

Is There a Doctor in the House?

*Barbara C. Kengor
Pittsburgh Gifted Center*

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Overview

This curriculum is designed to encompass the history of medicine in the African American time line of history. The title, “*Is There a Doctor in the House?*”, is designed to encourage students to begin to consider a career in the medical field. The unit deals with the natural remedies used by the slaves and continues with the accomplishments of African Americans in the field of medicine. It utilizes works of historical fiction as well as biographies. Excerpts from literature are to be used throughout the unit. These will provide a basis for classroom experimentation as well as a unit of lessons in African American History. This curriculum is designed to be used in intervals throughout the school year to supplement the science units covered in third grade.

Rationale

I teach third grade science at the Pittsburgh Gifted Center. Our science program is based on the process skills used in the scientific method. The steps of the experimentation process are taught and used throughout the year. The steps followed in this curriculum are:

- Identify a problem
- Research the problem

- Form a hypothesis
- Test the hypothesis through experimentation
- Collect data
- Analyze the data
- Form a conclusion

The content of the curriculum builds on the Pennsylvania science standards and the core curriculum of the Pittsburgh Public Schools. This unit is designed to be used in the gifted program. Science enrichment is stressed as well as science theory. The classroom activities use a multidisciplinary approach to the lesson. Works of fiction and nonfiction are woven into the curriculum through the use of historical narratives and biographies. There are many references to medical and health related issues, concerning those in slavery, throughout the novels suitable for students as well as teachers. There are also several authors who have written detailed accounts of African and African-American slave remedies. Along with these sources there are many books with information about African American doctors both past and present. Our school wide theme for the 2009-2010 school year is “Dreams to Reality” which is a perfect environment in which to teach this unit.

As the baby boomer generation concerns itself more and more with health issues, many alternative forms of medicine are in vogue. However, herbal remedies and natural supplements are not new. The Africans who were forcibly brought to North America carried with them the health practices of their culture. The horrendous conditions of the middle passage decimated the populations on the ships and those persons that survived must have had strong constitutions and good health prior to their captivity. The deaths of Africans that occurred during the Middle Passage were mainly the result of the living conditions on the ships as well as the lack of a nutritious diet. Some illnesses that were fatal to the crew did not affect the enslaved people. One explanation for this is the medical practices of some tribal units. Clinton Cox writes about traditional healers who had used small pox inoculations for centuries in Africa. In his book, he introduces the reader to Onesimus, a slave of the Puritan clergyman, Cotton Mather. “During one of the periodic smallpox epidemics that swept the colonies, Onesimus told Mather ...Cut the skin, and put in a drop. Nobody have Small Pox anymore.”

Unfortunately, the living conditions of the plantation slaves did not improve and enslavement brought new ailments and illnesses. Also, the treatments and medicine available for white people were not extended to the African American people. However, the remedies of the slaves were used by their owners. Todd Savitt wrote a comparison of the slave versus white medicine in Medicine and Slavery: The

Diseases and Health Care of Blacks in Antebellum Virginia. He writes that “Slave medical knowledge consisted mostly of botanical cures and entered white medicine in several ways. Some slaves were called upon to tend to their owners when the traditional cures of the day did not work. White patients of slave healers were also responsible for sharing news of particular healers with whom they were familiar as well as certain cures when they were pleased” (Savitt 2).

In the Deep South, the women who healed with herbs were called Granny Women. One famous Granny Women was Emma Dupree. She was well known for her potions, some of which were:

- Pillows stuffed with rabbit tobacco to relieve asthma sufferers
- A tincture made of balsam pears and whiskey to ease many discomforts, from colic to arthritis
- Cough syrup made of cod liver oil, pine tar and whiskey

In the historical novel, Numbering All the Bones, the main character, Eulinda, set the scene for a chapter by writing, “It was a warm day in March. I was helping Iris in the kitchen. We were working with white oak bark and bloodroot, ginger and capsicum, brandy and calomel to make remedies (Rinaldi 32). White oak and the flower of bloodroot are used as astringents and wound cleansers. They both are still used by herbalists. Today, one can purchase a capsule that is a mixture of ginger and capsicum for use as an aid in digestion. Brandy and calomel are both still used to soothe a sore throat.

