

SPACE TECH

MARS ROVERS

EPIC

EPIC

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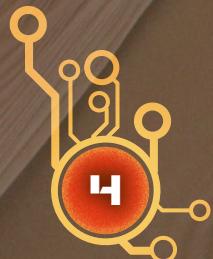
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MARS ROVER AT WORK!

A **spacecraft** nears the planet Mars. It carries the Curiosity **rover**. The spacecraft drops near the surface. Then a crane lowers Curiosity. Its landing is a success! This new Mars rover is ready to explore.



A photograph of the Curiosity rover on the surface of Mars. The rover is a complex mechanical device with a mast equipped with various scientific instruments. It is positioned on a reddish-brown, rocky terrain. In the upper left corner of the image, there is an orange rounded rectangle containing the word "Curiosity".

Curiosity

ALL IN A NAME!

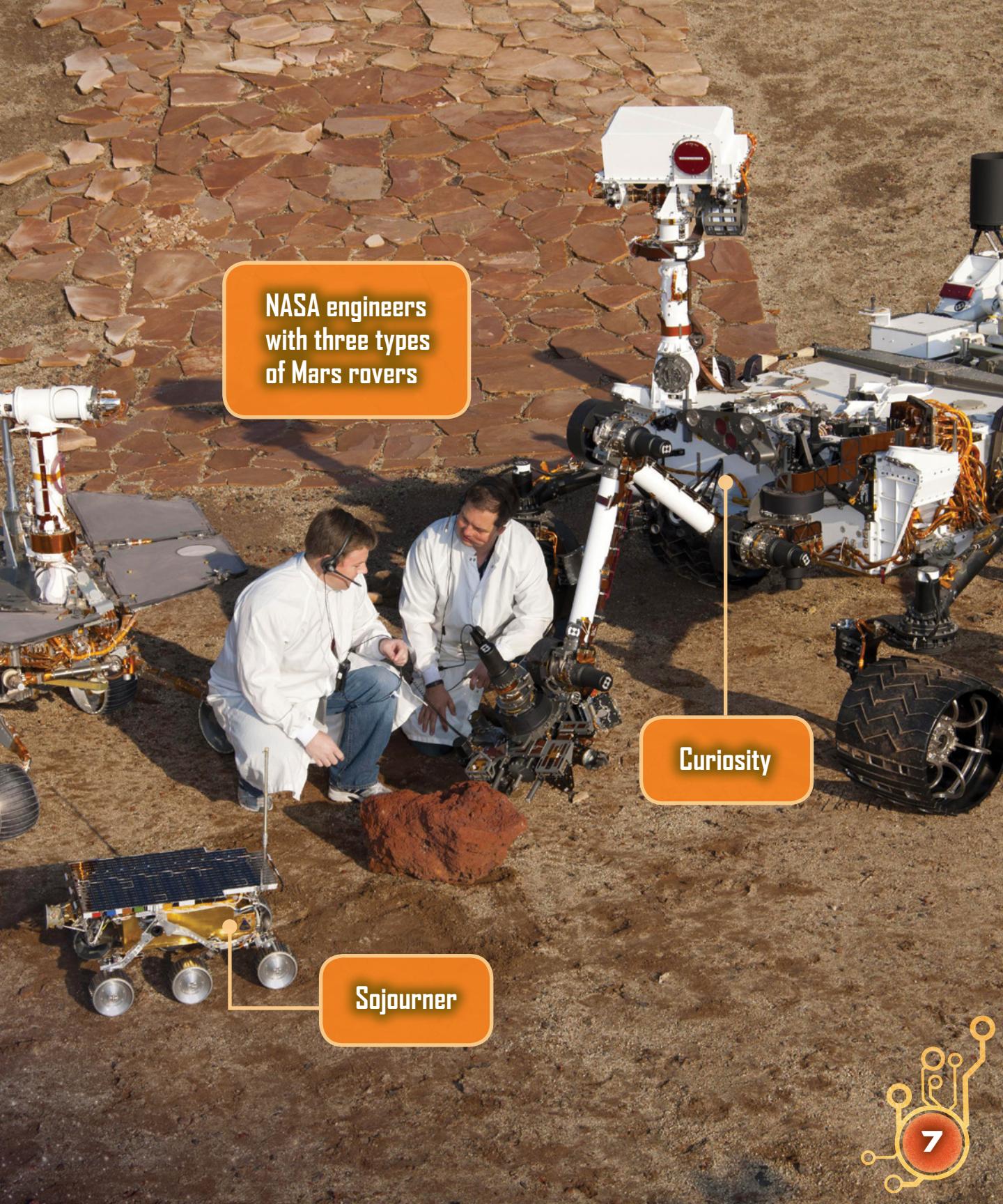
"Rover" also means a person who wanders around.



