

THE ARTICLE

From <https://breakingnewsenglish.com/2101/210104-space-exploration.html>

Cosmologists, astronomers and space engineers are predicting that 2021 will be a great year for space exploration. An increasing number of countries and commercial companies are investing in technology to venture into the heavens. Entrepreneurs like SpaceX's Elon Musk and Virgin Galactic's Richard Branson are setting their sights on space tourism and sending astronauts to Mars. What once seemed like science fiction is quickly becoming space fact. Such are the advances in technology, we might no longer be surprised at news of asteroids being mined, Mars being colonised, or of new forms of holidays, such as getaway weekend breaks to the Moon.

The year will start with an exciting project that will help scientists better understand the universe. NASA will launch its Q-PACE probe on January the 15th. This will study the collision of small particles in space to provide an insight into how planets originally formed. A month later, NASA's Perseverance rover will land on Mars. This mission will test for signs of possible past microbial life. NASA said: "Returning samples of Mars to Earth has been a goal of planetary scientists since the early days of the space age." In October, the James Webb Space Telescope, the successor to the Hubble Telescope, will launch into space. Its mission is to observe the first galaxies that formed in the early universe.

Sources: <https://www.salon.com/2020/12/29/all-the-space-missions-to-look-forward-to-in-2021/>
<https://www.washingtonpost.com/technology/2020/12/30/2021-space-events-plan/>
<https://newatlas.com/space/year-space-2020-retrospective/>

WARM-UPS

1. SPACE EXPLORATION: Students walk around the class and talk to other students about space exploration. Change partners often and share your findings.

2. CHAT: In pairs / groups, talk about these topics or words from the article. What will the article say about them? What can you say about these words and your life?

cosmologist / astronomer / a great year / the heavens / space tourism / asteroids / project / the universe / collision / an insight / mission / microbial life / space / galaxy

Have a chat about the topics you liked. Change topics and partners frequently.

3. THE HEAVENS: Students A **strongly** believe it is essential for humans to explore the heavens; Students B **strongly** believe it isn't. Change partners again and talk about your conversations.

4. EXPLORATION: How important is it to explore these things? Why? Complete this table with your partner(s). Change partners often and share what you wrote.

	How Important?	Why?
The Moon		
Mars		
The deep oceans		
The human brain		
Deep space		
Artificial intelligence		

5. MARS: Spend one minute writing down all of the different words you associate with the word "Mars". Share your words with your partner(s) and talk about them. Together, put the words into different categories.

6. SCIENCE FICTION: Rank these with your partner. Put the best futuristic things at the top. Change partners often and share your rankings.

- Jetpacks
- Robot police
- Drone cars
- Moon holidays
- Reverse-ageing machine
- Teletransportation
- Computer-assisted brains
- 100% sustainability

VOCABULARY MATCHING

Paragraph 1

- | | |
|-----------------|--|
| 1. astronomer | a. Saying or estimating that a specified thing will happen in the future. |
| 2. predicting | b. A person who organizes and operates a business or businesses, taking on greater than normal financial risks to do that. |
| 3. venture | c. The sky, especially where the sun, moon, stars, and planets are situated. |
| 4. the heavens | d. Dare to do something or go somewhere that may be dangerous. |
| 5. entrepreneur | e. An expert of student the branch of science which deals with space, and the physical universe. |
| 6. asteroid | f. Sent a group of settlers to a place and establish political control over it. |
| 7. colonised | g. A small rocky object orbiting the sun. |

Paragraph 2

- | | |
|---------------|---|
| 8. launch | h. A person or thing that takes over from another. |
| 9. probe | i. Sent a missile, satellite, or spacecraft on its course or into orbit. |
| 10. collision | j. Relating to or characteristic of a micro-organism. |
| 11. insight | k. A system of millions or billions of stars. |
| 12. microbial | l. An instance of one moving object or person striking violently against another. |
| 13. successor | m. A deep understanding of a person or thing. |
| 14. galaxy | n. An unmanned exploratory spacecraft designed to transmit information about its environment. |