In the book, Slave Medicine, Albert Covey writes about the science of medicine and healing as a distinct part of the history of slavery. Many of the herbs described in his book are prescribed by homeopathic and wellness physicians today. Of the many products described by Covey, I am interested in the use of the following for classroom study: apples, cami-weed, cloves, garlic, nutmeg and red pepper.

In her book, Working Cures: Healing, Health and Power on Southern Slave Plantations, Sharla Fett delves into the holistic approach of slave medicine. She writes, “Communities in slavery nurtured a rich health culture, a constellation of ideas and practices related to wellbeing, illness, healing and death, that worked to counter the onslaught of daily medical abuse and racist scientific theories” (7).

Some holistic health practices of today might also have their roots in the approach that the plantation slaves took to stay fit. In parts of Africa, those persons who were the healers were also spiritual leaders. The connection between physical

health and mental attitude was important to the Africans brought here as slaves. One extension of this was the belief in conjuration. It may be a stretch but must be noted. ‘Conjurers view illness as either natural or unnatural. They and their patients believed that natural illness is controlled by the way one lives, such as coldness, dampness and diet, and the unnatural illness is caused by some one with magical powers’ (Covey 56). While the belief in conjure is not accepted in our society today, we have parallel ideas. Alternative healers believe that one can prevent illness by good living, and many subscribe to illnesses being caused by negative energies or “bad vibes” in the universe. At this same time, there was a movement toward the western frontier, and many slaves found an opportunity for freedom in this movement. The African American pioneers were not well known but there were many. Some blended in with the Native Americans and were accepted easily into that culture. Along the westward trails, many home remedies and herbal cures were administered by former slaves who also incorporated the tribal medicine of certain Native Americans. In her novel, A Mercy, Toni Morrison explains a Native American treatment of “a mixture of herbs: devils’ bit, mugwort, St John’s –wort, maidenhair and periwinkle (50). These herbs are still available today and are used to promote healing of the mind and body.

Many of the herbs mentioned in the historical fiction and nonfiction of the slave experience are still used today. For example, Capsicum is an herbal treatment used on the skin to ease pain from arthritis and muscle aches. It is also used as a gargle for sore throats and taken by mouth for stomach and gas pain. Several brand name ointments for pain relief list capsicum as an ingredient. St John’s Wort is recommended as a safe and effective treatment option for patients with mild to moderate depression. Apples, garlic and chamomile are widely used by people to maintain good health. Apples were used as a way to clean teeth and prevent decay. Garlic helped breathing and chamomile soothed cuts and scratches.

African Americans in medicine are not just about home remedies and herbal cures. During the years of slavery, many slaves served as doctor’s apprentices and became widely respected as healers in their right. Unfortunately, formal education was denied to them. Eventually, several pioneers paved the way for others to attend schools of medicine; however, racism and prejudice kept some from hospital posts and advancement. Despite these obstacles, many African Americans have made significant contributions to the medical field.

Dr James Durham has the distinction of being the first African American doctor in the United States. He was born into slavery but was able to purchase his freedom at the age of 21. He was known for his knowledge of throat ailments, a knowledge he gained as an apprentice to the doctor who owned him. Dr Durham has been credited with stopping the diphtheria epidemic in Philadelphia in the 1700s. He mixed medicines and conducted many trials before finally finding the cure to curb the

epidemic. No one knows what became of Dr. Durham and he died in obscurity. His method of trial is a valid way to problem solve in the third grade classroom

In the 1800s, African Americans were not admitted into the newly established medical schools that were opening across the country. (Prior to this time all doctors learned their skill as apprentices to other doctors.) Young James McCune Smith was a gifted student and wished to be a doctor. He was denied an education in the United States. In fact, he was forced to be a blacksmith's apprentice. It was said that "as he worked the bellows with one hand, he held a Latin grammar book in the other" (MAAP) Dr. James McCune Smith had to travel to Scotland to earn his degree. He dedicated his career to research and studied statistics about illnesses and how they spread. Dr Smith opened a pharmacy in the heart of New York City where he helped anyone who was ill. He had an elaborate system for cataloging and keeping track of the medicines that he sold. He realized the need for controlling dosages and keeping medicines pure.