WHAT ARE MARS ROVERS?

Mars rovers are machines sent to Mars. This planet is too far away for humans to reach right now. Rovers are sent instead. The machines move around the planet and study it for humans.





NASA engineers
with three types
of Mars rovers

Curiosity

Sojourner



RED PLANET!

Mars is often called the "Red Planet." Its soil often looks red.





soil sample
from Mars

Rovers collect rocks and soil. They take pictures and try to find signs of water. They also study the planet's **atmosphere**. Their findings are then sent back to Earth.

PARTS OF MARS ROVERS

Rovers are built to survive on Mars. They have thick wheels. These help rovers climb over the rocky surface. **Solar panels** usually power rovers.





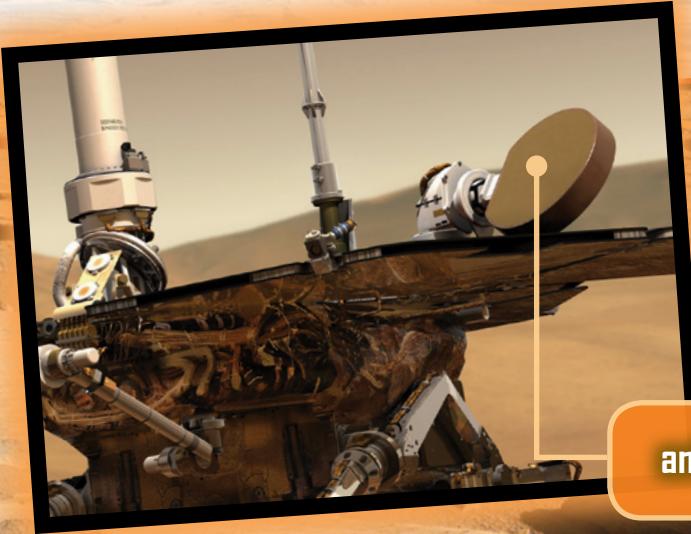
WHEELS GO ROUND!

Rovers were the first machines with wheels used on a planet other than Earth.





