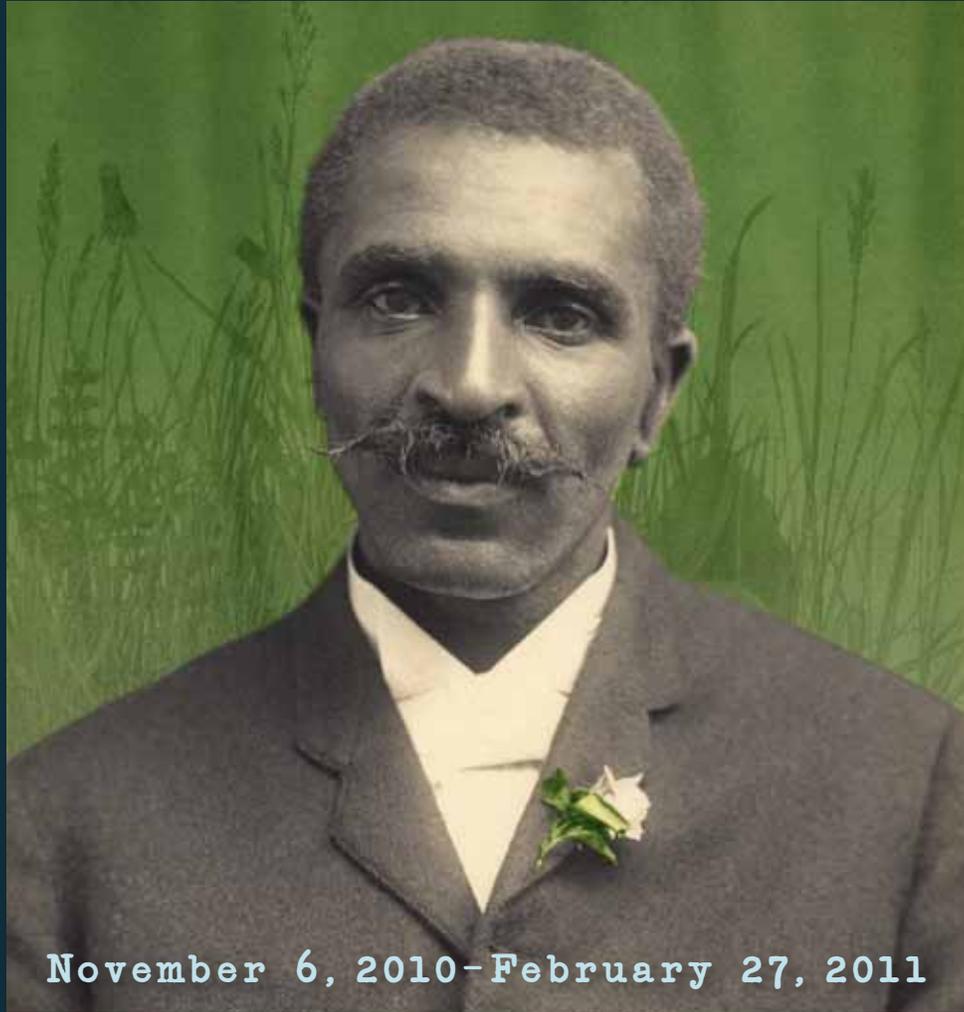


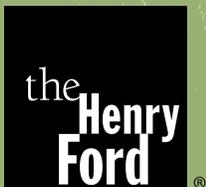
The Field Museum Education Department Presents



GEORGE WASHINGTON
CARVER

Educator Guide & Walking Map

Adapted for The Henry Ford.



The **Field**
Museum

This exhibition was created by The Field Museum in collaboration
with Tuskegee University and the National Park Service.

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Noteworthy Information

The primary idea in all of my work was to help the farmer and fill the poor man's empty dinner pail.

Carver, in a 1929 letter.

What makes a man a legend? In the case of George Washington Carver it wasn't just peanuts. Discover the life and work of an extraordinary man, born into slavery, who used his gifts to become a groundbreaking scientist, educator, and humanitarian with a lifelong mission: to bring practical knowledge to those in need. Through more than a hundred artifacts, along with videos, hands-on interactives, and more, this exhibition tells the story of Carver's success as a teacher and researcher, the roots of his "mighty vision," and how he laid the groundwork for organic farming and today's research on plant-based fuels, medicines, and everyday products.

George Washington Carver consists of five sections. Before you visit the exhibition, spend some time viewing information on our website www.fieldmuseum.org/carver to begin planning your visit. We also recommend using some of the fun facts and pre-activities found in this Educator Guide to introduce your students to the cultural and historical complexities of the exhibition. During your field trip, focus on one or two sections within the exhibition to study in depth. You'll find section introductions, guiding questions, answers to guiding questions, suggested pre-activities, field trip activities and post-activities in Part Two designed to guide your students' experiences.



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Ever since Carver was a child, he spent as much time as he could outdoors. He would collect rocks and observe birds and other animals, and he even created a "secret garden." That passion remained with him throughout his life.

Section Highlights

George Washington Carver

GEORGE WASHINGTON
CARVER

Section One: From Slave to Scholar



Section Two: The People's Scientist



Section Three: Jesup Wagon



Section Four: Plant Power



Section Five: Carver's Legacy





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George Washington Carver believed that nature could provide everything that people need and was innovative in creating everyday products from plants instead of resources like oil and ores.

Key Concepts

- Carver was not the only one thirsty for knowledge. During Reconstruction, the period after the Civil War, teachers were trained and schools were built for African Americans. These makeshift schools often lacked basic supplies, like blackboards, chalk, and books. The schools were overcrowded, with 50 or more children and adults in a classroom. Former slaves were so eager to learn that perfect attendance was a common occurrence.
- When Carver arrived at Tuskegee, his mission was to harness the power of nature in order to help the poor. The subjects of his research were broad in scope but his goal was singular – to serve humanity.
- Discovery was more important to Carver than memorizing facts and figures. He encouraged students to think about and explore nature for themselves. He used real plant and mineral samples in his teaching and urged his students to search out their own specimens.
- If Carver were around today, he would most certainly be on the cutting edge of environmental sustainability. Like current “organic” farmers, Carver addressed the entire natural system: water supply, soil, and organisms. He used only natural fertilizers such as compost or swamp muck; he managed insects through plant selection and crop rotation.
- Carver’s efforts to develop plant-based products were fueled by his altruistic goal of revitalizing the Southern economy. He hoped to demonstrate the commercial potential of crops that were beneficial to the soil. In addition to finding markets for farmers to sell their peanut, soy bean, and sweet potato crops, many of the products developed by Carver provided alternative foods and products to poor farming families.

Agriculture: The science, art, or occupation concerned with cultivating land, raising crops, and feeding, breeding, and raising livestock; farming.

Applied Science: The discipline dealing with the art or science of applying scientific knowledge to practical problems.

Biodegradable: Capable of being decomposed by biological agents, especially bacteria.

Biodiversity: The variety of organisms considered at all levels, from genetic variants belonging to the same species through arrays of species; includes the variety of ecosystems, which comprise both the communities of organisms within particular habitats and the physical conditions under which they live.

Bioengineering: The branch of engineering that deals with applications of biological processes to the manufacture of products.

Biology: The science of life and of living organisms, including their structure, function, growth, origin, evolution, and distribution. It includes botany and zoology and all their subdivisions.

Biotechnology: The use of living organisms or other biological systems in the manufacture of drugs or other products or for environmental management, as in waste recycling.

Botany: The science, or study, of plants.
Chemistry: The science that deals with the composition and properties of substances and various elementary forms of matter.

Chemurgy: A division of applied chemistry concerned with the industrial use of organic substances, especially substances obtained from farm produce, such as soybeans or peanuts.

Compost: A mixture of decaying organic matter, as from leaves and manure, used to improve soil structure and provide nutrients.

Conservation: The careful utilization of a natural resource in order to prevent depletion; the protection, preservation, management, or restoration of wildlife and of natural resources such as forests, soil, and water.

Cultivation: The agriculture production of food by preparing the land to grow crops, especially on a large scale.

Crop Rotation: The successive planting of different crops on the same land to improve soil fertility and help control insects and diseases.

Distillation: The purification or concentration of a substance, the obtaining of the essence or volatile properties contained in it, or the separation of one substance from another, by such a process.

Ecology: The branch of biology dealing with the relations and interactions of organisms with their environment, including the physical environment and the other organisms living in it.

