Scientists Drill Deep in Antarctic Ice, Discover Strange Fossils

Description

A team of 29 scientists and engineers drilled into the ice in West Antarctica. They lived in tents for almost ten weeks.

The team worked hard to drill 200 meters into bedrock. It was very difficult. After three tries, they finally succeeded.

They pulled up a 228-meter cylinder of mud and rock. This is the deepest sediment core ever taken from under Antarctic ice. The layers inside it are surprising scientists. They show parts of the Earth when temperatures were much warmer.

To reach the sediment, they first melted ice with hot water. Then they used long pipes to collect samples. The finds included both gravel and fine mud. Some layers had marine life, which means there was once an open ocean in this area.

Scientists estimate the core covers around 23 million years. They believe it can show how the ice sheet will react to rising temperatures. The core will now be sent to New Zealand for further study. This work will help people understand future sea-level rise better.

Vocabulary List:

1. **sediment** //ˈsɛdəmənt// (noun): small pieces of rock and dirt that settle
2. **bedrock** //ˈbɛdˌrɑk// (noun): hard rock under the soil or loose rocks
3. **core** //kɔɹ// (noun): long, round sample taken deep from the ground
4. **marine** //məˈriːn// (adjective): related to the sea or ocean
5. **estimate** //ˈɛstəˌmeɪt// (verb): give a likely number or time
6. **react** //riˈækt// (verb): change in response to something else

Comprehension Questions

Multiple Choice

1. How long did the team live in tents while drilling in Antarctica?

Option: 5 weeks
Option: 10 weeks
Option: 15 weeks
Option: 20 weeks

2. How deep did the team drill into the bedrock?

Option: 150 meters
Option: 200 meters
Option: 250 meters
Option: 300 meters

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

Option: 200 meters
Option: 228 meters
Option: 250 meters
Option: 300 meters

4. What did the scientists use to melt the ice in order to reach the sediment?

Option: Cold water
Option: Electric heaters
Option: Hot water
Option: Chemical substances

5. How many years of Earth history does the sediment core estimate to cover?

Option: 5 million years
Option: 15 million years
Option: 23 million years
Option: 50 million years

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

Option: Australia
Option: New Zealand
Option: Canada
Option: United States

True-False

7. The team worked for almost ten weeks in Antarctica.

8. The sediment core taken was the shallowest ever recorded.

9. The finds included only fine mud with no gravel.

10. Some layers of the sediment core had signs of marine life.

11. The core will help understand past sea levels but not future sea-level rise.

12. The team successfully drilled into bedrock on their first attempt.

Gap-Fill

13. The team lived in tents for almost _____ weeks.

14. The team drilled _____ meters into bedrock.

15. The sediment core pulled up by the team is _____ meters long.

16. The sediment core covers around _____ million years.

17. To collect samples, the team used _____ pipes.

18. The core will be sent to _____ for further study.

Answer

Multiple Choice: 1. 10 weeks 2. 200 meters 3. 228 meters 4. Hot water 5. 23 million years 6. New Zealand
True-False: 7. True 8. False 9. False 10. True 11. False 12. False
Gap-Fill: 13. 10 14. 200 15. 228 16. 23 17. long 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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aimeeyoung99