



Mars Rover's Wheels Show Significant Wear, Video Reveals

Description

NASA's Curiosity rover, designed to explore the challenging surface of Mars, has faced significant wear and tear during its 14-year mission. Recent evidence of this damage was revealed in a time-lapse video shared by NASA, which highlights the rover's deteriorating wheels over the past six years.

The two-minute video combines images captured by one of Curiosity's navigation cameras, documenting conditions from January 2020 to March 2026. The pictures show the rover's six wheels, each approximately 20 inches in diameter, navigating rocky and dusty terrain. NASA stated that this time-lapse will help the team monitor shifts in sand on the rover's surface, as these changes can provide insights into seasonal atmospheric variations.

Curiosity, along with its companion rover Perseverance, explores Mars to find evidence that the planet may have once supported life. While Curiosity examines the Gale Crater, a site believed to have formed 3.7 billion years ago, Perseverance operates in the nearby Jezero Crater.

Despite the harsh conditions, Curiosity has significantly outlived its expected two-year lifespan. NASA has noted the rover has suffered damage, such as dents and holes in its wheels, caused by the tough Martian landscape. However, even after years of exposure to these elements, Curiosity continues to contribute to our understanding of Mars, having made notable discoveries including organic compounds.

NASA remains attentive to the rover's condition as it presses on in its mission to uncover the planet's history.

Vocabulary List:

1. **deteriorating** //dɪ'tɪriə, reɪtɪŋ// (adjective): becoming worse or more damaged over time
2. **terrain** //tə'reɪn// (noun): land with particular natural features or shape
3. **monitor** //'mɒnɪtə// (verb): watch or check something carefully over time
4. **variations** //,vɛrɪ'eɪʃənz// (noun): small changes in amount or condition
5. **evidence** //'eɪdəns// (noun): information that shows something is true
6. **lifespan** //'laɪfspæn// (noun): the time that something is expected to live

Comprehension Questions



Multiple Choice

1. What is the primary purpose of NASA's Curiosity rover?

- Option: To explore the Moon
- Option: To explore the surface of Mars
- Option: To study the Earth's atmosphere
- Option: To monitor weather on Mars

2. How many wheels does the Curiosity rover have?

- Option: 4
- Option: 6
- Option: 8
- Option: 10

3. Which crater does Curiosity explore?

- Option: Jezero Crater
- Option: Gale Crater
- Option: Victoria Crater
- Option: Endeavour Crater

4. How long has the Curiosity rover been on its mission?

- Option: 5 years
- Option: 10 years
- Option: 14 years
- Option: 20 years

5. What evidence was shared in the time-lapse video by NASA?

- Option: The rover's battery life
- Option: The rover's deteriorating wheels
- Option: The rover's navigation system
- Option: The rover's fuel consumption

6. What filmmaker's role is primarily associated with the two-minute time-lapse video?

- Option: Engineer
- Option: Pilot
- Option: Cameraman
- Option: Scientist



True-False

7. Curiosity's mission was initially planned for two years.
8. Curiosity operates in Jezero Crater alongside Perseverance.
9. The rover has suffered significant damage but continues to operate.
10. The time-lapse video shows the rover's performance over eight years.
11. Curiosity has made discoveries of organic compounds on Mars.
12. The wheels of Curiosity are approximately 15 inches in diameter.

Gap-Fill

13. Curiosity has significantly outlived its expected _____ lifespan.
14. The rover's wheels are each approximately _____ inches in diameter.
15. NASA has shared a time-lapse video revealing damage to the rover's _____ over time.
16. Curiosity and its companion Perseverance are exploring Mars to find evidence of _____.
17. The conditions on Mars have caused dents and holes in Curiosity's _____ due to the harsh landscape.
18. The Gale Crater is believed to have formed _____ billion years ago.

Answer

Multiple Choice: 1. To explore the surface of Mars 2. 6 3. Gale Crater 4. 14 years 5. The rover's deteriorating wheels 6. Cameraman

True-False: 7. True 8. False 9. True 10. False 11. True 12. False

Gap-Fill: 13. two-year



14. 20 15. wheels 16. life 18. 3.7

Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. What does the term 'terrain' generally refer to?

