

BY MONIKA DAVIES

ELLEN OCHOA

ASTRONAUT AND ENGINEER





CHAPTER 1

Who Is Ellen Ochoa?

Since ancient times, people have looked up and wondered. In the 1960s, some called it “the new **frontier**.” It inspires people’s imaginations. Many movies and TV shows have been made about it. This is space.

In this vast area beyond Earth, anything seems possible. But not many have explored it. Fewer than 600 people have gone into space. Only 65 were women. One of them was Ellen Ochoa.

Dr. Ochoa is a history maker. Some call her a trailblazer. She was the first Latina to go to space. Later, she became the first **Latinx** director of the Johnson Space Center. This is in Houston, Texas.

Ochoa's list of achievements is long. But there is more to her legacy. The future inspires her. She wants to help others reach their dreams too. One way she does this is as an **advocate** for STEM. This stands for science, technology, **engineering**, and math.

People in STEM jobs **innovate**. They work to solve big problems. Many issues affect Earth's future. That's why STEM skills are so important. These will be crucial in the coming years.

But in the U.S., men hold most STEM jobs. Women hold less than 30 percent. Not many people of color are in these jobs either. Ochoa is working to change that. She wants the brightest minds to go into STEM fields. This includes people from all backgrounds.

Growing up, Ochoa had many role models. They encouraged her to dream big. When she faced setbacks, they told her not to give up. In the end, she lit a new path for women in space. Now Ochoa inspires others to shoot for the stars too.

