

**Blueprints for Biography**  
STEM Starters Series

# A Weed is a Flower

the life of George Washington Carver



# BLUEPRINTS FOR BIOGRAPHY

## A Weed is a Flower: The Life of George Washington Carver



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Blueprints for Biography  
A Weed is a Flower: The Life of George Washington Carver

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*Blueprints for Biography are dedicated to Maxine Robinson –  
master teacher, perfect mother.*

## *Acknowledgements*

*Blueprints for Biography combine the twin interests of biography as a means of investigating talent development and as a lively curriculum art.*

*The decision to create a series of curriculum materials based on biographies written for children and young adults was influenced by very marvelous people along the way.*

*First, I was born into a “reading family.” Books were everywhere in our home. My mother, Maxine Robinson, and my father, Frank Robinson, were avid, enthusiastic and completely open-minded readers. They modeled the intense curiosity that can be satisfied by reading widely and thinking carefully about what one reads. Trips to the Platte County Library were an almost daily event throughout my childhood and adolescence.*

*Second, I had the good fortune to find myself in a doctoral program at Purdue University. My major professor and lifelong mentor, John Feldhusen, was a voracious reader of biographies. He introduced me to the joys of examining a life in print, whether for scholarly investigation or for leisure. To this day, his suggestions for a “good biography” go on my must-read list.*

*Ann Robinson*

*Little Rock, Arkansas*



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## INTRO FOR TEACHERS

Hello, and welcome to Blueprints for Biography. Please read this brief introductory section before continuing.

### ***What are Blueprints for Biography?***

Blueprints are guides for teachers and students engaged in the study of a specific biography. The Blueprint you are reading is a part of the STEM Starters series (Science, Technology, Engineering, and Mathematics). STEM Starters introduces readers in grades 2 – 5 to the lives of some of history’s most influential and memorable scientists. By supplementing quality biographies written for children with targeted discussion questions and relevant activities, we hope to provide teachers with the means to bring both history and science alive for young students. Blueprints are developed at the Center for Gifted Education at the University of Arkansas at Little Rock.

### ***Who is the audience for this Blueprint?***

This Blueprint is designed for primary level teachers whose students are reading *A Weed is a Flower: The Life of George Washington Carver* by Aliko. The biography and its accompanying Blueprint activities are suitable for fluent, advanced readers in primary grades.

### ***How can this Blueprint be integrated into the curriculum?***

*A Weed is a Flower* could be integrated into a unit of study on agriculture, botany, environmental science, or African-American history. This Blueprint emphasizes themes of service to humanity, overcoming adversity, the importance of education, and the use of science to solve problems of everyday life.

### ***What kinds of lessons are included in a Blueprint?***

All Blueprints include discussion questions based on a specific trade book and extension activities called P-Quads. Each Blueprint in the STEM series also contains a classroom science experiment related to the person in the biography. Each is outlined below.

*Discussion Questions* - The discussion questions for a Blueprint are divided into three sections (Robinson, 2006). The first set of questions, **BEFORE THE BOOK**, focuses students’ attention on the biography to be read and asks them to make predictions. The second set of questions, **BY THE BOOK**, includes reading comprehension, vocabulary study, and textual and graphic analysis. The third set of questions, **BEYOND THE BOOK**, emphasizes an understanding of talent development and encourages connections to the reader’s life.

*P-Quads* - P-Quads are four types of activities, so named because each begins with the letter, “P” (Robinson & Cotabish, 2005). The types of extension activities selected as P-



## INTRO FOR TEACHERS

Quads focus on skills important to understanding and appreciating non-fiction texts such as biography. The first P-Quad is a PROMPT FOR WRITING. Prompts in the Blueprints emphasize persuasive writing because of its importance throughout life and because persuasive writing is especially relevant to non-fiction reading. The second P-Quad is PRIMARY-SOURCE ANALYSIS. The use of primary sources, documents or artifacts written or created at the time of an event, is a means of developing historical thinking and habits of mind in learners. The primary source may be a document such as a letter, diary entry, newspaper article or cartoon of the period. Other primary sources are photographs, artifacts, maps, posters, and sound recordings. The third P-Quad is PORTRAIT STUDY. Whether the portrait is painted, engraved or photographic, rich comparisons can be made between a biography and a portrait of the same individual. The fourth P-Quad is POINT-OF-VIEW ANALYSIS. Biography often involves controversy, conflict and complex situations. Point-of-view activities encourage learners to use critical thinking and empathy whether they are considering the perspectives of different people or investigating multiple interpretations of an individual historical event.

*Experimentation* – A classic science experiment is included with each Blueprint in the STEM series. These experiments should not be thought of as stand-alone lessons. Rather, they are intended to complement the reading of the biography by allowing students to step into the shoes of the scientist whom they have learned about. Whenever possible, the subject of the experiment reflects a theme, concept, or invention presented in the book itself. Teachers are encouraged to integrate the lessons communicated by the biography and the other Blueprint sections into the teaching of the experiment as well.

*Other Information* – Each Blueprint also contains:

- a biographical sketch of the person about whom the biography is written
- an annotation of the biography
- a list of additional resources for the teacher to consult
- a glossary of literary and historical terms





## ABOUT BLUEPRINTS FOR BIOGRAPHY

*...no species of writing seems more worthy of cultivation than biography, since none can be more delightful or more useful, none can more certainly enchain the heart by irresistible interest, or more widely diffuse instruction to every diversity of condition.*

—Samuel Johnson, Rambler No. 60

### ***Why should students read biographies?***

According to C.N. Parke, biography combines “the solid satisfaction of facts with the shaping pleasures of the imagination” (1996, pp. xiii). It is the writing of a life, as its Greek roots reveal—*bio* for life and *graph* for writing. Because biography combines imaginative literary elements with historical methods, life writing is emotionally rich, intellectually challenging, and multidisciplinary. By examining a life, students learn about a real person in an historical time and place, but they also learn about themselves. The subjects of biographies can provide role models for their readers. Because biographies often focus on the challenges faced by people, this kind of reading helps students to recognize and solve problems of their own. Biography can teach “life lessons,” and well-written biographies teach “life lessons” in exciting and compelling ways. Biographies are a favorite choice of adult readers; biographies written for children will ignite interests in younger readers, too.

