

AFRO QUIZ 2014 **SCIENCE AND TECHNOLOGY** **13-15**

THE SCIENCE OF GIRL POWER

A doctor AND an astronaut!

Dr. Mae C. Jemison was born in Decatur, Alabama on October 17, 1956. She is professionally known as a scientist, doctor and an astronaut. On June 4, 1987, she became the first African-American woman to be admitted into the astronaut training program.



She received a Bachelor of Science Degree in chemical engineering from Stanford University in 1977. She then attended Cornell University Medical College and obtained her Medical Degree in 1981.

While she was at Cornell, Jemison had opportunities to work in Cuba, Kenya and at a Cambodian Refugee camp in Thailand.

The following two minute video is a fantastic summary of Dr. Jemison's life and passions. Please watch this video and acquaint yourself with this extraordinary woman.

http://www.youtube.com/watch?feature=player_detailpage&v=EgOaIKshbIU#t=146

The Scientist with a "legacy of caring"



BIRTH DATE: November 15, 1916
DEATH DATE: December 19, 1995

Sister to the former Prime Minister of Barbados Earl Barrow, **Dame Nita Barrow** was born in St. Lucy, Barbados on November 15, 1916. Coming from a large family with humanitarian values, she was nurtured into wanting a life that was committed to development and public service. These values steered her into pursuing a career in nursing, but she did not stop there. The Dame was also an adult educator and a diplomat both within the Caribbean and internationally.

Her leadership and professional skill propelled her to the top of the nursing field in her homeland of Barbados. This success laid the foundation for many accomplishments, especially for a woman in a time when many of the positions of great success were predominantly reserved for men.

"Dame Nita Barrow is regarded as one of the Caribbean's most outstanding

leaders, admired for her indomitable spirit and her ability to empower others.”

The following are some of Dame Nita Barrow's many achievements accomplishments:

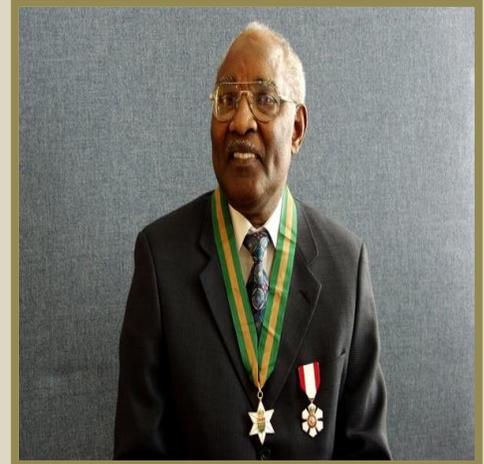
- In 1954, she became the **first West Indian** matron of the University College Hospital in Jamaica. Then two years later, she became the first Principal Nursing Officer of Jamaica.
- For five years, she served as Nursing Adviser for the Caribbean Area to the Pan American Health Organization (PAHO).
- She was also the director of the Christian Medical Commission (CMC) of the World Council of Churches (WCC). She promoted primary health care and encouraged her colleagues from developed countries to value traditional medicine and its practitioners.
- Her extensive research project on nursing education in the Commonwealth Caribbean resulted in the introduction of the Advanced Nursing Education Programme at The University of the West Indies (UWI), Mona
- In her roles as World President of the YWCA, President of the International Council of Adult Education (ICAE), and UN Director of the Global Forum for Women, she was also actively involved in improving the status of all peoples, but especially of women.
- She was the only women on the team of the Commonwealth Group of Eminent Persons who were sent to South Africa to negotiate the release of Nelson Mandela.
- Once she had retired in 1986, she served as an Ambassador of Barbados to the United Nations. She was a Permanent Representative.
- In 1990, she was appointed Governor-General of Barbados and she became the second recipient of the CARICOM Triennial Award for Women.
- She was also the first woman to receive the Order of the Caribbean Community.
- Knighted by Queen Elizabeth II as Dame of St Andrew and Dame Grand Cross of the Order of St Michael and St George

CANADIANA

The Soil Scientist

Dr. Constantine Campbell is a Soil Research Scientist Emeritus and currently, a consultant. He is a Jamaican born Canadian who has been recognized as Canada's foremost authority on soil science. His research has aided in advancing our understanding of soil fertility and degradation in Prairie lands.

For more than twenty-five years, Dr. Campbell's findings have contributed to making dry-land farming more productive, profitable and sustainable. For the majority of his career, he worked with Agriculture Canada until his retirement in 1998.



Education

- In 1960, he received a Science degree in Agricultural Chemistry from the University of Toronto.
- A year later, he got his Masters in Soil Science
- In 1965, he received his PhD from the University of Saskatchewan in Soil Sciences

Research

- He demonstrated that soil organic matter is a key environmental indicator on health status of prairie soils.
- Dr. Campbell's research has received attention nationally and internationally and is used in the development and testing of plant growth models.
- Demonstrated how the C-dating technique could be used to measure the dynamics of soil organic matter turnover.
- Conducted studies on the influence of different crop rotations on soil quality indices and soil productivity.
- Developed model that is used to quantify the sequestration of carbon in soils.

