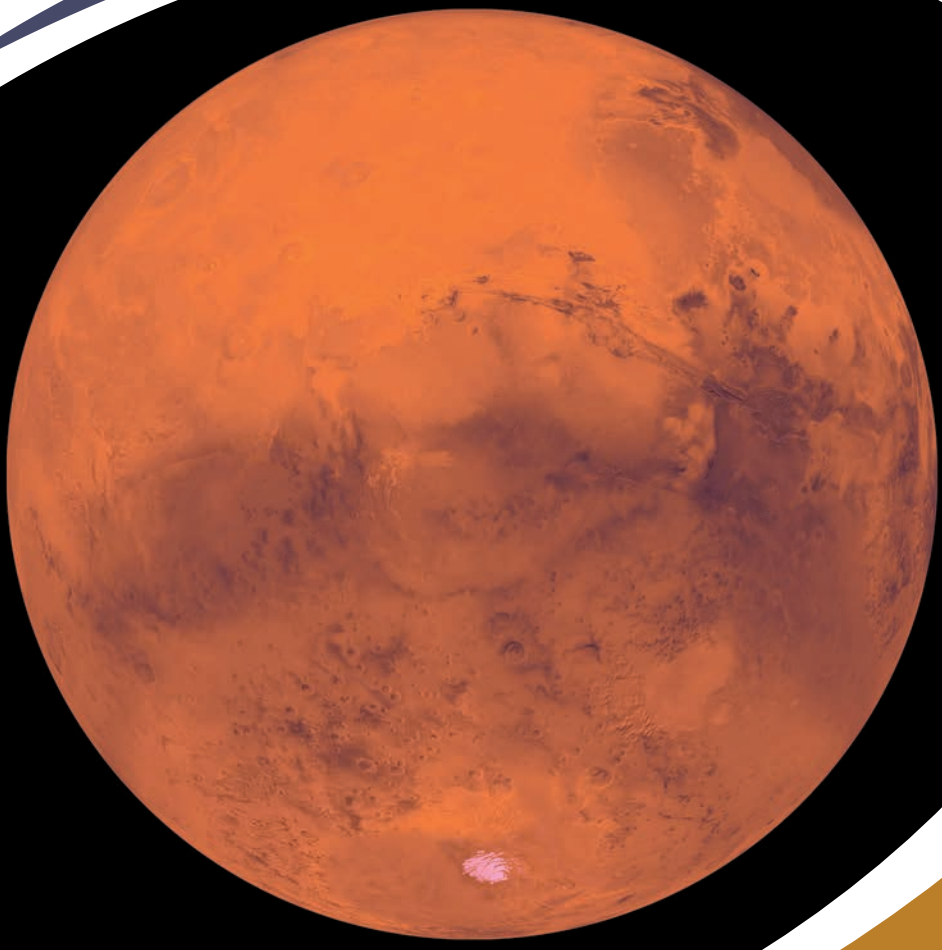
THE PLANETS OF OUR SOLAR SYSTEM

# MARS

by Kari A. Cornell



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# CONTENTS

# AT A GLANCE

- Mars is the fourth planet from the Sun.
- Mars is the second-smallest planet in the solar system by diameter. The distance around Mars's equator is around 13,233 miles (21,296 km).
- In 1610, Italian astronomer Galileo Galilei became the first to gaze at Mars through a telescope. He reported that through the lens, the planet looked like a small disk.
- In 1965, the US-launched *Mariner 4* spacecraft became the first to fly past Mars. The probe captured twenty-one photos of a dry and desolate landscape.
- In December 1996, the *Mars Pathfinder* mission launched into space. This mission successfully landed the first Mars rover, *Sojourner*.

# MEET THE RED PLANET

People have been studying Mars for thousands of years. Today, rovers such as *Perseverance* help scientists learn about the planet. In the past, people watched and wondered about Mars from Earth.

Mars is the fourth planet from the Sun. It is the second smallest planet in the solar system by diameter. The distance around the planet's equator is around 13,233 miles (21,296 km). Mars has about 10 percent

**People have taken countless pictures of Mars. This picture was taken in 2003 by a spacecraft called the *Mars Global Surveyor*.**

**NASA's *Phoenix* lander took this picture of the Sun rising over Mars in 2008.**

the mass of Earth. But it has about 15 percent the volume of Earth. That means Mars is less dense than Earth. Density is a measure of how tightly packed something is. Scientists think this difference comes from lighter material in Mars's core.

Mars does not orbit the Sun in a perfect circle. The planet is closer to the Sun at certain times. The planet is located an average of 142 million miles (229 million km) from the Sun. It takes sunlight 13 minutes to reach Mars at this distance. Mars's orbit lies between those of Earth and Jupiter.

## MARS AND EARTH

Today, the surfaces of Mars and Earth are quite different. Mars is a rocky, cold desert. The planet has a very thin atmosphere. It is

mostly made up of the gas carbon dioxide. Temperatures on Mars range between about –225°F and 70°F (–143°C and 21°C). People from Earth could not survive there without life-supporting technology.

Another reason people would struggle to live on Mars is its lack of a full **magnetic** field. Magnetic fields are regions of magnetic forces. They come from movement of material beneath some

## How Cold Is It?

**The thin atmosphere on Mars means heat from the Sun escapes quickly. People standing on Mars's equator at noon would be able to feel this. Their feet would feel warm, as they might on a spring day. But their heads would feel as if they were in an icebox.**

# GLOSSARY

**axis of rotation**

an imaginary line running through a planet's poles around which the planet rotates

**debris**

loose fragments of rock

**hemispheres**

halves of a sphere

**magma**

molten rock beneath a planet's surface

**magnetic**

related to the motion of electric charges

**meteorites**

space rocks that strike a planet

**microbes**

very small living things that cause disease

**satellites**

objects that orbit other objects of larger size

# SOURCE NOTES

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# FOR FURTHER RESEARCH

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