### ***How have biographies been used with high-ability learners in the past?***

Biography has a documented history in the field of gifted education. For example, the famous Terman studies included a research volume by Catharine Cox (1926) based on the analysis of three hundred and one biographies of eminent figures in history. Insights on the development of talent over the course of a person’s life were drawn by a team of researchers reading the biographies.

In terms of school programs and services, Leta Hollingworth used biography “to enrich the curriculum of the elementary school, for young, intellectually gifted children” as early as 1923. Funded by the Carnegie Corporation, Hollingworth worked with two classes of high-ability students in New York City to investigate how young learners pursued their studies and how they benefited from the study of biography in the elementary school (Hollingworth, 1926).

Hollingworth’s students, who were eight to ten years old, organized much of their own instruction. After an introduction to the meaning of biography in the fall of the year, children began spring discussions of their self-selected biographies every Tuesday morning for forty minutes. Two biographies were considered each week and managed by a committee of children elected by the class. Children selected their own biographies; however, Hollingworth noted that children did not tend to choose outside the fields of “warfare, government and mechanical invention” when left without guidance. Therefore, she provided a list of possible individuals for biographical investigation and spent time and money to acquire a classroom library. Instruction was organized like a seminar with children reading or reporting orally on their biographical figure and leading a discussion. Student questions were so numerous that the class instituted a



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box for questions not addressed during the time allotted for the seminar. After working with students for a year, Hollingworth decided that one hour per week for a year should be devoted to the study of biography with high-ability learners.

### *How can a teacher use Blueprints in the classroom?*

Blueprints are adaptable to a variety of instructional arrangements in the classroom. They may be used with individual learners, with small groups, or with a whole class of learners.

*Study Guide or Gloss for Independent Reading.* An individual student with an intense interest can be guided toward specific biographies for reading outside the classroom or as part of an independent reading program. The discussion questions of the Blueprint can be provided to the student as he or she reads independently. The questions include three sections: BEFORE THE BOOK, BY THE BOOK and BEYOND THE BOOK. Each section is separate to allow teachers to pace individually guided instruction. Teachers can also schedule an individual reading conference to follow up with students or can assign particular questions to be answered in writing as part of a reading journal.

*Learning Centers.* Biographies enrich learning centers, and the discussion questions and activities included in a Blueprint can be placed on task cards for a center. The P-Quad extension activities found in a Blueprint focus on four general areas: PROMPTS FOR WRITING, POINT-OF-VIEW ANALYSIS, PORTRAIT STUDY, and PRIMARY SOURCE ANALYSIS, including the analysis of photographs. Lessons include reproducible prompts and facsimiles of primary sources.

*Reading buddies or reading dyads.* Teachers can include biographies as part of the reading buddy program in which pairs of students take turns reading aloud and asking questions of one another. Again, the discussion sections, BEFORE THE BOOK, BY THE BOOK and BEYOND THE BOOK, can be used to guide student questions and answers.

*Silent Sustained Reading.* A good selection of biographies can be part of the classroom Silent Sustained Reading program. The biographies for which Blueprints are developed were selected for their merit and provide choices for students casting about for something interesting to read. Busy teachers can use the Blueprints series as a source for promising titles for their classroom libraries.

*Small-group instruction.* Blueprints can be used by the teacher for small-group instruction in reading or in social studies. The questions can be used by the teacher as he or she leads a discussion of a book all students have read. Prompts can be used to develop children's writing skills, particularly in the area of persuasive writing which is often included on state accountability exams. Blueprint PROMPTS FOR WRITING provides



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students with opportunities to develop expertise in organizing their thoughts and using evidence to support their arguments.

*Whole-class instruction.* Blueprints are developed for biographies available in paperback for reasonable prices as well as for hard cover texts. The reasonably-priced biographies can be used as class sets just as easily as fictional paperbacks in a whole-class setting. In addition, the P-Quads focused on point-of-view analysis and primary sources can be implemented in small groups or with the whole class.

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## ABOUT THE PERSON

### **George Washington Carver, 1865? – 1943**

George Washington Carver was born a slave in southern Missouri. Following his mother's abduction by bandits, he was raised by the family that had owned her, the Carvers. Much of his early life was spent wandering from town to town in Kansas, where he staked a claim and built a sod house on the western frontier. Carver was accepted to a college in Kansas but was barred from entering when the school discovered his race. Undeterred, he decided to seek further education in Iowa. He entered Simpson College to study art and later pursued a degree in agriculture at Iowa State. Upon receiving his master's degree from Iowa State he became probably the only black man in the United States with a higher degree in agriculture.

Even before he graduated, Carver was recruited to teach at Tuskegee Institute by that school's president, Booker T. Washington. Carver ran the agricultural experiment station at Tuskegee and began writing publications aimed at educating farmers about nutrition, agriculture, and land management. Most Southerners at that time earned their living farming, and the majority of Southern farm families—especially blacks—were poor and malnourished. Generations of growing cash-crop cotton had depleted farmland soil so greatly that cotton yields were diminishing each year, and tenant farmers found themselves owing a crushing burden of debt to their landowners. Carver and the Tuskegee department of agriculture embarked on a campaign to improve the lot of poor Southern farmers.