Later in the century, other African Americans gained recognition for their contributions in the health and medical fields. Dr. Lloyd Hall was the grandson of a former slave who came north by way of the Underground Railroad. He was able to gain an education but was discriminated against as he tried to make his way in life. He worked as a food chemist and was concerned about the bacteria that remained in meat even after it was preserved with salt. Dr. Hall developed a method of flash drying meat using three chemical compounds that not only made the meat safer to eat, but it made the meat look much more appealing. He added sugar and glycerin to the sodium chlorine and other secondary salts that were previously used in curing meat.

Another African American chemist working at this time was Percy Lavon Julian. He became involved in using natural products to produce medicines. Dr Julian worked primarily with the soybean to extract vital components. He was able to produce the equivalent of natural cortisone. Cortisone is used to relieve the pain that people suffering from arthritis have to deal with each day. The word "arthritis" means joint inflammation. Arthritis affects the joints of a person's bones causing pain and swelling. Using his knowledge of chemistry, coupled with his knowledge of the human skeleton, Dr Julian was able to help many people.

Also at this time, African American women were making strides in the medical community despite the unfair laws and racism that were prevalent in the United States. Dr. Rebecca Lee (Crumpler) graduated from medical school at the age of thirty-three fulfilling a life long dream. She became a resident physician under the tutelage of Elizabeth Blackwell, the woman credited with being the first American woman doctor. Dr. Lee worked with under privileged women and children in New York City. She began to connect illness with poverty and the poor conditions in the slums of the city. She developed a program to help poor mothers to improve the

unsanitary conditions that some of them had to endure. This connection between cleanliness and health was written about in her book of medical advice that she wrote for women on how to take care of themselves and their children.

The 1900s continued to be a time of struggle for many African Americans. Many deserving and gifted men and women were denied education because of segregation and unfair practices. Vivien Thomas experienced this first hand. Thomas was an intelligent young man whose circumstances forced him to take a job as a janitor in the medical laboratories of Vanderbilt University. It was there that he met a rising young doctor named Alfred Blalock. Thomas became Blalock's assistant and worked closely with him to develop the surgical procedure and the surgical instruments needed to conduct operations that would save the lives of many children. Thomas stood on a stool behind Blalock in the operating room as Blalock performed the delicate bypass operation that allowed more oxygen to get into the lungs of children known as blue babies. There is a movie entitled Partners of the Heart that tells the story of Vivien Thomas. In 1971, Thomas was finally recognized for his contributions in the medical field even though he had no formal education.

As we move along in history, we meet more African American contributors to the science of medicine. Two modern day stories of success through hard work and determination are those of Dr. Ben Carson and Dr George Jenkins. Dr Ben Carson has become famous for his work with neurosurgery for children and his inspirational writings. His book Take the Risk explains his humble beginnings in Detroit. He overcame many obstacles to complete his education. The 1950s saw racism prevalent in the educational system. Ben Carson felt the sting when he earned the highest grade average in school. His principal used this to scold the white students for letting a black students do better than them in school. There is a made-for-television movie entitled Gifted Hands that tells the story of Ben Carsons' life. Dr Carson is a frequent visitor to Pittsburgh and he presents an annual award to high achieving students. Our school has written to him and invited him to speak to our students and teachers during the 2009-2010 school year.