Ecosystem: The organisms living in a particular environment, such as a lake or forest, and the physical part of the environment that affects them. The organisms alone are called the community.

Ethnobotany: The plant lore and agricultural customs of a people.

Geology: The study of the earth—past and present—and the processes that shape it.

Horticulture: The cultivation of a garden, orchard, or nursery; the cultivation of flowers, fruits, vegetables, or ornamental plants.

Humanitarian: Having concern for or helping to improve the welfare and happiness of people. a person actively engaged in promoting human welfare and social reforms, as a philanthropist.

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Jesup Wagon: A wagon outfitted with display charts, agricultural products and equipment that served as a “moveable school” with which Carver spread agricultural knowledge to Alabama farmers.

Jim Crow Laws: The practice or policy of segregating or discriminating against blacks, as in public places, public vehicles, or employment, practiced widely in the South after the Reconstruction period.

Mycology: The branch of biology dealing with fungi.

Prejudice: Unfavorable feelings, opinions, or attitudes, especially of a hostile nature, regarding a racial, religious, or national group.

Segregation: The policy or practice of separating people of different races, classes, or ethnic groups, as in schools, housing, and public or commercial facilities, especially as a form of discrimination.

Sharecropping: A system of farming that developed in the South after the Civil War when landowners, many of whom had formerly held slaves, lacked the cash to pay wages to farm laborers, many of whom were former slaves.

Slavery: The state of one who is bound in servitude as the property of a slaveholder or household.

Synthetic: Noting or pertaining to compounds formed through a chemical process by human agency, as opposed to those of natural origin.

- 1864:** Born a slave in Diamond, Missouri. After mother Mary is kidnapped, lives with Moses and Susan Carver, his owners.
- 1877:** Moves to Neosha, Missouri to attend an African-American school. Lives with Andrew and Mariah Watkins.
- 1879:** Enters high school in Olathe, Kansas. Lives with Ben and Lucy Seymour.
- 1880:** Moves to Minneapolis, Kansas. Attends a four-room school with white students.
- 1885:** Moves to Highland, Kansas to attend a small Presbyterian College after receiving acceptance by mail. He is turned away at the door because he is black.
- 1889:** Opens a laundry in Winterset, Iowa. Meets the Milhollands who encourage him to enter college and study the arts.
- 1890:** Enrolls in Simpson College in Indianola, IA to study art and music. His art teacher encourages him to pursue the agriculture sciences.
- 1891:** Enrolls in Iowa State College of Agriculture in Ames, Iowa.
- 1894:** Appointed Assistant Professor of Biology and first black faculty member of Iowa State.
- 1896:** Accepts Booker T. Washington's invitation to head the Agricultural Department at Tuskegee Institute in Alabama.
- 1906:** Builds the Jesup Wagon and starts "moveable school" program distributing agricultural information across Alabama.
- 1910:** Carver receives a fully equipped research laboratory from Tuskegee Institute.
- 1921:** Carver addresses the U.S. House of Representatives in favor of a peanut tariff to protect American peanut farmers.
- 1920's:** Carver is invited to address Southern white colleges to promote racial harmony.
- 1930's:** The "Chemurgy Movement" recognized Carver as "the first and greatest chemurgist."
- 1941:** The George Washington Carver Museum dedicated at Tuskegee Institute.
- 1943:** Carver dies of heart failure at age 78 in Tuskegee, Alabama.

From Slave to Scholar



© National Park Service

A portrait of an adolescent George Washington Carver, circa 1876. This, along with countless other articles chronicling his extraordinary life, can be seen at The Field Museum's exhibition, *George Washington Carver*.

Photographed with other junior faculty members at Iowa State University, Carver's thirst for knowledge led him here after spending a year at Simpson College in Iowa.



© Iowa State University, Special Collections Department

Carver was born into slavery, struck with a life-threatening illness, kidnapped, orphaned, and emancipated all before his first birthday. Born in 1864 during the Civil War, Carver and his mother Mary were kidnapped by slave raiders. Their owner Moses sent a scout to bring them back but only baby George was recovered. Suffering from whooping cough, he had been left for dead. Illness continued to plague his childhood, leaving him too weak for strenuous labor. George and his brother Jim were adopted by their owners, Moses and Susan Carver. Jim worked alongside Moses in the fields while George was given household duties and taught handiworks by Susan.

The Carver's 240-acre farm was located near the town of Diamond, Missouri. It was here that George began to foster his curiosity for nature, collecting specimens and investigating how natural systems work together. He was so naturally gifted at plant care that local people called him the "Plant Doctor". He learned how to cook,

make clothing, dyes, soap, and homeopathic remedies.

George also was a lover of music and the arts. His interest was inspired in part by Moses Carver, who played the fiddle. Both talented and resourceful, music became one of George's many joys. He learned to sketch and paint, fashioning brushes from bunched-together twigs and making colors from boiled bark and berries. George learned how to read from a hand-me-down spelling book, Webster's "Blue Back Speller." He yearned for a formal education but the closest school was for whites only.

In 1877, George left the Carver farm to attend an African-American school in the nearby town of Neosha, Missouri. In 1891, he enrolled in the College of Agriculture at Iowa State University and excelled in his academic studies. In 1894 Carver became the first black member of the Iowa State faculty when he was appointed Assistant Professor of Biology.

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Guiding Questions

1. Name some of the handicrafts Carver learned to make as a child.
2. What are fossils and how are they formed?
3. What musical instruments did Carver play?
4. What did George study at Simpson College? Name his teacher there.
5. Why did Carver decide to pursue agricultural science at Iowa State?

Pre-Activities

1. Ask students to make a detailed drawing of what you think an 1870's farm would look like. Compare your drawings to the diorama of the Carver farm when you visit the exhibition.
2. Visit your school library and view the earliest edition spelling book available. Compare this book to the current version used in your classroom. What are the similarities and differences?

Field Trip Activities

1. Name some of the activities that Carver was involved in at Iowa State. How do you think it was possible for Carver to excel in his studies while pursuing a variety of extra curricular activities? Ask students how they juggle their studies with their extra curricular activities. What are the benefits of having a variety of interests?



©TuskegeeUniversity Archives/Museum

Carver was not only a botanist, he was also an artist, pursuing art at Simpson College. Although many of his works were lost in a fire, some depicting nature still exist.

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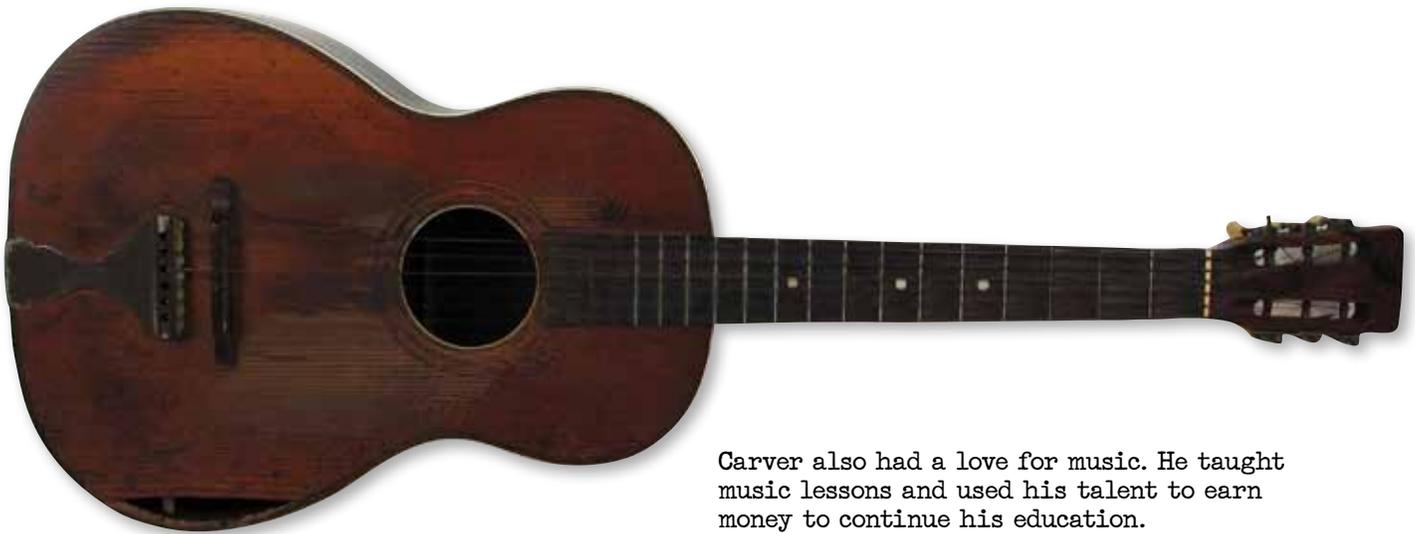
Post-Activities

