



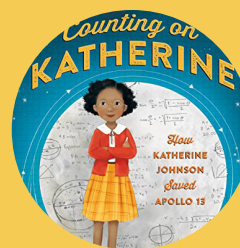
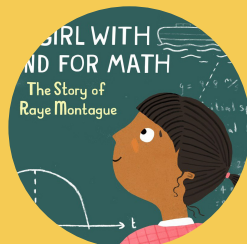
LitART
STEMLiteracy™



Theme 1

Women in STEM

Grade 1-2



Contents

STEMLiteracy

STEM LITERACY OVERVIEW

Welcome to the STEM Literacy Curriculum. We believe that every student benefits from access to high quality informational texts across a range of interesting topics in a wide variety of formats. Students should receive support and learn strategies to help navigate different types of informational texts. The STEM Literacy Curriculum provides step-by-step teaching guides and curated collections of the best informational texts available. STEM Literacy helps staff facilitate engaging learning experiences that boost literacy and STEM achievement.

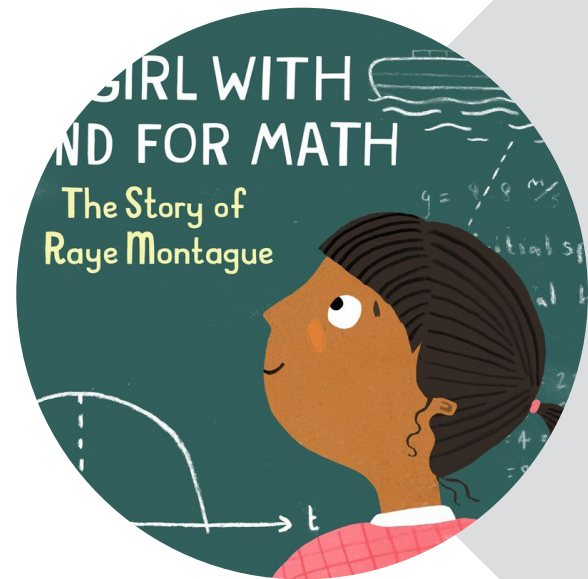
TEACHER GUIDES

The Teacher Guides provide leaders the direction and information they need to engage students and lead them through the text. Each guide starts with a book overview that introduces the text. It includes the title, the author's name, an image of the book's cover, and a short summary of what the text is about. It features tips for the leader, such as a description of the book's structure as well as suggestions about how to present the text to students. The guide includes a collection of activities that focus on the book's content such as comprehension questions and vocabulary games along with other activities that focus on the features of informational texts.

STUDENT RESPONSE GUIDES

The Student Response Guides allow students record their responses to the text and the activities. They include comprehension questions, vocabulary, writing prompts, and other activity pages. The activity pages help students gain an in-depth understanding of the book's content as well as helping students learn about the structure and features of informational texts.





The Girl With a Mind For Math

by Julia Finley Mosca

Book Overview

THE GIRL WITH A MIND FOR MATH

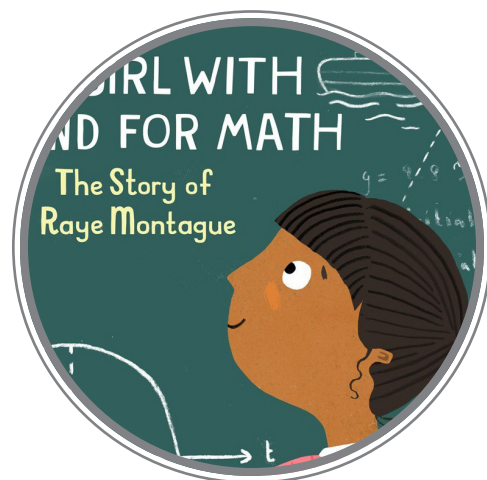
by Julia Finley Mosca

ABOUT THE BOOK

Young readers learn the story of an inspiring engineer. As young girl, Raye wanted to study submarines. She hoped to study engineering, but was unjustly allowed to only study business. She eventually seized an opportunity to design a ship on a computer, which was well celebrated but she did not get a lot of credit for it. Despite being excluded from a profession in which she excelled, she follow her dreams.

