

## K2-18b - Is There Life Beyond Earth?

### Vocabulary Exercises

A. Match the words with their meanings:

Astronomer  
Atmosphere  
Detect  
Organism  
Confirm  
Clue  
Ocean

- a. A large body of salt water
- b. A scientist who studies space
- c. To find something
- d. All the gases around a planet
- e. Something that gives information or hints
- f. A living thing
- g. To prove something is true



B. Complete the sentences with the words from A:

1. Scientists \_\_\_\_\_ gases in the planet's air.
2. An \_\_\_\_\_ is any living thing.
3. The planet has a thick \_\_\_\_\_.
4. The ocean is full of tiny \_\_\_\_\_.
5. A clue is not proof, but it helps \_\_\_\_\_ an idea.
6. An \_\_\_\_\_ looks at planets and stars.
7. Earth has both land and \_\_\_\_\_.

C. Complete with one of the words from the list. Sometimes, you may have to change the form of the word.

support - discover - definite - suit - atmosphere - gas - astronomy

1. The planet's \_\_\_\_\_ makes it interesting.
2. DMS is a \_\_\_\_\_ made by small organisms.
3. Some scientists \_\_\_\_\_ the idea that life exists.
4. This planet might be \_\_\_\_\_ for life.
5. The \_\_\_\_\_ used a telescope to study the sky.
6. This is not a \_\_\_\_\_ proof of life.
7. The \_\_\_\_\_ could help us learn more.

D. One word in each group doesn't fit the topic or category. Identify it.

1. astronomy – biology – telescope – chemistry
2. orbit – gravity – rain – atmosphere
3. discovery – experiment – hypothesis – desert
4. alien – astronaut – researcher – scientist
5. ocean – life – bacteria – telescope

## **K2-18b - Is There Life Beyond Earth?**



### **Listening**

*Complete the gaps with two words.*

Signs of Life on Planet K2-18b?

Astronomers (1) ..... something exciting on a distant planet called K2-18b. This planet is about 120 (2) ..... away from Earth and lies in the “habitable zone,” which means it could have the (3) ..... for liquid water—and possibly life.

Using the James Webb Space Telescope, (4) ..... the planet’s atmosphere. They detected a gas called dimethyl sulfide (DMS). On Earth, DMS is (5) ..... by tiny living organisms in the ocean, such as plankton.

(6) ..... of this gas does not confirm that life exists on K2-18b, but it is an (7) ..... Scientists also found carbon dioxide and methane, which are gases often linked with (8) .....

K2-18b is much larger than Earth and is (8) ..... a “hycean” planet—a type of planet with a hydrogen-rich atmosphere and (9) .....below.

Researchers say this is just the beginning. (10) ..... are needed, but this could be a major step toward answering one of the biggest questions in science: Are we alone in the universe?

**True or False**

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

1. K2-18b is the same size as Earth.
2. The James Webb Telescope helped discover new gases.
3. DMS is always made by machines.
4. Carbon dioxide is found in Earth's atmosphere.
5. Scientists are sure life exists on K2-18b.
6. A "hycean" planet may have oceans.
7. K2-18b is 120 light years from Earth.

**Discussion Questions**

1. What do you think the gas discovery means?
2. Should we spend money to explore space?
3. Would you live on another planet if possible?
4. What do you know about the James Webb Telescope?
5. How do scientists study faraway planets?
6. Do you believe aliens exist? Why or why not?
7. What are the risks and benefits of space exploration?

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](https://www.nasa.gov/universe/exoplanets/webb-discovers-methane-carbon-dioxide-in-atmosphere-of-k2-18-b/?utm_source=chatgpt.com)

# 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:

Astronomer - b. A scientist who studies space

Atmosphere - d. All the gases around a planet

Detect - c. To find something

Organism - f. A living thing

Confirm - g. To prove something is true

Clue - e. Something that gives information or hints

Ocean - a. A large body of salt water

B. Complete the sentences with the words from A:

1. Scientists **detect** gases in the planet's air.
2. The planet has a thick **atmosphere**.
3. The ocean is full of tiny **organisms**.
4. A clue is not proof, but it helps **confirm** an idea.
5. An **astronomer** looks at planets and stars.
6. Earth has both land and **ocean**.

C. Complete with one of the words from the list. Sometimes, you may have to change the form of the word.

support - discover - definite - suit - atmosphere - gas - astronomy

1. The planet's **atmosphere** makes it interesting.
2. DMS is a **gas** made by small organisms.
3. Some scientists **support** the idea that life exists.
4. This planet might be **suitable** for life.
5. The **astronomers** used a telescope to study the sky.
6. This is not a **definite** proof of life.
7. The **discovery** could help us learn more.

D. One word in each group doesn't fit the topic or category. Identify it.

1. astronomy – biology – **telescope** – chemistry
2. orbit – gravity – **rain** – atmosphere
3. discovery – experiment – hypothesis – **desert**
4. **alien** – astronaut – researcher – scientist
5. ocean – life – bacteria – **telescope**

## Listening - answers

Signs of Life on Planet K2-18b?

Astronomers **(1) have discovered** something exciting on a distant planet called K2-18b. This planet is about 120 **(2) light years** away from Earth and lies in the “habitable zone,” which means it could have the **(3) right temperature** for liquid water—and possibly life.

Using the James Webb Space Telescope, **(4) scientists studied** the planet's atmosphere. They detected a gas called dimethyl sulfide (DMS). On Earth, DMS is **(5) mainly produced** by tiny living organisms in the ocean, such as plankton.

**(6) The discovery** of this gas does not confirm that life exists on K2-18b, but it is an **(7) interesting clue**. Scientists also found carbon dioxide and methane, which are gases often linked with **(8) biological activity**.

K2-18b is much larger than Earth and is **(9) classified as** a “hycean” planet—a type of planet with a hydrogen-rich atmosphere and **(9) possible oceans** below.

Researchers say this is just the beginning. **(10) More observations** are needed, but this could be a major step toward answering one of the biggest questions in science: Are we alone in the universe?

**True or False**

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

1. K2-18b is the same size as Earth. - FALSE
2. The James Webb Telescope helped discover new gases. - TRUE
3. DMS is always made by machines. - FALSE
4. Carbon dioxide is found in Earth's atmosphere. - TRUE
5. Scientists are sure life exists on K2-18b. - FALSE
6. A "hycean" planet may have oceans. - TRUE
7. K2-18b is 120 light years from Earth. - TRUE

**Discussion Questions**

1. What do you think the gas discovery means?
2. Should we spend money to explore space?
3. Would you live on another planet if possible?
4. What do you know about the James Webb Telescope?
5. How do scientists study faraway planets?
6. Do you believe aliens exist? Why or why not?
7. What are the risks and benefits of space exploration?

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](https://www.nasa.gov/universe/exoplanets/webb-discovers-methane-carbon-dioxide-in-atmosphere-of-k2-18-b/?utm_source=chatgpt.com)