The last success story in this unit is Dr George Jenkins. He was born in 1973 and he grew up in a Newark, New Jersey, housing project. He became friends with two other young African American teens. The three friends made a pact to help each other succeed. Each of the boys had to deal with peer pressure, lack of money and racial prejudice to make their dreams come true. They wrote about the promise they made to each other in a young adult work of nonfiction entitled The Pact. A young Dr Jenkins became interested in being a dentist after a routine visit as a child. He was in awe of the instruments and his dentist saw the spark in him. After high school graduation, George Jenkins, Sampson Davis and Rameck Hunt went off to Seton Hall University . They leaned on each other for support and all three graduated and went on to pursue their dreams. Dr Jenkins is not only a successful dentist, but he is a

assistant professor of dentistry at Columbia University. There is a movie available of The Pact which is a documentary of the success of the three friends.

These short biographical sketches are the basis for the science activities for the year and will be revisited in the classroom activity section of the unit.

Objectives

- The student will be able to use the steps of the scientific method to solve problems and conduct experiments in the classroom
- The student will be able to respond to biographies read in class in both oral and written form
- The student will be able to complete research on assigned topics concerning African American contributions in science and medicine
- The student will be able develop a time line of history that deals with the African experience in America from slavery to modern times.
- The student will be able to complete hand-on experiments that relate to the biographies that they read.
- The student will be able to complete a journal that expresses their opinions as well as the facts about the topics covered in the unit

Strategies

The strategies for teaching this unit are centered on a multi-media approach to the subject, coupled with hands-on activities. The persons dealt with in this unit can be researched on line and there are many “Kid-friendly” sites about each one. All of the African American doctors used in the curriculum have been written about in juvenile literature. Several movies have been made about the contributions of African Americans in medicine and science which are appropriate to air in the classroom. Each person mentioned in the curriculum is linked to a science experiment or classroom activity that will reinforce the learning of the students. Classroom discussions tying in the history of the time are also an essential strategy. Written and oral presentations by student groups as well as journal writing can tie together the biographies with the class work. By experiencing this unit, I wish to give students an opportunity express their opinions concerning race and cultural diversity in America.

Classroom Activities

Slave Remedies

After a presentation by the teacher of the stories about how African American slave medicine evolved, have the students observe some of the herbs that were used at that time. Use cloves, garlic salt, onion salt, nutmeg, crushed apple chips, basil, chamomile tea and any other herbs mentioned in the book, African American Slave Medicine, by Herbert C. Covey. Prepare 2 film canisters for each item by pouring some of the item in the canister and then poking holes on the top of the lid. Divide the class in half. Give one half a vial for each student. Give the other half a matching vial for each student. Tell the students to pretend that they have slave sisters and brothers who have been separated from each other. It is night, so they must wear a blindfold to simulate the darkness. They cannot speak. By using only their sense of smell, they must locate their sister or brother with the matching vial. When all family members have found each other, allow students to remove their blindfolds. Have the class identify the smells and then participate in a discussion about how they felt as they were searching for their sibling.

The Scientific Method

Students will read about the life of Dr. James Durham from the book, African American Healers, by Clinton Cox. After a discussion of how Dr Durham used the trial and error method in his work with healing cures, students will participate in a simple experiment. Students will work in lab groups and be given five test tubes containing clear liquids, such as tap water, vinegar, detergent, mineral oil and club soda. The teacher will explain that the test tubes contain different medicines that might be used to cure stomach acid. Each group should be given different clear liquids. Students will be told that they must make a medicine that will cure stomach aches due to too much acid in the organ. Give each pair a small squeeze bottle of “stomach acid,” food coloring. The colors may vary because different stomach acid is different colors. Tell students that when stomach acid is neutralized, it forms a ball and floats in the test tube. Explain that before a test can be done, a scientist must observe each liquid and make a prediction as to which liquid seems like it would make the stomach acid coagulate. This is called a hypothesis. Each group of students should form a hypothesis about which liquid would cure stomach and why. Now each pair should test the liquid by placing a drop of stomach into each test tube. The food coloring in the mineral oil will form a ball and float. Have each group of students present their findings to the class. All groups should report on the reactions of the stomach acid in the liquid. After comparing all the results, the class should determine the best medicine to use to relieve the pain of stomach acid.

