

Scientists find possible alien life in outer space

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Scientists are a step closer to providing an affirmative answer to the question "Are we alone?" For centuries, astronomers have been observing the heavens for signs of extraterrestrial life. Earlier this week, a team of astronomers announced they had

detected a chemical that provides the conditions for life forms. Astrophysicist Dr Nikku Madhusudhan from the University of Cambridge's Institute of Astronomy announced the existence of two chemicals called DMS and DMDS. These are "biosignatures" - the potential fingerprints of life. On Earth, these are only produced by microorganisms, such as plankton. The astronomers said the chemicals are "the most promising signs yet" of life.

The two biosignatures were discovered on a planet called K2-18b. This is about 124 light years from Earth. One light year is approximately 9.46 trillion km. Dr Madhusudhan speculated that the planet is a Hycean world. This is a potentially habitable planet covered in liquid water with an abundance of hydrogen. He said: "Given everything we know about [the planet K2-18b], a Hycean world with an ocean that is teeming with life is the scenario that best fits the data we have." However, he stopped short of stating that life exists on the planet. He said he was 99.7% sure that his findings did not occur by chance, but needed to be 99.99994% certain to state as fact that we are not alone.

Sources: cnn.com / space.com / skyatnightmagazine.com

Writing

We should bring or welcome alien life to Earth. Discuss.

Chat

Talk about these words from the article.

scientists / answers / questions / being alone / astronomers / chemicals / plankton / planet / light years / habitable / water / hydrogen / teeming with life / data / chance

True / False

- 1) Scientists now have a definite answer to whether or not we are alone. T / F
- 2) Scientists found chemicals on Earth that came from a distant planet. T / F
- 3) An astrophysicist said the chemicals were potential fingerprints of life. T / F
- 4) The astrophysicist said there is a lot of plankton in space. T / F
- 5) The planet K2-18b is 9.46 trillion km from Earth. T / F
- 6) The planet K2-18b could be covered in liquid water and hydrogen. T / F
- 7) The astrophysicist stated that there was definitely life other planets. T / F
- 8) The astrophysicist needs a little more proof to be sure we are not alone. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|-------------------------|----------------|
| 1. affirmative | a. liveable |
| 2. the heavens | b. possible |
| 3. detected | c. happen |
| 4. potential | d. space |
| 5. promising | e. roughly |
| 6. approximately | f. profusion |
| 7. teeming | g. positive |
| 8. habitable | h. encouraging |
| 9. abundance | i. brimming |
| 10. occur | j. found |

Discussion – Student A

- a) What do you think about what you read?
- b) Why do you think they called a planet K2-18b?
- c) How many habitable worlds do you think there are?
- d) How amazing is the life on Earth?
- e) What dangers might aliens pose to us?
- f) Would the discovery of alien life be the biggest news ever?
- g) What would aliens think of our planet?
- h) What questions would you like to ask an alien?

Phrase Match

- | | |
|--|-----------------------------------|
| 1. a step closer to providing | a. signs yet of life |
| 2. astronomers have been | b. for life forms |
| 3. a chemical that provides the conditions | c. stating that |
| 4. the potential fingerprints | d. with life |
| 5. the most promising | e. of life |
| 6. One light year is | f. observing the heavens |
| 7. This is a potentially habitable | g. approximately 9.46 trillion km |
| 8. an ocean that is teeming | h. chance |
| 9. he stopped short of | i. an affirmative answer |
| 10. occur by | j. planet |

Discussion – Student B

- Do you think we are alone?
- What do you think of astronomy?
- What do you think extraterrestrial life looks like?
- What would happen if aliens visited Earth?
- Should we bring alien life back to Earth?
- How would our life change if we discovered aliens?
- What do you know about plankton?
- What's your favourite alien movie?

Spelling

- providing an mtarefaifvi answer
- berongisv the heavens
- cposrsatysihti Dr Nikku Madhusudhan
- institute of yonsratom
- the pliontaet fingerprints of life
- isgooacirnmsr, such as plankton
- asoegbsiuint were discovered
- arxpepymlitao 9.46 trillion km
- eleaspcdtu that the planet is a Hycean world
- hleataibb planet
- ienetmg with life
- the aecsoinr that best fits the data

Answers – Synonym Match

1. g	2. d	3. j	4. b	5. h
6. e	7. i	8. a	9. f	10. c

Comprehension Questions

Listen to / read the news article. Answer these questions. (Answers are on p. 27 of the 27-page PDF.)

1.	For how long have astronomers been looking for alien life?
2.	What is Dr Nikku Madhusudhan's specialty?
3.	What does the article say "biosignatures" are?
4.	What microorganism is mentioned in the article?
5.	What are the two chemicals a promising sign of?
6.	How far away is the planet K2-18b from Earth?
7.	What is a Hycean world covered in?
8.	What is teeming with life in a Hycean world?
9.	What did Dr Nikku Madhusudhan stop short of stating?
10.	How sure is Dr Nikku Madhusudhan that life exists in space?

Speaking – Life Forms

Rank these with your partner. Put the best life forms at the top. Change partners often and share your rankings.

- | | |
|-------------|----------|
| • Roses | • Eagles |
| • Plankton | • Whales |
| • Bamboo | • Tigers |
| • Elephants | • Bees |

Answers – True False

1	F	2	F	3	T	4	F	5	F	6	T	7	F	8	T
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Answers to Phrase Match and Spelling are in the text.