

# Earth, The Largest Healing Garden: The Impact of Human Activities on the Biosphere and the Connections of African American Wellness Culture with Gardens

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## Abstract

In the High School Earth & Environment Science Course, 9th and 10th grade students are required to learn about biodiversity. These students' lesson will be the exploration of the impact humans have on biodiversity (Standard: EEN: 2.7.3). This summer research experience explored definitions of wellness in African American women's community gardens. How will the students' understanding of health and wellness change by exploring essentials from gardens? How will this change students' attitudes towards their own identities (e.g., racial, gender, etc.) in relation to science? Culturally diverse standard and honors Earth and Environmental Science students will participate in this high school course. As educator and learner, my process will explore ways of thinking about the interaction between humans and the environment, as well as learn from students' approach to these environmental issues.

## References

Youngkin, E. Q., and D. S. Israel. (1996). "A Review and Critique of Common Herbal Alternative Therapies." Nurse Practitioner 21: 39-45.

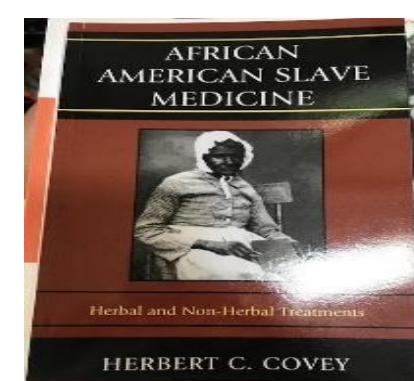
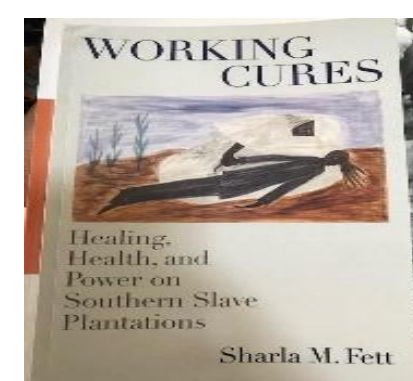
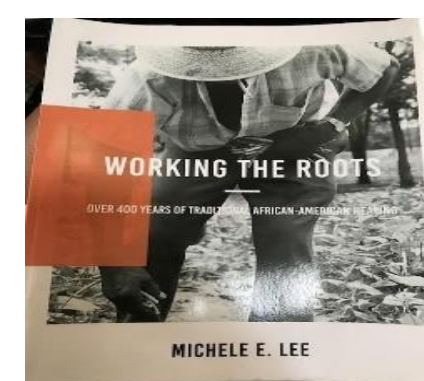
Covey, Herbert C. (2007). "African American slave medicine: Herbal and Non-herbal treatments." Lexington Books.

Lee, Michelle E. (2014). "Working the Roots: Over 400 Years of Traditional African-American Healing." Wadastick Publishers.

Fett, Sharla M. (2002). "Working Cures: Healing, Health, and Power on Southern Slave Plantations." The University of North Carolina Press.

<https://www.mskcc.org/cancer-care/integrative-medicine/herbs/bloodroot>

## Approach/Method:



The content on biodiversity will guide students through a journey of finding the health benefits of growing gardens and how African Americans created medicines from their gardens to treat everyday ailments. Working the Roots: Over 400 years of traditional African American Healing, Working Cures: Healing, Health, and Power on Southern Slave Plantations and The African American Slave Medicine are books that emphasize a storytelling approach using the dialects of enslaved African Americans that created medicines from gardening and the earth. The inspiration for reading this literature is to gain knowledge of holistic remedies or preventatives for common disease states or illnesses. Also, having the curiosity of what my ancestors used when health care was denied. The era of these pieces of literature surrounds the year before and during the Civil War (the antebellum).

Author Michelle Lee (Working the Roots) spent a little over six-years from 1996 to 2002 collecting the information gathered by the elders from Louisiana to Mississippi. Michelle's book is presented in two parts. The first is the narrative of conversations, interviews, and apprenticeships from the traditional healers in the southern region of the United States. Part two is the ailments and medicinal prescription of our ancestors and their ways of healthy living. This book showed me the resilience of how my ancestors survived with herbal and naturopathic remedies that are still applicable today. Author Sharla Fett (Working Cures) did not contain a personal interview. This book has been condensed with other readings from medical journal reviews, articles to autobiographies. Fett explains why enslaved African Americans used the gardens for cures and why they distrust white medicine due to the exploitations given by white men who were physicians or medical students and their experimental treatments that caused humiliation due to their white supremacy that was forced upon them. This could play a significant role as to why African Americans today for not being adherent with their medications or ignoring the signs of illnesses because of refusing medical care. Last but not least, Mr. Herbert Covey's book: African American Slave Medicine. Dr. Covey conducted interviews during the 1930s by the Works Project Administration which is a resource of medical information of enslaved African Americans but in their narrative. He found how slaves' medical needs were addressed and the roles of African Americans as health practitioners, the utilization of faith, and the modern scientific evidence behind each plant in health recovery. I also used social media (Facebook) and came across a group called: Black Girls Grow Garden to gather more results.