Data Collection

Have the students visit the website entitled MAAP Mapping the African American Past,

and read the selection about James McCune Smith. Then use the interactive mapping tools to see the location of his pharmacy. Dr McCune was noted for his precise data collection among other traits. This activity will concentrate on data collection with medicine dosages. Randomly prepare empty prescription vials, or similar looking containers, with M&M's. Pair up the students and have them make a hypothesis about the total number contained in the vial and the number of each individual color in the vial.

Each pair should pour the contents of the vial out onto a small paper plate and use a craft stick to separate the M&Ms into colors, count each color and then count the total in the vial. Each pair of students should then work independently to design a way to present what they found. They may not use sentences but must make up some type of graphic organizer that shows their results. This should be drawn on large paper with markers. When all the pairs are finished, they will share how they chose to record their results and why. The teacher and class together can make a determination of which paper presented the information in the clearest manner, the most creative manner or the detailed manner.

Meat preservation

Have the students read about Dr. Lloyd Hall on the Griffith Laboratories website. He worked at Griffith for 34 years as a chemist and his biography is on the company site. Discuss what students already know about preserved foods, especially meat. They may talk about bacon and beef jerky. Explain that the Native Americans preserved meat and it was called pemmican. Explain that there are several ways to preserve food: drying, salting, sugaring, pickling and cold storage. Have students make their own beef jerky by the drying. For the sake of time and ease in the classroom, use the microwave method. (Adapted from Oklahoma Ag in the Classroom, Oklahoma State Department of Education)

1. Cut steak into thin strips, 1 1/2 to 2 inches wide.
2. Dip the strips in teriyaki sauce.
3. Arrange the seasoned strips flat and close together on a microwave-safe bacon rack. Cover with waxed paper.
4. Microwave at medium low.
5. Turn the strips over, placing the drier strips in the center of the rack.
6. Rotate the rack 1/2 turn and continue microwaving at medium low for 21 minutes, until the strips are dry but slightly pliable.
7. Remove to the paper towels
8. Repeat with remaining strips.
9. Cover the strips with paper towels and let them stand for 24 hours.

Storage: Wrap the strips in plastic wrap, place in a covered storage container and keep refrigerated.

Bones Joints

Have the students view the movie The Forgotten Genius about the life of Percy LaVon Julian. Explain to the students that our bones are living and growing tissue. Use a *BONZ* dog food treat to illustrate a cross section of a bone. Human bones have an outer cover called the periosteum, which provides a coating for the bone. The second layer is the hard or compact bone. Going further to the center is the spongy bone also called the cancellous bones. The center of the bone is the marrow. The marrow is where red blood cells are produced. Have the students look at skeleton models to observe how bones fit together at the joints. Show sample X-rays of bone and joints such as knees and elbows. Explain that Dr Percy LaVon Julian worked to alleviate the pain that arthritis can cause in the bone joints.

Germs/Handwashing

Dr .Rebecca Lee Crumpler worked tirelessly to help spread the word about disease prevention through cleanliness. One way to prevent the spread of germs and disease is through hand washing and more importantly, good hand washing. Conduct an experiment using a *Glo Germ* Kit. This is a product available in science catalogs that consists of a powder that glows under a black light. Before class begins, the teacher should sprinkle the powder on items and surfaces frequently touched by the students. Pencils, pencil sharpener, desk tops, computer keyboards are all good items. A light dusting will not be detected by the students. Allow time for the class to touch as many powdered surfaces as possible. After the students are seated, read an excerpt from the book, A is for Abigail that has information about Dr. Lee Crumpler. Ask students how good they are at washing their hands and explain that you are going to conduct a little experiment. Sprinkle a little coco powder on each student's hands and then have them all go their respective bathrooms and wash up. Upon returning to the room, turn off the lights and circulate and shine the ultraviolet on the hands of each student. Any remnants of the *Glo Germ* powder will glow, especially around fingernails and in between fingers. Review the proper hand washing technique with the class. These are provided on the *Glo Germ* website.

Steps for good hand washing:

- Use warm running water
- Use liquid or pump soap whenever possible
- Rub hands together vigorously for 10-20 seconds
- Pay special attention to the cuticles and underneath fingernails
- Rinse thoroughly and dry off with a paper towel or hand dryer.

