

## HU GK-12 Program

### Activity:

Over the course of the month of February, the students will be listening to presentations and doing research on prominent African-American men and women in science.

### Title

“African-Americans in Science: Past, Present, and the Future!”

### Prepared by:

Rowland Webb and Vic Boddie

### DCPS Standards:

Not applicable for this activity

### Goals

The students will demonstrate knowledge of African-Americans in Science by researching the numerous African-American scientists that have had an effect on the world.

### Objectives

The students will learn about African-American scientists of the past and present, that have rarely been mentioned in the textbooks.

### Background

There have been many African-American influences in the field of science that have gone unnoticed. In most textbooks we hear about the Einstein's, Aristotle's, and Eli Whitney's but rarely is there mention of African-Americans and their impact in science. We all know of George Washington Carver and Charles Drew, but there have also been many other black scientists and engineers that have pioneered numerous ideas and patents that have greatly impacted our everyday lives. With the GK-12 program, our goal at Howard University is to try to demonstrate science to minority students in a way that helps to educate, build confidence and create enthusiasm for science. Sometimes this becomes a daunting task because the students

usually cannot relate to the people or subject matter, therefore, helping the students see that people just like them had an extraordinary impact on the world in which we live makes it easier for them to understand science and appreciate where we have come as scientists and people.

### Materials:

- Projector
- camera

### Activity

This activity will require four days for four activities over the course of a month.

#### -Activity 1 (Week 1)

The GK-12 Fellow or teacher will make a 10-15 presentation of a rare African-American scientist. The scientist can either be in any field of science or the teacher/fellow can pick an African-American scientist that is in relation to the science topic, whether it be Physics, Biology, Chemistry or etc. The scientist that will be presented to the students at Caesar Chavez Public Charter School in N.E. Washington, D.C. in Mr. Rowland Webb's class is a man by the name of Granville T. Woods. Granville T. Woods was an African-American engineer who made great strides for the railway industry, including a railway telegraph, which allowed for communication between moving trains. Woods also had over a hundred patents for his inventions, including a patent for the electric railway system which allowed for trains to be able to utilize electricity without any exposed wires. This electric railway system is still being used in subways and trolley systems in New York City, Washington, D.C. and in many other metropolitan cities. The information given to the students should stick with them and every time they ride the subway they will remember that it was an African-American man that truly made it possible. Though this is a history presentation, it goes hand and hand with the teacher's lesson plan in

electromagnetism and therefore gives the students a chance to reflect on the fact that what they are studying is astonishingly based upon ideas and concepts of another fellow African-American scientist.

#### - Activity 2 (Week 2)

The activity for week 2 is based on homework that should be given to the students a week before. The homework for the students is to research an African-American scientist that had a great impact on science and society. The students should attain information when and where the scientist lived, how they grew up (if possible) and what they did in their field of science that was special. The presentation should include at least one picture of the scientist and the students should be able to give the presentation and answer questions about their scientist. This homework assignment should be presented in class, and based on the size of the class and the classroom time schedule, the length of the presentation should be from 2-5 minutes per student. If possible, the teacher or fellow should take pictures of the students and their projects and hang either the picture or the project on the wall.

#### -Activity 3 (Week 3)

On this week, the teacher or fellow should invite an African-American man or woman who currently works or studies in the field of science to come and speak to the students. This activity, though optional, could serve to be very positive experience for many of the students because many times our students don't see young African-American men and women doing positive things. This way the students can meet another older student who studies science in college and who also is being a positive role model in their communities. Most of the times the students never get to dialogue with someone of that stature and it is utterly important that the students know that it is possible to achieve any goal they dream. In Mr. Webb's class, I feel it very

important for them to see young black men and women studying science in college, therefore, I will invite a Howard University Medical School student as well as a Howard University Graduate school student in science. The medical school student and graduate school student will briefly describe what they do in school and informally tell the students what they liked to do when they were their age (so the students can relate) and what made them choose a life in science and their plans after graduation. If possible, it would be great if the teacher or fellow could bring in both a male and a female scientist, because it is important for the females to see a positive young African-American woman in science and it is just as important for our young male students to see an intellectual and positive African-American man.

#### Activity 4 (Week 4)

This activity should conclude Black History Month with a personal account from the students. The students should write at least a 1 page essay entitled: "The Dream for Myself". In this essay the students should write about their plans and dreams for the future. They should include a section in which they discuss where they see themselves in 15 years. This essay should bring an excellent Black History month to a great conclusion. This is ideal because many times, young people can't think further than today or tomorrow, this essay will force the students to think, "outside the box" and make tentative plans for their future. The essay will also allow the students to dream. Many times young African-Americans students don't know how to dream and think of anything different from what they see in their own communities, therefore, the essay allows the students to dream without any reservation and without fear of someone telling them, "NO YOU CAN'T!" Hopefully this exercise can built some self-confidence and remove fearfulness that students have to dream.