Carver's contributions to pure scientific research were actually relatively few; instead, his lab work focused on the creation of practical things using common materials. He created innumerable products from clays, agricultural by-products, and various crops. However, none of his products ever achieved commercial success. (Carver did not invent peanut butter, as is widely believed.) But though his scientific and commercial reputation has been overinflated, Carver had a tremendous impact as a teacher of students, farmers, and the general public. He popularized scientific agricultural ideas such as crop rotation and diversification and was spellbinding as a speaker and instructor. He also advocated farming methods that today would be called "sustainable", including soil conservation and the use of organic fertilizers.

Like all black Americans of the time, Carver experienced brutal prejudice and discrimination. Remarkably, in an era in which public lynchings of blacks were frequent in the South, Carver cultivated many close friendships with whites; like Booker T. Washington, he believed that black leaders should not demand controversial political changes but should instead concentrate their efforts on the education and economic betterment of the black community. For this reason, both he and Washington are sometimes accused of implicitly accepting segregation. Regardless, Carver played a crucial role in bettering race relations. Many whites at the time (including self-described former racists) cited their attendance at one of Carver's masterful lectures as being the turning point in their personal opinions on race.

Carver never married and had no children. He died at age 77 in Tuskegee.



## ABOUT THE BOOK

*Title:* *A Weed is a Flower: The Life of George Washington Carver*

*Author:* Aliko Brandenburg

*Illustrator:* Aliko Brandenburg

*Publisher:* Aladdin Paperbacks

*Date:* 1965

*Subjects:* George Washington Carver

*Length:* 30 pages

*Annotation:*

*A Weed is a Flower* sketches the life of one of history's best-known black Americans, scientist and humanitarian George Washington Carver. The book emphasizes Carver's perseverance and work ethic and his selflessness, all while telling a story that is accessible to very young readers. Although it gives some due to the struggles Carver faced as an African-American living in a time of institutionalized racism, the book focuses on the triumphant aspects of his life – especially his role in popularizing the farming of sweet potatoes and peanuts in the South. Its rich, expressive illustrations complement the text of the story.



## BEFORE THE BOOK

1. George Washington Carver loved plants. He believed that finding new ways to use plants would help people to improve their lives. Why are plants important to us today? Name at least three ways that you use plants in your daily life.

*We could not survive at all without plants. They supply us with the food we eat and the air we breathe. Many other things in our daily lives are made from plants, including our clothes, our homes, and our books. Answers will vary.*

2. The title of this book is “A Weed is a Flower”. What is a weed? Can you give an example of a type of weed?

*A weed is a plant that is a nuisance to people. Common weeds include dandelions and poison ivy. However, sometimes a plant can be a nuisance when it grows in one place but very helpful in another place. For example, when grass grows in a garden we call it a weed, but when it grows in a yard we do not call it a weed.*

3. Like all black Americans in his time, George faced terrible *prejudice* growing up. This means that he was treated badly by many people just because he looked different than others. How do you think growing up with such prejudice made him feel?

*Facing prejudice probably made George feel sad, lonely, and angry. He may have also wanted to overcome prejudice and prove that he was able to succeed despite the racism in his society.*

4. Look at the picture of Dr. Carver on the front of the book and study his face carefully. What words describe how he looks? What do you think Dr. Carver is doing in this picture?

*Answers may include: thoughtful, calm, nice, quiet, loving, etc. Dr. Carver is gently holding a plant with his gaze cast downward. He may be studying the plant or caring for it. He may also be praying.*



## BY THE BOOK

1. What happened to George as a baby? Examine the drawings in the first few pages of the book. What kind of mood do these pictures create?

*George and his mother Mary were kidnapped, and Mary was never found. Mary's former owners, Moses and Susan, then raised George and his brother. The pictures that show these events set a mood that is unhappy and frightening.*

2. In your opinion, why did George keep a garden when he was a very young child?

*George was full of questions, so he may have kept a garden to satisfy his curiosity about the world. He also loved nature, and his garden was a way of getting closer to nature. Answers will vary.*

3. What kinds of problems did George have when he tried to go to school and later to college? How did he respond to these problems? Was he successful?

*The school in George's hometown was closed to black children, so he left home at age ten to find a school that would accept him. He worked for families in return for a place to stay. Later, he found it difficult to pay for college and found that some colleges refused black students. George saved up money and kept looking for a better college until he was successful.*

4. How did George decide what subject to study in college? What else did he consider studying? Do you think this was a hard decision for him to make? Why or why not?

*George considered studying art, but eventually decided to study agriculture – the science of growing plants. He chose this subject because he loved plants and because he wanted to help his people, who were mostly farmers. Because he also loved art and was a talented artist, this was probably a very hard decision for George.*



## BY THE BOOK

5. When he became a professor, who did else did Dr. Carver teach besides his college students? What sorts of problems did these people face? What did Dr. Carver suggest as a solution to these problems?

*Dr. Carver taught poor black farmers along with his students. The cotton grown by these farmers harmed the soil and was sometimes destroyed by rain or insects. The farmers could not earn enough money from growing cotton. Dr. Carver told farmers to plant peanuts and sweet potatoes as well as cotton. He knew that these crops would both help the soil and feed the farmers.*

6. How did the farmers respond to Dr. Carver's suggestions at first, and why? Why did Dr. Carver create new things from sweet potatoes and peanuts in his laboratory? What was he trying to show to the farmers?

*At first, farmers did not want to follow Dr. Carver's advice because they thought no one would buy peanuts and sweet potatoes. Dr. Carver's experiments were meant to show that good food and many other useful items could be made from these nutritious crops.*

7. After he became famous, Dr. Carver did not accept much of the money he was offered. Why? What other things did he think of as important rather than money?

*Dr. Carver turned down many offers of money because it did not interest him. Rather than money, he cared about leading a good life, improving the lives of other people, and understanding the world around him.*



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## BEYOND THE BOOK

1. The title of this book comes from something Dr. Carver said: “a weed is a flower growing in the wrong place”. This means that everything has value and importance. Something that we may consider to be worthless (like a weed) can be as beautiful as a flower if it is used in the right way. Were there times in Dr. Carver’s life when he felt like a weed? When? Have there been times when you have felt like a weed? Describe this feeling.

