

Mars venture has taken one giant leap backwards

Level 3 • Advanced

1 Mars quiz

Choose the correct answers.

- Mars is the ...
 - ... closest planet to the sun.
 - ... second planet from the sun.
 - ... fourth planet from the sun.
- Mars is the ...
 - ... smallest planet in the solar system.
 - ... second smallest planet in the solar system.
 - ... largest planet in the solar system.
- It is often called the ...
 - ... red planet.
 - ... hot planet.
 - ... fire planet.
- It is approximately ...
 - ... 227,900,000km from the sun.
 - ... 900,227,000km from the sun.
 - ... 900,227km from the sun.
- Mars is named after ...
 - ... the Nordic god of thunder.
 - ... the Greek god of fire.
 - ... the Roman god of war.
- Mars is home to ...
 - ... the crew of Mars One.
 - ... alien life forms.
 - ... the tallest mountain in the solar system.

2 Key words

Find the key words in the article and write them next to the definitions below. The paragraph numbers are given to help you.

- doubts that someone has about something that other people think is true or right _____ (para 1)
- cause to go and live permanently in a particular place _____ (para 1)
- thorough and careful _____ (para 3)
- the quality of lacking experience of life and of believing things too easily _____ (para 3)
- believed or said by some people to be true _____ (para 3)
- the difficulty of accepting something as true _____ (para 4)
- able to be done; worth doing _____ (para 4)
- a small vehicle used by astronauts for travelling on the surface of a planet _____ (para 7)
- correct, fair and reasonable _____ (para 10)
- careful or nervous about someone or something because you think they might cause a problem _____ (para 12)
- the degree to which something is considered to be right or wrong _____ (para 14)
- the fact of applying for a position _____ (para 14)

3 Headline

Read the headline to the article. Which well-known quote does it reference? Explain what the headline means in your own words.

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Shortlisted Mars One astronaut: venture has taken one giant leap backwards

Astrophysicist Joseph Roche says selection process for one-way mission is not rigorous enough, Dutch organizers are naive and project is unlikely to happen

Peter Walker
18 March, 2015

- 1 He is not the first person to express scepticism about Mars One, a vastly ambitious private mission aiming to settle humans on Mars from 2025. But Joseph Roche is different from most critics: he's on the shortlist of astronauts.
- 2 Roche, an astrophysicist at Trinity College Dublin who was announced in February as among the 100 people in line for the mission, has written for the *Guardian* expressing his grave doubts about the viability of Mars One.
- 3 The selection process, Roche writes, "was not rigorous enough to reach the requisite standard of more traditional astronaut selection programmes". He also says the Dutch Mars One team have displayed "a certain naivety" in believing they can succeed alone in the supposed \$6bn mission and should now accept it is very unlikely to happen.
- 4 He writes: "More openness and transparency would benefit Mars One greatly but I think that the shortcomings of the selection process, coupled with their unwillingness to engage and collaborate with the scientific community mean that the time might have come for Mars One to acknowledge the implausibility of this particular venture and turn their efforts towards supporting other exciting and more viable upcoming space missions."
- 5 Roche also expressed worries about the way the mission organizers publicized a so-called top-ten candidates. The ranking, he said, didn't mean these were the most likely potential astronauts but was, instead, based on how many "supporter points" each had earned through acts such as buying official merchandise.
- 6 He writes: "These points are Mars One's supporter points which 'represent the degree of your support to Mars One's mission'." These points play no role in the selection process and serve only to show how much each supporter has donated to Mars One."
- 7 The official timeline for the mission says the group plans to dispatch a stationary lander and satellite to Mars in 2018, followed by a rover in 2020 and cargo missions starting in 2022. Humans would start arriving in 2025 and crews of four would be sent every two years to add to the settlement. They would not return to Earth.
- 8 In February, a prominent supporter of the project, Gerard 't Hooft, a Dutch Nobel laureate in physics, said he did not believe this timetable was realistic. He said: "It will take quite a bit longer and be quite a bit more expensive. When they first asked me to be involved, I told them: 'You have to put a zero after everything'."
- 9 Roche also spoke to Medium, a US blogging platform that has previously expressed grave scepticism about Mars One, reporting among other things that the supposed 200,000 applications to be astronauts in fact totalled 2,761.
- 10 He told Medium about the selection process in more detail: "I have not met anyone from Mars One in person. Initially, they'd said there were going to be regional interviews; we would travel there, we'd be interviewed, we'd be tested over several days and, in my mind, that sounded at least like something that approached a legitimate astronaut selection process.
- 11 "But then they made us sign a non-disclosure agreement if we wanted to be interviewed and then, all of a sudden, it changed from being a proper regional interview over several days to being a ten-minute Skype call."
- 12 Roche told the *Guardian* he did not want to give more interviews as he was wary about being negative about the idea of space travel.
- 13 In his comment piece he writes: "I am passionate about pushing the boundaries of scientific endeavour and that is why the ambitiousness of the Mars One plan appealed to me. Although Mars One were never likely to overcome the financial and technical barriers during their proposed timeline, it was refreshing to hear a new idea that challenges us to think about our own role in the future of space exploration.
- 14 "Being part of the subsequent public debate over the ethics and morality of future missions has