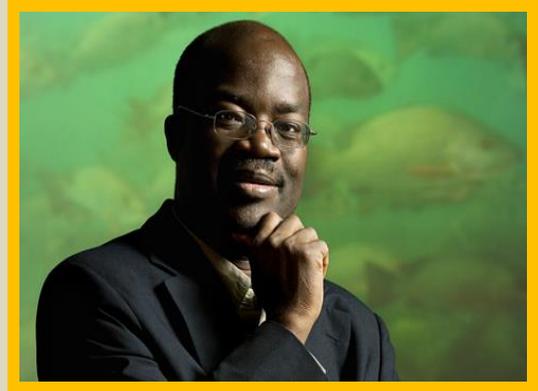
Some Honours and Awards

- Saskatchewan Centennial Medal- 2005
- Queen's Golden Jubilee Medal- 2002
- Inducted into Saskatchewan Agriculture Hall of Fame-1999
- Saskatchewan Order of Merit-1998
- Order of Canada-1998
- Distinguished Service Award, Saskatchewan Institute of Agrologists- 1997
- Outstanding Research Award, Canadian Society of Agronomy-1991
- Distinguished Agrologist Award, Saskatchewan Institute of Agrologists-1990

- Agronomy Merit Award, Wheat Pools of the Prairie Provinces & Western Co-op Fertilizers-1986

The Fish Scientist

Dr. Ussif Rashid Sumaila is a Nigerian born Canadian who is making his contribution to science as the Director of the University of British Columbia (UBC) Fisheries Centre since 2008. He has also been the Director of the Fisheries Economics Research Unit, also at the university since its inception in 2002.



Dr. Sumaila specializes in three main areas: marine ecosystem valuation, bio-economics and the analysis of the global fish trade. Due to the high regard that his work has had among policy makers, Ussif has been invited to share his knowledge at many venues around the world. These venues include:

- the United Nations,
- the White House,
- the U.S congress,
- the Canadian Parliament,
- the Woodrow Wilson International Center for Scholars; and
- the World Trade Organization

Please watch this 4.5 minute video in which Dr. Sumaila talks about his research on the Economics of shared fish stocks and the ecological, economic and social impacts of subsidies to the fishing sector; globalization, fish trade and marine ecosystem sustainability. The subject ecosystem is Ghana, West African and the West African coastline.

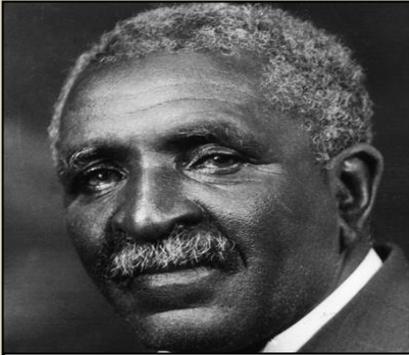
<http://vimeo.com/19197126#t=16>

Honours

Dr. Sumaila has received quite a few owners, namely:

- the Aldo Leopold Fellowship,
- Pew Fellowship for Marine Conservation,
- Craig Darroch Award for Societal Contribution,
- the Zayed International Price for the Environment; and
- the Peter Wall Centre Senior Early Career Scholar Award

INVENTORS



Death Date: January 5, 1943

George Washington Carver was a prominent African-American scientist and inventor. More specifically he was a botanist and a chemist. He did not know exactly when he was born, but he knew that it was near the end of the American Civil War. So it is assumed that he was born in January 1864 on a farm in Diamond Grove, Missouri. The farm was owned by Moses Carver.

Moses bought George's mother Mary in 1855 so that she could help with farm chores. She helped with the housework and was treated more like a member of the family than an enslaved person. George had an older brother, Jim, but he did not know who his father was. It was said that he was a slave on a nearby farm who was killed in a logging accident.

When George was young, he and his mother were kidnapped from the farm by slave raiders. When Moses Carver hired someone to go and find them, only he was found and brought back to the farm. His mother was never seen again. Now George and Jim were orphans. As a result of this, George and his brother were raised by Moses Carver and his wife Susan. They called them Uncle Mose and Aunt Sue. The Carvers educated the two boys and Susan taught George how to read and write at home because he would not have been allowed to go to school because of his race.

