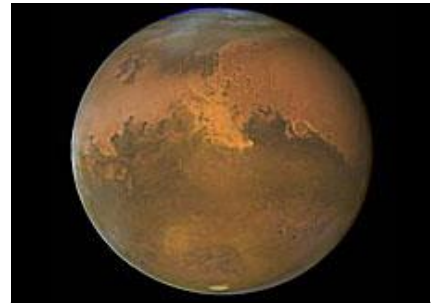


What Is Mars?

Mars is the fourth planet from the sun and the next planet beyond Earth. It is, on average, more than 142 million miles from the sun. Mars is about one-sixth the size of Earth. Mars is known as the Red Planet. It gets its red color from the iron in its soil.

Mars is named for the ancient Roman god of war. The Greeks called the planet Ares. The Romans and Greeks associated the planet with war because its color resembles the color of blood.

Mars has two small moons. Their names are Phobos and Deimos. They are named for the sons of Ares, the Greek god of war. Phobos means "fear," and Deimos means "panic."



Mars is the fourth planet from the sun. Image Credit: NASA

What Is Mars Like?

Mars is very cold. The average temperature on Mars is minus 80 degrees Fahrenheit -- way below freezing! Its surface is rocky, with canyons, volcanoes and craters all over it. Red dust covers most of its surface. Mars has clouds and wind, just as Earth does. Sometimes the wind blows the red dust into a dust storm. The dust storms can look like tornados and can be seen from Earth. Mars has about one-third the gravity of Earth. A rock dropped on Mars would fall more slowly than a rock falls on Earth. A person who weighs 100 pounds on Earth would only weigh about 37 pounds on Mars because of the reduced gravity. Mars' atmosphere has much less oxygen than the atmosphere of Earth. Its atmosphere is mostly carbon dioxide.

What Has NASA Learned About Mars?

NASA has used both spacecraft and robots to learn more about Mars. In 1965, Mariner 4 flew past Mars and became the first NASA spacecraft to take close-up images of another planet. In 1976, Viking 1 and Viking 2 were the first NASA spacecraft to land on Mars. Both spacecraft took images and collected science data on the Martian surface.

Since then, several spacecraft have flown near or landed on Mars. Scientists are particularly interested in searching for clues of water on Mars. Living things need water to survive. So, finding evidence that water exists or used to exist on Mars would mean that there could be or could have been life on the planet.



A computer drawing shows a rover on Mars. Image Credit: NASA

How Is NASA Exploring Mars Today?

Today, three spacecraft are orbiting Mars. The spacecraft are using scientific tools to collect information like temperature and the kinds of minerals on Mars. They are also taking images and searching for water.

Two rovers named Spirit and Opportunity are on the surface of Mars taking images and studying the planet's soil and rocks. Rovers are robots that drive around. NASA uses the images and information gathered by the spacecraft and rovers to learn more about Mars.

How Will NASA Explore Mars in the Future?

NASA plans to send more robots to Mars. It wants robots to one day collect Martian soil and rocks and bring them back to Earth to be studied. A robot named Phoenix landed on Mars in May 2008. Phoenix is digging holes in Mars' surface and examining what it finds in the holes. Phoenix is sending this information back to scientists on Earth to study.

NASA also wants to send astronauts to the Red Planet someday. To prepare to send humans to Mars, NASA is researching new kinds of homes where astronauts can live. Scientists are studying how people living in space can grow plants for food. To find out how living in space affects humans, NASA is studying what happens to astronauts on the International Space Station.



A computer drawing shows the Phoenix robot landing on Mars.
Image Credit: NASA