Have students make posters about hand washing to hang in the school bathrooms.

Our Heart

Show clips from the movie entitled Partners of the Heart. Give the class time to discuss the movie and how they felt about Vivien Thomas. Have them visit the interactive section of the movie's website called You Be the Surgeon. This illustrates how the heart works and simulates the procedure that Vivien Thomas and Thomas Blalock used to save blue babies. Introduce the stethoscope to the class and allow them to hear each other's heart beats. Explain that a beat is the pumping of the blood. To illustrate this use a large plastic container filled $\frac{3}{4}$ full of water. Place your hands in the water and cup them together. Now open and close your cupped hands so that the water shoots up between them. This is how your heart pumps blood. Allow the students to try "pumping blood."

Our Brain

Show the made for television movie entitled Healing Hands: the Ben Carson Story. Dr. Ben Carson worked in the field of neurology or neuroscience. Have students explore the website Neuroscience for Kids. It contains numerous interactive activities about how the brain works in conjunction with the five senses. After the students have experienced the website activities have them design an activity or experiment that they could conduct in the classroom, dealing with brain functions. Some examples might be:

- What pictures do students remember best? color or black and white?
- How many numbers/letters can a third grader remember?
- Are two eyes better than one if aiming at a target?
- Can a student tell how far away a person is by sound/smell?

Our Teeth

Introduce students to the books by three African American doctors who stuck together to help each other complete their education. The Pact and The Bond are young adult nonfiction and We Beat the Street is juvenile literature. One of the three men gets interested in dentistry as a young boy. Have the students discuss what a dentist does and the education necessary for that career. Lead the discussion to

preventing cavities. Conduct the following demonstration to illustrate how a cavity forms. Place a *Tums* tablet in a glass of water. Place a second Tums tablet in a glass of vinegar. Allow both to sit for five minutes. Pour out the liquid from both glasses and examine the tablet. The tablet in the vinegar will dissolve much faster than the one in the water. Explain that the vinegar is an acid while the water is neutral. In our mouths, acid is formed from sugars and from the germs in plaque. The teeth in our mouth are made of calcium just like the main ingredient in the tablet. Therefore, if too much acid stays on our teeth they will start to break down and cavities will form. The class can then discuss healthy eating and brushing habits.

Annotated Bibliography

Books

- Carson, Ben. Take the Risk. Zondervan, Grand Rapids Michigan, 2008.
An inspirational autobiography of the struggle of Ben Carson and how he overcame them.
- Covey, Herbert C. African American Slave Medicine Lexington Books, New York, 2007.
This book is a historical account of the cures used by the African Americans first brought to the south as slaves. It can be used as a reference book of herbal remedies as well as story book of how the slaves were treated when they became ill.
- Cox, Clinton. African American Healers. John Wiley and Sons. New York. 2000.
This book is part of the Black Stars series. It contains short biographies of African Americans involved in medicine. It is written on intermediate grade level.
- Cheney, Lynne. A is for Abigail. Simon and Schuster. New York, 2003.
A primary alphabet book about the contributions of American women throughout history
- Crowe, Chris. Mississippi Trial, 1955. Penguin Putnam Books, New York. 2007.
A young adult novel based on the true story of Emmett Till who was brutally murdered for whistling at a white woman.
- Davis, Sampson. The Pact. Riverhead Books, New York. 2002.
The story of three African American teens who pledge to help each other succeed.
- Egger-Bovet, Howard and Marlene Smith Baranzini. US Kids History: Book of the Civil War. Little Brown and Company. New York. 1998.
An Activity Book that deals with the years of the Civil War
- Fett, Sharla. Working Cures: Healing, Health and Power on Southern Slave Plantations. University of North Carolina Press. North Carolina. 2002.
This is an historical account of the conditions on slave plantations in the southern states.