*As a boy, many people treated George like he was a weed. He was not wanted at many schools because he was black. But, he never gave up, and people later realized his great genius. “Feeling like a weed” – that is, feeling useless and out-of-place – can make someone terribly lonely and unhappy. Answers will vary.*

2. Dr. Carver was known for saying “Education is the key to unlocking the golden door of freedom.” What happened in his own life as a young person to make him feel that education was so important? How was his time in school different from yours has been?

*He probably felt school was important partly because he had to work very hard to get an education and overcome much prejudice. In contrast to his experience, all children in this country today are required to attend school.*

3. Dr. Carver wanted to help hungry people by teaching them how to grow better food. Do you know anyone that grows food for themselves or others? Where do you and your family get most of your food? Is this typical for most people in our country today?

*Answers will vary. Many people keep backyard vegetable gardens, and others may raise animals for meat, milk, or eggs. Some get a portion of their food through hunting and fishing. But, most people in our country today buy their food from a store rather than growing it themselves.*

4. Find the pictures of George as a young boy and a young man working carefully with his plants. Compare both pictures to the one on the cover. What is similar about George in all three pictures? How did he treat his plants? Now, think about



## BEYOND THE BOOK

how Dr. Carver acted towards people. How was his attitude towards plants similar to his attitude towards people?

*In all three pictures, George looks like he is carefully concentrating on the plants and is handling them very gently. He treated his plants with love and care, which is similar to how he acted towards people.*

5. Dr. Carver helped to make the peanut a popular food in this country, but not all of his ideas caught on. Today, we use peanuts mostly for snacks, peanut butter, and cooking oil – not for milk, coffee, or shampoo. Does this mean Dr. Carver’s work was not successful? If an inventor’s idea fails, how does he or she respond?

*Even though some of his ideas failed, Dr. Carver’s work was successful in many other ways. Inventors and scientists usually try many ideas before they find one that really succeeds. If an idea fails, an inventor will either try to make the idea better or find a new idea that will succeed.*

6. One of Dr. Carver’s main ideas was that nothing should be wasted, even things that others throw away. He made paint from clay found in the dirt and paper from peanut shells. What kinds of things do we make today from things that are thrown away? Why?

*We recycle many things that we throw away, such as paper, plastic bottles, and metal cans. This waste is turned into new paper, bottles, and cans. Doing this means we make less trash and use fewer resources, which is good for the environment and often cheaper for us.*

7. Farms in America today produce thousands of different kinds of crops. Peanuts and sweet potatoes grow well in Alabama because they like heat, but those plants don’t do so well in cool northern states like Michigan or North Dakota. Visit [http://www.agclassroom.org/teacher/ag\\_profiles.htm](http://www.agclassroom.org/teacher/ag_profiles.htm) and read about agriculture in your state. What are the most important crops grown in your state? Do you or your family eat or use these crops?

*Answers will vary.*

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## PROMPT FOR WRITING

The book tells us that Dr. Carver wanted farmers to plant sweet potatoes and peanuts because “raising only cotton harmed the soil”. Planting cotton every single year uses up *nutrients* found in soil, which are the minerals that plants need to grow well. Just as people need good food in order to stay healthy, plants must have good soil. However, as the book says, many farmers were afraid to try growing new types of crops.

Pretend you are George Washington Carver working in Tuskegee. Write a letter to a farming family persuading them that they should try growing other plants besides cotton. You may persuade them to grow peanuts or sweet potatoes, or you may choose a completely different crop.

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PROMPT FOR WRITING

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## PROMPT FOR WRITING

Students' responses should include the arguments presented in the book – e.g., other crops improve the soil, are easy to grow, are healthy foods, and are useful in many ways. If students choose to write about a different crop than those mentioned in the book, they should be encouraged to research that crop. The following rubric may also assist in evaluating writing responses.

CATEGORY	4 - Above Standards	3 - Meets Standards	2 - Approaching Standards	1 - Below Standards
<b>Position Statement</b>	The response contains a clear, persuasive position statement corresponding to the prompt.	The response contains a position statement related to the prompt.	The position in the response can be inferred but is not expressed in a single clear statement.	The position in the response is unclear.
<b>Point-of-view</b>	The response is consistently written from a character's point-of-view.	The response is mostly written in character.	The response is sometimes written in character.	The response is not written in character at all.
<b>Support for Position</b>	The response includes two or more relevant examples or pieces of evidence that support the position statement. The student recognizes and addresses at least one potential counter-argument.	The response includes two or more examples or pieces of evidence that support the position statement.	The response includes one example or piece of evidence that supports the position statement.	The response includes no relevant examples or evidence for the student's position.
<b>Audience</b>	The student demonstrates a clear understanding of the intended audience and uses appropriate arguments. The student anticipates the reader's questions.	The student demonstrates a general understanding of the intended audience and uses arguments appropriate for that audience.	The student demonstrates some understanding of the potential reader and uses arguments somewhat appropriate for that audience.	It is not clear whom the student is writing for.
<b>Sentence Structure</b>	All sentences are well-constructed, and there is some variation in sentence structure.	Most sentences are well-constructed.	About half the sentences are well-constructed.	Most sentences are not well-constructed.
<b>Grammar &amp; Spelling</b>	The student makes one or fewer errors in grammar or spelling that distract the reader from the content.	The student makes 2-3 distracting errors in grammar or spelling.	The student makes 4-5 distracting errors in grammar or spelling.	The student makes 5 or more distracting errors in grammar or spelling.
<b>Capitalization &amp; Punctuation</b>	The student makes one or fewer errors in capitalization or punctuation that distract the reader from the content.	The student makes 2-3 distracting errors in capitalization or punctuation.	The student makes 4-5 distracting errors in capitalization and/or punctuation.	The student makes 5 or more distracting errors in capitalization and/or punctuation.