1. Take a deeper look at the racial tensions at the time of the Civil War. What was lynching and why did it occur? What are segregation, emancipation, and slavery? Why did racism cause people to act unjustly towards fellow human beings? After the Civil War was over, how was life improved for African-Americans? How long did these improvements take? Does racism exist today? How does it impact our society? How has Carver's legacy impacted the way we think about the Civil War today?
2. Many historically significant events happened during Carver's life, as well as numerous innovations in science and technology. Have a conversation with an older friend, relative, or neighbor and ask your students' what major events occurred during his or her lifetime. How did those events change their perception of the world and impact scientific or social advances for Americans?
3. Carver collected rocks, fossils, plants, and other items he found interesting in the natural world. Do you have any collections at home? What are they and why are they important to you? Write a brief paper or make a short presentation explaining the significance of your collection.

4. Carver used plants for many purposes including cooking, dying clothing, and making homeopathic remedies. This initial exploration of plants inspired Carver's later work, much of which has impacted our modern world. Spend a week searching for plants and plant products in your home and school. Collect, photograph, and share examples. Explore the amazing diversity of plants that color, shape, and support your environment.

Answers to Guiding Questions

1. Weave, crochet, knit, embroidery, and sewing.
2. Fossils are the remains or traces of organisms that were once alive. Fossils can include bones, trackways, skin impressions, etc.
3. Accordion, guitar, and the piano.
4. Carver got a diploma from Simpson College where he studied art and music. Etta Budd was the name of his art teacher.
5. Carver wanted to pursue a career in agriculture because it would help serve the needs of poor black farmers.



Carver also had a love for music. He taught music lessons and used his talent to earn money to continue his education.

© The Field Museum

The People's Scientist



© Library of Congress

Carver believed that hands-on instruction was the most educational and effective, so he often took his students outside the classroom.

In 1896, Booker T. Washington invited Carver to head the Agricultural Department at Tuskegee Normal and Industrial Institute in Alabama. Carver accepted the offer, believing he could use the position as an opportunity to alleviate the physical and economic stress of impoverished blacks in the south. His goal was to serve humanity by harnessing the power of nature to help the poor.

The primary idea in all of my work was to help the farmer and fill the poor man's empty dinner pail. — George Washington Carver in a 1929 letter.

Segregation, violence, and economic oppression characterized life for Southern blacks when Washington began building Tuskegee Institute in the 1880's.

Tuskegee Institute became a haven where African-Americans could embark on the road to independence. Both Carver and Washington shared the belief that blacks should achieve economic independence before working for political and social equality. Carver encouraged his students to live a self-sustainable existence, much like life on the Carver farm. Students raised their own food, made their clothing and fired their own bricks to build classrooms.

When he arrived at Tuskegee, Carver was shocked to find a meager classroom devoid of lab equipment. Armed with one microscope, his departing gift from Iowa State, built a laboratory from the ground up, by scavenging materials from the junkyard. Carver had a

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vision to transform the barren grounds of Tuskegee into a lush, green farm. He wanted to see crops flourish and become abundant enough to ensure that people were prosperous, self-reliant, and well-nourished.

At his Agricultural Experiment Station, Carver tested different types of plants, soils, and farming techniques including crop rotation, composting and fertilization, pest control, and the introduction of “soil building plants.” He focused on peanuts, sweet potatoes, and black-eyed peas, three crop plants that improved soil quality while offering nutritional value for people. Carver understood the relationships between living things and their environments. He became a pioneer for organic gardening as well as other lifestyle choices that we refer to today as “green living”.

Carver's dedication to agricultural work and his innovations in crop rotation and organic farming helped diversify the Southern economy.



Guiding Questions

1. What were some of the challenges blacks in the South faced at the time Carver moved to Tuskegee in the 1890's?
2. Why did some of the faculty at Tuskegee Institute resent Carver?
3. What is “applied science” and what are its benefits?
4. What are some of the methods Carver used to save Southern soil?
5. What is sharecropping? Was this an equitable approach to farming?
6. What is mycology and how was it used by Carver?

Pre-Activities

1. Explore the Tuskegee University website: www.tuskegee.edu. What type of institution is it? Where is it located? Who makes up the student body there? Keep these factors in mind when walking through the Carver exhibition.
2. Conduct some research as to why Carver's work was especially crucial in the South. What was industry like before his arrival? Why was cotton such a fixture in the South? How does cotton growth affect soil? How and why did this industry die out and how did introduction of new plant species help to topple the “King Cotton”?

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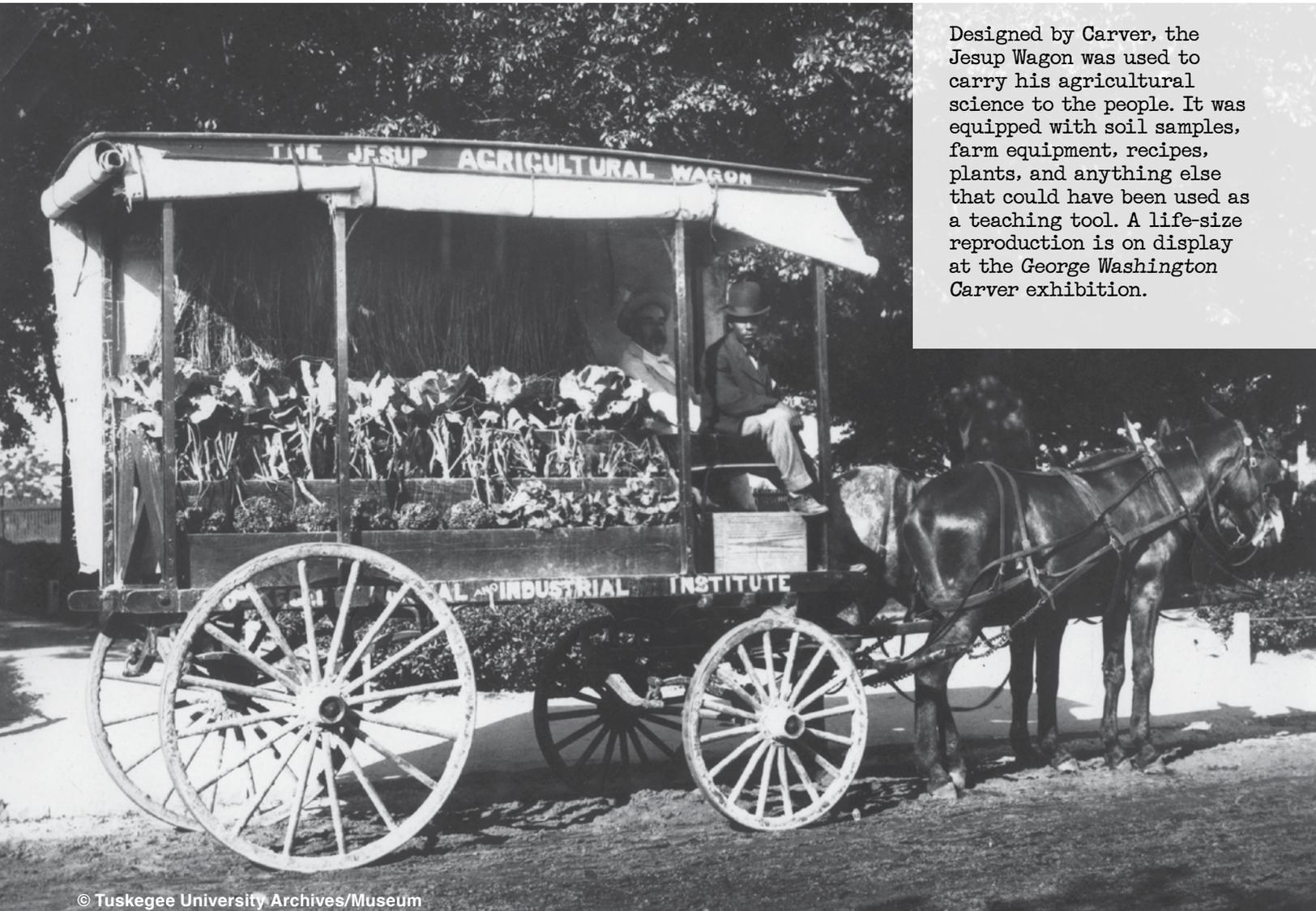
Post-Activities