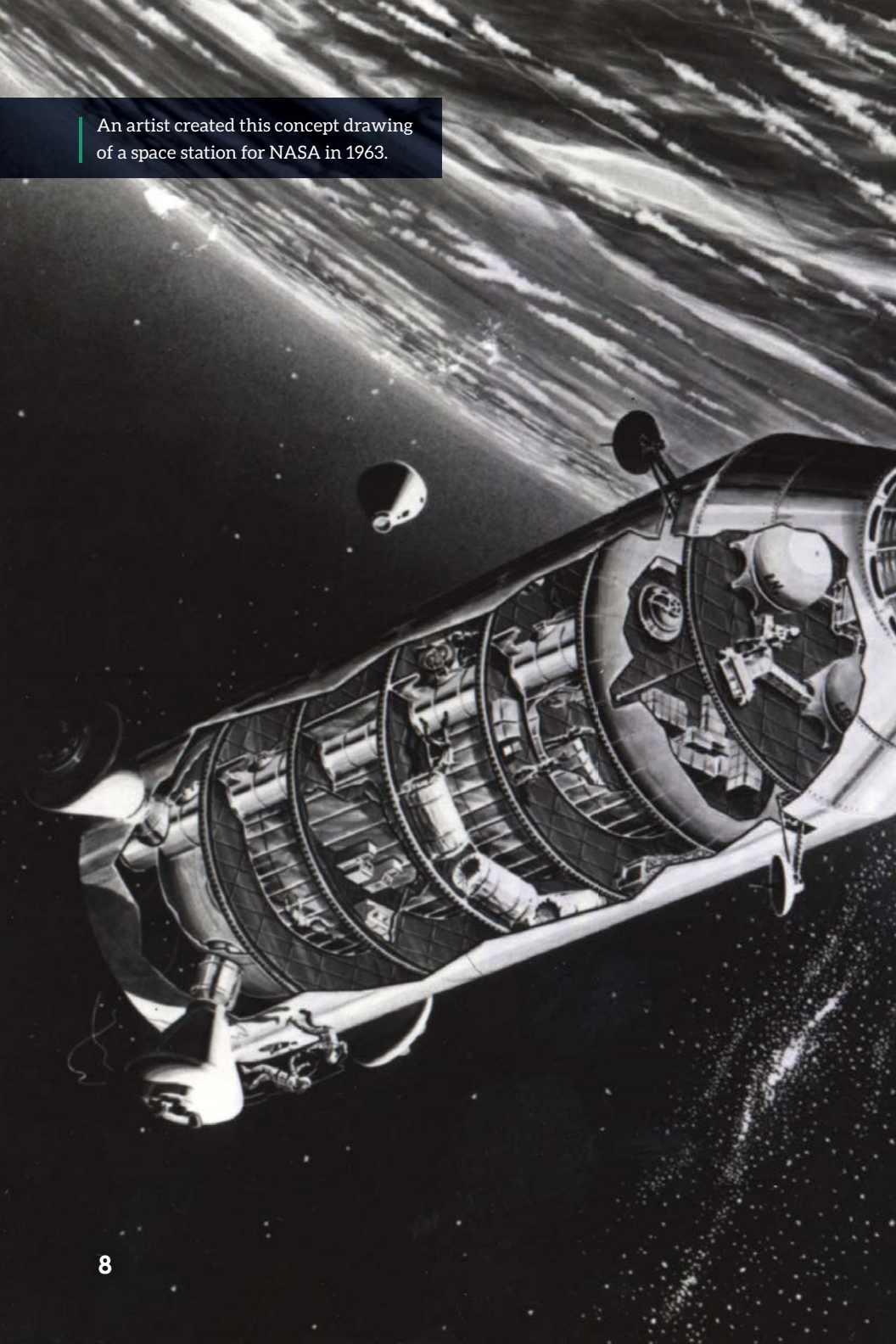


As director of Johnson Space Center from 2013 to 2018, Ellen Ochoa gave regular updates on NASA programs.



In 2016, Ochoa greeted students during a NASA Women in Action event.

An artist created this concept drawing of a space station for NASA in 1963.





CHAPTER 2

The World of NASA

For thousands of years, people could only look to the stars. They charted them. Some searched for meaning in their positions. But they couldn't explore space. There was no way to get there.

All of that changed in the 1950s. This marked the dawn of the space age.

In 1958, the U.S. government created a new agency. This was the National Aeronautics and Space Administration (NASA). Soon it had a big goal. NASA aimed to send a man to the moon.

The plan was to do it before 1970.

Getting to the moon wouldn't be easy. The U.S. had launched a **satellite** successfully. But no Americans had gone to space yet. To reach the goal, NASA made plans. There would be a series of **missions**. This was called the Apollo Program.

Each mission brought new lessons. First, rockets were tested. Nobody was on them. Then there were tests with **crews**. They went to space and then came back.

One crew had an accident. A fire broke out. Three men died. This led to changes. These made future missions safer.

In 1969, NASA finally reached its goal. A U.S. astronaut became the first person to walk on the moon. This was Neil Armstrong. His words as he stepped on the moon's surface have become famous. "That's one small step for man, one giant leap for mankind," he said.

1ST U.S. MOON ORBITS EARTH

President Will...
New York, Feb. 1, 1958



May Remain in Space 10 Years

'Explorer' Moon Circles Globe at 19,400 MPH

Cape Canaveral, Fla., Feb. 1 (Associated Press)—The Army launched the Explorer-1 satellite last night, and within 100 seconds the artificial moon had orbited the first object around the earth.

The "Explorer" satellite was 100 miles wide, 100 miles high and 100 miles long. It weighed 140 pounds and was launched at an altitude of 110 miles. The satellite will take 112 minutes to circle the earth at its lowest point and 120 at the peak of its orbit.

The satellite is expected to remain in orbit for at least 10 years. It will be the first of a series of satellites to be launched by the Army.

The cost of the Explorer-1 satellite is \$4.6 million. It was built by the Army's Space and Missile Defense Research and Development Center at Redstone Arsenal, Ala.

Announced by President

The United States has launched its first satellite into orbit, and the satellite will remain in orbit for at least 10 years, President Dwight D. Eisenhower announced last night.

