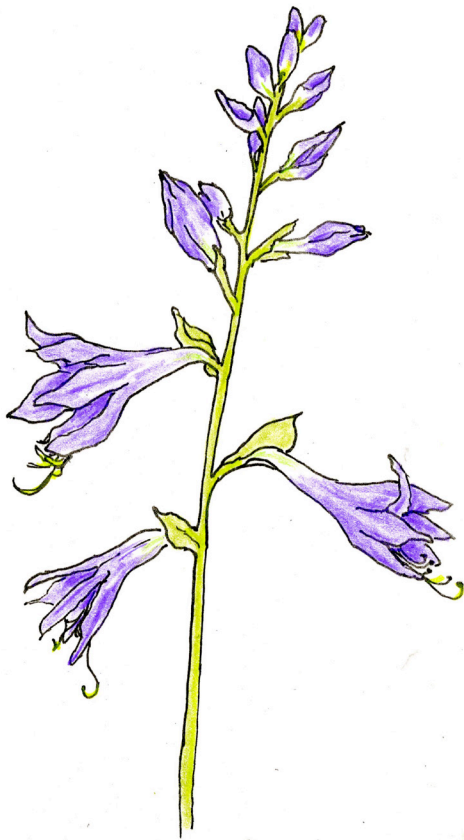
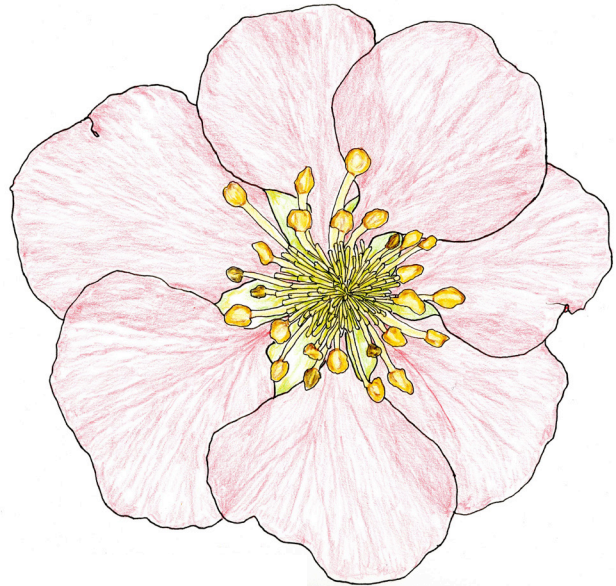
1. Explore an outdoor area. Collect leaves, pinecones, branches, flowers, seed pods, or any other natural materials you find interesting. You may also choose to use an indoor house plant for this activity.
2. Set the plant or natural material in a location next to your drawing area. Be sure you have bright light.
3. Use your magnifying glass to get a good look at the details of what you are drawing.
4. Use your pencil to lightly sketch the object. You want to draw the outer most edges first, using the eraser for any errors. If you are having difficulty, you could also lay the plant on your paper and trace the outline.
5. Now you can begin to use the colored pencils to color in your outline.
6. Continue to use your magnifying glass to observe the details and draw the details you see.
7. Take your time.
8. Be sure to sign your name at the bottom of your artwork.
9. Share your artwork with a friend or family member.

Drawing Your Plant Activity



Drawing Your Plants: Extension for Younger Students

Printable flower sketches can be found on pages 13–15. These can be printed and colored in. Younger students can collect natural materials, observe them with their magnifying glass, and then tape them onto these coloring pages.



LONGWOOD
GARDENS

Drawing Your Plant

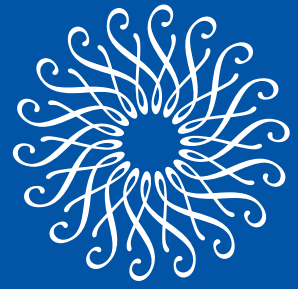
Activity



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Drawing Your Plant

Activity



Drawing Your Plant
Activity

