

Neil

Hello. This is 6 Minute English from BBC Learning English. I'm Neil.

Becca

And I'm Becca. Neil, do you believe that life exists away from planet Earth?

Neil

Well, I'm not sure about the kind of little green men that you see in science fiction movies, but also, I think we cannot be alone in the universe. What about you, Becca? What do you think?

Becca

I agree, I think that maybe life does exist beyond our planet, but maybe not as we see in alien movies.

Neil

Well, in this episode, we'll be learning from science and space experts about whether the conditions for life exist on a planet 40 light years away.

Becca

Yes, and as usual, you can find a transcript for this episode, along with all the vocabulary and a worksheet, on our website bbclearningenglish.com.

Neil

OK, a quiz question for you, Becca. How long would it take to drive a car to the Sun at 100km an hour? Is it:

- a) 70 years,
- b) 170 years, or
- c) 1,700 years?

Becca

Well, Neil, the Sun seems very far away so I'll go for c) 1,700 years.

Neil

I hope you have enough petrol for that. Well, we'll find out the answer to the question later. Now, though, some science and space experts are excited about a planet in a different solar system from our own. Science journalist, Caroline Steele, talks about this discovery on the BBC World Service programme, What in the World.

Caroline Steele

So, scientists have been looking at an exoplanet. So, that's a planet that exists in a solar system that isn't our own, called TRAPPIST-1e, um, and it's a rocky planet like Earth. It's a similar size to Earth, and it exists in the **habitable zone** around its sun, and its sun is called TRAPPIST-1.

Becca

Caroline explains that scientists have discovered that the planet, TRAPPIST-1e, exists in the **habitable zone** around its sun. The adjective **habitable** describes a place or habitat that is suitable for something to live.

Neil

Yes, and a **zone** is an area with a particular feature. For example, people who live in earthquake zones have to be prepared for danger.

Becca

So, a **habitable zone** is an area where something could live. Caroline goes on to explain why they think TRAPPIST-1e may be **habitable**.

Caroline Steele

Scientists have been looking at the **potential** atmosphere around TRAPPIST-1e and they've **ruled out** that it's really full of hydrogen or carbon dioxide, which is a great thing because they're greenhouse gases, which would make the planet really hot. And there are some small clues that it might be a nitrogen-**dominated** atmosphere, which, again, is another sort of clue that there could be life there.

Neil

Caroline Steele says that scientists are looking at the **potential** atmosphere around TRAPPIST-1e. That is, that they want to find out if the atmosphere is capable or likely to become able to host life. If something has **potential**, it already has the qualities or abilities to do something. The adjective **potential** has a similar meaning but refers to future capability.

Becca

Exactly. We could say the data has **potential** in that it shows signs of helping the research. But when we talk about **potential** data, we're referring to data that could help us with future research.

Neil

She also mentions how scientists have **ruled out** that TRAPPIST-1e is full of hydrogen or carbon dioxide. The phrasal verb **rule out** means to dismiss the possibility or idea of something. Scientists have found that TRAPPIST-1e is not full of those greenhouse gases, they've **ruled it out**.

Becca

Indeed. And Caroline goes on to say how the atmosphere of TRAPPIST-1e is **dominated** by nitrogen. If something is **dominated** by something else, it is controlled by it or is the most significant element of it. TRAPPIST-1e is full of nitrogen, which is exciting because nitrogen is a sign of life and habitability.

Neil

So, what if nitrogen is actually found on this planet? Caroline Steele has more.

Caroline Steele

My guess is what we'll do is try and see what other gases are in the atmosphere and use models to work out how warm the planet could be and whether or not it's a temperature that basically could support life, or maybe it's too hot or too cold, but **fingers crossed** it has nitrogen. There's enough of it to keep the planet a decent temperature. And then that's one step closer to finding life.

Becca

Caroline guesses that scientists will focus on the planet's temperature and whether it could support life. She uses the expression **fingers crossed** to express hope for a positive outcome.

Neil

Yes. We often make the physical gesture of crossing our fingers for good luck.

Becca

We do. That reminds me Neil, the answer to your question! **Fingers crossed** that I answered correctly.

Neil

I see what you've done there, Becca. Yes, I asked you how long it would take to drive to the Sun at 100km an hour, and you answered c) 1,700 years. Well, the Sun is very far away, but the answer was b) only 170 years.

Becca

Oh well, that's still longer than my lifetime! Now let's have a recap of the language we've learnt in this episode, starting with **habitable**, which describes a place or habitat that is suitable for something to live.

Neil

A **zone** is an area with a particular feature.

Becca

Potential describes possibly having qualities or abilities to do something.

Neil

The phrasal verb **rule out** means to dismiss the possibility or idea of something.

Becca

We also had **dominated**. If something is **dominated** by something else, it is controlled by it or is the most significant element of it.

Neil

And finally, the expression **fingers crossed** is used to wish for hope or luck. Once again, our six minutes are up, but head over to our website, bbclearningenglish.com, for a quiz and worksheet for this episode. See you soon. Goodbye for now.

Becca

Bye!

VOCABULARY

habitable

describes a place, or habitat, that is suitable for something to live

zone

an area with a particular feature

potential

describes possibly having qualities or abilities to do something

rule out

dismiss the possibility or idea of something

dominated

controlled by or is the most significant element of

fingers crossed

an expression we use to wish for hope or luck