TIPS FOR THE LITART LEADER

- › This book is a biography of Raye Montague, an engineer who followed her dreams.
- › The story is told in rhyming prose.
- › Racial and gender discrimination is a theme of this book.
- › This book does not contain page numbers.





The Girl with the Mind for Math

by Julia Finley Mosca

DAILY PLAN

- ☐ Opening Magic
- ☐ Daily Tone
- ☐ Reading MAP
- ☐ Q10
- ☐ Creative Response
- ☐ Text Response
- ☐ WERD Writing
- ☐ Word Collection
- ☐ Word Game
- ☐ Recreation Activity
- ☐ LitQUIZ



Opening Magic

That's Me!

OVERVIEW

Students will stand up if they agree with the statements and say, that's me!

PREPARING


Students should begin seated.

DOING

- If you agree with what I say, I want you to stand up and shout, that's me!
- Let's practice. I've know what a submarine is.
- If you have seen one, stand up and say, that's me!

Practice.

- Let's try a few more.
- I like solving problems.
- I like math.
- I like computers.
- I've had something happen to me that is not fair.
- I don't give up, even if things are difficult.

TIME - 5 MIN. 

GROUPING

- Whole

MATERIALS

- None



Daily Tone

PHRASE

Don't rock the boat.

QUESTIONS

- Tell about a time you were in a small boat.
- What might happen if a boat rocks back and forth?
- What does, don't rock the boat, mean?

INTERPRETATION

Don't rock the boat means is a way of saying, don't speak up or make too many changes because it might be dangerous. If a boat rocks, it could tip over.

EXAMPLE

Don't rock the boat! If you keep talking back to the teacher, we might all have to stay in for recess.

TIME - 5 MIN. A small icon of a clock face showing a quarter past the hour.

STEPS

- Write it.
- Read it.
- Think about it.
- Turn & talk.
- Share, one or none.



Reading MAP [Multifaceted Activity Plan]

1 BEFORE

MOTIVATION

Have you ever not been allowed to do something you are really good at and want to do?

BRIDGE TO TEXT

Raye Montague was an engineer many people tried to stop because of their own prejudices.

SET PURPOSE

Let's read to learn all about her accomplishments and how she didn't let anyone get in her way.

2 DURING


PARTICIPATION STRATEGY

Missing Word

When I pause, I want you to predict the rhyming word.

3 AFTER

Let's explore the text with follow-up activities.

TIME - 15 MIN. 

GROUPING

- Whole

MATERIALS

- Book

WORD COLLECTION

1. headstrong
2. potential
3. promoted
4. measurements
5. calculations
6. blueprints
7. deplorable
8. achieved





Q10 [Comprehension Questions]

QUESTIONS

1. What type of ship inspired Raye Montague?
A submarine.
2. When the guide said, you don't need to know about that, what did he really mean?
He insulted Raye and said she can't be an engineer.
3. What was Raye's dream as young girl?
To become an engineer.
4. What is a segregated school?
Schools that kept black and white students separate.
5. What is an example of an unjust rule?
Engineering taught only to white students.
6. Where did Raye Montague first work?
As a secretary at the Navy.
7. How did Raye get her first big break?
All the engineers were sick and she did all of their work.
8. How did Raye respond to the president's call to make a ship?
She designed the first ship by computer in eighteen hours.
9. What deplorable event happened after the ship was unveiled?
Raye was not invited to the celebration.
10. What advice does Raye Montague give?
If you have a dream, stay focused and study hard.

TIME - 10 MIN. 

STRATEGY

- Stump Me

STEPS

- Give students 3 minutes to come up with a question from the text.
- Students write the question on the front of an index card and the answer on the back.
- Encourage students to include a page number showing where they got the answer.
- Students take turns asking you their prepared questions.

SCORING

- Students score 1 point for asking a question and 1 more point if leader is stumped and student has prepared the correct answer.
- Leader scores 1 point for each correct answer.



RESPONSE PAGE

► Q10



Creative Response

Magical Boats

OVERVIEW

Students will draw and paint a beautiful boat.

PREPARING

Gather materials.

DOING

- Now that we know Raye Montague loved boats, ships, and submarines, we will create our own boat.
- First, think about a boat you've seen. Now, think about what would make it better.
- You could choose a canoe, submarine, or sail boat. Be creative.
- Choose two or three colored art papers. One color can be for the body of the ship. Another can be for the windows, sails or details.
- Cut out your details and glue them. You can also get really creative and design the boat of your dreams!
- Now use crayons, colored pencils, or markers and add more details.
- Beautiful work!