1. Compare the belief systems of black civil rights activists and scholars Booker T. Washington and W.E.B. Du Bois. How do these two schools of thought differ from one another? To which school(s) of thought did Carver adhere? How and why? What are the pros and cons of each school of thought?
2. In small groups, have students brainstorm and make household, personal or classroom items out of recycled goods. What are the benefits of recycling and reusing items for a different purpose?
3. Make a soil station at your school. Grow plants, conduct experiments, compost and make records of the factors and changes occurring in your living soil station. Look for ideas on the Underground Adventure website: <http://www.fieldmuseum.org/undergroundadventure/index.shtml>
4. Many of the innovative agricultural practices that Carver developed would today be referred to as “green” or “organic” farming. What are the principles of organic farming and why do some prefer these over conventional farming practices? Research local farmers, retailers, and companies that grow and sell organic goods. Where are they located? What percentage of the market do they cover? Do you use any “green” products at home?

Answers to Guiding Questions

1. Blacks in the South faced segregation, violence, and economic oppression long after the Civil War ended.
2. Carver aroused resentment and suspicion because he wasn't from the South, was educated at a white university, had a higher salary and demanded special treatment in some faculty member's opinions.
3. “Applied science” the application of knowledge from one or more natural scientific fields to practical problems such as hunger, disease, natural resource management, etc.
4. Carver used crop rotation, composting, fertilization, pest control, and the introduction of soil building plants as methods to repair southern soil.
5. Sharecroppers worked a section of someone else's land in exchange for a percentage of the harvest. They often had to borrow against their share to get by until harvest time so it was not unusual for debt to exceed earnings. This bound the sharecropper to the farmer until the debt was paid off.
6. Mycology is the study of fungi. Carver did extensive research on fungal plant diseases.

Jesup Wagon



Designed by Carver, the Jesup Wagon was used to carry his agricultural science to the people. It was equipped with soil samples, farm equipment, recipes, plants, and anything else that could have been used as a teaching tool. A life-size reproduction is on display at the George Washington Carver exhibition.

© Tuskegee University Archives/Museum

Carver spent much time talking to farmers, often after church, at fairs and exhibitions. When Booker T. Washington approached him with an idea for a “moveable school,” Carver designed a wagon outfitted with display charts, agricultural products and equipment and proposed a series of lectures and demonstrations. The name of this “moveable school” was the Jesup Wagon. During its inaugural summer, the Jesup Wagon reached over 2,000 people each month. The Jesup program spread agricultural knowledge to Alabama farmers and helped Carver gain recognition as a chemist and agriculturalist.

Carver’s Jesup Wagon distributed an array of teaching tools and giveaways, ranging from garden tools to seed packets. At times, Carver even brought different breeds of livestock with the wagon. The Jesup Wagon also offered lessons aimed at household living, designed to help farmers’ wives improve both the aesthetics and sanitary conditions of their work.

Carver also published bulletins, written in a language that was easy to understand and that dealt with practical matters. His mission was to support the health and prosperity of farmers by not only increasing and ensuring annual productivity, but by improving living conditions of farmers and their families.

Guiding Questions

1. Who was the Jesup Wagon named after? Who was he?
2. When was the Jesup Wagon designed? How much did it cost to build?
3. How many people did the Jesup Wagon reach during its inaugural summer? Did people travel great distances to see the Jesup Wagon in action?
4. What topics did Carver cover in his Jesup Wagon demonstrations and bulletins?
5. What topics were geared towards women?

Pre-Activities

1. What kind of educational tools and information aid farmers today? Brainstorm the types of written, audio, visual, and technological assistance that helps farmers make predictions and produce fruitful yields.
2. Look into the variety of mobile educational programs currently offered in the United States. What institutions are offering these services and what do they hope to achieve by spreading educational programming to diverse populations?

Field Trip Activities

1. Look at the way the stories are told in the various exhibitions at **The Henry Ford**. What type of exhibit messages, display boards, text panels, interactive stations, or replicas are used to convey information about each topic? Are these successful educational tools? What are other ways information could be presented? Why is this important?

Post-Activities

1. Design your own educational “Jesup Wagon”. Choose a scientific topic that you wish to inform your classmates about and design a wagon (either in blueprint or model form) that would be effective in presenting this information to the public.
2. Bring in newspaper and magazine articles, photographs and clippings pertaining to food growth, production, recipes, household tips, etc. Have students assemble bulletins with their favorite growing tips, recipes, craft activities to share with others.

Answers to Guiding Questions

1. The Jesup Wagon was named for the man who funded it, Morris K. Jesup.
2. The Jesup Wagon was designed by Carver in 1906. It cost \$674 to build and outfit.
3. The Jesup Wagon reached between 6,000 and 8,000 people its inaugural summer. Visitors came from as far as China, India, and Russia to see it.
4. Jesup Wagon topics ranged from plants & seeds and soil samples to farm equipment and Carver products. The Wagon also distributed bulletins such as “How the Farmer Can Save his Sweet Potatoes” and “Nature’s Garden for Victory and Peace.”
5. The Jesup Wagon contained tips on preserving food, sewing, making whitewash, and home decoration tips. Later in its history the Jesup Wagon even had a nurse accompany it to provide basic medical care to visitors.

Plant Power



© Tuskegee University Archives/Museum

Carver wanted to highlight the economic potential of alternative crops but first he had to identify which plants were most effective in doing so. He began research on plants that would later make him famous: peanuts, or goobers as they were often called. He unleashed the potential uses of sweet potatoes and soybeans, and inspired a movement that has renewed importance today—developing agricultural alternatives to petroleum products.

I believe the Great creator has put oils and ores on this earth to give us a breathing spell...As we exhaust them, we must prepare to fall back on our farms. For we can

Carver believed he would do great things for people, not academic science. He dreamed of turning the over-farmed soil into fertile expanses of crops, revitalizing the lives of the farmers.

learn to synthesize materials for every human need from the things that grow. – George Washington Carver

Carver's chemistry was extraordinary in its creativity and humanitarian applications. He joked about being a "cook stove chemist." In 1910, Tuskegee Institute promised Carver a fully equipped laboratory to continue his work. Carver used a variety of different processes and equipment to break test plants into

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component parts which he later recombined to make diverse products.

Carver's chemistry creations resulted in hundreds of new uses for peanuts, sweet potatoes, and soy beans. While Carver's scientific approach may have been unique at the time, many cultures throughout the world and throughout history have relied heavily on plants to make food, medicine, clothing, shelter, and other products. The study of how various cultures use local plant resources is called "economic botany".

Guiding Questions

1. List some of the items found in Carver's laboratory.
2. What are the component parts that Carver broke the plants into in his laboratory?
3. What is "economic botany"?
4. What are some of the products that Carver produced from peanuts? Sweet potatoes? Soy beans?
5. What is the "chemurgy movement" and what are its goals?
6. What are some of the plant based products—seen in the exhibition—produced by companies today?



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Pre-Activities

1. Look up the history of the “Chemurgy Movement” and its applications today. What are the principles and aims of this movement? Look around the classroom to find products produced as a result of the “Chemurgy Movement.” Look for similar items at home, in the car, and at **The Henry Ford** as well.

Field Trip Activities

1. How many of the items listed as Carver’s laboratory equipment are also considered kitchen utensils? How are such items used in cooking? What is the correlation between Carver’s experiments and what occurs in the kitchen? How is food broken down into different parts during cooking? List some of those parts.
2. Look at cultural exhibitions at **The Henry Ford** for examples of “economic botany”. What are some of those items and how are they used by the culture in which they are produced?

Post-Activities

1. Have students cut out product labels at home to see if the products they use are made from peanuts, sweet potatoes, or soy beans. What are some of the products that do use those plant items as a base ingredient? What other modern products use corn and sugar beets as a base in their manufacture?
2. What was the World’s Colombian Exposition of 1893? Look up the history and variety of events and collections displayed at that exposition. What was the purpose of this event? How were different cultural ideas displayed? How were scientific ideas presented?
3. Conduct a short paper or short presentation on a company that practices chemurgy. What are their motivations for using biodegradable, recycled and environmentally friendly products? What are the positive impacts these companies are having on both the environment and consumer industries as a whole?



