

# 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

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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。

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- 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.

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### 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?

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### 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."  
\_\_\_\_\_  
\_\_\_\_\_



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### 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.
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- 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.
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- 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?"
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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.

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