- Option: A surface of land
- Option: A type of satellite
- Option: A form of government
- Option: A mechanism for communication

2. Which of the following best describes 'evidence'?

- Option: A personal opinion
- Option: Data or information indicating whether a belief or proposition is true
- Option: A random guess
- Option: A fictional narrative

3. What does 'autonomy' refer to?

- Option: Dependence on others
- Option: Self-governing or independence
- Option: Lack of control
- Option: The ability to print documents

4. In a business context, what does 'competition' typically indicate?

- Option: Working together
- Option: Rivalry among businesses
- Option: Government regulation
- Option: A non-profit organization

5. A product labeled as 'customizable' means that it can be ____?

- Option: Modified according to user preferences
- Option: Used for any purpose
- Option: Only sold as is
- Option: Returned within 30 days

6. A 'lawsuit' can be best defined as a ____?



Option: Legal action taken by one party against another

Option: A private meeting

Option: A business contract

Option: An informal agreement

7. What does the term 'tactical' imply?

Option: Being spontaneous

Option: Relating to actions planned to achieve a specific goal

Option: Indifferent to outcomes

Option: Easily predictable

8. In the context of technology, 'navigation' refers to ____?

Option: The act of finding a way

Option: The process of ordering a product

Option: Preparing a meal

Option: Managing finances

9. In terms of signal processing, 'frequency' typically means ____?

Option: The number of occurrences of a repeating event in a unit of time

Option: The height of a wave

Option: The length of a signal

Option: The power of a generator

10. When something 'evolves', it ____?

Option: Remains unchanged

Option: Undergoes gradual development

Option: Ceases to exist

Option: Stays the same forever

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11. The detective presented strong _____ to support the case against the suspect.

12. The army had to adapt their strategies based on the rugged _____ of the region.

13. We need to _____ the performance of the new software to ensure it meets our expectations.

14. Each version of the software had several _____ to improve functionality.

15. The new app was designed with _____ in mind, ensuring everyone could use it



easily.

16. The team worked on _____ the controls to enhance user experience.

17. The manager requested _____ from the team on the new project proposal.

18. After several bugs were reported, the developers released a _____ to fix the issues.

19. To improve the system's efficiency, we implemented several _____ over the last quarter.

20. The two companies reached a _____ to resolve their legal dispute out of court.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. Successful projects often stem from effective collaboration among team members.
22. Many users appreciate the level of customizations available in modern applications.
23. The lifespan of modern electronic devices tends to decrease with rapid advancements in technology.
24. The employees received compensation for the overtime they worked last week.
25. The market was monopolised by a single corporation, limiting competition.
26. In the debate, each participant faced a strong opponent with carefully constructed arguments.
27. Her ability to adapt quickly to new environments impressed her colleagues.
28. It is essential to discard unnecessary elements in our final design to improve clarity.
29. The military operation was meticulously planned with tactical precision.
30. There are several variations of the product based on customer feedback and demands.

Answer

- Multiple Choice:** 1. A surface of land 2. Data or information indicating whether a belief or proposition is true 3. Self-governing or independence 4. Rivalry among businesses 5. Modified according to user preferences 6. Legal action taken by one party against another 7. Relating to actions planned to achieve a specific goal 8. The act of finding a way



9. The number of occurrences of a repeating event in a unit of time 10. Undergoes gradual development

Gap-Fill: 11. evidence 12. terrain 13. monitor 14. iterations 15. accessibility 16. remapping 17. feedback
18. patch 19. optimisations 20. settlement

Matching sentence: 1. collaboration 2. customization 3. lifespan 4. compensation 5. monopolised 6. opponent
7. ability 8. discard 9. tactical 10. variations

CATEGORY

1. Sci/Tech - LEVEL5

POST TAG

1. English learners
2. ESL learning
3. esl news
4. Level 5
5. mars rover
6. wear
7. wheels

Tags

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