

Katherine Johnson

(1918 - Present)

The Mathematician who Guided Spacecraft

A talented mathematician as a child, Johnson was admitted as a high school student at Institute, West Virginia when just 10 years old. She entered West Virginia State College at 14, graduating *summa cum laude* in 1937 with degrees in Mathematics and French. In 1953, after teaching for several years, Johnson was hired by the National Advisory Committee for Aeronautics (NACA), the early body of NASA. She worked as a 'computer' from 1953 until 1958 in the West Area Computers section and was later reassigned to the Guidance and Control Division of Langley's Flight Research Division.

In 1961, Johnson calculated the trajectory of the flight of Alan Shepard, the first American in space, as well as the launch window for his Mercury mission that same year. A year later, when NASA used electronic computers to calculate John Glenn's orbit around Earth, Johnson was called in to verify the numbers – Glenn having refused to fly until she did so.

In 1969, Johnson helped calculate the trajectory for the Apollo 11 flight to the moon and then worked on the Apollo 13 mission. It was Johnson's work on backup procedures that helped set a safe path for the Apollo 13's return to earth after the mission was aborted. Johnson continued to work for NASA until her retirement in 1986. Her contributions to the early space program have been celebrated in the 2016 movie *Hidden Figures*.



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