

19 Expedition to Mars DSE

Level: 



Let's think!

1. Have you ever thought of living on Mars?
2. What obstacles do we need to overcome to live on Mars?

PLAYLIST



READ ALONG



MAKING THE RED PLANET OUR HOME

1 On 18 February 2021, a rover nicknamed Percy sent by the United States' National Aeronautics and Space Administration (NASA) descended on Mars. Its mission has included collecting rock and soil samples and converting carbon dioxide into oxygen to prepare for future crewed missions. In May of the same year, Zhurong, a rover sent by the China National Space Administration (CNSA), also landed on Mars. Several government space agencies have said that their goal is to send manned missions to Mars in the near future. Elon Musk, the founder of SpaceX, even claimed that he wanted to colonise Mars and send one million people to live there before the end of 2050.

2 What would life on Mars look like? Mars has a very thin atmosphere. Humans would probably have to live in bio-domes made of thick glass to block out harmful solar radiation.

As Mars has only one-third of the gravity of Earth, humans could move around on its surface much easier than on Earth. If you wanted to take a walk outside the biospheres, you would have to wear specially-designed space suits because of the harmful solar rays and lack of oxygen. Carefully-selected plants that could withstand the harsh Martian environment would be cultivated in greenhouses to provide food and oxygen for the population.

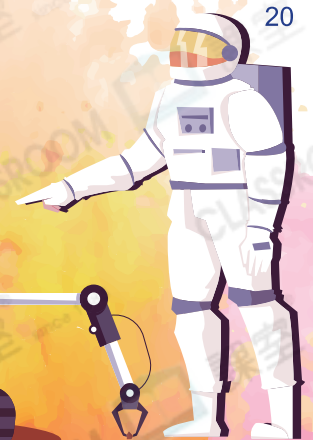
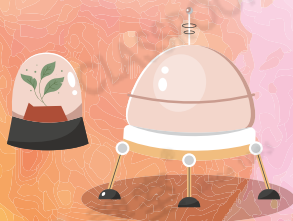


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3 Many people have mixed feelings about the prospect of settling on Mars. Some are in favour of doing so. They suggest that Mars may become a refuge for those affected by the effects of climate change and natural disasters caused by pollution and environmental degradation. They think that a human settlement on Mars may offer humans a fresh start. For example, the scarcity of natural resources on the Red Planet may motivate us to become more environmentally conscious. Living together in an alien and inhospitable setting may also encourage people to develop a sense of mutual support and solidarity.

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4 However, others are opposed to Mars colonisation because human settlement will greatly damage the fragile Martian ecosystem. Mars may seem like barren, but what lies underneath the dry surfaces of the planet is a compelling mystery. Human beings would carry bacteria and other pollutants that could forever alter the pristine environment of Mars.

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5 Inhabiting a new planet satisfies the human needs for adventure and exploration.



The more advanced technology becomes, the more eager we are to adopt it in more areas. Yet this also comes at a cost. Space exploration is enormously expensive. Sending people to Mars requires investment of billions of dollars, as well as fuel, materials and other resources. Those who can afford to go are probably the super-rich who can use this opportunity to escape from problems they have created on Earth.

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6 To solve the problems that the Earth faces today, such as global warming and environmental pollution, it requires enormous resources and innovative, sophisticated technology. The more attention falls on Mars settlement, the fewer resources are allocated to improve the conditions on Earth. While space exploration for the sake of the future generation may be a laudable goal, we should not let our dreams of living on Mars distract us from the reality of living on our own planet.

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~550 words

Looking into Grammar

We use **comparatives** in the sentence pattern below to show how one change leads to another.

✓ **The more advanced** technology becomes, **the more eager** we are to adopt it in more areas.

? Underline one similarly structured sentence in the last paragraph of the editorial.

Read the text and answer questions 1–14. For multiple-choice questions, choose the best answer and blacken ONE circle only. (29 marks)

1. Have humans reached Mars? Explain your answer based on the information in paragraph 1.

1 In paragraph 1, look for two adjectives that describe the future missions.

2. Complete the table by using a maximum of TWO words based on the information in paragraph 1.

Agencies which have Mars missions	Year of the most recent or future mission
(i) _____	Percy landed on Mars (ii) _____.
(iii) _____	Zhurong landed on Mars (iv) _____.
(v) _____	A future mission will be done (vi) _____.

3. According to paragraph 2, which of the following is NOT true?

- A. Humans would need to live in a sphere with closed ecosystem.
- B. Plants could be cultivated to provide oxygen for human settlers.
- C. All food would have to be brought in from Earth for people to eat.
- D. It would be easier to walk on Mars than on Earth.