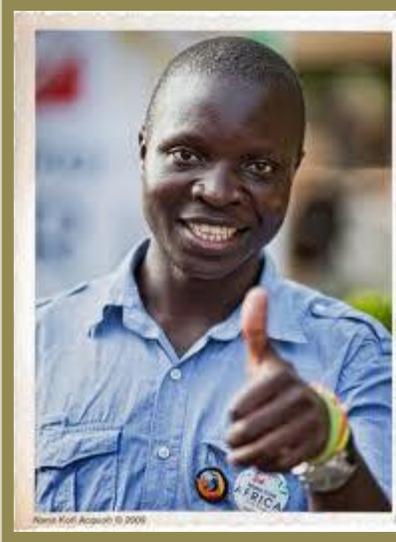
Every day, George picked a fresh flower to put on his lapel.

This education gave Carver a thirst for knowledge, but because he was not able to go to school in Diamond Grove, the Carvers hired a tutor for George. However, pretty soon, George had questions that even his tutor could not answer. So he could continue on his quest for an education, when George was 12, the Carvers sent him to a school in the nearby town of Neosho. Neosho was the home to a school which accepted black students. George left Neosho when he was 13 and started to travel.

When he was in Minneapolis, Kansas, George encountered another man who had the same name, as his letters from family and friends were going to this man. To stop the confusion, he decided to add the middle initial W, to his name. When a friend asked him if the "W" stood for Washington, George's reply was: "why not?" This is how he came to be known as George W. Carver.

Carver's great innovation and thirst for knowledge is elaborated on in the following video:
http://www.youtube.com/watch?feature=player_detailpage&v=sdz8XTNttdc#t=14.

THE SCIENCE OF ECONOMICS



Although there was no immediate monetary gain, the story of **William Kamkwamba** shows us how determination and will can help us get out of hard economic times and allow us to use the resources around us to improve our future.

William was just a 14 year old boy living in Masitala Village in Wimbe, Malawi, Africa when he decided to change his situation by using his scientific mind.

He was looking forward to starting Secondary school, but these plans did not come to fruition, because his parents, subsistence farmers, would not be able to afford his school fees due to the famine of 2001. This famine took a huge financial toll on Trywell and Agnes Kamkwamba and their children.

From a young age, William had always been interested in science and at the age of 13 was able to take things apart and put them back together with great ease. Lucky for him, his parents encouraged his curiosity because it amplified his learning.

It is this curiosity and thirst for knowledge that led William to the local library when he was not able to continue with his education. While at the library he read books on how to harness energy and used these to build a windmill out of all the possible spare parts and scraps that he found around his village. William saw this windmill as a ticket of getting his family out of a future that he says he “couldn’t accept”.

William’s success with the windmill brought reporters from all over Malawi and internationally to the small town of Wimbe. His story reached Emeka Okafor, an influential Nigerian blogger who was also the program director for the 2007 TED (Technology, Entertainment and Design) Global conference.

“I looked at my father and looked at those dry fields. It was the future I couldn’t accept.”
-William Kamkwamba

Williams is shown in the video below at a TED Global conference.

Please watch the video in its entirety and listen as William himself tells his story.

https://www.youtube.com/watch?v=tR4UkpeUYoE&feature=player_detailpage#t=75

MEDIA AND TECHNOLOGY

VOJO- Social awareness through media

“Vojo Brazil: amplifying Quilombola voices through mobile phones” is a ground-breaking initiative whose main purpose is to enable many young people to post content on the Web with cheap mobile phones and no Internet access. The program is organized by the Midia Étnica Institute of Brazil and uses the *Vojo* tool which is a version of the Vozmob software that has its birthplace in California, USA. It is a free, open, mobile-first, group blogging platform, where anyone can create and customize a group and people can create accounts directly from their phones, then post digital stories to the web via voice calls, SMS, and MMS.

Through this initiative, whose primary hope was to empower the “**quilombola**” youth of Ilha de Maré, Brazil to identify and denounce the violence that they witnessed in their communities. The program allowed them to reach bloggers and media outlets outside Ilha de Maré using the blogs that they created, even with the lack of access to the internet or computers. Audio stories, and sometimes photos and videos can be posted onto the blogs with the use of cell phones and sometimes even public telephones.

“The idea is to help the youth to become tech-savvy and connect their communities to a social network that can increase the awareness to their social, cultural and political demands in the Brazilian media ecosystem. The project has the support of the MIT Center for Civic Media, a well-known center of excellence in the relationship between technology and civic engagement.”

“Quilombola”

*This is the name given to the inhabitants of a Brazilian hinterland settlement called a **quilombo**. These settlements are founded by people of African origin including the Quilombolas OR **Maroons**.*

“Maroons”

The Maroons were the African slaves who had escaped slavery from the West Indies, Central America, South and North America.

They sought refuge and formed independent settlements in which many aspects of their culture and language could be preserved.

Ilha da Maré is located 3 miles from São Tomé de Paripe, on the outskirts of Salvador, the largest city on the Northeast coast of Brazil. Salvador is also the capital of the Brazilian State of Bahai.



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