TIME - 15 MIN.

GROUPING

- Individual

MATERIALS

- Art paper in various colors.
- Crayons, colored pencils, markers.
- Pencils
- Erasers
- Scissors
- Glue





Text Response

Ship Shape

OVERVIEW


Students will draw and label a diagram of a ship.

PREPARING

Gather materials.

DOING

- Draw a ship.
- Add as many details as you can.
- Create a line or arrow to point to each detail.
- Add a label to tell the reader about each part of the ship.
- If time allows, describe the purpose of each part.

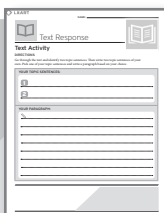
TIME - 15 MIN. 

GROUPING

- Individual

MATERIALS

- Response pages
- Writing utensils



RESPONSE PAGE

► TEXT RESPONSE



WERD Writing [Write. Explore. Read. Discuss.]

PURPOSE

To develop student writing ideas, strategies, and skills.


PREPARING

Write out the prompts and distribute materials.

DOING

- I'm going to read the prompts aloud.
- Turn to your partner and tell them what you're going to write about.

Provide 10 minutes to write and then facilitate sharing.

TIME - 15 MIN. 

GROUPING

- Partners

MATERIALS

- Response pages
- Writing utensils

PROMPT OPTIONS

1. Submarines...
2. Raye Montague...



RESPONSE PAGE

► WERD WRITING



Word Collection

PURPOSE


To build vocabulary skills.

PREPARING

Gather materials.

DOING

- Everyone will get a word card and find a partner.
- Tell your partner your word and what it means by saying, “My word is _____ and it means _____.”
- Now trade word cards.
- Find another person and repeat. Trade and repeat again!
- If you forget the word meaning you can look at our chart.

TIME - 5 MIN. 

GROUPING

- Partners

MATERIALS

- Index cards with words

STRATEGY

- Word Trading

WORD COLLECTION LIST

1. **headstrong**
determined to have one's own way
2. **potential**
having or showing the capacity to do something in the future
3. **promoted**
to get a better position or job
4. **measurements**
the size, length, or amount of something
5. **calculations**
mathematical problem solving
6. **blueprints**
design, plan, or other technical drawing
7. **deplorable**
disgraceful, shameful
8. **achieved**
when a goal has been met



Word Game

Word Web

OVERVIEW

Students will choose one word to examine closely.

PREPARING

Gather materials.

DOING

- Write one of the Word Collection words in the middle of the web.
- Then complete each of the prompts to show your understanding of the word.

TIME - 10 MIN.

GROUPING

- Individual

MATERIALS

- Response pages
- Writing utensils



RESPONSE PAGE

► WORD GAME



Recreation Activity

Jump in the Boat

OVERVIEW


Students will use teamwork and creative thinking to fit within a shape made by a jump rope.

PREPARING

Gather materials, divide students into groups.

DOING

- In your groups, you have a challenge. You will need to fit inside a circle, or boat, made by a jump rope.
Make circles with jump ropes, one for each team.
- People will be close together, but you should fit.
Allow a few minutes of exploration.
- Now, the boat is going to change shape. Step away from your boat, and I will change it just a bit.
Make the circle smaller.
- Now try again. Can your group fit? What do you have to do differently?
- Now, the boat is going to change shape again! Step away from your boat.
Make the circle smaller.
- Now try again. Can your group fit? What do you have to do differently? How can you be creative to all fit?
Continue until the boat is very small.

TIME - 15 MIN. 

GROUPING

- Groups of 4-6

MATERIALS

- Several jump ropes



LitQUIZ

Students are asked to circle the best answer to each question.

1

What type of ship inspired Raye Montague?

- A. Submarine
- B. Sailboat
- C. Yacht

2

What was Raye's dream as young girl?

- A. To join the Navy
- B. To sail a boat
- C. To become an engineer

3

A design, plan, or other technical drawing is called a_____

- A. Promotion
- B. Blueprint
- C. A bright circle

4

It took ____ hours for Raye Montague to design a ship by computer.