## POINT-OF-VIEW ANALYSIS

The book tells us that George decided to study agriculture in college instead of art because he cared about farmers and the problems they faced. He believed that improving the lives of poor farmers was his *destiny*, or his mission in life. He felt a very strong sense of duty to help other people.

First, pretend you are George’s art teacher. He has been one of your best students, and you are very impressed with his paintings. Write him a letter trying to convince him that he should become an artist rather than a scientist. Next, pretend you are George Washington Carver. Write your teacher a letter in response that explains why you want to become a scientist instead of an artist – or, explain that you are able to do both.

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## POINT-OF-VIEW ANALYSIS

Students should use evidence from the book to argue for both sides of an issue in turn; students may or may not explicitly or implicitly favor one position over the other. The letter from Carver’s art teacher may mention his talent, his love of art, and the importance of having a job that one loves. Carver’s response may mention his sense of duty to his people, his love of plants, his desire to help others, and his interest in scientific discovery. The following rubric may also assist in evaluating writing responses.

CATEGORY	4 - Above Standards	3 - Meets Standards	2 - Approaching Standards	1 - Below Standards
<b>Positions and Perspective</b>	The student shows a clear understanding of both sides of the issue and demonstrates some sympathy towards both.	The student shows general understanding of both sides of the issue.	The student shows some understanding of both sides of the issue.	The student shows understanding of only one side of the issue or of neither side.
<b>Point-of-View</b>	The response is consistently written in character for both points-of-view.	The response is mostly written in character.	The response is sometimes written in character, or only one of the two positions is written in character.	The student does not adopt a character’s point-of-view for either position.
<b>Support for Arguments</b>	The student provides at least one clear and compelling argument or piece of supporting evidence for both positions. One or both of the positions directly addresses points that are raised by the opposing position.	The student provides at least one argument or piece of evidence for both positions.	The student provides arguments or evidence for only one position.	The student does not include compelling arguments for either position.
<b>Sentence Structure</b>	All sentences are well-constructed, and there is some variation in sentence structure.	Most sentences are well-constructed.	About half of the sentences are well-constructed.	Most sentences are not well-constructed.
<b>Grammar &amp; Spelling</b>	The student makes one or fewer errors in grammar or spelling that distract the reader from the content.	The student makes 2-3 distracting errors in grammar or spelling.	The student makes 4-5 distracting errors in grammar or spelling.	The student makes more than 5 distracting errors in grammar or spelling.
<b>Capitalization &amp; Punctuation</b>	The student makes one or fewer errors in capitalization or punctuation that distract the reader from the content.	The student makes 2-3 distracting errors in capitalization or punctuation.	The student makes 4-5 distracting errors in capitalization and/or punctuation.	The student makes more than 5 distracting errors in capitalization and/or punctuation.



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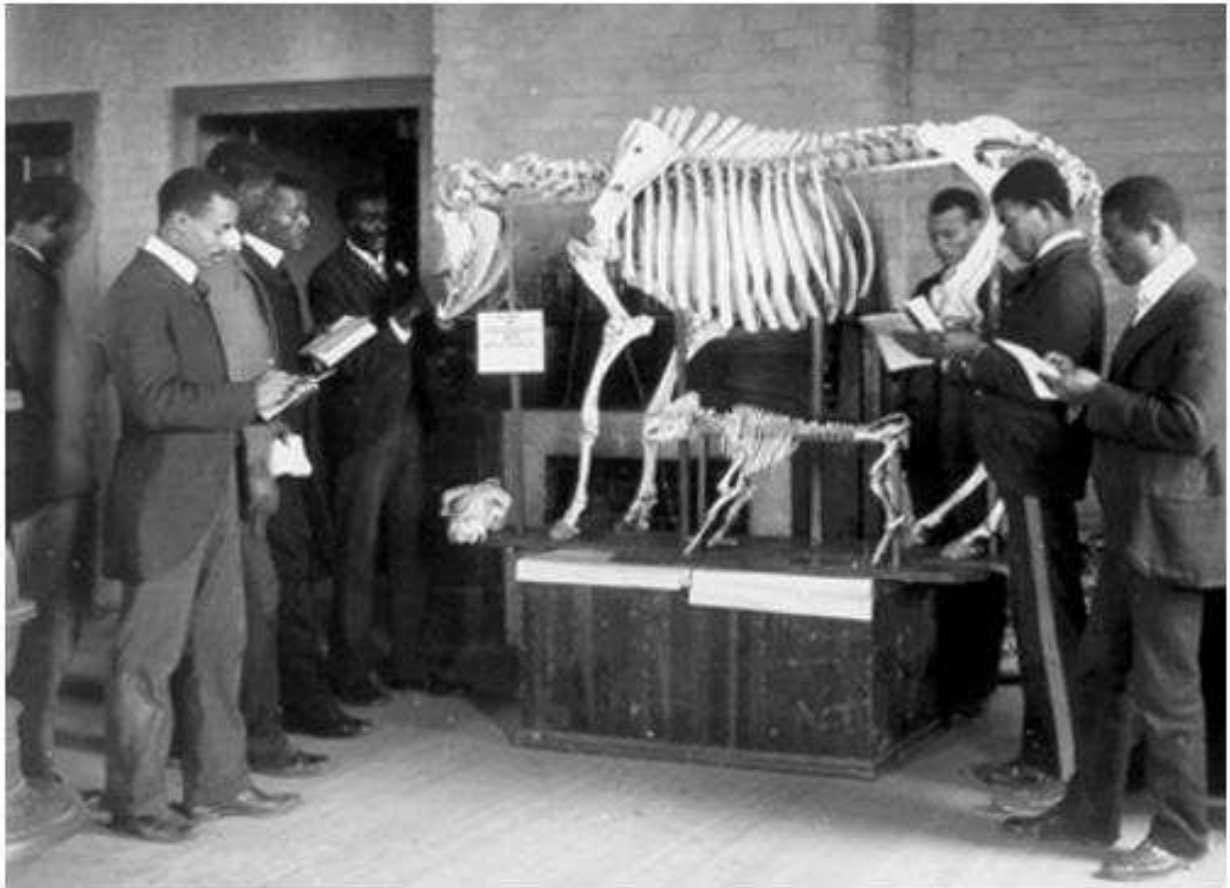


