

George Washington Carver by Katherine Scrapper. Benchmark Education: NY, 2002.
ISBN 01-58344-500-5

Literature Annotation: This book is a simplified biography of George Washington Carver's life and accomplishments. The larger print and plentiful pictures are helpful to younger readers. The glossary at the end is student friendly.

Grade Level: Grade 2

Duration: 30- 45 minutes

Economic Concepts: Production; Specialized Work; Technology

Maryland State Curriculum

Economics Standard: Students will identify the economic principles and processes that are helpful to producers and consumers when making good decisions. (PreK-3 Standard)

- 4.A.1.a Identify and explain economic choices people make (Grade 2)
- 4.A.2.a Identify the natural, capital, and human resources used in the production of a good or service (Grade 2)
- 4.A.3. Examine how technology affects the way people live, work and play (Grade 2)
- 4.A.2.b Identify examples of specialized workers in the school and community, such as nurses, truck drivers, trash collectors, lawyers, and postal workers. (Grade 2)

Geography Standard: Students will use geographic concepts and processes to understand location and its relationship to human activities. (PreK-3 Standard)

- 3.D.1 Explain how people adapt to and modify their natural environment. (Grade 2)

Reading Standard (Comprehension of Informational Text): Students will read, comprehend, interpret, analyze, and evaluate informational text (PreK-Standard)

- 2.A.2.b Use graphic aids (maps)
- 2.A.4.g Summarize the text or a portion of the text (Grade 2)
- 2.A.4.c State and support main ideas and messages
- 2.A.4.j Connect the text to prior knowledge or experience
- 2.A.5.a Identify and explain specific words or phrases that contribute to the meaning of a text (content vocabulary)

Objective: Students will identify ways that the specialized work of an individual can improve the use of the land by identifying ways that George Washington Carver contributed to improvements in farming and invented new products that could be made from the crops.

Vocabulary

technology: skills, methods, tools, machines and other things used to perform activities. Technology changes over time and affects the way we live, work, and play.

economic resources: the natural, human, and capital resources that are used to produce goods and services: also call factors of production.

natural resources: the renewable, and nonrenewable gifts of nature that can be used to produce goods and services, including but not limited to land, water, animals, minerals, tress, climate, soil, fire, seeds, grain and fruits.

specialized work: the narrower range of defined skills or labor used to produce a part of a product; involves the division of tasks and dependence on other workers to complete the production of the good or service.

interdependence: depending on one another for resources, goods, and services.

Additional Vocabulary: improvements, nutrients

Teacher Materials

- cotton ball
- cotton handkerchief or T-shirt
- jar of peanut butter
- can of sweet potatoes or a sweet potato
- small plastic bag of soil
- a plant that looks strong and healthy
- a plant that looks weak and sickly
- pencil and a disposable mechanical pencil (or a pen)
- wall map of the United States

Student Materials

- Resource Sheet 1: *George Washington Carver's Improvements in Technology Help the Farmers*
- Resource Sheet 2: *George Washington Carver Anticipation Guide*
- Resource Sheet 3: *MSA Activity for George Washington Carver*

Teacher Background

Knowledge of the life of George Washington Carver and his contributions to producers and consumers

Motivation

Display a cotton ball, a cotton handkerchief or T-shirt, a jar of peanut butter (unopened), a can of sweet potatoes or a sweet potato, and a small plastic bag of soil. Ask students to think about how these products might be related. Students may say that the cotton ball and cotton handkerchief were made from cotton, or that these things came from plants that grow in the soil.

