

# Looking at Space

For thousands of years, people have used the stars to guide them on their journeys. Today, scientists study space in order to gain a better understanding of the origins and nature of the stars and galaxies. Humans have discovered a great deal about the universe over the past few hundred years.

I think the Earth is the center of the universe. The sun, moon, and stars circle around it.

Wrong! All the planets circle around the sun, not around the Earth.

Thanks to the invention of the telescope, I can see far into space. This shows me that the sun is at the center of our solar system and all celestial bodies move round it.

I discovered many comets. One was named after me and called Herschel.

I was recognized as the first professional female astronomer and the king of Denmark gave me a gold medal for my work. The comet I discovered was named after me: Miss Mitchell's Comet.

I discovered that hydrogen and helium gases are the main components of stars.

## Isaac Newton (1643–1727)

In the 17th century, Isaac Newton saw an apple fall from a tree and began to study gravity. He discovered that gravity doesn't just occur on Earth, but that it also affects planets, stars, and galaxies. He formed a law of gravity and showed how it functioned throughout the universe.

## Nicolaus Copernicus (1473–1543)

In the 16th century, the astronomer Nicolaus Copernicus observed the movements of the planets and came to a very different conclusion. He realized that they all move around the sun, not the Earth.

## Aristotle (384 BC–322 BC)

Well over 2,000 years ago, the Greek philosopher Aristotle saw things very differently than we do today. He assumed that the Earth was the center of the universe and that the sun, moon, and stars revolved around it.

## Galileo Galilei (1564–1642)

In the 17th century, Galileo Galilei refined the telescope. He confirmed Copernicus's conclusion, as did Johannes Kepler, another astronomer of the day. Kepler noted that planets move in an elliptical shape, not a perfect circle.

CAROLINE HERSCHEL (1750–1848)

MARIA MITCHELL (1818–1889)

CECILIA PAYNE-GAPOSCHKIN (1900–1979)