

# *Counting on Katherine: How Katherine Johnson Saved Apollo 13*

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**Real women, real lives:** Katherine Johnson's intellect was apparent from a very young age. When she began her formal education, she went directly to second grade; she was ready for high school at age 10! Born in 1918 in West Virginia, her opportunities, however, were limited by both her gender and her race. Her family had to relocate so she could attend an all black high school (schools at the time were legally segregated by race, particularly in the Jim Crow south), and although she longed to be a research mathematician, women's careers were largely limited to teaching or nursing in 1937 when she graduated from college. So Johnson taught math until she landed her dream job as a "computer" at the agency that would become NASA. There, her genius for math and determination in the face of rampant sexism and racism led to promotion after promotion. Astronaut John Glen trusted her calculations more than the nascent electronic computers NASA was beginning to employ, and it was her extraordinary ability to devise flight trajectories that brought Apollo 13 back to earth after an in-flight explosion in 1970. A trailblazer who co-authored 26 scientific papers

throughout her career and was essential to the development of the American space program, Johnson was awarded the Presidential Medal of Freedom in 2015.

**Questions to ponder with your kids:** Katherine Johnson faced many challenges throughout her life and career, and one of the earliest was her ability to attend school. There were no all black high schools in her hometown - which she was legally obligated to attend due to segregation - so her family had to move in order for her to continue her education. Use Johnson's experience to talk about Jim Crow laws and their impact on black people in the United States. Who wrote and supported these laws, and what were they meant to achieve? How does their legacy continue to affect our society today? Societally-determined gender roles also impacted Johnson's career; she dreamed of becoming a research mathematician, but as those jobs were typically reserved for men, she began her career as a teacher. Ask your child to think through this - what jobs today are gendered? Take some time to consider this question in relation to all the books in this set as most of the women included were among the "firsts" in their fields. Ask your child to imagine how these women felt. Does he/she think it might have been exhilarating? Lonely? Overwhelming? In general, what challenge(s) did

all the women have in common? And, in particular, how did Johnson assert herself in a field full of men and prove that her contributions as a “computer” were neither “boring” nor “unimportant”?