A B C D

4. Based on the information in paragraph 2, list THREE problems for people to live on Mars.

(i) _____

(ii) _____

(iii) _____

5. Find another name for Mars in paragraph 3.


6. Based on the information in paragraph 3, give THREE reasons why some people prefer living on Mars.

6 Answer in complete sentences. Make sure each sentence has a correct subject.

(i) _____

(ii) _____

(iii) _____

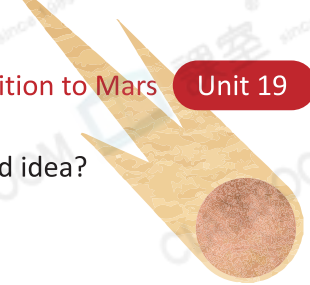
 7. Which phrase in paragraph 4 best describes the writer's opinion on whether Mars is a dead planet?

8. Look at the following pronouns and answer who or what they refer to in paragraphs 3–4.

(i) 'They' (line 22) _____

(ii) 'us' (line 25) _____

(iii) 'the planet' (line 30) _____



9. According to paragraph 5, which of the following makes colonisation of Mars a bad idea?
- A. Mars has no atmosphere.
 - B. The colonial system would not work.
 - C. The cost is too high.
 - D. Even very rich people cannot afford to live on Mars.

A B C D

10. Find words in paragraphs 4–6 to match the following definitions.

(i) _____	(<i>adj.</i>) disagreeing with something, such as a plan
(ii) _____	(<i>adj.</i>) not spoiled or worn from use
(iii) _____	(<i>adj.</i>) modern and well developed
(iv) _____	(<i>adj.</i>) worth praising, even if there is little or no chance to success

11. According to paragraph 6, why do some people think that space exploration is worth doing?

12. According to the editorial, inhabitants on Earth are suffering from _____.


- I. global warming
- II. over-population
- III. pollution
- IV. natural disasters

- A. I, II and IV
- B. I, III and IV
- C. II, III and IV
- D. all of the above

A B C D

 13. (i) Is the writer for or against colonising Mars?

(ii) In the editorial, which sentence tells you about the writer's stance? Explain your answer.

 14. What is the writer's main purpose of writing this editorial?

- A. to explain why humans cannot live on Mars
- B. to inform readers about Mars missions
- C. to advise readers to consider living on Mars
- D. to express the writer's viewpoint on inhabiting Mars

A B C D



Vocabulary

GLOSSARY



A. Complete the speech below with the given words. Make sure your answers are grammatically correct.

bio-dome (n.)

crewed (adj.)

cultivate (v.)

degradation (n.)

investment (n.)

laudable (adj.)

pristine (adj.)

prospect (n.)

settlement (n.)

solidarity (n.)

Act before the Earth becomes unliveable

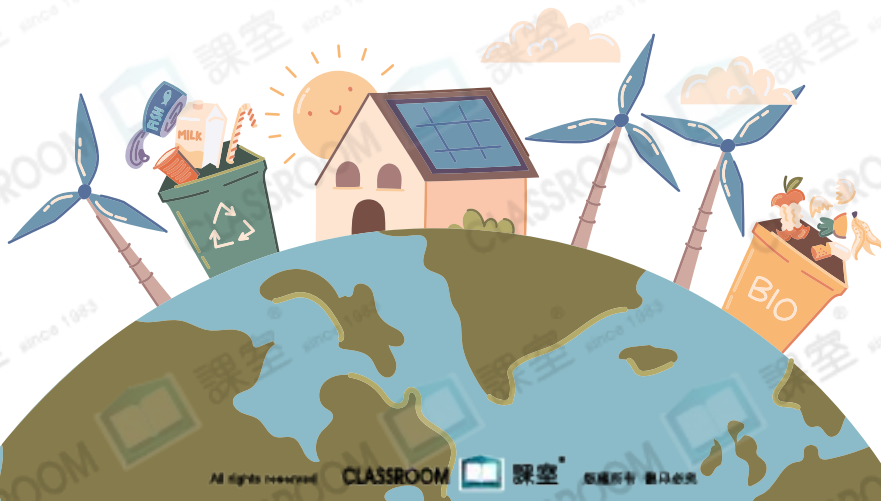
Ladies and Gentlemen,

In recent decades, the Earth has become more and more unliveable. Humanity has changed the world so much that it is hard to find any (1) _____ landscapes. Some lakes are drying up and vegetation is undergoing (2) _____. We are not optimistic about the environmental (3) _____ for the next century.

