Microlightning in Mist May Have Triggered Earth’s First Life

Description

Charles Darwin believed life began in a warm pond. Others think comets hit Earth, bringing life. Some believe lightning struck the ocean and started life.

Now, new research suggests waves and waterfalls may have helped. Scientists at Stanford University found that tiny water sprays create small sparks, called "microlightning." These sparks can produce important chemicals needed for life.

Professor Richard Zare leads the research team. He says, “This helps us understand how life can come from non-life. Water sprays are all around, especially near rocks, where chemicals can gather.”

Many ideas exist about how life began. Darwin did not say how life started but imagined chemicals in a “warm little pond” creating living cells. Some scientists believe heat from undersea vents helped life to start too.

The study by Zare's team shows that microlightning may be an important source of energy. It helps make key molecules needed for life. Other scientists think this new idea is exciting and want to study it more.

Vocabulary List:

1. **Research** /rɪˈsɜːrʧ/ (noun): A careful and detailed study into a specific problem or issue.
2. **Sparks** /spɑrks/ (noun): Small particles of a burning material or electrical discharge.
3. **Chemicals** /ˈkɛmɪkəlz/ (noun): Substances with a defined composition that can undergo chemical reactions.
4. **Convince** /kənˈvɪns/ (verb): To persuade someone to do or believe something.
5. **Important** /ɪmˈpɔːrtənt/ (adjective): Of great significance or value.
6. **Molecules** /ˈmɒlɪkjuːlz/ (noun): Group of atoms bonded together representing the smallest fundamental unit of a chemical compound.

Comprehension Questions

Multiple Choice

1. What did Charles Darwin believe about the beginnings of life?

Option: Life began in a warm pond.
Option: Life came from comets hitting Earth.
Option: Lightning struck the ocean to start life.
Option: Life originated from heat undersea vents.

2. What did the scientists at Stanford University find regarding the beginnings of life?

Option: Waves and waterfalls may have helped create life.
Option: Comets brought important chemicals for life.
Option: Lightning sparked life in the ocean.
Option: Undersea vents were key in life formation.

3. Where do water sprays creating microlightning primarily occur?

Option: Near rocks
Option: In deep oceans
Option: On mountain peaks
Option: In dry deserts

4. According to Professor Richard Zare, why are water sprays significant for understanding the beginnings of life?

Option: They lead to the formation of comets.
Option: They create heat from undersea vents.
Option: They help make key molecules needed for life.
Option: They produce lightning in the ocean.

5. How did Darwin imagine living cells were created?

Option: Through volcanic eruptions
Option: By chemical interactions in a warm pond
Option: From meteor impacts
Option: From undersea earthquakes

6. What is the impact of microlightning according to the study by Zare's team?

Option: It triggers volcanic eruptions.
Option: It helps create important chemicals needed for life.
Option: It causes undersea vents to release heat.
Option: It initiates meteor showers.

True-False

7. Charles Darwin explicitly stated how life started.

8. Professor Richard Zare leads the research team at Harvard University.

9. Microlightning is a term used to describe small sparks created by water sprays.

10. The study by Zare's team concluded that waves and waterfalls play no role in the origins of life.

11. Heat from undersea vents is believed to have aided the start of life by some scientists.

12. Other scientists are not interested in further studying the concept of microlightning as an energy source for life.

Gap-Fill

14. The study by Zare's team suggests that microlightning can be an important source of

_____.

15. Darwin imagined chemicals in a “warm little pond” creating living cells, suggesting the importance of

_____.

16. The new research shows that microlightning helps produce key _____ needed for life.

17. Professor Richard Zare indicated that water sprays are abundant near rocks, allowing

_____ to gather.

18. Another theory proposed in the text suggests that life began due to heat from _____

vents.

Answer

Multiple Choice: 1. Life began in a warm pond. 2. Waves and waterfalls may have helped create life. 3. Near rocks 4. They help make key molecules needed for life. 5. By chemical interactions in a warm pond
6. It helps create important chemicals needed for life.
True-False: 7. False 8. False 9. True 10. False 11. True 12. False
Gap-Fill: 14. energy 15. chemical interactions 16. molecules 17. chemicals 18. undersea

CATEGORY

1. Sci/Tech - LEVEL1

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