Development

1. Tell students that these items were all affected by a scientist named George Washington Carver. Display a picture of Dr. Carver or have students look at the cover of the book.
2. Have students complete the "Before Reading" column on Resource Sheet 2: *George Washington Carver Anticipation Guide*.
3. Use a wall map of the United States to have students locate Missouri and Alabama. Read p. 2 aloud to the students. Have students locate Missouri on the inset map of the United States.
4. Read pp. 4-5. Ask students to identify why he was called the "Plant Doctor." Introduce the vocabulary term **specialized worker**. Tell students that George Washington Carver **specialized** in working with plants, so he was a **specialized worker**.
5. Read pp. 6-8. Display the vocabulary word **nutrients**. Explain to students that nutrients are in the soil and provide plants with things they need to grow. (You may also refer to the Glossary on p. 16.) Ask students to recall why the cowpea and sweet potato plants were helpful to the farmers. Ask students how the planting of cowpea and sweet potato plants helped cotton plants.

6. Display the two plants listed in “Teacher Materials” for this lesson. Ask students which one is healthier. Then discuss what plants need to be strong and healthy. Have students pretend they are a farmer by standing and pretending to hoe, pull weeds, pick cotton, etc. Then ask students if farmers would want to harvest a lot of cotton or a little cotton for their work. Tell students that Dr. Carver realized that farmers were working harder and harder, but getting less and less cotton because the plants were not healthy.
7. Display the vocabulary word **technology**. Tell students that when people find ways to improve products or to improve ways that they produce goods or services, it is an **improvement in technology**. Show students a regular pencil and a disposable mechanical pencil (or a pen.) Ask students how technology has improved the pencil. Then ask students to think of some other products they use that have been improved by technology. Possible responses may include the pencil sharpener (regular and the electric types), drink boxes, handi-wipes, and soft soap.
8. Tell students that Dr. Carver found ways to make **improvements in the technology** used in farming. Dr. Carver studied plants and found ways to improve the quality of the soil and the crops that farmers were growing in that soil. He also helped the farmers by discovering many new uses for the helpful plants that farmers needed to grow in order to improve their soil. His products created a market for the crops that they were growing.
9. Tell students that teaching farmers how to grow plants that help the soil was an **improvement in technology** because farmers were learning to use their land in new and better ways. Have students think about some ways that improvements in technology have helped farmers today. Possible responses may include the following: farmers use tractors instead of horses, new seeds are developed to better plants that produce more products, bigger and more efficient machinery, and irrigation systems to water the fields.
10. Read pp. 10-11. Have students identify some other ways that George Washington Carver helped the farmers.
11. Then read pp. 12-13 to find out about two other ways George helped teach people use the **natural resources** around them. Ask students to name some products other than rugs that could be made from woven grass or products other than paint that could be made from the clay in the soil. (Possible answers: woven grass may also be used to make baskets, hammocks, roofs, and blankets; clay may be used to also make pottery, bricks, and adobe homes.)
12. Read pp. 14-15. Have students find Alabama on the inset map with the United States. Tell students that Dr. Carver did most of his work in Alabama at the Tuskegee Institute.

Conclusion

Have students complete the “After Reading” column on Resource Sheet 2: *George Washington Carver Anticipation Guide*. Discuss what they have learned about the contributions of George Washington Carver to farming.

Assessment

- Have students create a mobile of George Washington Carver's contributions to farmers. Distribute copies of Resource Sheet 1: *George Washington Carver's Improvements in Technology Help the Farmers*. Have students illustrate each caption to show different ways that George Washington Carver helped the farmers.

Additional Activities and Resources

- ◆ Have students read *A Picture Book of George Washington Carver* by David A. Adler and illustrated by Dan Brown. This book has more in-depth information about his childhood and youth. It also gives additional details about his work with peanuts and sweet potatoes.
- ◆ Have students create a booklet showing improvements in technology today. Students may cut out pictures from magazines or ads for new products, or draw their own illustrations. For example, students may find the new disposable cloths for mops and the sponge mop, or a wall phone and a cell phone. Have students write a sentence to explain the improvement in technology.

*George Washington Carver's Improvements
in Technology Help the Farmers*



Growing sweet potatoes was good for the soil and made it rich.



Growing peanuts got rid of the boll weevil bugs.



Candy and many other products were made from sweet potatoes.



More nutrients in the soil grew bigger and stronger cotton plants.