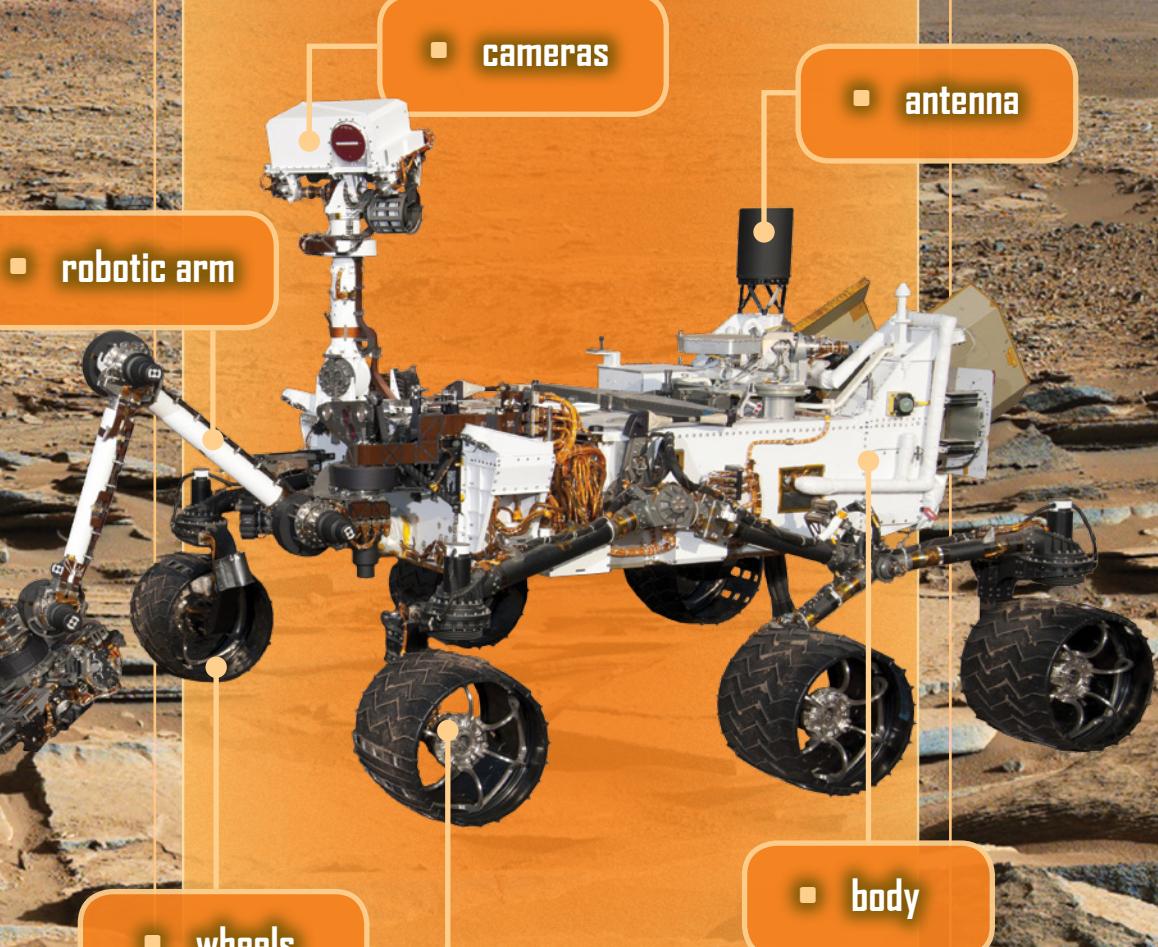
Rovers have many tools needed to study Mars. Robotic arms drill into rocks and scrape soil for **samples**. Cameras on the machines take pictures. Rovers use **antennae** to send and receive messages.



antenna

IDENTIFY THE MACHINE

Curiosity



MARS ROVER MISSIONS

In the 1970s, the **Soviet Union** sent the first rovers to Mars. They traveled on the Mars 2 and Mars 3 spacecraft. Mars 2 crash-landed. Mars 3 stopped working soon after reaching the planet. Both **missions** failed.