This apothecary jar was part of Carver's lab. His experiments were creative and influenced by his humanitarian mission.

© The Field Museum

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Answers to Guiding Questions

1. Rolling pin, black pot and lid, mortar and pestle, copper bulb, Bunsen burner, pressure gauge, ringstand with clamp, brass bulb with glass tube, double globe beaker, glass flask, extracting tube, distilling apparatus, conical distiller, distilling flask, test tubes, jars filled with specimens, red grinder, hydraulic press.
2. Carver broke plants down into fats, proteins, water, sugars, acids, and starches.
3. Economic botany is the study of how people of a particular culture or region make use of local plants for food, medicine, household items and other products and building materials.
4. Answers will vary.
5. The “chemurgy movement” creates industrial products, like plastics and bio-fuels, from agricultural materials. These products cut down on the amount of natural resources consumed; many of the products are biodegradable as well.
6. Biofuels, water bottles, plates and utensils, building materials, roofing membranes, newspaper inks, art supplies, cleaning products.



Carver created many of his recipes in this cast iron pot during his experiments, jokingly calling himself the “cook-stove chemist.” George Washington Carver displays many items such as this.

© The Field Museum

Carver's Legacy



© Tuskegee University Archives/Museum

George Washington Carver's contribution to the world is endless, as was his desire to always discover more.

While no single history-altering invention or process can be attributed to him, Carver leaves a powerful scientific legacy. His genius was in his application of science to practical purposes. Ecology, conservation, ethno-botany, bio-engineering, and biological product development are disciplines that carry on Carver's tradition.

In 1921, Carver was invited to address the U.S. House of Representatives in favor of a peanut tariff protecting American peanut farmers. His presentation was so

captivating that it gave him the reputation of "The Peanut Man." Exaggerated claims about his discoveries circulated and his work became legendary. Although the press was not always accurate, it served to draw attention to Tuskegee and Carver's work there.

Carver began touring and speaking not only in favor of his research but as a voice in the fight to promote racial harmony in the South. Jim Crow laws passed in the 1890's kept Carver from riding on the same trains,

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dining in the same restaurants, and using the same rest facilities as the crowds he addressed. Where there is no vision, there is no hope. – George Washington Carver

Carver was honored with numerous awards, tributes and memorials. In 1941, the George Washington Carver Museum was dedicated at Tuskegee Institute. He was also the first African American and the only non-president to have his birthplace honored as a national monument. Carver devoted his life to finding solutions for hunger, poverty, illness, environmental devastation and dependence on fossil fuels. His “Mighty Vision” serves as an inspiration for all who hope to improve life on Earth.

Guiding Questions

1. Name some scientific fields that have been influenced by Carver's research.
2. Why did Carver address the U.S. House of Representatives in 1921?
3. What were Jim Crow Laws? How did they affect Carver's travels?
4. What is significant about the Carver National Monument?



Ford and Carver were not only friends, but also experimented with plant-based plastics and fuels. Included in *George Washington Carver* are photographs like this one and letters between the two.

© Tuskegee University Archives/Museum

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Pre-Activities

1. Look up local conservation and recycling programs in your neighborhood. How do these programs enhance the quality of life for the members of your community? Are these programs carried out on a national or global level? If so, how and what changes are they helping to bring about?

Post-Activities

1. Research the history of segregation in the South. Look at Jim Crow Laws and the movement to get them repealed. Look at the Civil Rights Movement and the struggle that blacks endured to gain equality and justice in the United States.
2. Visit the George Washington Carver Foundation and Museum at Tuskegee <http://www.nps.gov/tuin/> and the Carver National monument websites <http://www.nps.gov/gwca/> to see what events and programs take place. How do these events and programs help to carry on the legacy of Carver?
3. Visit the Tuskegee University web/site to view the on-going research and developments made in their agricultural department. <http://www.tuskegee.edu/> How does this research build on Carver's work and help to preserve his legacy?

Answers to Guiding Questions

1. Ecology, conservation, ethnobotany, bioengineering, and biological product development are all areas that have been influenced by and carry on the Carver tradition.
2. Carver spoke at a House of Representatives meeting in favor of a proposed tariff that would protect American peanut farmers from foreign competition.
3. Jim Crow Laws were designed to separate the races mandating different restaurants, rest facilities, train cars, schools, and other public spaces for whites only or blacks only.
4. Carver is the first African American and the only non-president to have his birthplace honored as a national monument.



Field Museum On-line Resources

Biodiversity and Conservation

<http://www.fieldmuseum.org/biodiversity/interactive/work.html>

Find out how Field Museum scientists use the same cutting-edge techniques to understand the genetic blueprints of Earth's animals and plants. Learn how this ability to compare and contrast DNA from different species is revolutionizing our understanding of biodiversity and conservation.

Science in Action, Calumet Bio Blitz

<http://www.fieldmuseum.org/bioblitz/interactive/bioblitz.html>

A BioBlitz gets people involved in their own communities and promotes a positive awareness of resources and local conservation. While scientists and volunteers were challenged with identifying hundreds of species of plants and animals before the clock stopped, the public experienced first-hand how real science is put to work.

Underground Adventure

<http://www.fieldmuseum.org/undergroundadventure/index.shtml>

There's more to soil than meets the eye. The world of soil is a rich habitat for many amazing creatures. What do you think life would be like if you lived underground? You've come to the right place to find out!

Books for Educators

Burchard, Peter Duncan. Carver: A Great Soul. Serpent Wise: Fairfax, 1998.

Edwards, Linda McMurray. George Washington Carver: Scientist and Symbol. Oxford University Press: New York, 1982.

Holt, Rackham, ed. George Washington Carver, an American biography. Doubleday, Doran and Co., Inc.: New York, 1943.

Karson, Jill, ed. Leaders of the Civil Rights Movement. Greenhaven Press: Farmington Hills, 2005.

Kremer, Gary R., ed. George Washington Carver: In his own words. University of Missouri Press: Columbia, 1987.

Lotz, Philip Henry. Rising Above Color. Books for Libraries Press: Freeport, 1972.

Manber, David. Wizard of Tuskegee: The Life of George Washington Carver. Crowell-Collier Press: New York, 1967.

Neyland, James. George Washington Carver. Melrose Square Pub. Co.: Los Angeles, 1991.

Norrell, Robert J. Reaping the whirlwind: The Civil Rights Movement in Tuskegee. Knopf: New York, 1985.

Wellman, Sam. George Washington Carver: Inventor and naturalist. Thorndike Press, Thorndike, 2001.

Books for Students

- Benitez, Mirna. George Washington Carver, Plant Doctor. Raintree/Steck-Vaughn: Austin, 1992.
- Driscoll, Laura. George Washington Carver: The Peanut Wizard. Grosset & Dunlap: New York, 2003.
- Edwards, Linda McMurry. George Washington Carver: The life of the great American Agriculturalist. Power Plus Books: New York, 2004.
- Greene, Carol. George Washington Carver: Scientist and Teacher. Childrens Press: Chicago, 1992.
- Halvorsen, Lisa. George Washington Carver: Innovator in Agriculture. Blackbirch Press: San Diego, 2002.
- Loesch, Joe. George Washington Carver: The Great Peanut Adventure. Toy Box Productions, 2003.
- Nelson, Robin. George Washington Carver: A life of devotion. Lerner Publications: Minneapolis, 2007.
- MacLeod, Elizabeth. George Washington Carver: An innovative life. Kids Can Press: New York, 2007.
- McKissak, Pat. African-American Scientists. Millbrook Press: Brookfield, 1994.
- McLonne, Margo. George Washington Carver: A photo-illustrated biography. Bridgestone Books: Mankato, 1997.
- Meloche, Renee Taft. George Washington Carver: America's Scientist. Emerald Books: Lynnwood, 2006.
- Monroe, Judy. George Washington Carver: Scientist and Inventor. Capstone Press: Mankato, 2006.
- Rogers, Teresa. George Washington Carver: Nature's Trailblazer. Twenty-first Century Books: Frederick, 1992.
- Stanley, Phyllis M. American Environmental Heroes. Enslow Publishers: Springfield, 1996.

