



## Mars Rover

Mars has been a popular destination for science fiction for many years. It has also remained one of the most elusive places for mankind to explore. The first efforts to investigate the planet were in 1971 when two Soviet Union attempts both failed on landing. It wasn't until the 1990s that mankind first successfully landed a "rover" on the red planet.

A Mars rover is a motorised vehicle that can be driven across the surface of Mars by scientists back on Earth. They are more useful than stationary pods because they can explore more territory and can be repositioned to make the most of the sun's energy to power their solar charging systems.

The Sojourner rover was launched by NASA in 1996. It was part of the Mars Pathfinder mission and landed successfully on July 4th, 1997. It was originally designed for a mission lasting 7 Mars days (called sols) but managed to stay active for 83 sols. Unfortunately, the base station Pathfinder lost communication with Earth on September 27th, 1997. The Sojourner rover needed the base station to communicate with Earth, and so it was lost as well. The rover was named after Sojourner Truth, a women's and African American rights activist.

Over the next few decades, NASA deployed several other Mars rovers. The first was Spirit, which landed successfully in 2004. Over the next six years, it managed to cover a total distance of nearly 5 miles before its wheels became stuck in the sand. NASA stopped trying to regain contact in 2011.

The next rover was named Opportunity and landed a few weeks after Spirit. It lasted for 5,352 sols (5,498 Earth days) before a dust storm blocked the sunlight needed to recharge its batteries. The mission was declared over in 2019. It remains the longest active rover on Mars.

In 2012, the latest rover, Curiosity, landed safely on Mars. It is still operational in 2020. If it remains in contact until 2027, it will become the longest-serving Mars rover.

Even though there is still an active rover on Mars, scientists are nowhere near ready to call it a day on exploring the strange red planet. Another rover, Perseverance, is set to be launched by NASA in the summer of 2020 and should land in February 2021. The Chinese government is also planning to launch its own rover nicknamed Tianwen-1. Tianwen-1 is also due to land in February 2021.

Both rovers are expected to serve for a long time: Perseverance has a mission time of at least two Earth years and Tianwen-1 of at least one Earth year. If previous missions have taught us anything, though, it's that Mars is unpredictable. It can cut a mission short in unexpected ways, or allow the rover to explore for as long as possible. Curiosity's original mission was for 668 sols, and yet it's still trundling on 13 years later.

To find out more about NASA's missions to Mars, head to <https://mars.nasa.gov>.





**1**

Where could somebody go for more information about the Mars Rover?

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1 mark

**2**

What impression do you get of the Mars Rovers?

Give **two** impressions, using evidence from the text to support your answer.

1. 

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2. 

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3 marks

**3**

Look at the paragraph beginning: *Both rovers are expected to serve for a long time...*

Which words from the paragraph tell you that scientists can't always say how a mission will go?

Tick **two**.

Previous

Unexpected

Unpredictable

Original

2 marks





**4**

Using information from the text, tick one box in each row to show whether each statement is **true** or **false**.

	True	False
Scientists are going to stop exploring Mars soon.		
There have been rovers on Mars for over a decade.		
There have been humans on Mars.		
A Mars day is called a "sol".		

\_\_\_\_\_

2 marks

**5**

Which country made the first efforts to land on Mars?

\_\_\_\_\_

\_\_\_\_\_

1 mark

**6**

Which rover was named after a famous person?

\_\_\_\_\_

\_\_\_\_\_

1 mark

# SATs Practice - Answers

1. The Nasa website (accept the URL)
2. **Give 1 mark for two correct impressions. Give 1 mark for each correct piece of evidence from the text up to a maximum of 3 marks for the question.**  
**The Mars Rovers are slow**  
Spirit covered 5 miles in six years.  
**The rovers are useful**  
They can explore more territory than stationary pods  
They can make the most of the sun's energy  
**The rovers are temperamental**  
The Pathfinder base station lost contact with Earth  
Spirit got stuck in the sand  
Opportunity ran out of battery during a dust storm
3. Unexpected  
Unpredictable
4. **Give 1 mark for two correct answers. Give 2 marks for three correct answers.**  
False  
True  
False  
True
5. The Soviet Union
6. Sojourner