- A. 18
- B. 80
- C. 810

5

What advice does Raye Montague give?

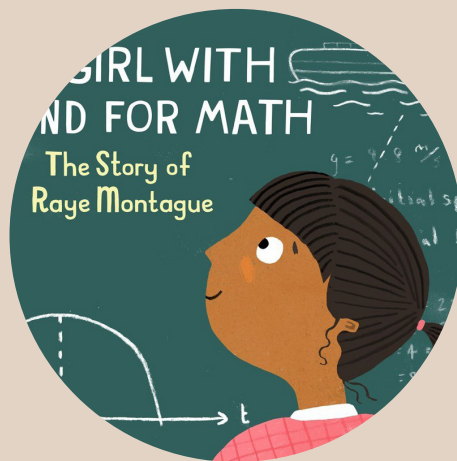
- A. Follow your dreams
- B. Let others decide your future
- C. Agree with your boss



RESPONSE PAGE

► LITQUIZ

Student Response Guide



The Girl with a Mind for Math

by Julia Finley Mosca



Q10



Use the text to answer each question.

1	What type of ship inspired Raye Montague?	
2	When the guide said, you don't need to know about that, what did he really mean?	
3	What was Raye's dream as young girl?	
4	What was a segregated school?	
5	What is an example of an unjust rule?	
6	Where did Raye Montague first work?	
7	How did Raye get her first big break?	
8	How did Raye respond to the president's call to make a ship?	
9	What deplorable event happened after the ship was unveiled?	
10	What advice does Raye Montague give?	



Text Response



Meaningful Moments


DIRECTIONS

Choose three dates from the book and write why you think they are important. Then make a list of important moments from your own life. Use the timeline at the end of the book.

IMPORTANT DATES FROM THE BOOK

<div data-bbox="154 667 224 735">1</div>	<div data-bbox="597 667 667 735">2</div>	<div data-bbox="1040 667 1110 735">3</div>
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IMPORTANT DATES FROM YOUR LIFE





WERD Writing

Raye Montague...

OR

Submarines...

[illegible]



Word Collection



For each word, provide the meaning as it was used in the text or write the phrase from the text where the word appeared. Mark whether you wrote the Meaning (M) or Context (C).

Word	Meaning or Context	M or C?
headstrong		
potential		
promoted		
measurements		
calculations		
blueprints		
deplorable		
achieved		





Word Game



Word Web

DIRECTIONS

Write one of the Word Collection words in the middle of the web. Then complete each of the prompts to show your understanding of the word.

 <div data-bbox="396 669 558 707" data-label="Text"> <p>SYNONYM</p> </div> <div data-bbox="180 827 768 1008" data-label="Form"> <p>.....</p> <p>.....</p> <p>.....</p> </div>	<div data-bbox="1055 669 1224 707" data-label="Text"> <p>ANTONYM</p> </div> <div data-bbox="852 827 1440 1008" data-label="Form"> <p>.....</p> <p>.....</p> <p>.....</p> </div>
<div data-bbox="212 1131 490 1169" data-label="Text"> <p>SELECTED WORD:</p> </div> <div data-bbox="544 1119 600 1173" data-label="Image">  </div> <div data-bbox="544 1108 1456 1182" data-label="Form"> <p>.....</p> </div>	
<div data-bbox="396 1241 558 1278" data-label="Text"> <p>EXAMPLE</p> </div> <div data-bbox="180 1411 768 1591" data-label="Form"> <p>.....</p> <p>.....</p> <p>.....</p> </div>	<div data-bbox="1021 1241 1260 1278" data-label="Text"> <p>NON EXAMPLE</p> </div> <div data-bbox="852 1411 1440 1591" data-label="Form"> <p>.....</p> <p>.....</p> <p>.....</p> </div>



LitQUIZ



Circle the best answer to each question.

1

What type of ship inspired Raye Montague?

- A. Submarine
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2

What was Raye's dream as young girl?

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5

What advice does Raye Montague give?

- A. Follow your dreams
- B. Let others decide your future
- C. Agree with your boss



LitART
STEMLiteracy™

The **STEMLiteracy** Curriculum delivers easy-to-use teaching guides combined with award-winning STEM-focused informational texts designed to increase literacy skills, build STEM knowledge, and foster a love of reading.