Mars 3
lander





Mars 3
orbiter

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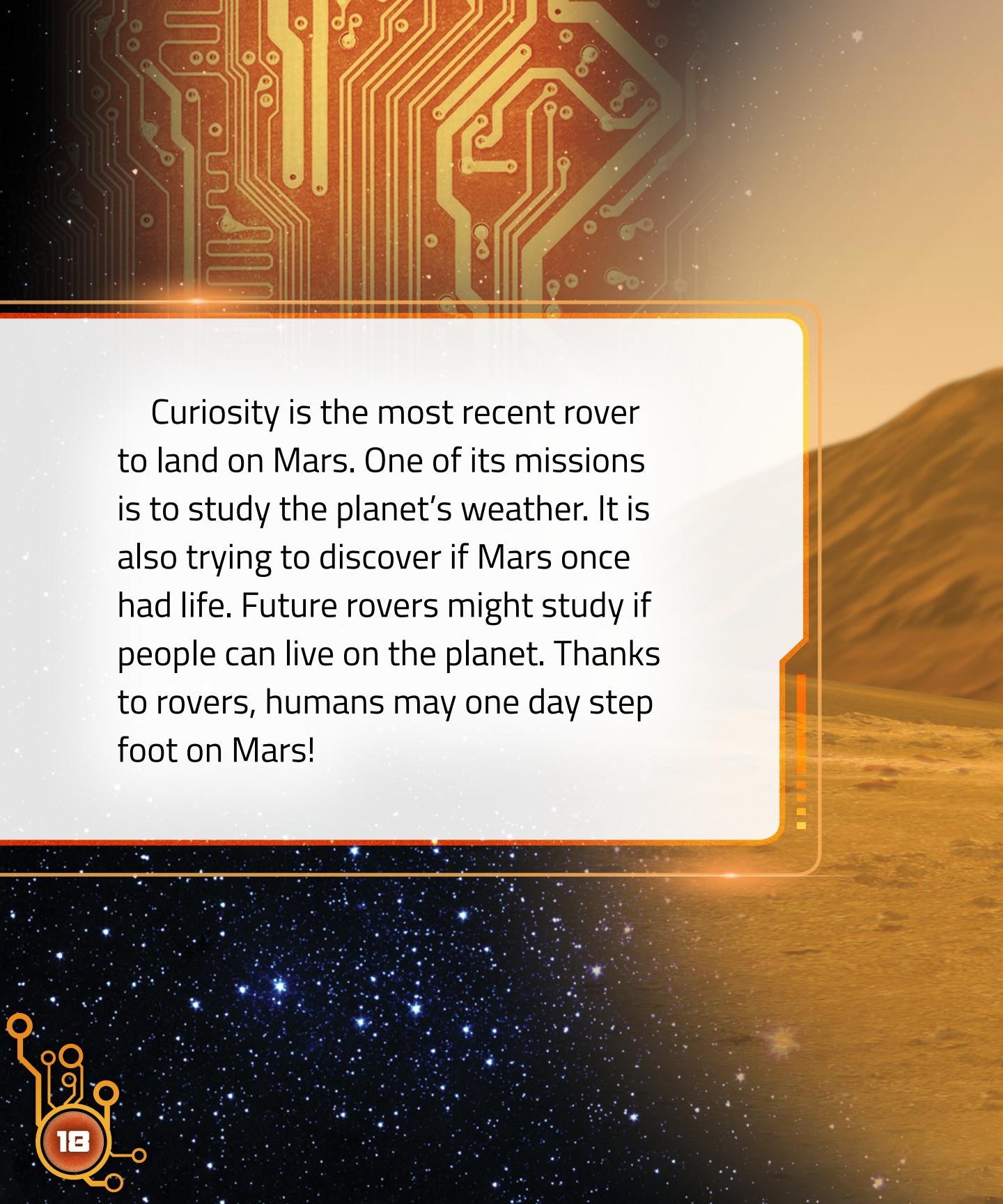
Sojourner

Sojourner became the first rover to land and work on Mars. It showed **NASA** that it was possible to reach and explore the planet. Two more rovers landed on Mars in 2004. They discovered the planet once had water!

JUST LIKE HOME!

Mars is like Earth in many ways. Clouds fill its sky. Seasons change as it circles the sun.





Curiosity is the most recent rover to land on Mars. One of its missions is to study the planet's weather. It is also trying to discover if Mars once had life. Future rovers might study if people can live on the planet. Thanks to rovers, humans may one day step foot on Mars!



A detailed photograph of the Curiosity Mars rover, showing its complex mechanical structure, six wheels, and mast-mounted instruments, including the Mastcam and ChemCam. The background is the reddish-orange surface of Mars.

Curiosity

GOAL GETTERS!

NASA's goal is to
send humans to Mars
in the 2030s.