## PRIMARY-SOURCE ANALYSIS

Teaching was one of Dr. Carver's greatest talents. He loved to give knowledge to other people and was a very good speaker. Many of his college students said later that his lessons changed their lives by getting them interested in science or inspiring them to pursue their dreams.

Dr. Carver taught his students about much more than peanuts and sweet potatoes. He taught classes about chemistry, biology, and plants and animals of all kinds. This photograph shows Dr. Carver with a group of his students as he tells them about two animal skeletons. You can see a color picture of the skeletons at <http://www.nps.gov/history/museum/exhibits/tuskegee/gwcgallery.htm>

Analyze this photograph by answering the questions on the following page.



“George Washington Carver with skeletons of cow and calf” c. 1906, Library of Congress  
retrieved July 13, 2009 from <http://www.nps.gov/history/museum/exhibits/tuskegee/gwcgallery.htm>

Photograph Analysis presented by the Center for Gifted Education University of Arkansas at Little Rock.  
Based on *Teaching with Documents* by the Education Branch, National Archives, Washington, D.C.  
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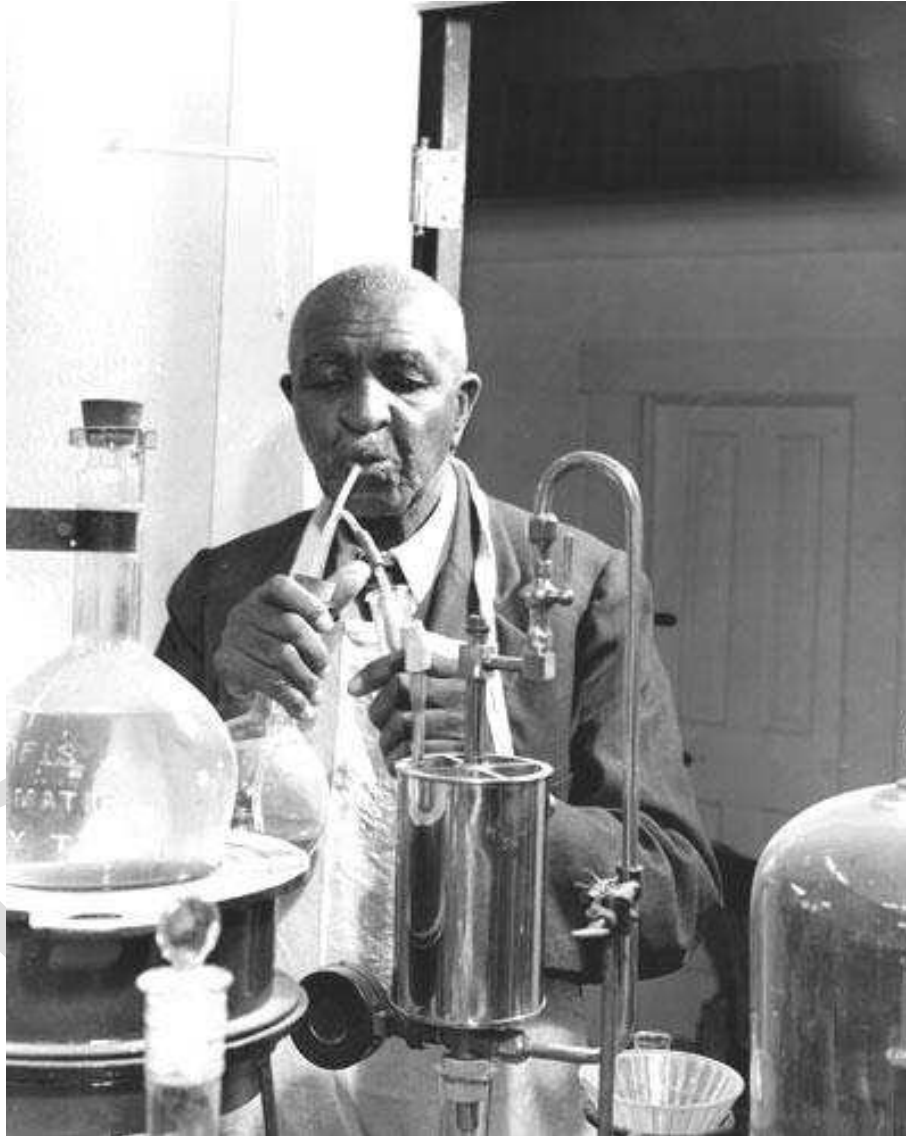
## PRIMARY-SOURCE ANALYSIS

<b>Step 1. Observation</b>			
A	Study the photograph for 2 minutes. Next, divide the photo into quadrants and study each section to see what new details become visible.		
B	Use the chart below to list people, objects, and activities in the photograph.		
	<b>People</b>	<b>Objects</b>	<b>Activities</b>
<b>Step 2. Inference</b>			
	What kind of animal does this skeleton come from?		
	Based on what you know from the book, where do you think this photograph was taken?		
	List at least two more things you could infer from this photo.		
<b>Step 3. Questions</b>			
A	What questions does this photograph raise in your mind?		
B	Where might you find answers to these questions?		