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been one of the most interesting and enjoyable aspects of my candidacy with Mars One. If a one-way mission to Mars ever became possible, then I would always volunteer. For an astrophysicist, that is not a difficult decision to make but it is also a moot point because I do not

think we will see a one-way mission in my lifetime.”

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4 Collocations

a. Match the words to make collocations from the article.

- | | |
|--------------------|---------------|
| 1. grave | a. points |
| 2. requisite | b. organizers |
| 3. selection | c. standard |
| 4. scientific | d. doubts |
| 5. mission | e. programmes |
| 6. supporter | f. community |
| 7. official | g. missions |
| 8. cargo | h. agreement |
| 9. regional | i. mission |
| 10. public | j. timeline |
| 11. non-disclosure | k. debate |
| 12. one-way | l. interviews |

b. Now, use the collocations to summarize the article.

5 Expressions

a. Use the words from the box to make three expressions from the article with the following meanings.

a	boundaries	moot	only	point
pushing	serve	show	the	to

- their only purpose is to present something _____ (para 6)
- discovering new things about something _____ (para 13)
- no longer important _____ (para 14)

b. Find out how the expressions were used in the article.

c. Use the three expressions in sentences of your own.

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6 Discussion

You have been shortlisted to join a space mission. You don't know how long you will be away or whether you will ever be able to return.

a. Write down six things that you would want to take with you.

-
-
-
-
-
-

b. Get together with two or three other students. You are the crew of the space mission. Your commander has ordered you to reduce the number of things you want to take by 50%. Discuss which three things on each of your lists are absolutely essential and why.

c. Make a list of the essential items you have agreed on. Explain to the rest of the class what your crew has decided to take and why.

7 Webquest

a. Complete the list below with the names of the other seven planets in the solar system.

- 1.
- 2.
- 3.
4. Mars
- 5.
- 6.
- 7.
- 8.

b. Which former planet is generally no longer considered a planet? Why?

c. Write a quiz based on one of the planets other than Mars. You may want to use the questions in task 1 as a model.

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KEY

1 Mars quiz

- | | |
|------|-------|
| 1. c | 5. b |
| 2. b | 6. a |
| 3. a | 7. j |
| 4. a | 8. g |
| 5. c | 9. l |
| 6. c | 10. k |
| | 11. h |
| | 12. i |

2 Key words

1. scepticism
2. settle
3. rigorous
4. naivety
5. supposed
6. implausibility
7. viable
8. rover
9. legitimate
10. wary
11. morality
12. candidacy

3 Headline

The well-known quote is 'That's one small step for a man, one giant leap for mankind,' the words spoken by Neil Armstrong on first setting foot on the moon, in 1969.

4 Collocations

Note: Students should work in pairs for this task. Check that they have identified the correct collocations before they move on to part b of the task. Ask them to tick off each collocation as they use it in their summary. One student can start the summarizing using the first six collocations; the other can complete it using the last six.

1. d
2. c
3. e
4. f

5 Expressions

1. serve only to show
2. pushing the boundaries
3. a moot point

7 Webquest

a.

1. Mercury
2. Venus
3. Earth
4. Mars
5. Jupiter
6. Saturn
7. Uranus
8. Neptune

b. Since 2006, Pluto has been classified as a 'dwarf planet', a class distinct from 'planet', due to its relatively small size.

c. Notes: Assign each small group of students one planet, excluding Mars. Get them to research facts about their planet with the aim of creating a quiz similar to the one in task 1. Each quiz should fit onto an A4 page. Encourage groups to illustrate their quiz and, when they're finished, display them on the wall. The quiz could be set for homework.

In a follow-up task, all students wander around the class, read the quizzes and make notes of their answers. (They may *not* refer to their smartphones!) After a set amount of time, go through the answers with the class and total up the points each student has to find out who is the class solar-system expert.