CURIOSITY SPECs

Curiosity current location:
area around Mount Sharp,
Gale Crater

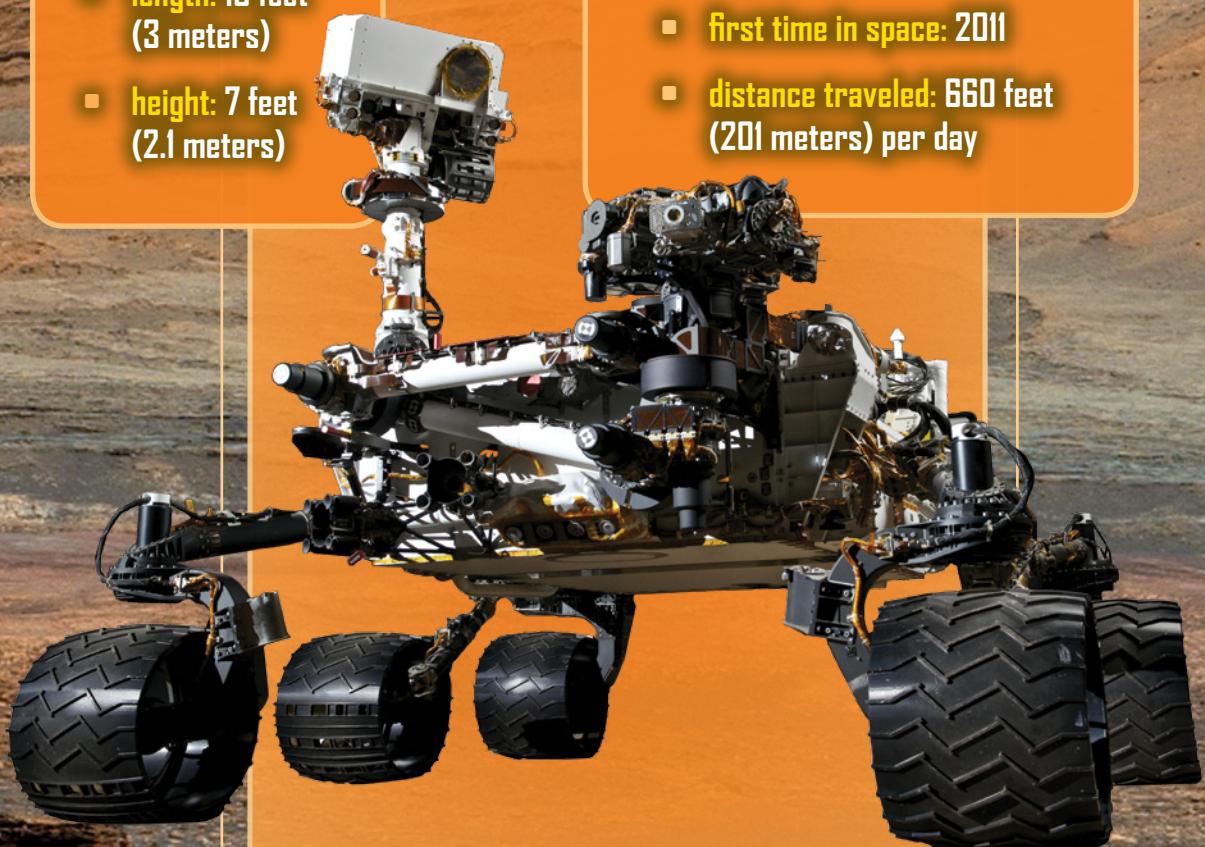
NAME: CURIOSITY

Mars Science Laboratory

- **length:** 10 feet (3 meters)
- **height:** 7 feet (2.1 meters)

- **mission:** to see if life once existed on Mars and to study the planet's weather
- **first time in space:** 2011
- **distance traveled:** 660 feet (201 meters) per day

- **width:** 9 feet (2.7 meters)



GLOSSARY

antennae—devices used for sending and receiving information

atmosphere—the gases that surround a planet

missions—tasks or jobs

NASA—National Aeronautics and Space Administration; NASA is a U.S. government agency responsible for space travel and exploration.

rover—a vehicle that explores surfaces outside of Earth

samples—small amounts that stand for the whole

solar panels—devices that collect sunlight and turn it into energy

Soviet Union—a former country in eastern Europe and western Asia made up of 15 smaller republics or states

spacecraft—any vehicle used to travel in outer space

TO LEARN MORE

AT THE LIBRARY

Kortenkamp, Steve. *Mars Exploration Rovers*. North Mankato, Minn.: Capstone Press, 2017.

Payment, Simone. *Mars*. New York, N.Y.: Rosen Educational Publishing, 2017.

VanVoorst, Jenny Fretland. *Rovers*. Minneapolis, Minn.: Pogo, 2017.

ON THE WEB

Learning more about Mars rovers is as easy as 1, 2, 3.

1. Go to www.factsurfer.com.
2. Enter “Mars rovers” into the search box.
3. Click the “Surf” button and you will see a list of related web sites.

With factsurfer.com, finding more information is just a click away.



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