Name: \_\_\_\_\_ *Blueprints for Biography*  
*A Weed is a Flower: The Life of George Washington Carver*

 **PORTRAIT STUDY**

This photograph of Dr. Carver was taken in his laboratory at Tuskegee. He is working with test tubes and beakers to perform an experiment of some kind. Analyze this portrait by answering the questions on the following page



*Series VII.1, Photographs, Box 7.1/3, file "II. Photographs--Carver, George Washington," USDA History Collection, Special Collections, National Agricultural Library*

Image retrieved July 9, 2009 from <http://www.nal.usda.gov/speccoll/collect/history/classhu.htm>

Portrait Study is designed by the Center for Gifted Education University of Arkansas at Little Rock. Adapted from Morris, S., *Teacher's Guides to Using Portraits*, English Heritage, 1989. Based on *Teaching with Documents* by the Education Branch, National Archives, Washington, D.C. May be reproduced for classroom use only.



## PORTRAIT STUDY

<b>Step 1: Observation</b>	
A.	Study the portrait and form an overall impression of the picture. Next, divide the portrait into quadrants and study each section to see new details.
B.	What is the name of the sitter? What is he doing in this portrait?
<b>Step 2: Inference</b>	
A.	Describe the sitter's clothes. Why do you think the sitter is wearing these clothes?
B.	Describe the sitter's facial expression. What is the sitter's mood?
C.	List other objects in the picture. Why do you think these objects are in the picture?
D.	About how much space does the sitter take up in the portrait? Do we see his entire figure, or only part of it?
E.	Why do you think that the artist depicted the sitter this way?
<b>Step 3: Biographical Extension</b>	
A.	Compare this portrait to the biography you have just read. Which picture in the book or part of the book seems most like the portrait? Why?  _____
B.	What does this portrait tell you about the sitter's personality? Do you think the portrait captures an important thought, detail, or feeling about the sitter? Explain.  _____



## EXPERIMENTATION

### Introduction for students:

Dr. Carver knew that plants grow better in some types of soil than they do in others. But what makes some soils better? What do plants need in order to be healthy? Dr. Carver spent many years performing experiments at Tuskegee Institute to answer these questions. He found that different plants need different types of soil, just as different animals eat different types of foods.

When soil is very healthy, we say that it is *fertile*. Fertile soil contains certain minerals that plants need. It also often contains earthworms and other tiny animals, which make the soil even healthier. Without good soil, we would have no plants – which would mean no animals and no people.

You are about to perform an experiment like the ones Dr. Carver worked on in his laboratory. In this experiment, you will find out what type of soil is best for one type of plant.

Group Name: \_\_\_\_\_

Planting Date: \_\_\_\_\_

Type of plant: \_\_\_\_\_

Which container do you think will grow the healthiest plants? Which plants will be the least healthy? Why?

\_\_\_\_\_

Record the date that you first see sprouts in each container

	Potting Soil	Sand and Gravel	_____	_____
Date				



## EXPERIMENTATION

How tall are your plants after one week? Do the tallest plants look the healthiest? What else do you notice about your plants? Record your answers below.

	<b>Week 1</b>
Potting Soil	
Sand and Gravel	

<b>Comments:</b>

	<b>Week 2</b>
Potting Soil	
Sand and Gravel	

<b>Comments:</b>

	<b>Week 3</b>
Potting Soil	
Sand and Gravel	

<b>Comments:</b>

	<b>Week 4</b>
Potting Soil	
Sand and Gravel	

<b>Comments:</b>

	<b>Week 5</b>
Potting Soil	
Sand and Gravel	

<b>Comments:</b>



## EXPERIMENTATION

### Materials (for teachers):

- Hand spade or large spoon
- Scissors or a nail
- Permanent markers
- Masking tape
- Ruler
- Large tray or other container with a wide, flat bottom
- Watering can – you can make your own watering can from a two-liter soda bottle (with cap) by using a thumbtack to poke small holes in the plastic
- Containers – make sure these are all the same size and material. Reusing old materials is best, as it fits well with the content of this lesson. You could instruct students to save their single-serving milk cartons from the school cafeteria
- Seeds – use a variety that grows fairly quickly. Zucchini or yellow squash seeds are good if the plants will be germinating someplace fairly warm (a soil temperature above 60° F). You can use a mercury thermometer to measure the soil temperature. If the plants will be regularly exposed to cold temperatures, try radish or pea seeds instead.
- Growing mediums – use potting soil and a mix of sand and gravel for two of your container types. Choose different mediums for the last two containers – perhaps compost, wood mulch, some soil from the school grounds, or something else entirely.

### Procedure (for teachers):

1. Divide the class into groups and instruct each group to select a name or a color. If using colors, give each group a marker corresponding to their color.
2. Thoroughly rinse the containers with warm water and a little vinegar. Using scissors or a nail, gently poke four holes in the bottom of each container. Each hole should be about 1/4 inch across. The teacher may prefer to perform this step ahead of time.
3. Fill a container with one type of soil, leaving about half an inch of space at the top. Write the name of the soil type on a piece of masking tape and label the container. Be sure that all students are using the same names for the same soil type, and that each group of students marks all of their containers with their group's color or name.
4. Gently water the soil until water just begins to run from the holes in the bottom of the container.
5. With your finger or a tool, make a small hole in the surface of the soil. Place four or five seeds in each. The depth of the hole depends on the size of the seeds you use. (Large seeds such as squash should be buried about an inch deep, while radishes should be covered with only about 1/4 inch of soil.) Cover the seeds with soil and sprinkle a little extra water on top – just enough to moisten the surface.
6. Repeat steps 2 – 5 with the other soil types until each student group has one seeded container of each soil type.
7. Place all the containers (arranged by group) on the tray and place the tray in a safe, warm place. Follow any specific instructions on the seed package or a gardening book about germination. Don't be concerned about light at this point – most plants will not require light until several days after they emerge from the soil. Students should record the date of planting on their "results" sheets. Students should also fill in the blank spots on their results tables with the names of the two other soil/medium mixes.
8. Again, follow instructions on the seed package or a gardening book about daily care of the plants. Check the containers each morning for sprouts and water gently, but do not water too often. Be



## EXPERIMENTATION

sure that each container receives about the same amount of water. Students should record the dates that sprouts are first seen in each of their containers.