Recommended Websites

The College of Agricultural, Environmental and Natural Sciences offers an education that prepares future professionals and leaders in the life sciences through course work along with research and outreach activities. Our college has inherited the legacy of George Washington Carver with his many contributions to teaching, research, outreach and new product development—aimed at serving the unreached of his time.

<http://www.tuskegee.edu/Global/category.asp?C=35008&nav=CcX8CqP5>

Welcome to the official homepage of the George Washington Carver National Monument. Here you will find access to photos and information about Dr. Carver and the National Park dedicated to his remembrance.

<http://www.nps.gov/archive/gwca/expanded/main.htm>

Since the beginning of America's existence, education has always been considered as one of the keys to social, political and economical acceptance for African Americans. Tuskegee Normal School was established by the state of Alabama, influenced by a former slave and a former slave owner to educate newly freed people and their children. The Normal school, later Institute, became a beacon of hope for African Americans to reach their goal of acceptance. The school officially opened on July 4, 1881 in the African American Methodist Episcopal Zion Church under the auspices of religion. This date was chosen to commemorate the independence of a Nation and the freedom of a forgotten people. Booker T. Washington became the first principal of a newly formed school at the age of twenty-six. He later hired individuals like George W. Carver and Robert Taylor to help lead the institute to its world-renowned status.

<http://www.nps.gov/tuin/>

Farmers' markets are one of the oldest forms of direct marketing by small farmers. From the traditional "mercados" in the Peruvian Andes to the unique street markets in Asia, growers all over the world gather weekly to sell their produce directly to the public. In the last decade they have become a favorite marketing method for many farmers throughout the United States, and a weekly ritual for many shoppers.

<http://www.localharvest.org/farmers-markets/M1972>

The Henry Ford is the history destination that brings the American Experience to life. With a rich and diverse offering of exhibits, demonstrations, programs and reenactments, The Henry Ford celebrates yesterday's traditions as well as today's innovations. Five distinct attractions at The Henry Ford captivate and inspire visitors of all ages.

<http://www.thehenryford.org/>

In 1968, the museum was renamed after Jean Baptiste Pointe DuSable, a Haitian fur trader who was the first permanent settler in Chicago. In 1971, the Chicago Park District granted the museum's request to use a former park administration building in Washington Park. The museum became the city's principal memorial to Jean Baptiste Pointe DuSable and the eighth member of the consortium of museums on Park District land. In 1993, the museum opened a new wing bearing the name of the late Mayor Harold Washington that included additional gallery space on two floors and a 450-seat theatre.

<http://www.dusablemuseum.org/>

The HistoryMakers represents the single largest archival project of its kind in the world, outdistancing the existing video oral history collections of New York's Schomburg Library and the Birmingham Civil Rights Museum. The HistoryMakers is unique among these other collections of African American heritage, because of its massive scope. Like other oral history collections, The HistoryMakers collection hearkens back to the earliest and most authentic efforts to capture the voice of a people, while introducing state-of-the-art technology and increased accessibility. The HistoryMakers wants to provide living proof that African American history did not begin or end with the civil rights movement, that the HistoryMakers number in the thousands and that their names are not just Harriet Tubman, W.E.B. DuBois, Martin Luther King, Jr. and Ella Fitzgerald.

<http://www.thehistorymakers.com/>

The National Civil Rights Museum, located at the Lorraine Motel, the site of Dr. Martin Luther King's assassination, chronicles key episodes of the American civil rights movement and the legacy of this movement to inspire participation in civil and human rights efforts globally, through our collections, exhibitions, and educational programs.

<http://www.civilrights museum.org/>

Selma to Montgomery Voting Rights March...the Beginning

The climax to the decades-long voting rights crusade in Alabama erupted in March 1965 as Civil Rights activists converged on Selma, Alabama. The final push to achieve a nationwide solution to the disenfranchisement of African Americans came as the result of three strategically planned marches, the first of which took place on March 7, 1965. <http://www.nps.gov/semo/>

The Institute of Museum and Library Services is the primary source of federal support for the nation's 122,000 libraries and 17,500 museums. The Institute's mission is to create strong libraries and museums that connect people to information and ideas. The Institute works at the national level and in coordination with state and local organizations to sustain heritage, culture, and knowledge; enhance learning and innovation; and support professional development. <http://www.imls.gov/> and

http://www.imls.gov/pdf/African_American_Museums.pdf

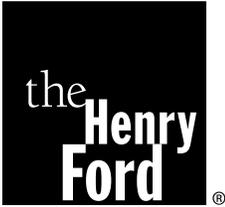
George Washington Carver Coloring and Activity Book, "It is simply service that measures success."

<http://www.usda.gov/oo/colorbook.htm>

USDA, we provide leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management.

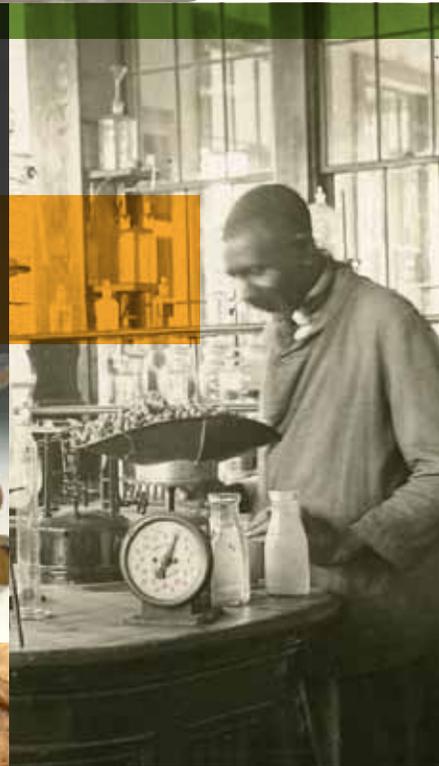
<http://www.usda.gov/wps/portal/usdahome>

- The scouts reward for returning baby George to the Carver's after his kidnapping was a race horse.
- Carver's brother Jim, the "strong one" died of small pox in his 20's, while George the "sickly one" lived to be 78.
- One night George had a dream about a pocket knife he desired. The next day he looked in the field and found one stuck in a watermelon.
- One of Carver's paintings won an award at the 1893 World's Colombian Exposition in Chicago.
- To help put himself through school, Carver took in laundry, typed telegrams, and taught guitar lessons.
- Carver always wore a cut flower in his jacket lapel.
- By 1896 Tuskegee Institute had expanded to 40 buildings on a 100-acre farm.
- A microscope, his going away present from Iowa State, was Carver's only real lab equipment when he arrived at Tuskegee.
- Carver used peanuts, sweet potatoes, and black-eyed peas because of their abilities to improve the soil and their high nutritional value for humans.
- In the 1930's Mahatma Gandhi wrote to request copies of Carver's bulletins to aid his work with the poor in India.
- Contrary to popular belief, Carver did not invent peanut butter.
- Convinced of the restorative nature of peanut oil, Carver began testing it on polio victims, with great success.
- Carver's House of Representatives presentation coined him the nickname "The Peanut Man".
- Legend has it Thomas Edison offered Carver a six-figure salary to come work in his laboratory.
- President Franklin Roosevelt, a polio victim, received a gift of peanut oil from Carver. He visited the scientist at Tuskegee in 1939.



George Washington Carver

Special Educational Resources and Programs offered
at **The Henry Ford**



Resources at-a-Glance

1. Especially for Educators: The Mighty Vision of George Washington Carver, Teacher Preview Night*

2. Educational Highlights in the Exhibition:

- ▶ Step into Carver's World, Hands-on Activities
- ▶ George Washington Carver, Film
- ▶ Be the History Detective, Carver Artifacts from **The Henry Ford's** Collections

3. Further Engagement:

- ▶ Celebrate African-American Innovators, Guided Tour
- ▶ Celebrate African-American Innovators, Self-Guided Tour Itinerary
- ▶ Carver's Legacies: Food, Farming and the Future of Agriculture, Public Symposium

4. Related On-Site Resources:

- ▶ Soybean Lab Agricultural Gallery, Historic Site, *Greenfield Village*®
- ▶ George Washington Carver Cabin, Historic Site, *Greenfield Village*
- ▶ Elijah: The Real McCoy, Dramatic Presentation, *Greenfield Village*
- ▶ With Liberty and Justice for All, Exhibit, *Henry Ford Museum*®

5. Research and Further Study:

- ▶ *Benson Ford Research Center*®
- ▶ Artifacts and Archival Materials
- ▶ George Washington Carver Cabin and Soybean Lab Agricultural Gallery Building Boxes
- ▶ African-American Family Life and Culture in *Greenfield Village*

6. Online Resources:

- ▶ History Hunter: Investigating George Washington Carver Scavenger Hunt
- ▶ Photographs available online through **The Henry Ford's** Image Source
- ▶ Pic of the Month

7. Other Carver and Agriculture-Related Websites:

- ▶ George Washington Carver
- ▶ Austin W. Curtis Archival Collection at Charles H. Wright Museum of African American History
- ▶ The Greening of Detroit
- ▶ Food System Economic Partnership (FSEP)

* Exhibit and Educator Guide Alignments with Michigan Grade Level and High School Content Expectations.

