

Unit 11 7 Earth-size planets found



Task 1. Read the new words and learn them by heart!

	単語・熟語	品詞	意味
1	astronomer	名	天文学者
2	orbit	動	～の周りを回る、軌道を回る 名：軌道；範囲
3	cluster	名	集団
4	announce	動	～を発表する
5	tightly	副	しっかりと
6	dim	形	薄暗い
7	barely	副	たった、わずか
8	so-called	副	いわゆる
9	habitable	形	住むことができる、住むのに適した
10	ripe for		～に適した
11	candidate	名	候補者、志願者
12	crucial	形	重要な、厳しい
13	life-bearing	形	生命の存在する
14	address	動	～を扱う
15	leap	名	飛ぶこと、飛躍 動 跳ぶ
16	up to		～まで

1

Fla. Florida (フロリダ) の略 the constellation Aquarius みずがめ座 NASA National Aeronautics and Space Administration (国家航空宇宙局) の略 dwarf star 矮星 (わいせい) Trappist-1 トラピスト1 Jupiter 木星 on the doorstep 近くに terrestrial planet 地球型惑星 extraterrestrial life 地球外の生命 Milky Way galaxy 銀河系 mind-boggling 驚くべき associate administrator for the science mission 科学ミッション本部副長官 age-old question 長年の疑問 out there 外は (宇宙には) news conference 記者会見 the journal Nature ネイチャー誌

Task 2. listen and answer!

1. 地球と同じ惑星群は、地球からどれくらいの距離にあるか？
2. 現在までに発見された、恒星のまわりにある地球サイズの惑星はいくつか。
3. 昨春、リエージュ大学のマイケル・ギロン氏とそのチームは、何を報告したか。

Unit 11 7 Earth-size planets found

- ① CAPE CANAVERAL, Fla. (AP) — For the first time, astronomers have discovered seven Earth-size planets orbiting a single nearby star — and these new worlds could hold life.
- ② This cluster of planets is less than 40 light-years away in the constellation Aquarius, according to NASA and the Belgian-led research team who announced the discovery Wednesday.
- ③ The planets circle tightly around a dim dwarf star called Trappist-1, barely the size of Jupiter. Three are in the so-called habitable zone, the area around a star where water and, possibly life, might exist. The others are right on the doorstep.
- ④ Scientists said they need to study the atmospheres before determining whether these rocky, terrestrial planets could support some sort of life. But it already shows just how many Earth-size planets could be out there — especially in a star's sweet spot, ripe for extraterrestrial life. The more planets like this, the greater the potential of finding one that's truly habitable. Until now, only two or three Earth-size planets had been spotted around a star. A rocky Earth-sized world inside a star's habitable zone is considered the best candidate for finding evidence of life.
- ⑤ "We've made a crucial step toward finding if there is life out there," said the University of Cambridge's Amaury Triaud, one of the researchers.
- ⑥ The potential for more Earth-size planets in our Milky Way galaxy is mind-boggling. The history of planet-searching shows "when there's one, there's more," said Massachusetts Institute of Technology astrophysicist Sara Seager. "With this amazing system, we know that there must be many more potentially life-bearing worlds out there just waiting to be found."
- ⑦ NASA's Thomas Zurbuchen, associate administrator for the science mission, said the discovery "gives us a hint that finding a second Earth is not just a matter of if, but when," and addresses the age-old question of "Are we alone out there?"
- ⑧ "We're making a step forward with this, a leap forward in fact, toward answering that question," Zurbuchen said at a news conference.
- ⑨ Last spring, the University of Liege's Michael Gillon and his team reported finding three planets around Trappist-1. Now the count is up to seven, and Gillon said there could be more. Their latest findings appear in the journal Nature.

Unit 11 7 Earth-size planets found



Task 3. Reading the passage, put T or F

1. Of the seven Earth-size planets found around Trappist-1, four are just outside the so-called habitable zone. ()
2. If there are more planets like Earth, the possibility that they have some sort of life will go up.()
3. It is impossible for Earth-size planets to exist in our Milky Way galaxy. ()
4. According to NASA's Thomas Zurbuchen, for many years, people have been seeking an answer to the question "Are we alone out there?" ()
5. According to Michael Gillon, seven Earth-size planets or more could exist around Trappist-1. ()

Task 4. Reading the text, answer these questions.

1. Why are planets around Trappist-1 considered suitable to hold life?

2. According to NASA's Thomas Zurbuchen, what kind of hint does the potential for more Earth-size planets in our Milky way galaxy give us?

3

Task 5. Translate into Japanese.