The satellite was launched at 11:00 p.m. last night from Cape Canaveral, Fla. It was the first of a series of satellites to be launched by the Army.

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Solid Orbit Established

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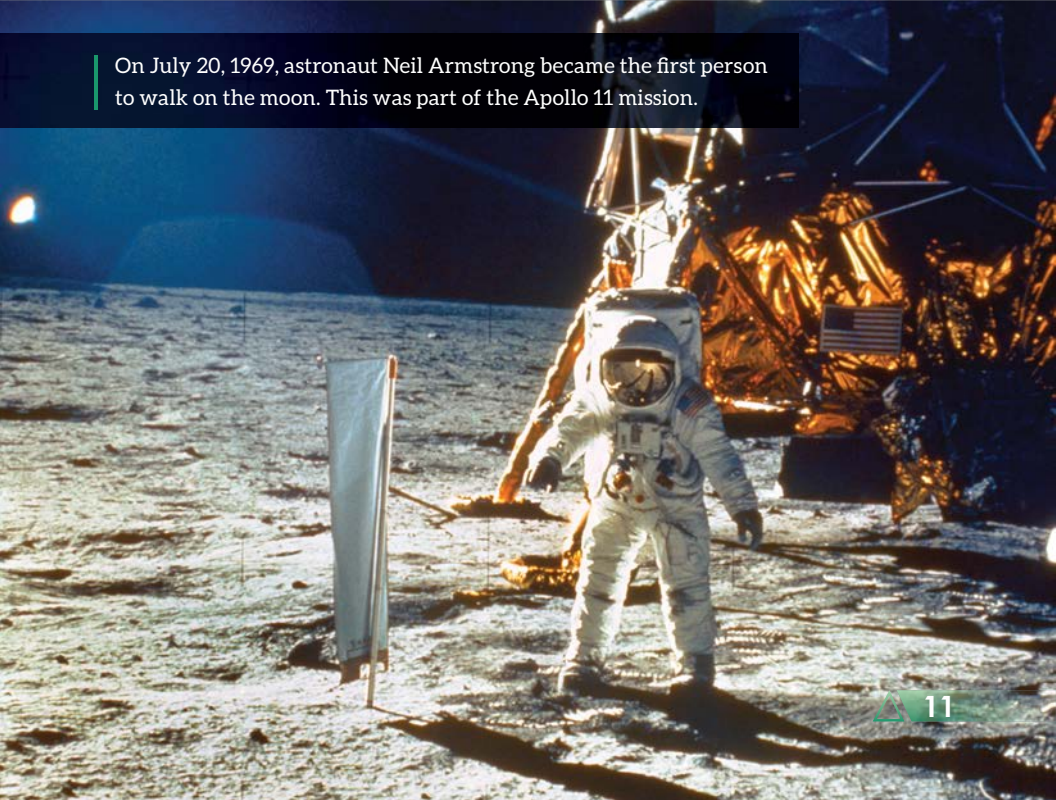
Time	Altitude	Speed
11:00 p.m.	110 miles	19,400 mph
11:10 p.m.	115 miles	19,500 mph
11:20 p.m.	120 miles	19,600 mph
11:30 p.m.	125 miles	19,700 mph
11:40 p.m.	130 miles	19,800 mph
11:50 p.m.	135 miles	19,900 mph
12:00 a.m.	140 miles	20,000 mph



During a preflight test in 1967, a fire started in the Apollo 1 command module. Three astronauts were killed.

In 1958, the U.S. launched its first successful satellite. It was called Explorer 1.

On July 20, 1969, astronaut Neil Armstrong became the first person to walk on the moon. This was part of the Apollo 11 mission.





President John F. Kennedy signed the Equal Pay Act of 1963 to assure that women would receive the same pay as men for equal work.



On August 28, 1963, the March on Washington took place in Washington, D.C. More than 200,000 people demonstrated in support of stronger civil rights laws.