

Latinxs in STEM:

Ellen Ochoa

Representation matters.

“When a girl sees herself as a scientist,
or a boy sees someone with his skin color as a law student,
it plants a seed that this is possible.”

Eva Longoria

LEARNING OBJECTIVES

This resource incorporates activities aligned to the following [Common Core Standards](#):

1. Reading Standards for Informational Text:

- **Key Ideas and Details:** Through the text and interview about Ellen Ochoa, students will analyze the evidence provided to identify challenges Ochoa faced in addition to her inspiration, accomplishments and future goals. (1) “Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text;” (2) “Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments;” (3) “Analyze in detail how a key individual, event or idea is introduced, illustrated and elaborated in a text (e.g. through examples or anecdotes).”

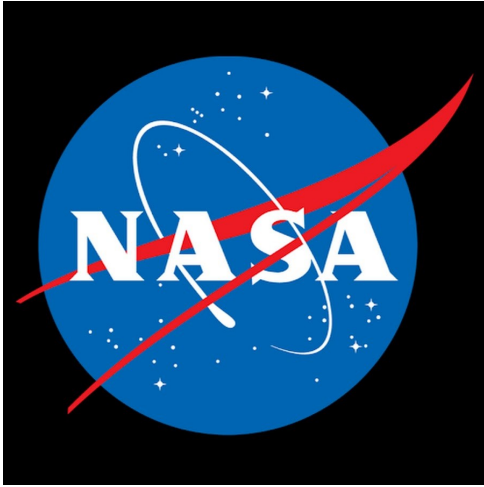
2. Writing Standards:

- **Text Types and Purposes & Production and Distribution of Writing:** After reading the text and watching the video interview of Ochoa, students will need to select evidence from both sources to determine and articulate whether Ochoa should be considered a hero. In their writing, students will need to demonstrate their organizational skills to clearly articulate their opinions while also using evidence. (1) “Write arguments to support claims with clear reasons and relevant evidence;” (2) “Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.”

3. Speaking and Listening Standards:

- **Comprehension and Collaboration:** After using the written response to self-reflect on the evidence provided on Ochoa’s career and life as an astronaut, students will engage in interviews with their peers to discuss the necessary characteristics a hero must possess and who is a hero to them. (1) “Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led).”

Ellen Ochoa



Before reading:

Use your prior knowledge and the internet to help you answer the following questions

1. **What is NASA? What does NASA stand for?**
2. **When was NASA established?**
3. **Who works for NASA?**
4. **What are the requirements to work for NASA?**
5. **What characteristics does a hero have?**

While Reading:

Answer the following questions as you read the article about Ochoa. Mark in the text where you find your answers.

1. **How does the autor describe Ellen Ochoa?**
2. The author mentions challenges that Ochoa experienced starting from grade school to when she was applying for a job.
What 3 challenges did Ochoa have to overcome?
 - (1)
 - (2)
 - (3)
3. The author says that Ochoa is a “groundbreaking woman.”
Explain how Ochoa is a groundbreaker.
4. **What 3 pieces of advice does Ochoa give us?**
 - (1)
 - (2)
 - (3)
5. **Who or what inspired Ochoa?**
6. **What are Ochoa’s accomplishments?**



PHOTO: Roberts, Jason. “NASA Astronaut Dr. Ellen Ochoa.” NASA, NASA, 11 Feb. 2015, www.nasa.gov/centers/johnson/about/people/orgs/bios/ochoa.html.



YouTube Video: USPTOvideo. "Women in Innovation: NASA's Dr. Ellen Ochoa." *YouTube*, YouTube, 23 Apr. 2018, www.youtube.com/watch?v=ZnMYy_wHk1s.

Watch the interview of Dr. Ellen Ochoa and answer the questions that follow.

1. According to Ochoa, **why** is it important that women and men get the same encouragement?

2. **What** happened when Ochoa was 11 years old?

3. Ochoa mentions flags used by the National Women's Party.
 - A. **What** is the importance of the flag?

 - B. **Why** did she want to bring one on her trip?