1. The more planets like this, the greater the potential of finding one that's truly habitable.

2. "With this amazing system, we know that there must be many more potentially life-bearing worlds out there just waiting to be found."

Unit 11 7 Earth-size planets found



Task 8. Read in pairs!

A

- ① CAPE CANAVERAL, Fla. (AP) — For the first time, astronomers have discovered seven Earth-size planets orbiting a single nearby star — and these new worlds could hold life.
- ② This cluster of planets is less than 40 light-years away in the constellation Aquarius, according to NASA and the Belgian-led research team who announced the discovery Wednesday.
- ③ The planets circle tightly around a dim dwarf star called Trappist-1, barely the size of Jupiter. Three are in the so-called habitable zone, the area around a star where water and, possibly life, might exist. The others are right on the doorstep.
- ④ Scientists said they need to study the atmospheres before determining whether these rocky, terrestrial planets could support some sort of life. But it already shows just how many Earth-size planets could be out there — especially in a star's sweet spot, ripe for extraterrestrial life. The more planets like this, the greater the potential of finding one that's truly habitable. Until now, only two or three Earth-size planets had been spotted around a star. A rocky Earth-sized world inside a star's habitable zone is considered the best candidate for finding evidence of life.
- ⑤ "We've made a crucial step toward finding if there is life out there," said the University of Cambridge's Amaury Triaud, one of the researchers.
- ⑥ The potential for more Earth-size planets in our Milky Way galaxy is mind-boggling. The history of planet-searching shows "when there's one, there's more," said Massachusetts Institute of Technology astrophysicist Sara Seager. "With this amazing system, we know that there must be many more potentially life-bearing worlds out there just waiting to be found."
- ⑦ NASA's Thomas Zurbuchen, associate administrator for the science mission, said the discovery "gives us a hint that finding a second Earth is not just a matter of if, but when," and addresses the age-old question of "Are we alone out there?"
- ⑧ "We're making a step forward with this, a leap forward in fact, toward answering that question," Zurbuchen said at a news conference.

5

Unit 11 7 Earth-size planets found

⑨ Last spring, the University of Liege's Michael Gillon and his team reported finding three planets around Trappist-1. Now the count is up to seven, and Gillon said there could be more. Their latest findings appear in the journal Nature.



Unit 11 7 Earth-size planets found



B

- ① CAPE CANAVERAL, Fla. (AP) — (初めて:4 語), astronomers have discovered seven Earth-size planets (公転している:2 語) a single nearby star — and these new worlds could hold life.
- ② This cluster of planets is (未満:2 語) 40 light-years away in the constellation Aquarius, according to NASA and the Belgian-led research team who (発表した:2 語) the discovery Wednesday.
- ③ The planets circle tightly (~のまわり:1 語) a dim dwarf star called Trappist-1, barely the size of Jupiter. Three are in the (いわゆる:1 語) habitable zone, the area (~のまわり:1 語) a star where water and, possibly life, might exist. The others are right on the doorstep.
- ④ Scientists said they need to study the atmospheres before determining whether these rocky, terrestrial planets could support (いくつかの種類:3 語) life. But it already shows just how many Earth-size planets could be out there — especially in a star's sweet spot, ripe for extraterrestrial life. The more planets like this, the greater the (確率:1 語) of finding one that's truly habitable. Until now, only two or three Earth-size planets had been spotted around a star. A rocky Earth-sized world inside a star's habitable zone (~と考えられる:2 語) the best candidate for finding evidence of life.
- ⑤ "We've made a crucial step (~に向けて:1 語) finding if there is life out there," said the University of Cambridge's Amaury Triaud, one of the researchers.
- ⑥ The potential for more Earth-size planets in our Milky Way galaxy is mind-boggling. The history of planet-searching shows "when there's one, there's more," said Massachusetts Institute of Technology astrophysicist Sara Seager. "With this amazing system, we know that there must be many more (可能性のある:1 語) life-bearing worlds out there just waiting to be found."
- ⑦ NASA's Thomas Zurbuchen, associate administrator for the science mission, said the discovery "gives us a hint that finding a second Earth is not just a (問題:1 語) of if, but when," and (取り組む:1 語) the age-old question of "Are we alone out there?"
- ⑧ "We (前進する:4 語) forward with this, a leap forward (実は:2 語), toward answering that question," Zurbuchen said at a news conference.

7

Unit 11 7 Earth-size planets found



⑨ Last spring, the University of Liege's Michael Gillon and his team reported finding three planets around Trappist-1. Now the count is (～まで : 2 語) seven, and Gillon said there could be more. Their (最新の:1 語) findings appear in the journal Nature.