Educational Resources from The Henry Ford George Washington Carver Exhibition

Henry Ford Museum

Open 7 days a week, 9:30am-5pm

George Washington Carver Limited-Engagement Exhibition

What makes a person a legend? In the case of George Washington Carver, it wasn't just peanuts. Discover the life and work of an extraordinary man. Born into slavery, George Washington Carver became a trail-blazing scientist whose experiments with plants laid the groundwork for today's research on plant-based fuels, medicines and everyday products. A true humanitarian, his extraordinary persistence and compassion nourished a lifelong mission to bring practical knowledge to those in need.

This exhibition was created by The Field Museum, Chicago, in collaboration with Tuskegee University and the National Park Service.

Dates: November 6, 2010-February 27, 2011

Cost: FREE with Museum admission

<http://www.thehenryford.org/events/carverExhibit.aspx>

ESPECIALLY FOR EDUCATORS

The Mighty Vision of George Washington Carver Teacher Preview Night

During this exclusive teacher preview of our George Washington Carver exhibition, explore Carver's life as an educator, scientist, innovator and social activist, his approach to agriculture and his notable achievements. This special sneak peek will help you plan a field trip that will motivate students, provide agricultural knowledge, encourage creative thinking and prompt further investigation. The Henry Ford education team has aligned the exhibition with Michigan GLCEs and HSCEs that are available online for easy downloading. Be sure to chat with our curators, who will be on hand to provide further help and answer questions.

Location: Henry Ford Museum

Date: November 18, 2010

Price: FREE for educator plus 1 guest

Check-in: 3:30pm-5:30pm (IMAX® Lobby)

Credentials required at registration (certification or school ID)

Go here to register for the Teacher Preview Night: <http://carverpreview.eventbrite.com/> Or call 313.982.6001

EDUCATIONAL HIGHLIGHTS IN THE EXHIBITION

Step into Carver's World, Hands-on Activities

Preschool and early elementary visitors can give the many interests of George Washington Carver a try for themselves! Study science using age-appropriate microscopes and slides. Be a botanist by putting together the puzzles of plants and trees. Explore Carver the author in the reading nook. Use gardening tools in the garden house. Try crafts like lacing cards.

George Washington Carver, Film

Usually available in the George Washington Carver Cabin in *Greenfield Village*, the George Washington Carver film will now be shown during the exhibition in *Henry Ford Museum*. This 4-minute film gives a brief visual history of Carver's life and work and provides details about his friendship with Henry Ford and his visit to *Greenfield Village* for the opening of the replica of his childhood home.

Be the History Detective

Find these special Carver-related artifacts from **The Henry Ford** Collections in the exhibition:

- ▶ Typewriter used by George Washington Carver at the Tuskegee Institute. (Artifact ID# 97.6.2)
- ▶ Commemorative coin with the image of George Washington Carver. (Artifact ID# 66.9.56)
- ▶ Plaster bronze cast of the hand of George Washington Carver by Isaac Hathaway. (Artifact ID# 45.78.1)
- ▶ Microscope owned and used by George Washington Carver at the Tuskegee Institute. (Artifact ID# 97.6.1)
- ▶ Pamphlet describing the maintenance of soil written by George Washington Carver while at the Tuskegee Institute. (Artifact ID# 91.0.122.6)
- ▶ Pamphlet with suggestions for growing and preparing sweet potatoes written by George Washington Carver while at the Tuskegee Institute. (Artifact ID# 91.0.122.7)
- ▶ George Washington Carver Collectible Doll, made by Hallmark Cards Inc. (Artifact ID# 93.97.1)

FURTHER ENGAGEMENT

Celebrate African-American Innovators, Guided Tour

George Washington Carver, Elijah McCoy, Rosa Parks and Granville T. Woods are just a few of the many African-American innovators who will be highlighted in our special guided tour offered during Black History Month. These 45-minute guided tours will look at the innovative spirit that drove these African Americans to accomplish great things and how their contributions affect our lives today.

Location: Tours will depart from the cornerstone in the *Henry Ford Museum Plaza*.

Date and Time: Daily in February 2011 at 10am, 11am, 1pm and 2pm

Price: FREE with Museum admission

Space limited to 25 people per group.

Celebrate African-American Innovators, Self-Guided Itinerary

Explore the innovative spirit of African-American innovators – on your own! If a guided tour doesn't meet the time or group-size needs for your field trip, the tour is also available as a free, self-guided itinerary. This brand-new resource will be available online at <http://www.thehenryford.org/education/americanInnovation.aspx>. Check back as Black History Month approaches. Download and bring on your field trip.

Carver's Legacies: Food, Farming and the Future of Agriculture, Public Symposium

Join us for a public symposium and luncheon to highlight Carver's legacies as well as current efforts in urban farming. "Carver's Legacies: Food, Farming and the Future of Agriculture" will feature two keynote speakers: Walter A. Hill, dean of the College of Agricultural, Environmental and Natural Sciences and director of the George Washington Carver Agricultural Experiment Station at Tuskegee University, and Will Allen, CEO of Growing Power Inc., chosen as one of the 2010 TIME 100 people who most affect our world. A panel of local food and urban farming activists will round out the morning program.

Immediately following the symposium is a buffet lunch featuring products from local food producers as well as a tour of the George Washington Carver exhibition.

Date: Saturday, January 29, 2011

Registration and Coffee: 9am in IMAX® Theatre lobby

Time: 9:30am-12:30pm

Location: Anderson Theater

Cost: Member \$37, Nonmember \$45

Advance registration is required and begins November 1, 2010. Please register by January 21, 2011. Contact our Call Center at 313.982.6001 for more information or to register.

RELATED ON-SITE RESOURCES

The Henry Ford offers several other value-added experiences that can provide a contextual appreciation of the contributions of George Washington Carver. Explore the following as time permits.

Greenfield Village

Visit *Greenfield Village* with your class and be sure to explore the George Washington Carver Cabin and the Soybean Lab Agricultural Gallery.

Greenfield Village is open: November 1-30, open Friday-Sunday only, 9:30am-5pm; December 1-31, open select evenings only;

January-April 14, closed; April 15-October 30, open 7 days a week, 9:30am-5pm

Soybean Lab Agricultural Gallery, Historic Site

Henry Ford knew that soybeans and other crops could be reproduced quickly, unlike iron ore, lumber or lead. He built this lab to help farmers find a way to use their crops in the industrial world. Chemist Robert Boyer ran the lab, where dozens of workers researched industrial uses for farm crops, such as cantaloupes, carrots and beets. Discover agricultural tools and machines used by farmers like those George Washington Carver was so committed to helping. Also get a close-up view of a model Soybean Oil Extractor from 1935 that looks just like the one Henry Ford used to make industrial products from a renewable natural resource.

RELATED ON-SITE RESOURCES

George Washington Carver Cabin, Historic Site

George Washington Carver was born into slavery but was later known for his achievements as an agricultural chemist. He looked for ways that Southern farmers could move from cotton-only farms to those that grew a variety of crops. Step inside the replica of his childhood home and see drawings and agricultural pamphlets created by George Washington Carver. Notice the wood panels that were made from trees from 48 of the 50 states.

Elijah: The Real McCoy, Dramatic Presentation

Like George Washington Carver, Elijah McCoy was a prominent African-American innovator whose life was touched by slavery. This 15-minute play takes your students on the stirring, eight decade journey that was McCoy's life: how he overcame racial injustice and went on to register 57 patents.