Feeding milk cows hay made their milk better.



Grass could be made into rugs and clay from the soil to make paint.

George Washington Carver Anticipation Guide

Before Reading: Read the statement. In the Before Reading column, circle whether you think the statement is true or false.

After Reading: Reread the statement. In the After Reading column circle whether the statement was true or false. If it was false, rewrite the statement so that it is true.

Before Reading		After Reading
True or False	Farmers should plant cotton every year.	True or False Page_____
True or False	Some plants are good for the soil.	True or False Page_____
True or False	Planting peanuts made the bugs worse for cotton plants.	True or False Page_____
True or False	Sweet potatoes are not good for the soil.	True or False Page_____
True or False	George Washington Carver was a friend to the farmers.	True or False Page_____
True or False	Paint can be made from clay in the soil.	True or False Page_____

MSA Activity for George Washington Carver
by Katherine Scrapper

1. People learned how to make **soil** good again. In this sentence **soil** means-
Ⓐ the spill on clothes. Ⓑ the top part of Earth.
Ⓒ the sick plant in a pot. Ⓓ the stain on the rug.
2. According to George Washington Carver, which of the following plants is **not** very good for the soil?
Ⓐ black-eyed peas Ⓑ cotton Ⓒ peanuts Ⓓ sweet potatoes
3. Growing peanuts helped the farmers because -
Ⓐ it helped the cows. Ⓑ it helped the soil.
Ⓒ it helped make rugs. Ⓓ it got rid of bugs.
4. Which of the following statements is an opinion?
Ⓐ George made more than 100 things from sweet potatoes
Ⓑ George showed farmers how to make rugs out of grass.
Ⓒ George like eating candy he made from sweet potatoes.
Ⓓ George found more than 300 ways to use peanuts.
5. George Washington Carver developed many improvements to help farmers. Explain how his new ideas changed the way farmers grew crops.

<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

MSA Activity for George Washington Carver-Answer Key
by Katherine Scrapper

1. People learned how to make soil good again. In this sentence soil means-

- Ⓐ the spill on clothes. Ⓑ **the top part of Earth.**
Ⓒ the sick plant in a pot. Ⓓ the stain on the rug.

Reading 1.D.3.a:
Use context to determine the meanings of words

2. According to George Washington Carver, which of the following plants is **not** very good for the soil?

- Ⓐ black-eyed peas Ⓑ **cotton** Ⓒ peanuts Ⓓ sweet potato

Reading 1.E.4.b
Identify and explain what is directly stated in the text.

3. Growing peanuts helped the farmers because -

- Ⓐ it helped the cows. Ⓒ it helped the soil.
Ⓑ it helped make rugs. Ⓓ **it got rid of bugs.**

Reading 2.A.4.c
State and support main ideas and messages

4. Which of the following statements is an opinion?

- Ⓐ George made more than 100 things from sweet potatoes
Ⓑ George showed farmers how to make rugs out of grass.
Ⓒ **George like eating candy he made from sweet potatoes.**
Ⓓ George found more than 300 ways to use peanuts.

Reading 2.A.4.h
Distinguish between a fact and an opinion

6. George Washington Carver developed many improvements to help farmers. Explain how his new ideas changed the way farmers grew crops.

Possible responses may include:

- information on how George Washington Carver found ways to grow stronger and healthier plants
- ways that he taught the farmers to grow plants that helped the soil
- how farmers learned from George about plants that were good for the soil
- how George W. Carver helped farmers learn ways to help their cows give improved milk
- how he taught farmers to get rid of bugs and that farmers learned to grow cotton every three years
- farmers were able to grow more crops and produce more goods
- showed people how to use the peanuts and sweet potatoes to make lots of other stuff so that people wanted to buy these goods from the farmers

Social Studies Economics:

- 4.A.3. Explain how technology affects the way people live, work, and play
4.A.3.a. Describe how tools and products have affected the way people live, work, or play.

Reading 2.A.4.d

Identify and explain relationships between and among ideas.

