Scientists Uncover Unexpected Fossils Beneath Antarctic Ice

Description

A team of 29 scientists lived in tents on snow in Antarctica for nearly ten weeks. They drilled more than 200 meters into bedrock, deep under ice. The team worked at a remote camp.

They succeeded on their third attempt. They pulled up a 228-meter-long cylinder of mud and rock. This is the deepest sediment core ever taken from an Antarctic ice sheet. The layers inside are surprising scientists. Some were formed when the Earth was much warmer.

To reach the sediment, the team melted a hole through 523 meters of ice. They found different types of sediment. Some was coarse gravel, while other parts contained fine mud with shell pieces. This shows there was once open ocean where there is now thick ice.

The sediment may explain how the West Antarctic Ice Sheet reacts to climate change. The core could provide information about environmental changes over 23 million years. The team will send the core to New Zealand for further study. Scientists aim to learn more about the past ice-sheet conditions and how they affect future sea levels.

Vocabulary List:

1. **sediment** //ˈsɛdəmənt// (noun): small pieces of rock, sand, or mud
2. **bedrock** //ˈbɛdˌrɑk// (noun): solid rock under the soil or ground
3. **drilled** //drɪld// (verb): made a hole in something with a tool
4. **remote** //rɪˈmoʊt// (adjective): far away from cities or other people
5. **environmental** //ɪnˌvaɪrənˈmɛntəl// (adjective): connected to nature and the world around us
6. **climate** //ˈklaɪmət// (noun): the usual weather in a place over time

Comprehension Questions

Multiple Choice

1. How long did the team of scientists live in Antarctica?

   Option: Five weeks
   Option: Eight weeks

Option: Ten weeks
Option: Twelve weeks

2. How many meters did the team drill into the bedrock?

Option: 100 meters
Option: 200 meters
Option: 300 meters
Option: 400 meters

3. What is the length of the sediment core pulled up by the team?

Option: 200 meters
Option: 218 meters
Option: 228 meters
Option: 250 meters

4. How many meters of ice did the team melt to reach the sediment?

Option: 423 meters
Option: 503 meters
Option: 523 meters
Option: 600 meters

5. Where will the sediment core be sent for further study?

Option: Australia
Option: New Zealand
Option: Canada
Option: Argentina

6. What type of sediment was NOT found by the team?

Option: Coarse gravel
Option: Fine mud with shell pieces
Option: Sand
Option: Ice

True-False

7. The team of scientists worked at a remote camp for nearly three weeks.

8. The longest sediment core ever taken from an Antarctic ice sheet is 228 meters.

9. Some layers of the sediment were formed when the Earth was much colder.

10. The core will provide information about environmental changes over 12 million years.

11. There was once open ocean where there is now thick ice in Antarctica.

12. The team made their first attempt successfully on the first try.

Gap-Fill

13. The team of scientists lived on snow in Antarctica for nearly _____ weeks.

14. They drilled more than 200 meters into _____ under ice.

15. To reach the sediment, the team melted a hole through _____ meters of ice.

16. The sediment may explain how the West Antarctic Ice Sheet reacts to _____ change.

17. The sediment core could provide information about environmental changes over

_____ million years.

18. The team will send the core to _____ for further study.

Answer

Multiple Choice: 1. Ten weeks 2. 200 meters 3. 228 meters 4. 523 meters 5. New Zealand 6. Sand
True-False: 7. False 8. True 9. False 10. False 11. True 12. False
Gap-Fill: 13. ten 14. bedrock 15. 523 16. climate 17. 23 18. New Zealand

Vocabulary quizzes

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

1. What is the primary material found at the bottom of oceans and lakes?

Option: Bedrock
Option: Sediment
Option: Core

Option: Platform

2. What is the solid rock layer beneath the sediment called?

Option: Soil
Option: Bedrock
Option: Clay
Option: Sand

3. Which type of environment is associated with oceans and seas?

Option: Terrestrial
Option: Marine
Option: Aerial
Option: Arid

4. What do scientists use to make predictions based on data?

Option: Calculate
Option: Infer
Option: Estimate
Option: Measure

5. What term describes how substances change when they come into contact with each other?

Option: Interact
Option: Combine
Option: React
Option: Separate

6. What is it called when information is verified as true?

Option: Doubted
Option: Negated
Option: Assumed
Option: Confirmed

7. What is gained when a process or product is enhanced?

Option: Stagnation
Option: Decline
Option: Deterioration
Option: Improvements

8. What term refers to factors related to nature and ecosystems?

Option: Economic
Option: Social
Option: Environmental
Option: Political

9. What do you call individuals who work together on a spacecraft?

Option: Astronauts
Option: Employees
Option: Crewmates
Option: Colleagues

10. What is it called when astronauts conduct work outside a spacecraft?

Option: Launch
Option: Orbit
Option: Spacewalk
Option: Landing

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

11. The Earth's inner _____ is made of iron and nickel.

12. Scientists _____ into the bedrock to gather samples.

13. The data came from a _____ monitoring system that tracks environmental changes.

14. The _____ is changing rapidly due to human activities.

15. She expressed her _____ about the increasing pollution levels.

16. Many people are concerned about their _____ in the digital age.

17. He faced considerable _____ when learning to play the guitar.

18. In the game, players must devise strategies to defeat their _____ .

19. The referee's decision was considered _____ by the players.

20. The game provides various _____ to help players succeed.

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

21. An astronaut is a person trained to travel into space and conduct scientific research.
22. Marine life refers to the plants and animals that inhabit oceans and seas.
23. Sediment consists of particles of soil, minerals, and organic materials that settle at the bottom of bodies of water.
24. Bedrock is the solid rock that lies beneath the topsoil and sediment layers.
25. Improvements in technology have allowed for better data collection methods.
26. Environmental factors play a crucial role in shaping ecosystems.
27. The astronaut's crewmates supported him during the space mission.
28. The results from the experiment were confirmed through repeated trials.
29. During a spacewalk, astronauts can repair and maintain satellites.
30. Materials can react varying under different environmental conditions.

Answer

Multiple Choice: 1. Sediment 2. Bedrock 3. Marine 4. Estimate 5. React 6. Confirmed 7. Improvements 8. Environmental 9. Crewmates 10. Spacewalk
Gap-Fill: 11. core 12. drilled 13. remote 14. climate 15. worries 16. privacy 17. difficulty 18. enemies 19. unfair 20. weapons
Matching sentence: 1. astronaut 2. marine 3. sediment 4. bedrock 5. improvements 6. environmental 7. crewmates 8. confirmed 9. spacewalk 10. react

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1. Sci/Tech - LEVEL1

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