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# Ancient Lake Vostok Reveals Life from 15 Million Years Ago

## Description

On 5 February 2012, a Russian drill team at Vostok Station in Antarctica found a hidden lake. This lake, called Lake Vostok, is very large and deep, sitting beneath thick ice for millions of years. When the drill reached the lake, water rushed up like a geyser and froze quickly.

Scientists later found DNA in the ice. This DNA came from tiny life forms that had lived in complete darkness for millions of years. Lake Vostok is located under the East Antarctic Ice Sheet, and the temperature above is extremely cold. The lake has been cut off from the outside world for about 15 million years.

Before the discovery, pilots saw a flat area of ice in the 1960s. In 1996, scientists used special tools to confirm the lake's size and location. It is the largest of many lakes hidden under Antarctica.

The drilling process started in 1989. Scientists worked carefully to prevent contamination. When the drill finally broke into the lake, it brought small life forms to the surface. Researchers believe these findings can help us understand life in other places, like on moons in space.

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## Vocabulary List:

1. **contamination** //kən,tæmə'neɪʃən// (noun): something dirty or harmful added to something
2. **drilling** //ˈdrɪlɪŋ// (noun): making a hole in something with tools
3. **geyser** //ˈɡaɪzər// (noun): hot water and steam that suddenly shoots up
4. **DNA** //di:ɛn'eɪ// (noun): the material that carries information for living things
5. **confirm** //kən'fɜ:m// (verb): to show something is true or correct
6. **findings** //ˈfaɪndɪŋz// (noun): results or information learned from study

## Comprehension Questions

### Multiple Choice

1. What is the name of the hidden lake discovered in Antarctica?

Option: Lake Baikal

Option: Lake Vostok

Option: Lake Superior



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Option: Lake Titicaca

2. In which year did the Russian drill team discover Lake Vostok?

Option: 2005

Option: 2008

Option: 2010

Option: 2012

3. How long has Lake Vostok been cut off from the outside world?

Option: 1 million years

Option: 5 million years

Option: 10 million years

Option: 15 million years

4. What did scientists find in the ice of Lake Vostok?

Option: Frozen fish

Option: Ancient machinery

Option: DNA from tiny life forms

Option: Large mammals

5. When did the drilling process to reach Lake Vostok start?

Option: 1985

Option: 1989

Option: 1992

Option: 1996

6. Which ice sheet is Lake Vostok located under?

Option: West Antarctic Ice Sheet

Option: East Antarctic Ice Sheet

Option: Greenland Ice Sheet

Option: Canadian Ice Sheet

### **True-False**

7. Lake Vostok is located under the West Antarctic Ice Sheet.

8. The drilling process started in 1989.



9. Scientists were able to confirm the size of the lake in 1996.
10. The lake's water rushed to the surface like a geyser when drilled into.
11. Pilots discovered Lake Vostok in the 1970s.
12. Lake Vostok has been isolated for about 15 million years.

### Gap-Fill

13. The Russian drill team discovered Lake Vostok on \_\_\_\_\_ February 2012.
14. Lake Vostok is buried under the \_\_\_\_\_ Antarctic Ice Sheet.
15. The drilling process began in \_\_\_\_\_ to reach Lake Vostok.
16. Scientists found DNA in the \_\_\_\_\_ of Lake Vostok.
17. Lake Vostok was situated beneath thick ice for \_\_\_\_\_ years.
18. The small life forms brought to the surface can help us understand life on \_\_\_\_\_  
in space.

### Answer

**Multiple Choice:** 1. Lake Vostok 2. 2012 3. 15 million years 4. DNA from tiny life forms 5. 1989 6. East Antarctic Ice Sheet

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

**Gap-Fill:** 13. 5 14. East 15. 1989 16. ice 17. millions 18. moons

### Vocabulary quizzes

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

1. What is often a concern in geological studies when investigating potential pollutants?  
Option: Magnetism  
Option: Contamination



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- Option: Radiation  
Option: Absorption
2. Which method is commonly used to extract samples from beneath the Earth's surface?  
Option: Mining  
Option: Drilling  
Option: Excavation  
Option: Sifting
3. Which natural phenomenon is characterized by intermittent eruptions of hot water and steam?  
Option: Spring  
Option: Geyser  
Option: Fountain  
Option: Waterfall
4. What force is primarily responsible for keeping objects grounded on Earth?  
Option: Friction  
Option: Magnetism  
Option: Gravity  
Option: Inertia
5. What natural process involves the wearing away of the Earth's surface?  
Option: Erosion  
Option: Deposition  
Option: Sedimentation  
Option: Compaction
6. What do we call a solid fragment of material from space that reaches the Earth's surface?  
Option: Asteroid  
Option: Meteorite  
Option: Comet  
Option: Satellite
7. What type of waves are generated during an earthquake?  
Option: Sound  
Option: Shock  
Option: Light  
Option: Electromagnetic
8. How would you describe phenomena that deviate from what is standard or expected?  
Option: Ordinary  
Option: Common  
Option: Anomalous



Option: Predictable

9. What term describes the process of growth and improvement in technology and systems?

- Option: Stagnation
- Option: Development
- Option: Decline
- Option: Regression

10. What is needed to perform work, such as in engineering and construction projects?

- Option: Time
- Option: Money
- Option: Energy
- Option: Force

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

11. The research team was excited to share their groundbreaking \_\_\_\_\_ with the scientific community.

12. The asteroid's \_\_\_\_\_ caused significant changes to the environment millions of years ago.

13. Geologists study seismic \_\_\_\_\_ to understand the movements of tectonic plates.

14. Scientists create a \_\_\_\_\_ to simulate potential future climate changes.

15. The Earth's surface is divided into several tectonic \_\_\_\_\_ that move over time.

16. The software developers released an \_\_\_\_\_ to fix bugs and improve functionality.

17. Conservation efforts aim to protect the natural \_\_\_\_\_ for future generations.

18. The organization provides financial \_\_\_\_\_ for students pursuing scientific research.

19. The company upgraded its \_\_\_\_\_ to handle increased online traffic and data storage.

20. The structural engineer measured the \_\_\_\_\_ on the building to ensure safety during



earthquakes.

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

21. Researchers encounter anomalous data that requires further investigation to understand.
22. The drilling operation allowed scientists to extract core samples from deep within the Earth.
23. The Old Faithful geyser in Yellowstone National Park erupts at regular intervals, attracting many visitors.
24. Gravity affects the trajectory of objects thrown into the air, pulling them back down.
25. Erosion can lead to the loss of soil and landscape features over time, reshaping the environment.
26. The impact of climate change can be seen in rising sea levels and extreme weather events.
27. A meteorite struck the Earth, leaving behind a crater that scientists continue to study.
28. The journal published the findings of the recent study on solar energy advancements.
29. The development of new technologies is essential for progress in various scientific fields.
30. Engineers must consider stress factors when designing structures to ensure their reliability.

**Answer**

**Multiple Choice:** 1. Contamination 2. Drilling 3. Geyser 4. Gravity 5. Erosion 6. Meteorite 7. Shock 8. Anomalous 9. Development 10. Energy

**Gap-Fill:** 11. findings 12. impact 13. faults 14. model 15. plates 16. update 17. environment 18. support 19. servers 20. stress

**Matching sentence:** 1. anomalous 2. drilling 3. geyser 4. gravity 5. erosion 6. impact 7. meteorite 8. findings 9. development 10. stress

**CATEGORY**

- 1. Sci/Tech - LEVEL1

**POST TAG**

- 1. Antarctic ice
- 2. esl news
- 3. L1



4. Lake Vostok
5. life
6. water

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