

Counting on Katherine

How Katherine Johnson Saved Apollo 13

A RIF GUIDE FOR FAMILIES

Themes: Civil Rights, Exploration, Problem Solving

Grade Level: Kindergarten to 5th grade

Book Brief: You've likely heard of the historic Apollo 13 moon landing. But do you know about the mathematical genius who made sure that Apollo 13 returned safely home?

Author:
Helaine Becker

Illustrator:
Dow Phumiruk



TIME TO READ!



Before reading, build background: When Katherine Johnson began her career, there weren't many options for female mathematicians. She started as a teacher and then got a chance to work for the government as it launched its space programs. Knowing a lot about math – and what questions to ask – made Katherine a valuable part of a team that made it possible for rockets and people to go into space.

While reading, make connections: Stop when you get to a part about Katherine's interest in math and other topics and talk to your child about their own interests. What makes them as excited as Katherine is about math and learning? When Katherine makes a choice about her actions, either to be patient or to persevere, talk to your child about how those qualities can help people succeed in the long run.

After reading, ask questions:

- What were some of the early ways Katherine showed an interest in math?
- What is something you are interested in right now that you can imagine being interested in your whole life?
- Why did Katherine spend some time as a teacher before she started as a mathematician for the government?
- How did Katherine work as part of a team at NASA?
- What personal qualities helped Katherine succeed over her lifetime?

RELATED ACTIVITIES

WHERE WILL IT LAND? Katherine Johnson was able to calculate where the rocket ship would land based on the angle the rocket launched from and how high and fast it flew. Try it out! Throw a ball into the air and see where it lands. Now change the angle and throw it again. Repeat but change the amount of force you use to throw the ball. Now that you have tried it a couple of

ways, see if you can make a prediction of where the ball will land based on your experimentation.

TECHNOLOGY LINK Visit the NASA website Make a Katherine Johnson Paper Doll | NASA (https://www.nasa.gov/sites/default/files/atoms/files/kj_line_art4_bw.pdf) to make a Katherine Johnson paper doll and other activities.

ADDITIONAL RESOURCES



OTHER BOOKS ABOUT KATHERINE JOHNSON AND SPACE EXPLORATION

- **Hidden Figures: The True Story of Four Black Women and the Space Race (2018)**
- **Moonshot: The Flight of Apollo 11 (2009)**