BEFORE READING / LISTENING

From <https://breakingnewsenglish.com/2101/210104-space-exploration.html>

1. TRUE / FALSE: Read the headline. Guess if a-h below are true (T) or false (F).

- a. Cosmologists doubt that 2021 will be great for space exploration. **T / F**
- b. Companies are investing in technology to get us to heaven. **T / F**
- c. The article says science fiction is turning out to be real life. **T / F**
- d. The article says we will not be surprised by our colonising Mars. **T / F**
- e. A NASA probe called Q-PACE will study the collision of small particles. **T / F**
- f. Another NASA probe will look for microbial life on the Moon. **T / F**
- g. NASA said scientists have wanted samples of Mars for a long time. **T / F**
- h. The Hubble Telescope will re-launch in October. **T / F**

2. SYNONYM MATCH:

Match the following synonyms. The words in **bold** are from the news article.

- | | |
|----------------------|-----------------------|
| 1. predicting | a. impact |
| 2. commercial | b. journey |
| 3. venture | c. enterprise |
| 4. advances | d. vacations |
| 5. breaks | e. cosmos |
| 6. project | f. forecasting |
| 7. collision | g. specimens |
| 8. samples | h. next-in-line |
| 9. successor | i. private enterprise |
| 10. universe | j. breakthroughs |

3. PHRASE MATCH: (Sometimes more than one choice is possible.)

- | | |
|--|--------------------------|
| 1. investing in technology to venture | a. microbial life |
| 2. setting their sights | b. being mined |
| 3. science fiction is quickly becoming | c. in the early universe |
| 4. surprised at news of asteroids | d. into the heavens |
| 5. getaway weekend | e. space fact |
| 6. the collision of small | f. scientists |
| 7. an insight into how planets | g. particles in space |
| 8. test for signs of possible past | h. breaks to the Moon |
| 9. planetary | i. originally formed |
| 10. observe the first galaxies that formed | j. on space tourism |

COMPREHENSION QUESTIONS

From <https://breakingnewsenglish.com/2101/210104-space-exploration.html>

1. Who is predicting a great 2021 besides cosmologists and astronomers?
2. Where do commercial companies want to venture into?
3. Where do entrepreneurs want to send astronauts?
4. What does the article say science fiction is becoming?
5. Where might we be going for weekend breaks?
6. What will NASA launch on January the 15th?
7. In what month will NASA launch its rover?
8. What will NASA's Perseverance rover test for signs of?
9. When will the James Webb Space Telescope launch into space?
10. What is the mission of the James Webb Space Telescope?

AFTER READING / LISTENING

From <https://breakingnewsenglish.com/2101/210104-space-exploration.html>

1. WORD SEARCH: Look in your dictionary / computer to find collocates, other meanings, information, synonyms ... for the words 'space' and 'exploration'.

space	exploration

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning...?

4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

5. TEST EACH OTHER: Look at the words below. With your partner, try to recall how they were used in the text:

<ul style="list-style-type: none">• predicting• investing• sights• seemed• surprised• breaks	<ul style="list-style-type: none">• start• small• later• goal• launch• first
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SPACE EXPLORATION DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

1. What did you think when you read the headline?
2. What images are in your mind when you hear the word 'space'?
3. What do you know about space?
4. What do you want to know about space?
5. How important is space exploration?
6. How good is the job of an astronomer?
7. How have commercial companies changed space exploration?
8. What motivates space entrepreneurs?
9. Does science fiction always become space fact?
10. What do you think of getaway weekend breaks to the Moon?

2021 to be huge for space exploration – 4th January, 2021
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SPACE EXPLORATION DISCUSSION

STUDENT B's QUESTIONS (Do not show these to student A)

11. Did you like reading this article? Why/not?
12. What do you think of when you hear the word 'exploration'?
13. What do you think about what you read?
14. How excited are you about space exploration?
15. How do you think the early universe started?
16. Why is space exploration important?
17. What would happen if alien life came to Earth?
18. What do you know about the Hubble Telescope?
19. What do you think space exploration will be like in 100 years?
20. What questions would you like to ask the astronomers?