Location: Greenfield Village

Dates: May 3–June 11, 2011, Monday-Friday

Program Length: 15 minutes

Price: FREE with Village admission

<http://www.thehenryford.org/education/innovation.aspx#elijah>

Henry Ford Museum

With Liberty and Justice for All, Exhibit

Learn more about America at the time of George Washington Carver. Visit the exhibit *With Liberty and Justice for All* in *Henry Ford Museum* and use the online exhibit, too. A great resource for researching the struggle that African Americans endured to gain equality and justice in the United States, including Reconstruction in the South after the Civil War, Jim Crow laws and the movement to get them repealed and the civil rights movement. Find the online exhibit at <http://www.thehenryford.org/museum/liberty/>.

RESEARCH AND FURTHER STUDY

Benson Ford Research Center

The *Benson Ford Research Center* Reading Room offers public access to the collections of **The Henry Ford**. Make an appointment to visit the Reading Room, Tuesday through Friday, 9:30am–5pm, by calling 313.982.6020. Copies can be made in the Reading Room at a cost of \$.20 per sheet.

<http://www.thehenryford.org/research/index.aspx>

Artifacts and Archival Materials

Access to photographs, archival materials and objects related to George Washington Carver are available, free of cost, in the *Benson Ford Research Center* Reading Room.

George Washington Carver Cabin and Soybean Lab Agricultural Gallery Building Boxes

The *Benson Ford Research Center* Reading Room has a wealth of resources, including special boxes containing information on each building in *Greenfield Village*. Take a deeper dive into the life of George Washington Carver and the impact he has had on **The Henry Ford** by looking through the archival materials in the Building Boxes.

African-American Family Life and Culture in Greenfield Village

These educational materials provide a deeper level of understanding about the sites and artifacts in *Greenfield Village* that help tell the story of the African-American journey. Photos and other primary sources, including songs, letters and recipes, provide an understanding of life for African Americans from 1619 through the 1930s. Included is a section about George Washington Carver and the scientific work he practiced to help support and sustain the African-American community in the early 20th century.

ONLINE RESOURCES

History Hunter: Investigating George Washington Carver Scavenger Hunt

History Hunter is an educationally relevant scavenger hunt that you and your students can participate in during your visit to **The Henry Ford**. The activity is self-directed and will help you focus your students' attention in the George Washington Carver Cabin in *Greenfield Village*. Download it at <http://www.thehenryford.org/education/pdf/georgeWashington.pdf>

Photographs available online through The Henry Ford's Image Source

Go to <http://www.thehenryford.org/imagesource.aspx> and search for "George Washington Carver" or use the Advanced Search function and enter the image ID number.

- ▶ Photograph of George Washington Carver inside the George Washington Carver Cabin in Greenfield Village. (Image ID # THF23191)
- ▶ Photographs of Henry Ford and George Washington Carver. (Image ID # THF24949 and THF17119)

Pic of the Month

Check out the online "Pic of the Month" with your class to get an in-depth view from one of the curators of an object or archive in the collections of **The Henry Ford**. The pic for November 2010 is connected to the life of George Washington Carver.

<http://www.thehenryford.org/exhibits/pic/default.asp>

Other Carver and Agriculture-Related Websites

George Washington Carver Exhibition

Additional information about George Washington Carver and the exhibition itself from organizer The Field Museum is available at <http://www.fieldmuseum.org/carver/>

Austin W. Curtis Archival Collection, Charles H. Wright Museum of African American History

Dr. Austin W. Curtis worked with George Washington Carver in his lab at Tuskegee University. He also helped to establish the George Washington Carver Research Foundation and the Carver Museum there. Dr. Curtis moved to Detroit in 1944 to organize Curtis Laboratories and created 60 products made from natural and organic sources. Dr. Curtis was often referred to as "Baby Carver" for his own notable achievements. The Curtis collection has two parts: papers and pamphlets of George Washington Carver that Curtis collected (and one that he wrote) while in Carver's employ, and papers of Curtis mainly relating to his community and business activities with A. W. Curtis Laboratories of Detroit, Michigan. Before visiting the Museum, plan ahead by viewing the collection's finding aid at <http://chwmaah-archive.com/wp-content/uploads/2009/02/MSS106.pdf>

The Greening of Detroit

The Greening of Detroit's mission is to guide and inspire the reforestation of Detroit and to guide and inspire others to create a greener Detroit through planting and educational programs, environmental leadership, advocacy and by building community capacity. The Greening provides students and educators with the tools necessary to increase their environmental science skills, environmental exploration and provide quality service-learning opportunities in order to create the next generation of environmental stewards. http://www.greeningofdetroit.com/4_1_youth_education.php

Food System Economic Partnership

Food System Economic Partnership (FSEP) exists to catalyze change in the food system of southeastern Michigan. FSEP provides research, education and outreach with urban and rural partnerships, resulting in agricultural development opportunities, sustainable communities and healthy local economies. Visit the website to see how to participate in the change by eating locally. <http://fsepmichigan.org/>

For Teachers

George Washington Carver Exhibition and Educator Guide

Alignment with Michigan Grade Level and High School Content Expectations

Grade One

Social Studies: History: **H2.0.4, H2.0.5, H2.0.6**; Geography: **G5.0.1**

English Language Arts: Reading: **R.CM.01.04**; Writing: **W.GN.01.03**; Speaking: **S.DS.01.03**;

Listening and Viewing: **L.RP01.01, L.RP01.03**

Grade Two

Science: Science Processes: **S.RS.02.16**

Social Studies: History: **H2.0.3**

English Language Arts: Reading: **R.CM.02.04**; Writing: **W.GN.02.03, W.GN.02.04**; Speaking: **S.DS.02.03**;

Listening and Viewing: **L.RP02.01, L.RP02.03**

Grade Three

Science: Science Processes: **S.RS.03.16, S.RS.03.18, S.RS.03.19**; Earth Science: **E.ES.03.42, E.ES.03.43, E.ES.03.52**

English Language Arts: Reading: **R.CM.03.04**; Writing: **W.GN.03.03, W.GN.03.04**; Speaking: **S.DS.03.03, S.DS.03.04**;

Listening and Viewing: **L.RP03.01, L.RP03.03**

Grade Four

Science: Science Processes: **S.RS.04.16, S.RS.04.18, S.RS.04.19**; Earth Science: **E.ST.04.31**

Social Studies: Geography: **G4.0.1, G5.0.1**; English Language Arts: Reading: **R.CM.04.04**; Writing: **W.GN.04.03, W.GN.04.04**;

Speaking: **S.DS.04.03, S.DS.04.04**; Listening and Viewing: **L.RP04.01, L.RP04.03**

Grade Five

Science: Science Processes: **S.RS.05.17, S.RS.05.19**

English Language Arts: Reading: **R.CM.05.04**; Writing: **W.GN.05.04**; Speaking: **S.DS.05.03, S.DS.05.04**

Listening and Viewing: **L.RP05.01, L.RP05.03**

Grade Six

Science: Science Processes: **S.RS.06.17, S.RS.06.19**

Social Studies: History: **H1.2.5**; Geography: **G4.2.1, G5.1.1, G5.2.1**

English Language Arts: Reading: **R.CM.06.04**; Writing: **W.GN.06.03**; Speaking: **S.DS.06.02, S.DS.06.04**;

Listening and Viewing: **L.RP06.01, L.RP06.05** Career & Employability: Career Planning: **3**

Grade Seven

Science: Science Processes: **S.RS.07.17, S.RS.07.19**

English Language Arts: Reading: **R.CM.07.04**; Writing: **W.GN.07.02**; Speaking: **S.DS.07.02, S.DS.07.04**;

Listening and Viewing: **L.RP07.05** Career & Employability: Career Planning: **3**

Grade Eight

Social Studies: U.S. History: **U4.2.2, U5.1.1, U5.2.5, U5.3.2, U5.3.3, U6.1.1**

English Language Arts: Reading: **R.CM.08.04**; Speaking: **S.DS.08.02**; Listening and Viewing: **L.RP08.05**

Career & Employability: Career Planning: **3**

High School

Science: Earth Science: **E1.2k, E2.3c, E2.3d, E2.4B** Social Studies: U.S. History & Geography: **6.3.1, 6.3.2**

English Language Arts: Writing, Speaking and Visual Expression: **CE 1.3.1**; Reading, Listening and Viewing: **CE 2.1.7, CE 2.3.4**

WALKING MAP

