Fluentlicious
Materials for language learning

C1-C2

K2-18b - Is There Life Beyond Earth? - Students' version

Vocabulary Exercises

A. Match the words with their meanings:

Groundbreaking
Exoplanet
Hypothesis
Microorganism
Definitive
Caution
Atmosphere

a. Extremely small living thing
b. A clear and final decision or fact
c. A planet outside our solar system
d. Idea or explanation based on limited evidence
e. Warning; care taken
f. Gases surrounding a planet
g. Very new and important

B. Complete the sentences with the words from A:

1. Scientists issued a word of _____ about the early results.
2. The discovery was described as _____ by many experts.
3. An _____ is a planet that orbits a different star.
4. The _____ around Earth contains oxygen and nitrogen.
5. A _____ is a living creature too small to see.
6. The findings support the _____ that life may exist elsewhere.
7. There is no _____ evidence of alien life—yet.

C. Choose the word that best fits the sentence.

conclusive – extraterrestrial – biosignature – hypothesis – orbit – trace – vast

1. The planet may contain a _____ of life.
2. Scientists are still testing their main _____.
3. K2-18b is in a stable _____ around its star.
4. A _____ is something that hints at biological life.
5. Researchers found no _____ evidence yet.
6. The search for _____ life is ongoing.
7. The universe is _____ and full of mysteries.

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Listening

Complete the gaps with three words.

Evidence of Possible Life on Exoplanet K2-18b

In (1) ....., scientists using the James Webb Space Telescope have detected potential (2) ..... on an exoplanet called K2-18b, located approximately (3) ..... from Earth. The planet orbits within its (4) .....—a region where temperatures may allow liquid water to exist, (5) ..... for life as we know it.

(6) ..... the presence of several gases in the planet's atmosphere, including carbon dioxide, methane, and notably, dimethyl sulfide (DMS). On Earth, DMS is exclusively (7) ..... processes, mainly by marine microorganisms such as phytoplankton.

K2-18b is classified as a "hycean" planet—a (8) ..... of exoplanets that have a hydrogen-rich atmosphere and potentially (9) ..... beneath. Although this discovery is not definitive proof of life, it adds significant weight to the hypothesis that conditions suitable for life might exist beyond (10) .....

Scientists caution that (11)..... necessary to confirm these findings. However, this discovery brings us closer to answering one of humanity's most profound questions: (12) ..... in the universe?

The possibility (13) .....—or at least the right conditions for it—may exist on a distant world represents a major step forward in the search for extraterrestrial life and could reshape how we understand our place (14) .....

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True or False

Are the following statements true or false? Remember to correct the false ones.

1. K2-18b is outside our solar system.
2. Dimethyl sulfide on Earth is made by humans.
3. The James Webb Telescope helped discover new gases.
4. A hycean planet has no water.
5. Scientists are 100% sure there's life on K2-18b.
6. Microorganisms can live in oceans.
7. The discovery could change our view of the universe.

Discussion Questions

1. How do you define "life" in the context of space?
2. What does this discovery mean for the future of space science?
3. Do you think microbial life counts as alien life?
4. What would be the impact of finding life on another planet?
5. Should we focus more on exploring Earth or space?
6. How could detecting gases in a planet's atmosphere point to life?
7. What other questions should we ask when studying distant worlds?

Sources:

- https://apnews.com/article/exoplanet-k2-18b-webb-telescope-2e84374e42768080a971e1d5368f0543
- https://www.nasa.gov/universe/exoplanets/webb-discovers-methane-carbon-dioxide-in-atmosphere-of-k2-18-b/?utm_source=chatgpt.com

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K2-18b - Is There Life Beyond Earth? - Teacher's version

Introduction

Write a few of the words from the text on the board and ask the students to guess what the story will be about. You can use other worksheets as an introduction - browse our collection of space-related worksheets.

Vocabulary Exercises

A. Match the words with their meanings:

Groundbreaking - g. Very new and important
Exoplanet - c. A planet outside our solar system
Hypothesis - d. Idea or explanation based on limited evidence
Microorganism - a. Extremely small living thing
Definitive - b. A clear and final decision or fact
Caution - e. Warning; care taken
Atmosphere - f. Gases surrounding a planet

B. Complete the sentences with the words from A:

1. Scientists issued a word of **caution** about the early results.
2. The discovery was described as **groundbreaking** by many experts.
3. An **exoplanet** is a planet that orbits a different star.
4. The **atmosphere** around Earth contains oxygen and nitrogen.
5. A **microorganism** is a living creature too small to see.
6. The findings support the **hypothesis** that life may exist elsewhere.
7. There is no **definitive** evidence of alien life—yet.

C. Choose the word that best fits the sentence.

1. The planet may contain a **trace** of life.
2. Scientists are still testing their main **hypothesis**.
3. K2-18b is in a stable **orbit** around its star.
4. A **biosignature** is something that hints at biological life.
5. Researchers found no **conclusive** evidence yet.
6. The search for **extraterrestrial** life is ongoing.
7. The universe is **vast** and full of mysteries.

Listening - answer key

Evidence of Possible Life on Exoplanet K2-18b

In **(2) a groundbreaking discovery**, scientists using the James Webb Space Telescope have detected potential **(2) signs of life** on an exoplanet called K2-18b, located approximately **(3) 120 light years** from Earth. The planet orbits within its **(4) star's habitable zone**—a region where temperatures may allow liquid water to exist, **(5) a key condition** for life as we know it.

(6) The telescope revealed the presence of several gases in the planet's atmosphere, including carbon dioxide, methane, and notably, dimethyl sulfide (DMS). On Earth, DMS is exclusively **(7) produced by biological** processes, mainly by marine microorganisms such as phytoplankton.

K2-18b is classified as a "hycean" planet—a **(8) relatively new category** of exoplanets that have a hydrogen-rich atmosphere and potentially **(9) vast liquid oceans** beneath. Although this discovery is not definitive proof of life, it adds significant weight to the hypothesis that conditions suitable for life might exist beyond **(10) our solar system.**

Scientists caution that **(11) further observations are** necessary to confirm these findings. However, this discovery brings us closer to answering one of humanity's most profound questions: **(12) Are we alone** in the universe?

The possibility **(13) that microbial life**—or at least the right conditions for it—may exist on a distant world represents a major step forward in the search for extraterrestrial life and could reshape how we understand our place **(14) in the cosmos.**

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True or False

Are the following statements true or false? Remember to correct the false ones.

1. K2-18b is outside our solar system. - TRUE
2. Dimethyl sulfide on Earth is made by humans. - FALSE
3. The James Webb Telescope helped discover new gases. - FALSE
4. A hycean planet has no water. - FALSE
5. Scientists are 100% sure there's life on K2-18b. - FALSE
6. Microorganisms can live in oceans. - TRUE
7. The discovery could change our view of the universe. - TRUE

Discussion Questions

1. How do you define "life" in the context of space?
2. What does this discovery mean for the future of space science?
3. Do you think microbial life counts as alien life?
4. What would be the impact of finding life on another planet?
5. Should we focus more on exploring Earth or space?
6. How could detecting gases in a planet's atmosphere point to life?
7. What other questions should we ask when studying distant worlds?

Sources:

- https://apnews.com/article/exoplanet-k2-18b-webb-telescope-2e84374e42768080a971e1d5368f0543
- https://www.nasa.gov/universe/exoplanets/webb-discovers-methane-carbon-dioxide-in-atmosphere-of-k2-18-b/?utm_source=chatgpt.com