## Lesson Plan: A Library of Plants

Explain how the use, protection, and conservation of natural resources impact the environment, including biodiversity, from one generation to the next, then learn how researchers in North Carolina are helping to conserve and preserve native plants by saving seeds in a long-term seed storage facility.

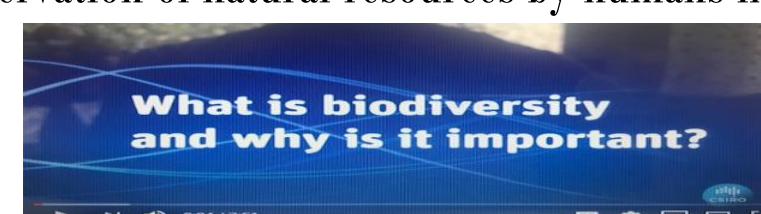
Objective: Scholars will be able to:

- Understand how the impact of human activities on the environment affects one generation to the next.
- Explain why biodiversity is important to the biosphere.

**Essential Vocabulary:** Biosphere Natural resources Hydrosphere Biodiversity Renewable resources Atmosphere Conservation Nonrenewable resource Sustainable use Sustainability Lithosphere Pollution Deforestation Reclamation Reforestation Bioremediation Global climate change

## Essential Questions:

1. What is the biosphere?
2. What is biodiversity?
3. Why is biodiversity important to the biosphere?
4. How does the use of natural resources by humans impact the environment from one generation to the next?
5. How does the protection and conservation of natural resources by humans impact the environment from one generation to the next?



## ENGAGE:

Students will watch What is biodiversity and why is it important? (<https://www.youtube.com/watch?v=7tgNamjTrkk>) to learn more about what biodiversity encompasses and why it is important. Students will then review the remaining vocabulary terms in pairs. They should record their definitions, then check them against a textbook or dictionary.

**EXPLORE:** Divide the class into six groups. Assign one of Earth's spheres (lithosphere, hydrosphere, or atmosphere) to groups 1, 2, and 3, then do the same for groups 4, 5, and 6. Students will identify and gather information about how the use, protection, and conservation of natural resources from one of Earth's spheres impact the environment from one generation to the next. Students will take notes as they work and complete research to answer the following questions.

1. What natural resources are used in this sphere?
2. How are they obtained? Does the process of obtaining the resources impact the environment? How?
3. How are these resources used? Does the use of these resources impact the environment? How?
4. How does the use of these resources affect biodiversity?
5. Why is biodiversity important to the biosphere?
6. How does the use of these resources affect current and future generations?
7. Can the resources be used sustainably? How?
8. How can the protection and conservation of these resources impact the environment for current and future generations?
9. Why is using resources sustainably important?

## Students can use the websites listed below as a starting point for their research.

Natural Resources — <http://www.ecofriendlykids.co.uk/naturalresourceearth.html>  
(<http://www.ecofriendlykids.co.uk/naturalresourceearth.html>)  
Natural Resources and Recycling — [http://www.geography4kids.com/files/land\\_natresource.html](http://www.geography4kids.com/files/land_natresource.html)  
([http://www.geography4kids.com/files/land\\_natresource.html](http://www.geography4kids.com/files/land_natresource.html))  
Global Warming Overview — <http://environment.nationalgeographic.com/environment/global-warming/pollution-overview/>  
(<http://environment.nationalgeographic.com/environment/global-warming/pollution-overview/>)  
Air Pollution — <http://www.niehs.nih.gov/health/topics/agents/air-pollution/>  
(<http://www.niehs.nih.gov/health/topics/agents/air-pollution/>)  
Freshwater Pollution — <http://environment.nationalgeographic.com/environment/freshwater/pollution/>  
(<http://environment.nationalgeographic.com/environment/freshwater/pollution/>)  
Sources and Causes of Water Pollution — <http://www.conserve-energy-future.com/sources-and-causes-of-water-pollution.php>  
(<http://www.conserve-energy-future.com/sources-and-causes-of-water-pollution.php>)  
Biodiversity Crisis — <https://www.sciencedaily.com/releases/2012/01/120120010357.htm>  
(<https://www.sciencedaily.com/releases/2012/01/120120010357.htm>)

**EXPLAIN:** After students have completed their research in the Explore section, they will present the results of their research to their classmates. Groups 1, 2, and 3 will make presentations to each other, and groups 4, 5, and 6 will do the same. Students can prepare a PowerPoint presentation or other form of their choice.

