

## Unit 1/Week 5

Title: Mae Jemison, Space Scientist

Suggested Time: 3-4 days (45 minutes per day)

Common Core ELA Standards: RI.5.1, RI.5.2, RI.5.4; RF.5.3, RF.5.4;

W.5.1, W.5.4, W.5.9; SL.5.1; L.5.4, L.5.5, L.5.6

### Teacher Instructions

*Refer to the Introduction for further details.*

#### **Before Teaching**

1. Read the Big Ideas and Key Understandings and the Synopsis. Please do **not** read this to the students. This is a description for teachers, about the big ideas and key understanding that students should take away **after** completing this task.

##### Big Ideas and Key Understandings

With hard work, perseverance, and support you can achieve your goals. African Americans women have the same abilities needed to succeed as any other group of people. People can use their knowledge and talents to help others.

##### Synopsis

Throughout her life, Mae Jemison demonstrated perseverance in the pursuit of her childhood dream of becoming a space scientist.

2. Read entire main selection text, keeping in mind the Big Ideas and Key Understandings.
3. Re-read the main selection text while noting the stopping points for the Text Dependent Questions and teaching Vocabulary.

#### **During Teaching**

1. Students read the entire main selection text independently.
2. Teacher reads the main selection text aloud with students following along. (Depending on how complex the text is and the amount of support needed by students, the teacher may choose to reverse the order of steps 1 and 2.)

3. Students and teacher re-read the text while stopping to respond to and discuss the questions and returning to the text. A variety of methods can be used to structure the reading and discussion (i.e.: whole class discussion, think-pair-share, independent written response, group work, etc.)

### Text Dependent Questions

Text Dependent Questions	Answers
How did Mae Jemison “make history” on September 12, 1992?	She was the first African-American woman in space.
The text states <i>Mae’s dream didn’t come true overnight</i> . What does this mean?	Her dream came true after many long years of training and preparation.
Read the first two paragraphs. Why did the kindergarten teacher say “Don’t you mean a nurse?”	Very few African Americans or women were astronauts at that time in history. Second paragraph also states that all astronauts at that time were white and male.
How did Mae’s parents encourage her, and what might have discouraged her?	Her parents supported her by finding the money and energy to support her interests like science and space. Some adults could have discouraged her with comments like “Many astronauts were all white and male.” “Many people thought a teacher couldn’t imagine a little black girl growing up to be a scientist.”
What evidence is there of Mae’s fascination with space travel?	She liked to look up at the stars and dream about space. She was fascinated by real-life space shuttle landings that she watched on television.
How did Mae demonstrate her desire to help people throughout the world?	She worked in Cuba and rural Kenya and a camp in Thailand; she worked in Los Angeles and joined the Peace Corps, an organization that works in poor conditions in poor countries around the world.
At this point in the reading, what do we know about the type of person Mae Jemison is?	She loved science and learning; she worked hard even if there were obstacles; she wanted to be an astronaut.

<p>Mae said, "...I had to learn to deal with how people reacted to my age, while asserting myself as a physician." What does this mean? What does "assert" mean in this sentence?</p>	<p>She was only 26 and she looked young; she was one of the youngest doctors, and an African American woman who had to prove herself as a doctor. Because of this she did not have thought she could do such a big and important job.</p> <p>Assert means to show to others that she can do it. She made sure that other people respect her knowledge and leader though she was younger than many others.</p>
<p><i>Mae didn't let success go to her head.</i> What does that mean?</p>	<p>She was very aware of the fact that she was an African American who had the skills, talent and desire to succeed. She just happened to be the first one NASA selected for the shuttle.</p>
<p>What is something that is very different between life on earth and life in space? How did Mae prepare for this?</p>	<p>On Earth gravity keeps us from floating but in space objects float because it is a weightless environment with less gravity. She prepared for this by flying in a jet that simulates zero gravity.</p>
<p>The author writes, Space shuttle Endeavor perched on the launch pad like a great white bird waiting to take flight? What is the author comparing in this simile? How does this help the reader's understanding of the mood at this moment?</p>	<p>Comparing the space shuttle perched on the launch pad to a great white bird perched and waiting to take flight. This is one of anticipation and excitement. The simile of the great white bird emphasizes the size, beauty and power of the Endeavor.</p>
<p>What is Spacelab and where is it located?</p>	<p>Spacelab is the lab where the experiments are conducted. It is located near the front of the shuttle.</p>
<p>What are the three experiments designed and investigated by Mae? For each one explain what the experiment was and why it was important.</p>	<p>Loss of bone cells- astronauts lose bone cells in space and the longer they stay in space the more they lose. Controlling space motion sickness- half of all astronauts experience space sickness and the medicine doesn't always work. The frog experiment- to find out if tadpoles can survive in space.</p>
<p>How were Mae's accomplishments celebrated?</p>	<p>Six days of parades, speeches and celebrations. She received the Trailblazer award; inducted into the National Women's Hall of Fame.</p>
<p>How did Mae's experiences ultimately lead to the formation of the Jemison Group?</p>	<p>Throughout her life, Mae's work showed her passion for science and helping others. The goal of the Jemison Group is to use science and technology to improve the lives of people, especially in poor and developing countries.</p>

