



NASA Rover Discovers Rock with Signs of Microbial Life

Description

A Mars rover operated by NASA has found an interesting rock that scientists think might show signs of ancient microbial life. The rover, named Perseverance, collected the rock on July 21 and it has been nicknamed “Cheyava Falls” by the team. The area where the rock was found is believed to have been a river valley created by water flowing into Jezero Crater billions of years ago. Scientists working on the mission have observed chemical signatures and structures in the rock that could potentially have been formed by life long ago.

The rock has been examined using imaging equipment and various scientific instruments. Although the rock shows signs of organic compounds, further research is needed to confirm if there was indeed microbial life present. Perseverance has been busy collecting samples from the Martian surface using its robotic arm and drilling equipment. So far, it has gathered 22 samples, which will be brought back to Earth in the future.

The rock contains white veins possibly made from calcium sulfate, and lines of material with a reddish color suggesting the presence of hematite, a common substance on Earth. The discoveries so far strengthen the idea of flowing water on Mars in the past. However, more analysis is needed to fully understand the history of the rock sample and its potential link to microbial life on Mars.

Perseverance team member, David Flannery, mentioned that these rock elements are often connected to the fossilized record of microbes living underground on Earth. Bringing the rock sample back to Earth for further study in laboratories is seen as crucial to unraveling the mysteries of Mars' ancient past.

The Perseverance mission continues to uncover fascinating clues about the history of the Red Planet and the potential for past life on Mars.

I'm Bryan Lynn.

Bryan Lynn wrote this story for VOA Learning English, based on reports from NASA and Agence-France Presse.

Vocabulary List:

1. **Microbial** /maɪˈkroʊ.bi.əl/ (adjective): Relating to or characteristic of microorganisms especially bacteria.
2. **Perseverance** /ˌpɜːr.sɪˈvi.ə.rəns/ (noun): The quality of continuing to try to achieve a particular aim despite difficulties.
3. **Organic** /ɔːrˈɡæ.nɪk/ (adjective): Relating to or derived from living matter; contains carbon compounds.
4. **Compounds** /ˈkɑːm.paʊndz/ (noun): Substances formed when two or more chemical elements are chemically bonded.
5. **Analysis** /əˈnæl.ə.sɪs/ (noun): A detailed examination of the elements or structure of something.



6. **Hematite** /'hi:mə.taɪt/ (noun): A reddish-black mineral consisting of iron oxide used as an ore of iron.

Comprehension Questions

Multiple Choice

1. What is the name of the Mars rover operated by NASA?

- Option: Curiosity
- Option: Opportunity
- Option: Perseverance
- Option: Spirit

2. What is the nickname given to the rock found by the Perseverance rover?

- Option: Red Planet
- Option: Cheyava Falls
- Option: Martian Mystery
- Option: Astro Rock

3. How many samples has Perseverance gathered from the Martian surface so far?

- Option: 15 samples
- Option: 22 samples
- Option: 30 samples
- Option: 10 samples

4. What substance possibly makes the white veins in the rock found by Perseverance?

- Option: Calcium Sulfate
- Option: Hematite
- Option: Iron Oxide
- Option: Silica

5. Who mentioned the connection of rock elements to the fossilized record of microbes living underground on Earth?

- Option: David Flannery
- Option: Bryan Lynn
- Option: Perseverance
- Option: NASA Scientist



6. What is seen as crucial in unraveling the mysteries of Mars' ancient past?

- Option: Further Space Exploration
- Option: Bringing rock samples to Earth for study
- Option: Remote Imaging Techniques
- Option: Analyzing Martian Atmosphere

Answer

Multiple Choice: 1. Perseverance 2. Cheyava Falls 3. 22 samples 4. Calcium Sulfate 5. David Flannery
6. Bringing rock samples to Earth for study

Vocabulary quizzes

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

1. Which type of organisms are microscopic and include bacteria and viruses?

- Option: Plants
- Option: Animals
- Option: Fungi
- Option: Microbial

2. What is a business agreement in which the owner (franchisor) allows others (franchisees) to operate under its name?

- Option: Joint venture
- Option: Partnership
- Option: Franchise
- Option: Licensing

3. What is the structural framework of a vehicle on which its body and mechanical components are mounted?

- Option: Engine
- Option: Chassis
- Option: Transmission
- Option: Exhaust

4. Which type of products are used to enhance or alter the appearance of the face or body?



- Option: Medical
- Option: Hygienic
- Option: Herbal
- Option: Cosmetic

5. Which term refers to the state or fact of continuing to live or exist typically in spite of difficult conditions?

- Option: Persistence
- Option: Resilience
- Option: Survival
- Option: Endurance

6. Which term relates to the structure of an organism or any of its parts?

- Option: Physiological
- Option: Pathological
- Option: Anatomical
- Option: Phenotypical

7. What term describes how well a task function or activity is executed or completed?

- Option: Efficiency
- Option: Performance
- Option: Productivity
- Option: Effectiveness

8. Which term refers to compounds containing carbon atoms bonded to other carbon atoms or hydrogen atoms?

- Option: Inorganic
- Option: Synthetic
- Option: Mineral
- Option: Organic

9. What occurs when a mechanical device or component operates beyond its safe temperature limits?

- Option: Short-circuiting
- Option: Overloading
- Option: Overheating
- Option: Malfunctioning

10. Which term describes something that is expected or predicted to happen in the future?

- Option: Imagined
- Option: Foreseen
- Option: Envisioned
- Option: Anticipated



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

11. Organic _____ contain carbon atoms bonded to other carbon atoms or hydrogen atoms.
12. The scientists conducted a detailed _____ of the data to draw meaningful conclusions.
13. _____ is the process by which different kinds of organisms have developed and diversified from earlier forms.
14. Animal _____ can be influenced by a variety of internal and external factors.
15. The completion of the project ahead of schedule was a significant _____ for the team.
16. Proper _____ management is crucial to prevent electronic devices from overheating.
17. The software _____ focused on creating innovative applications for the company.
18. The rock sample contained significant amounts of _____ mineral.
19. The company offers extensive options for _____ of its products to meet customer preferences.
20. The company's CEO led the _____ of the new product line at the trade show.
21. The histories of the two families are deeply _____ due to generations of close relationships.

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

- | |
|---|
| 22. The company secured a agreement with a new partner to expand its reach. |
|---|



23. The game focused on creating engaging gameplay experiences for a global audience.
24. The project is ongoing and is expected to be completed by the end of the year.
25. The strategic between the two companies resulted in a successful product launch.
26. The team was with the results of the experiment as it did not meet expectations.
27. The paleontologists discovered a rare embedded in the ancient rock formation.
28. The sudden drop in sales was considered an as it was unexpected given the current market trends.
29. The scientific community continues to study the process of to understand how species adapt over time.
30. Observing the animal's in their natural habitat provided valuable insights into their social interactions.
31. The city's central transportation connects various bus and train lines for seamless travel.

Answer

Multiple Choice: 1. Microbial 2. Franchise 3. Chassis 4. Cosmetic 5. Survival 6. Anatomical 7. Performance 8. Organic 9. Overheating 10. Anticipated

Gap-Fill: 11. Compounds 12. Analysis 13. Evolution 14. Behavior 15. Milestone 16. Thermal 17. Developer 18. Hematite 19. Customization 20. Unveiling 21. Intertwined

Matching sentence: 1. Licensing 2. Developer 3. Currently 4. Partnership 5. Disappointed 6. Fossil 7. Anomaly 8. Evolution 9. Behavior 10. Hub

CATEGORY

1. Sci/Tech - LEVEL3

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