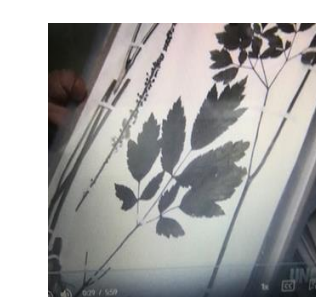
## Findings:

Preliminary inquiry into African Americans' pre- and post-slavery holistic preventative measures and treatments from troubling diagnoses will be incorporated into North Carolina Essential Standard of Earth and Environmental Science 2.7.3: Explain how human impact effect the biosphere high school science curriculum. A video will be shared on how to protect and conserve natural resources and why North Carolina researchers save seeds and plants for long-term storage. The connection between African American identity and gardening will enlighten students on the importance of the science of gardening and its benefits. From providing food to avoiding harmful pharmaceutical products, holistic, herbal medicine will be shown in the historical, scientific, and cultural light animated by the female African American experience.

Bent Creek Germplasm Repository is where preserved NC plant seeds are being saved in a long-term seed storage facility. The picture below is a snapshot of records of rare and medicinal plants that are growing in North Carolina.



**Bloodroot:** has a long tradition of use in the North Carolina region. Reported uses are cancer(anti-infection, inflammation, and cough. Avoid if a patient has glaucoma.



**Black Cohosh:** Top 10 dietary supplement worldwide. Used for menopause. Avoid if taking drugs.

Many questions can be raised with the use of herbs and plants. What herbs and plants did the slaves often use? How did they use the plants and herbs? What were the specific plants and herbs used for medicinal purposes? Were any of these treatments effective or not? Did these treatments work, did nothing, or make matters worse? Most concoctions created by enslaved African Americans from their earth/garden did do the trick. However, there were times where nothing transpired or even death due to the overuse of their product and lack of knowledge of the plant. African American folks still use these remedies but with climate and ecosystem changing these plants are rare to find. Use with caution when using these treatments and always inform your healthcare provider before use. There were other resources provided by the earth that was used for healings. In my readings, the two particular plants located in all three books that are "go-to" medicinal plants are the yellow root and boneset.

## **Xanthorhiza simplicissima**

Marshall **Yellowroot**, Shrub Yellowroot  
Ranunculaceae (Buttercup Family)



A shrub that can spread with 3 ft. stems. The bark and long roots are deep-yellow and bitter. Attractive foliage is glossy and green, turning yellow to reddish-purple in fall. The small, star-shaped, purplish-brown flowers are in crowded, terminal clusters. **Native Habitat:** damp woods; wet depressions; stream banks  
**Bloom Color:** Purple **Bloom Time:** April, May **Distribution:** AL, NC, FL, GA, KY, LA, MA  
**Internal Use Instructions:** Chop the entire flower throw nothing away for the top of the flower is just as good as the root. Equal parts of water and plant will go inside the pot. Bring it to a boil, cover, and let it simmer for 30 minutes. Strain and drink 1-3 cups a day. The remain can be placed in a bag to dry then stored in the refrigerator. This plant was used extensively in the 19th century for medicinal purposes. Used for common colds, fevers, and influenza (Youngkin & Isreal 1996).

## Results/Conclusions:

How will the students' understanding of health and wellness change by exploring essentials from gardens? How will this change students' attitudes towards their own identities in relation to science? Retrieving the students perspective on wellness initially. Unfortunately, I ran across a few barriers approaching the Black Girls Grow group. The nonprofit organization of the group reached out and expressed how she was not interested in being a part of research because black women and men have been "studied" too long and never received any benefits from it. However, I got a glimpse as to what I believed what their wellness looks like. Various pictures of their gardens whether it prospered or failed, their emotions were so elaborative with the sense of peace; serenity, and patience to reach the harvest of their desire. My daughter who is a 2020 high school graduate answered the questions above after her dialog on biodiversity. Her response about wellness are to be mentally and physically healthy. Having a garden will benefit our health from the fruits and vegetables and our mental health by herbs. Acknowledging the impacts that humans have on the biosphere changes her attitude on her identity as it relates to science due to the priorities of black families working longer hours takes away time needed to create gardens. She adds that growing more plants can potentially change our atmosphere and ecosystem. If more African Americans begin to grow gardens it will not just help the ecosystem but it will essentially provide a better quality of life.