

READING CHALLENGE

The Robot on Mars

There is a robot on Mars right now. It takes photos, collects rocks, and even has a tiny helicopter friend.

Level	A1 (Beginner)
Age Group	Teens (11-16)
Topic	True Stories
Duration	~12 minutes
Skill	Reading

Right now, a **robot** is driving on Mars. It is far, far away. Mars is another **planet**. It is red. It is cold. It is very quiet. There are no people there. There are no animals. There are no trees. But there is a robot. Its name is Perseverance. It is about the size of a small car. And it is doing amazing things.

What Is Mars Like?

Mars is the fourth planet from the Sun. Earth is the third. Mars is our neighbour in space. But Mars is very different from Earth. The sky on Mars is not blue. It is pink or orange because of the **dust** in the air. The ground is red. There is a lot of red dust and red **rocks** everywhere. Mars is very cold. During the day, it can be minus 20 degrees. At night, the **temperature** can go down to minus 60 degrees or colder. That is much colder than a freezer in your kitchen. There is almost no air on Mars. You cannot breathe there. If you went to Mars without a special suit, you could not **survive**. That is why we send robots.

How Did Perseverance Get to Mars?

Perseverance left Earth on 30 July 2020. A big rocket carried it into space. The trip to Mars took about seven months. That is a very long trip. Mars is about 480 million kilometres away. When Perseverance arrived at Mars on 18 February 2021, it had to **land** safely. This was very scary for the **scientists** on Earth. Landing on Mars is very hard. First, the robot entered the air around Mars very fast. A big **parachute** opened to slow it down. Then, a special machine with rockets lowered the robot to the ground with cables. It was like a sky crane. The landing took only seven minutes. The scientists called it "seven minutes of terror." But it worked. Perseverance landed safely.

What Does Perseverance Look Like?

Perseverance is about 3 metres long. It is about 2 metres wide. It weighs about 1,025 kilograms. It has six **wheels**. Each wheel is made of strong metal. The wheels can go over big rocks and soft sand. Perseverance moves slowly. It goes about 150 metres per hour. That is slower than you walk. But it does not need to be fast. It needs to be careful. The robot has 23 **cameras**. Some cameras take photos of the ground. Some cameras look at the sky. Some cameras take photos of the robot itself. Perseverance also has a long arm. The arm has tools on the end. It can drill into rocks. It can pick up **soil**. It is like a very clever hand.

Ingenuity: The Little Helicopter

Perseverance has a friend. It is a small **helicopter** called Ingenuity. Ingenuity is very small and very light. It weighs only 1.8 kilograms. That is about the same as a bag of sugar. Nobody knew if a helicopter could fly on Mars. The air on Mars is very, very thin. Flying there is very hard. But on 19 April 2021, Ingenuity flew for the first time. It went up about 3 metres. It stayed in the air for about 30 seconds. Then it came down again. It was the first time anything flew on another planet. The scientists were very happy. Ingenuity flew many more times after that. It flew 72 times in total. It took photos from the air. These photos helped Perseverance find the best roads to drive on. In January 2024, one of its blades broke. It cannot fly any more. But it did an amazing job.

What Is Perseverance Looking For?

Perseverance has a very important job. It is looking for signs of life. Not big aliens. Not monsters. But tiny, tiny living things. Scientists call them microbes. You cannot see microbes with your eyes. They are very, very small. Scientists think Mars had water a long time ago. There were rivers and lakes. Maybe there was even an ocean. Where there is water, there can be life. Maybe tiny living things lived in the water on Mars billions of years ago. Perseverance landed in a place called Jezero Crater. Scientists think this place was a lake about 3.5 billion years ago. The robot [explores](#) this old lake. It looks at the rocks. It drills into them. It collects small pieces of rock and soil. It puts them in small tubes. These tubes are very important.

Talking to Earth

How do the scientists tell the robot what to do? They send a [signal](#) from Earth. The signal is like a radio message. But Mars is very far away. The signal takes between 3 and 22 minutes to get to Mars. That is a long time. You cannot control the robot like a toy car. You cannot say "turn left now!" and the robot turns. It is too slow. So the scientists make a plan every morning. They send the plan to Perseverance. The robot follows the plan during the day. If it sees a big rock in the way, it can go around it by itself. It is a clever robot. At the end of the day, Perseverance sends photos and information back to Earth. The scientists look at everything. Then they make a new plan for the next day.

Making Oxygen on Mars

Perseverance has a special tool called MOXIE. MOXIE is small. It is about the size of a car battery. But it does something incredible. It takes the air on Mars and makes oxygen from it. The air on Mars has a lot of carbon dioxide. MOXIE turns carbon dioxide into oxygen. Oxygen is what we breathe. This is very important. If people go to Mars one day, they will need oxygen. They cannot bring enough oxygen from Earth. It is too heavy. But if we can make oxygen on Mars, people can breathe there. MOXIE is a test. It makes only a small amount of oxygen. But it shows that it works. One day, bigger machines on Mars could make enough oxygen for people.

What Happens Next?

Perseverance is still on Mars today. It is still driving. It is still taking photos. It is still collecting rocks. One day, another robot will go to Mars. It will pick up the tubes of rock that Perseverance left on the ground. It will bring the rocks back to Earth. Scientists will look at the rocks very carefully. Maybe they will find tiny signs of life. Maybe they will not. We do not know yet. But some day, people will go to Mars too. The first people on Mars might go in the 2030s or 2040s. That is not very far away. When people walk on Mars, they will see the tracks of Perseverance in the red dust. They will see the little tubes of rock. And they will say thank you to the robot that went there first. A small robot, all alone on a big red planet, doing its job every single day. That is Perseverance.

Vocabulary

Term	Definition
robot	a machine that can do jobs by itself
planet	a very large, round object in space that goes around a star
land	to arrive on the ground after flying or falling
rock	a hard, solid piece of stone
dust	very small, dry pieces of dirt that float in the air
camera	a device that takes photos or videos
wheel	a round thing that turns to move a car, bike, or robot
scientist	a person who studies nature and the world using tests and experiments
helicopter	a small flying machine with spinning blades on top
temperature	how hot or cold something is
soil	the soft top part of the ground where plants grow; dirt
signal	a message sent by radio, light, or electricity
explore	to go to a new place to learn about it
parachute	a big piece of cloth that opens in the air to slow something down
survive	to stay alive in a difficult or dangerous situation

Comprehension Quiz

1. What is the name of the robot on Mars?

- A) Curiosity
- B) Discovery
- C) Perseverance
- D) Explorer

2. How many wheels does Perseverance have?

- A) Four
- B) Six
- C) Eight
- D) Two

3. What is the name of the small helicopter on Mars?

- A) Bravery
- B) Ingenuity
- C) Spirit
- D) Freedom

4. How cold can it get on Mars at night?

- A) 0 degrees
- B) Minus 30 degrees
- C) Minus 60 degrees
- D) Minus 90 degrees

5. What does Perseverance collect and put in small tubes?

- A) Water
- B) Sand
- C) Rocks and soil
- D) Ice

Answer Key

#	Answer	Question
1	C	What is the name of the robot on Mars?
2	B	How many wheels does Perseverance have?
3	B	What is the name of the small helicopter on Mars?
4	C	How cold can it get on Mars at night?
5	C	What does Perseverance collect and put in small tubes?