

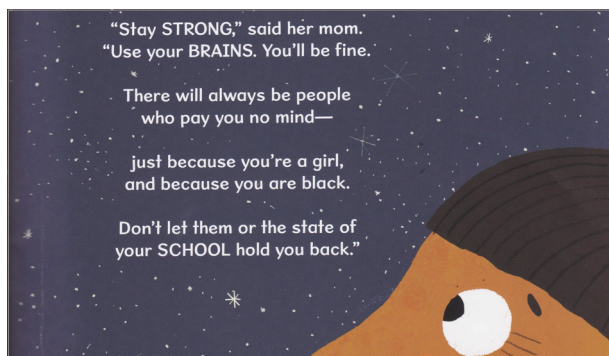
# The Girl With a Mind for Math

by Julia Finley Mosca and Daniel Rieley

AGE LEVEL 6–8 YEARS

## About the Story

In the 1950s, Raye Montague, a young Black girl, dreamed of becoming an engineer who built submarines. Yet at that time, many adults (wrongly) thought that girls could not become engineers. Also, her Arkansas schools were segregated and Black children's education was of poor quality. Raye's mom encouraged her to let nothing hold her back. Raye did just that. She overcame obstacles in college, where she was not allowed to study engineering, and in the workplace, where her talents were disparaged. Eventually, she designed the first ship by computer!



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Illustrations by Daniel Rieley  
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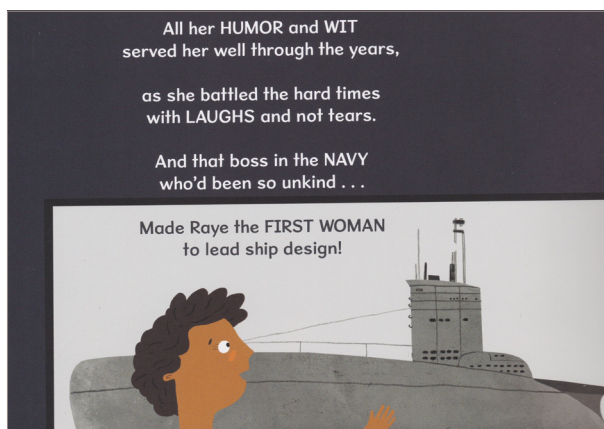
## Words to Learn

engineer, headstrong, potential, segregated, grit, blueprints, abhorrible, deplorable, applauded, propel

## About the Math

As children read the Raye Montague story, they can learn that:

- Engineers use complex math to build boats, submarines, and much more.
- Computer programs can speed up the process.
- Raye Montague's family helped her believe that she had potential and that she should not let discrimination she faced from being a Black girl deter her.
- Raye worked hard, with determination, and refused to let people stand in the way of her remarkable achievements as an engineer.



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## Math Talk During Reading

Ask your child to think about what Raye might have enjoyed about math/engineering that made her eager to do it despite its difficulty.

### TALK ABOUT THE PRACTICAL USES OF MATH

Discuss how math can be useful (and fun) for practical challenges, from shopping to understanding baseball.

### TALK ABOUT WHY PEOPLE LAUGHED AT RAYE'S PLAN

Discuss how some people felt—and some still feel—that girls and Black children do not have the ability to do math. Ask your child whether they have ever experienced someone holding incorrect stereotypes like these.

### TALK ABOUT MOTIVATION

Ask your child about their experience when they are faced with a really hard task. How do they feel about it? What do they do?

*Try to come up with some of your own questions and comments, too!*

## Activity After Reading

### EXPLORE INFORMATION ON WOMEN MATHEMATICIANS.

Check out these sites:

<https://www.womendomath.org/profiles/>

<https://www.lathisms.org/calendars/calendar-2021>

<https://mathematicallygiftedandBlack.com/>

# Mathical

## BOOK PRIZE

The Mathical Book Prize recognizes math-inspiring literature for kids ages 2-18. Prize-winning books are selected by a committee of teachers, librarians, mathematicians, and others. To get the Mathical List, plus reading guides, book reviews, and more, see

[mathicalbooks.org](http://mathicalbooks.org)

### PreK WINNERS:

**Baby Goes to Market** by Atinuke  
**Crash! Boom! A Math Tale** by Robie H. Harris  
**Have You Seen My Dragon?** by Steve Light  
**Lia & Luis: Who Has More?** by Ana Crespo  
**One Fox: A Counting Book Thriller** by Kate Read  
**ONE Very Big Bear** by Alice Brière-Haquet  
**8: An Animal Alphabet** by Elisha Cooper

### GRADES K-2 WINNERS:

**Absolutely One Thing: Featuring Charlie and Lola** by Lauren Child  
**The Animals Would Not Sleep** by Sara Levine  
**Max's Math** by Kate Banks  
**Nothing Stopped Sophie: The Story of Unshakable Mathematician Sophie Germain** by Cheryl Bardoe  
**One Big Pair of Underwear** by Laura Gehl  
**Pigeon Math** by Asia Citro  
**Sheep Won't Sleep: Counting by 2s, 5s, and 10s** by Judy Cox

### PreK HONOR TITLES:

**Animal Shapes** by Christopher Silas Neal  
**Count the Monkeys** by Mac Barnett  
**Count with Maisy, Cheep, Cheep, Cheep!** by Lucy Cousins  
**Goodnight, Numbers** by Danica McKellar  
**I Know Numbers** by Taro Gomi  
**A Mousy Mess** by Laura Driscoll  
**One Happy Tiger** by Catherine Rayner  
**One Is a Piñata: A Book of Numbers** by Roseanne Greenfield Thong  
**Over in a River: Flowing Out to the Sea** by Marianne Berkes  
**Press Here** by Hervé Tullet  
**Round** by Joyce Sidman  
**100 Bugs! A Counting Book** by Kate Narita

### GRADES 2-K HONOR TITLES:

**Billions of Bricks: A Counting Book about Building** by Kurt Cyrus  
**Bird Count** by Susan Edwards Richmond  
**The Boy Who Loved Math** by Deborah Heiligman  
**Cao Chong Weighs an Elephant** by Songju Ma Daemicke

**Counting on Katherine: How Katherine Johnson Saved Apollo 13** by Helaine Becker  
**Counting the Stars: The Story of Katherine Johnson, NASA Mathematician** by Lesa Cline-Ransom  
**Count on Me** by Miguel Tanco  
**The Girl With a Mind for Math: The Story of Raye Montague** by Julia Finley Mosca  
**How Many Jelly Beans? A Giant Book of Giant Numbers!** by Andrea Menotti  
**Is 2 a Lot?: An Adventure with Numbers** by Annie Watson and Rebecca Evans  
**Lifetime: The Amazing Numbers in Animal Lives** by Lola M. Schaefer  
**Shapes, Reshape!** by Silvia Borando  
**When Sophie Thinks She Can't** by Molly Bang  
**Zero the Hero** by Joan Holub  
**3x4** by Ivan Brunetti

### HALL OF FAME TITLES:

**Hippos Go Berserk!** by Sandra Boynton  
**One Grain of Rice: A Mathematical Folktale** by Demi  
**The Very Hungry Caterpillar** by Eric Carle