Vocabulary

	KEY WORDS ESSENTIAL TO UNDERSTANDING	WORDS WORTH KNOWING General teaching suggestions are provided
<p><b>TEACHER PROVIDES DEFINITION</b> not enough contextual clues provided in the text</p>	<p>asserting orbit</p>	
<p><b>STUDENTS FIGURE OUT THE MEANING</b> sufficient context clues are provided in the text</p>	<p>resumed encouraged discouraged excelled accomplished demanding weightless/weightlessness perched designed investigated trailblazer motto</p>	<p>refused entered participate provide completed drift develop/developing devoted resigned established</p>

Culminating Task

- *Mae’s motto is “Don’t be limited by others’ limited imaginations.” Explain the meaning of this motto. How does Mae’s life exemplify this motto? Use specific evidence from the text to support your answer. (Teachers may want to have students create a timeline of key events before answering the question)*

Answer: This motto encourages people to pursue their goals and visions, even if others discourage them. Mae’s life: teacher said “be a nurse” because African American women weren’t scientists or astronauts- astronauts were male and white at the time; These things could have discouraged her, and she could have chosen a different career path, but she persisted despite being discouraged; she excelled in school; specialized in Afro –American studies and chemical engineering, president of black student union; became a doctor and helped others in need; joined the Peace Corps; proved herself as a young doctor; became an astronaut; started the Jemison Group

**Additional Task**

- *This task should be completed in groups of two or three after working with the four stories in this theme (Michelle Kwan, Fear Place, La Bamba, Mae Jemison). Why do you think the stories of Mae Jemison, Michelle Kwan, Doug Grillo, and Manuel Gomez all belong in a theme titled Give It All You Got? What qualities do they share?*

Answer: All four of these people used personal skills, intelligence, and courage to succeed in difficult situations. Michelle was young and went against her coach because of her strong desire to get to the top level. She then worked hard to prove herself. Doug Grillo faced enormous challenges alone in the wilderness and overcame his fear in the end. Manuel Gomez had to make the best of a bad situation in the middle of the talent show. And Mae Jemison used her intelligence and drive to press forward until she succeeded.

*A graphic organizer might help students before they begin writing:*

Character	Qualities
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Name \_\_\_\_\_ Date \_\_\_\_\_

### **“Mae Jemison, Space Scientist”**

1. How did Mae Jemison “make history” on September 12, 1992?
2. The text states *Mae’s dream didn’t come true overnight*. What does this mean?
3. Read the first two paragraphs. Why did the kindergarten teacher say “Don’t you mean a nurse?”
4. How did Mae’s parents encourage her, and what might have discouraged her?
5. What evidence is there of Mae’s fascination with space travel?

6. How did Mae demonstrate her desire to help people throughout the world?
7. At this point in the reading, what do we know about the type of person Mae Jemison is?
8. Mae said, "...I had to learn to deal with how people reacted to my age, while asserting myself as a physician." What does this mean? What does "assert" mean in this sentence?
9. *Mae didn't let success go to her head.* What does that mean?
10. What is something that is very different between life on earth and life in space? How did Mae prepare for this?
11. The author writes, Space shuttle Endeavor perched on the launch pad like a great white bird waiting to take flight? What is the author comparing in this simile? How does this help the reader's understanding of the mood at this moment?
12. What is Spacelab and where is it located?



13. What are the three experiments designed and investigated by Mae? For each one explain what the experiment was and why it was important.

14. How were Mae's accomplishments celebrated?

15. How did Mae's experiences ultimately lead to the formation of the Jemison Group?