4. **How** did Sally Ride help Ochoa?

5. **Who** does Ochoa want to inspire?

Written Reflection:

Is Ochoa a hero? Write a paragraph to answer this question and explain your perspective. Think back to the list of characteristics you made before reading to explain why or why not Ochoa should be considered a hero.

****Be sure to include examples from the text and from the video interview as evidence.**

INSTRUCTIONS: You are going to interview 4 peers about their heroes and **Name:** _____ what they think makes a hero. For each interview, you will have 4 minutes to ask your questions and answer your partner's questions. Three questions have already been created for you; you need to make 2 more original questions to learn more about your peers. Be sure to write your questions down and take notes of your partners' responses.

Interview 1:

Partner: _____

1. What are 4 important characteristics for a hero?

2. Who do you consider a hero? Explain why.

3. Who are you a hero to?

4. _____
_____?

5. _____
_____?

Interview 2:

Partner: _____

1. What are 4 important characteristics for a hero?

2. Who do you consider a hero? Explain why.

3. Who are you a hero to?

4. _____
_____?

5. _____
_____?

Interview 3:

Partner: _____

1. What are 4 important characteristics for a hero?

2. Who do you consider a hero? Explain why.

3. Who are you a hero to?

4. _____
_____?

5. _____
_____?

Interview 4:

Partner: _____

1. What are 4 important characteristics for a hero?

2. Who do you consider a hero? Explain why.

3. Who are you a hero to?

4. _____
_____?

5. _____
_____?

SOURCE:

McBride, Topanga. "Astronaut Ellen Ochoa."
Astronaut Ellen Ochoa | News For Kids, By Kids | Scholastic.com, News For Kids, By Kids | Scholastic.com, www.scholastic.com/browse/article.jsp?id=3753806.



Astronaut Ellen Ochoa

A love of science sent this pioneer to space!

By [Topanga McBride](#)

When Ellen Ochoa was in high school she said that other students put her down because she liked science. Now she is Dr. Ellen Ochoa, the first Hispanic woman to ever go into space, an inventor, and a mother. She is also a mentor, helping young girls pursue their dreams no matter their background.



Kid Reporter Topanga McBride and Astronaut Ellen Ochoa at a mentoring event in Denver, Colorado. (Photo courtesy Topanga McBride)

At a mentoring event in Denver, Colorado, recently, Ochoa told students that even some of her teachers didn't think she would ever go far in the field of science. Thanks to groundbreaking women like Ochoa, that is no longer true. She urged students to look to teachers for help.

"Turn to teachers, they want you to succeed," she told the Scholastic Kids Press Corps.

Ochoa was born in 1958 in California. She loved math and science in school and played the flute. At the time, she dreamed of becoming a musician. She remembers that she was 11 when man first walked on the moon. This was not what inspired her to become an astronaut, however.

"It just wasn't what girls wanted to be then," she said.

It wasn't until she was 25 that Sally Ride became the first woman astronaut in space. At the time, Ochoa was a graduate student at Stanford University. After earning her doctorate, she decided to apply to NASA, the nation's space agency.



She faced many obstacles on the way to becoming an astronaut, including the rejection of her first application! But she kept on trying—hard.

Ochoa got another job and five years later tried again. This time she was accepted and began her training. Her first flight was in 1993 aboard the space shuttle *Discovery*. She flew again in 1994, 1999, and 2002.

Ochoa is also an inventor. Her inventions include optical recognition systems, computer hardware, and robots. All help with NASA's ability to refine images from space.

Ochoa is a mother as well. In space, she stayed connected to her family through video chats. She once had to wish one of her kids a happy birthday from space.

Whatever the sacrifices and hard work, Ochoa said it has all been worth it. She says the key to success is to never stop learning. She also highly recommends teamwork.

"Whenever we accomplished a mission, it was very rewarding," she said. "Everyone feels great, even with a little contribution."

Ochoa had some advice for those who want to achieve a goal, no matter how difficult: "If you are interested in something, you still need to learn other things," she said. "Try hard if you want to do it."