9. Whenever most of the containers have sprouted, move the tray to a place where the plants can get plenty of light. Leaving the plants outdoors for all or part of the day is fine if weather permits. Continue to water lightly each day or as needed.
10. Using a ruler, record the heights of the tallest plant in each container each week. Week 1 should begin one week after the plants have sprouted. As the plants grow larger, you may water them less frequently.

DRAFT





## ADDITIONAL RESOURCES

### Published Resources

McMurry, Linda O. (1981). *George Washington Carver: Scientist and Symbol*. New York: Oxford University Press.

A thorough, balanced biography of Carver that both deflates the myths surrounding his life and credits his great accomplishments. Biography. Reading level: Adult

Bolden, Tonya. (2008). *George Washington Carver*. **Abrams Books** for Young Readers.

An excellent book for somewhat more advanced readers that provides a closer look at Carver's life alongside large historical photographs. Biography. Reading level: 9-12.

### Internet Resources

“Legends of Tuskegee”, <http://www.nps.gov/history/museum/exhibits/Tuskegee>

This National Park Service's site on Carver and Booker T. Washington contains both historical photos and full-color pictures of Carver's equipment and specimens

“Iowa Pathways”, [http://www.iptv.org/iowapathways/mypath.cfm?ounid=ob\\_000059&h=no](http://www.iptv.org/iowapathways/mypath.cfm?ounid=ob_000059&h=no)

A short but informative biography of Carver, along with many pictures.

### Instructional Resources

College Board Pre-AP. (2002). *The AP vertical teams guide for English* (2<sup>nd</sup> ed.). New York: College Board.

Definitive source on literary analysis, close reading, rhetoric, and writing tactics.

Jackdaw Publications, [www.jackdaw.com](http://www.jackdaw.com)

Company offers for sale thematic collections of authentically reproduced documents with support materials.

Library of Congress, [www.loc.gov/teachers](http://www.loc.gov/teachers)

Government source provides free, downloadable lesson plans and activities with media analysis tools for more than 10 million primary sources online.

National Archives, [www.archives.gov/education](http://www.archives.gov/education)

Government source provides free, downloadable primary sources, lesson plans, activities, analysis tools, and teacher training.



## GLOSSARY

**Autobiography** is a biography of a person written by that person.

**Bias** is a personal and often unreasoned preference or an inclination, especially one that inhibits impartial judgment.

**Biography** is an account of a person's life written, composed, or produced by another.

**Constructed conversation** is undocumented, created dialogue between characters in a biography.

**Corroboration** is the process of strengthening or supporting with evidence that some fact or statement is true.

**Diary** is a personal daily record of events, experiences, and observations.

**Diction** is word choice intended to convey a certain effect.

**Document analysis** is the process of critically inspecting artifacts, cartoons, written documents, maps, photographs, posters, or sounds and making connections and inferences regarding them.

**Engraving** is a print made from an engraved or etched plate or block.

**Foreshadowing** is the use of hints or clues in a narrative to suggest future action.

**Group biography** is a biography of a collective number of individuals sharing a common characteristic.

**Historical fiction** is a story set in a specific time period, having characters, setting and plot which are both imaginary and historically documented. Where fictional, the characters, settings and plot events are portrayed authentically as if they actually could have happened.

**Imagery** is the written representation of people, objects, actions, feelings or ideas through works or phrases which appeal to the senses.

Glossary terms adapted from the following sources: AP Vertical Teams Guide for English (College Board, 2002), [www.dictionary.com](http://www.dictionary.com), <http://www.wwnorton.com/college/english/litweb/glossary>, <http://www.gale.com/warehouse/glossary/>



## GLOSSARY

**Letter** is a written message addressed to a person or organization.

**Memoir** is a written account of the personal experiences of an individual.

**Milieu** is an environment or setting.

**Mood** is the atmosphere or predominant emotion in a literary work.

**Narration** is the telling of a real or invented story in speech or writing.

**Point of view** is the perspective from which a narrative is told.

**Portrait** is a painting, drawing, or photograph for which there was a consciously posed person or group and in which the sitter's identity is the main object of study.

**Primary sources** are original works in various media that are recorded at the time of an event.

**Secondary sources** are works that record an event which are removed from that event by time or place.

**Self-portrait** is a portrait in which the artist is the subject.

**Setting** is the time and place of the action in a story, novel, play, or poem; also, surroundings or environment.

**Tone** is the attitude a literary work or author takes toward its [subject](#) and [theme](#).

**Unreliable narrator** is a [speaker](#) whose version of the details of a story are consciously or unconsciously deceiving; such a [narration](#) is usually subtly undermined by details in the story or the reader's general knowledge of facts outside the story.



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Hollingsworth, L.S. (1925). Introduction to biography for young children who test above 150 I.Q. *Teachers College Record*, 2, 277-287.

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Please feel free to share your comments on this Blueprint. You may photo copy this page if you wish. It would be helpful to us if you would indicate to which item your following comments apply.

\_\_\_\_\_ I use biography in my curriculum in the following way. My comments are attached.

\_\_\_\_\_ I would like to recommend a children's or young adult reader's biography as a subject for a Blueprint. My recommendation(s) follows:

\_\_\_\_\_ I have a comment about the questions and/or activities in this Blueprint. My comments are:

Date:

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