The worsening situation has forced us to consider whether human beings need to set up (4) _____ on other planets for (5) _____. (6) _____ space missions have become one of the major (7) _____ of some entrepreneurs. For example, Elon Musk, the founder of SpaceX, planned to send astronauts to Mars.



However, human migration to other planets is unrealistic for now. Therefore, it is urgent to strengthen social (8) _____ to protect the environment. For example, the government can organise campaigns to encourage people to (9) _____ more plants and reduce the use of plastics. Protecting our planet is a / an (10) _____ action. We should try our best to protect the Earth while expanding our curiosity beyond the universe!



- B. Complete the crossword puzzle below with the given words. Make sure your answers are grammatically correct.

Rocket launch

cruise

fuel

gravity

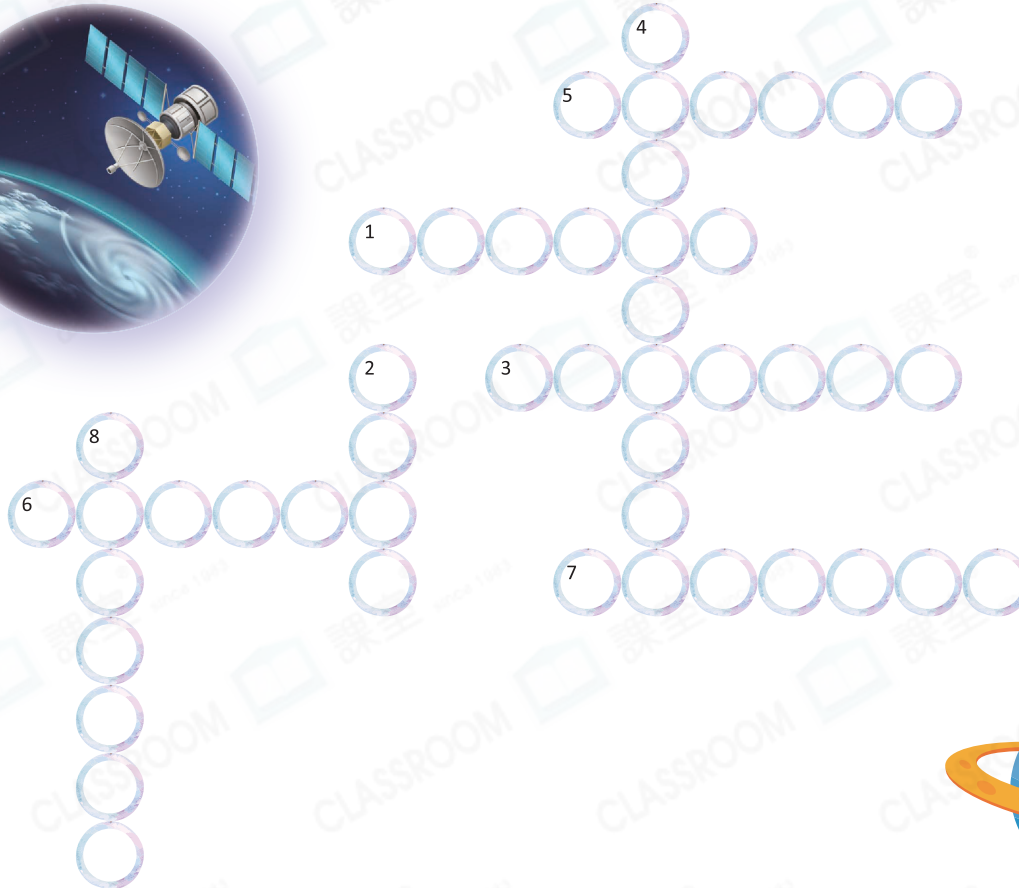
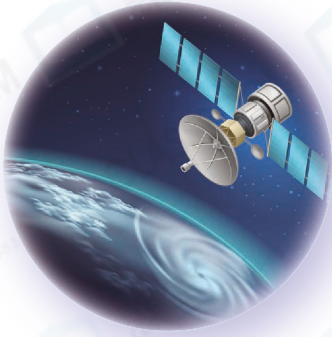
heavy

manned

release

rocket

satellite



We travel into space by spacecraft. A spacecraft is pushed by a (1) _____ which takes off when the (2) _____ inside is burnt. When it reaches a certain height, it will (3) _____ the very useful (4) _____ which helps with scientific research, weather forecasting and so on. A spacecraft is (5) _____ but a rocket is not. Therefore, people can (6) _____ the universe in a spacecraft. The larger and (7) _____ the spacecraft is, the more powerful the rocket needs to be because of the pull from the Earth's (8) _____.

Writing

Do you think it is necessary for humans to explore Mars?

Write an article to express your view in about 200 words.