- Fox, Paula. The Slave Dancer. Cornerstone Books, Santa Barbara, California. 1973.
The story of a shipwrecked slave ship that deals with the relationship of a young slave and a young white boy.
- Haber, Louis. Black Pioneers of Science and Medicine. Harcourt Brace, Orlando Florida. 1970.
Easy to read accounts of accomplished African-Americans who made contributions in health and science fields
- Hakim, Lynn. Liberty for All. Oxford University Press. New York. 1994.
A history of the United States written for elementary students. Several chapters are devoted to Amistad and the story of Ellen and William Craft.
- Hayden, Robert C. 11 African American Doctors. Twenty-First Century Books, Frederick, Maryland. 1992.
Juvenile non-fiction that details the lives and accomplishments of eleven African American physicians
- Katz, William Loren, Black Women of the Old West. , Atheneum Books, New York, New York 1995.
An illustrated history of African American women who went west after the Revolutionary war to gain freedom and find a new life.
- Morrison, Toni. A Mercy. Alfred A. Knopf. New York. 2008.
A book of adult fiction that makes reference to the everyday life of several women in the south during the time of slavery
- Redecker, Marcus. The Slave Ship. Penguin Books. New York, 2007.
A history of the slave ships that brought Africans across the Atlantic Ocean with detailed descriptions of conditions on the ships.
- Rinaldi, Ann. Numbering All the Bones. Hyperion Paperbacks. New York. 2002.
Juvenile Fiction that tells the story of a young slave girl and her experiences during and after the Civil War.
- Savitt, Todd. Medicine and Slavery: The Diseases and Health Care of Blacks in Antebellum Virginia. University of Illinois. Illinois. 1981.
A book that contains historical accounts of people living at that time through their own writings and oral histories.

- Simmons, Alex. Ben Carson, Stech-Vaughn Company, Austin Texas, 1996.
A easy reader biography of Dr, Ben Carson
- Straubing, Harold Elk. In Hospital and Camp, Stackpole Books, New York. 1993
Letters form doctors and nurses who worked in field hospitals during the Civil War.The letters explain some of the medical techniques used at that time.
- Turner, Glennette Tilley. Follow in Their Footsteps. Cobblehill books, New York. 1997.
A collection of biographies of ten outstanding African Americans
- Wolney, Phillip. The Underground Railroad. Rosen Publishing Company. New York. 2004.
Easy reading book that discusses Harriet Tubman as a Civil War nurse.
- Zell, Fran. A Multicultural Portrait of the Revolutionary War. Benchmark Books. New York. 1996.
Juvenile literature that presents the chronology of the Revolutionary War including Native American and African American contributions.

Movies

- Partners of the Heart, PBS Gold, 2003.
A documentary about Vivien Thomas, a young African American who excelled in the field of medicine.
- African American Lives, Kunhardt Productions, WNET. 2006.
A unique look at the roots of famous African American modern day success stories.
- The Forgotten Genius. PBS NOVA, 2007.
The life story of Percy Julian, a gifted chemist.

Websites

Griffith Laboratories http://www.griffithlaboratories.com/United_States/en-US/

MAAP Mapping the African American Past. <http://www.maap.columbia.edu/>

A website that contains information about the lives of many African Americans who made significant contributions in their fields.

Neuroscience for Kids <http://faculty.washington.edu/chudler/neurok.html>

A website that contains numerous activities related to the human brain

You be the Surgeon; American Experience.

http://www.pbs.org/wgbh/amex/partners/breakthroughs/b_surgeon.html

An interactive look at how the heart pumps blood and uses oxygen.

Standards

Communication Standards:

#1. All students use effective research and information management skills, locating primary and secondary sources of information with traditional and emerging library technologies.

#2. All Students read and use a variety of methods to make sense of various complex texts.

#4. All students write for a variety of purposes, including to narrate, inform, and persuade in all subjects.

Arts and Humanities Standards:

#3. All students relate various works from the visual and performing arts and literature to the historical and cultural context within which they were created.

Science and Technology Standards:

#1. All students explain how scientific principles of chemical, physical and biological phenomena have developed and relate them to real world situations.

#4. All students explain the relationships among science, technology and society.