

Katherine Johnson's Career Journey

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Faith, Ambition, and Katherine Johnson's Early Journey

Faith is all about taking the first step, even when you cannot see the entire staircase. In life, when a person decides to take a leap of faith, it simply means that he/she takes a step up to the plate and other people follow later. This is what Katherine Johnson did throughout her life. Now 99 years old, Johnson was the genius mathematician who counted everything from steps she took and dishes in her home to the stars up in the sky. For as long as she can reminisce, Math has always brought her joy, and she believed she was going to be a professional mathematician. No one could ever imagine that Katherine was going to be a genius, considering she was an African-American woman who came from West Virginia. During that time, it was difficult for African Americans to do anything as they were discriminated against and regarded to be inferior and stupid, something Katherine Johnson proved otherwise. The path that brought Katherine to her profession is as bizarre as the equations she employed to send John Glenn into orbit.

Katherine's career journey began as a schoolteacher teaching math and French in numerous high schools in Virginia as well as in West Virginia. Katherine later joined NACA (National Advisory Committee for Aeronautics) after she heard they were hiring mathematicians.

NACA, Segregation, and the Work of Human Computers

By that time, NACA was hiring both black and white mathematician women, and Katherine was one of the fortunate black women to be employed. These women were regarded as computers whose core job was to perform calculations for technological departments. Katherine was first hired for a position at a research site, and while there, she excelled at all her calculations (Shore). However, Katherine was more curious than other women, and she wanted to learn more. She never understood how other women were comfortable doing what they were told and never asked why. As a "computer" in NACA, she mainly worked by hand and often filled large tables with intricate calculations.

One of her first assignments was to process the data present in black boxes from crashed aeroplanes. She worked as a computer for nearly five years, and while there, Katherine together with her fellow African Americans had to eat, use the restroom and work separate from the white colleagues. In 1958, NACA was renamed NASA (National Aeronautics and Space Administration) after the colour

computing pool was disbanded.

With this new establishment, Katherine moved to the Guidance and Control Division of Langley's Flight Research division (Haynes). While in this division, Katherine excelled in her endeavours, which resulted in her moving from being a temporary employee to being a permanent employee. Moreover, Johnson was the only female employee present in this division who was overruled by the male gender, and her core obligation was to oversee the calculations for people aspiring to go to space and return safely.

Orbital Mathematics and Johnson's Contribution to Spaceflight

For Johnson, doing calculations pertaining to space flight was an easy task as it came down to the basics of geometry. According to Katherine, it was easy to ascertain where the early trajectory would be at any given point.

Due to her knowledge of trajectory, she was able to undertake many projects, such as Alan Shepherd's flight and mercury mission. In instances of electronic failure, Johnson was responsible for plotting navigational charts. One of the significant challenges she experienced while working for NASA was sending a man (John Glenn) to space and ensuring he orbited the Earth safely and came back safely. By this time, NASA had already employed electronic computers. John Glenn refused to go to space unless Katherine Johnson would countercheck and approve the numbers that the electronic machines had provided (Shetterly). These calculations were more complex and were not easy for just any individual.

Despite her tremendous success in her previous estimates, these calculations presented by the computer were challenging to her because of the gravitational pull of extraterrestrial bodies. However, Johnson did not let this pull her down, and she provided the calculations needed to approve John Glenn to go to space in 1962 successfully. By doing so, Johnson proved her nursing accuracy was on point despite NASA's introduction of electronic computers. Another challenging task Katherine faced was the Apollo 11 trip to the moon. While working in NASA's aerospace department, Johnson contributed numerous things and never let colour determine who she was going to be or limit what she could do.

Determination, Race, and the Breaking of Professional Barriers

Katherine's determination to achieve great things in life enabled her to get through racial and gender restrictions. By doing so, it became easy for her to achieve her goals and surpass all obstacles that

came her way. Regardless of the racial and gender discrimination that had prevailed in NASA, Johnson was determined to let her work speak for itself and thus accepted and treated equally due to her accuracy and excellent job (Gutman). She proved that a woman could do anything she aspired to do, provided she set her mind to it. Johnson proved to be a hero as she became a source of motivation for many young women, especially African American women who were being discriminated against due to their skin colour. By achieving her goals and set objectives, Katherine Johnson ended up affecting the dreams and lives of other female personalities. Ever since she was young, Katherine Johnson reflected hard work in her accomplishments such as being chosen to be one of the three black women to join West Virginia's graduate schools. She was able to join an all-white school because she was determined to succeed in life.

Hard work and determination were two traits Johnson exhibited while working for NASA until she retired in 1986. Her work enabled her to win many accolades, such as the 1967 NASA Lunar Orbiter Spacecraft and Operations Team Award. Another award was the Metal of Freedom she received in 2015, which was presented by Barrack Obama. Moreover, a computing research institute worth 30 million dollars was opened under Katherine's name.

An author, Margrot Lee, decided to write a book "Hidden figure" which tells the untold story of Katherine Johnson, Mary Jackson and Dorothy Vaughan who were African American women who served as the brains behind John Glenn launch to space. This task not only restored the country's confidence but also galvanized the world and changed the Space Race.

Hidden Figures and the Legacy of African American Women in Science

Johnson, together with the other two African American women, crossed the racial and gender lines to aspire to their dreams and inspire the next generation to always dream big and never be afraid to chase their dreams (Becker). Currently, Katherine lives in a retirement home in Virginia far ways from the media. Before retirement, Johnson was a part of many things that helped change the world.

Johnson was responsible for changing the future of mathematics as she was able to reveal things that had never been done despite being a black woman. Katherine Johnson was the daughter to Joshua Coleman and Joylette Coleman and she was born in 1918.

In summation, it's right to say that Johnson put a lot of effort into her work and was always determined to finish any task at hand efficiently and accurately despite it being challenging. As a result, Katherine succeeded and became a legend at NASA. Katherine became the first African American woman to be hired by NASA as an electrical engineer. Katherine never allowed discrimination to stop her from achieving her dreams and becoming successful. Every opportunity that presented itself was because of Johnson's hard work. Katherine's handwork and determination opened doors for her, something that was unthinkable. To many people, including myself, Katherine is

an exact definition of a hero and an example of how hardwork combined with determination payoffs. She reminds me that how a person looks doesn't determine your future but rather what you have inside you. For something in life to exist, someone must have been ready to do it first, and this is what Katherine Johnson did when she became the first female worker at the BASA research centre. Through looking at Katherine's life story, it is clear that, indeed, hardwork does pay and that gender and skin colour can never be used to judge or measure a person's ability.

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