SPACE TRAVEL

"All civilizations become either spacefaring or extinct."

Carl Sagan (1934 – 1996), American cosmologist and planetary scientist

1. Space Travel Discussion

1. Would you like to travel in space? If so, where would you like to visit? What would you like to see?
2. What would you be afraid of about travelling in space?
3. Would you like to experience a lack of gravity? Is there any way you could experience that on Earth?
4. Do you think you would find space travel exciting or boring? Why?
5. What would be the most difficult thing about travelling in space?
6. Do you think humans will take holidays/vacations to the Moon? If so, what would they do there?
7. Will we develop the Moon into a holiday resort like we do with places on Earth? Will it be filled with hotels, casinos and golf courses?
8. What are your favourite films or TV shows about space travel? What happens in them?

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2. Space Travel Vocabulary

- **to colonise** (BrE) / **colonize** (AmE) (verb) – *to send settlers to take control of an area.*
- **to terraform** (verb) – *to transform a planet so it can support human life.*
- **space tourism, space tourist** (noun) – *space travel for leisure purposes; someone who travels in space for leisure purposes.*
- **spaceship** (noun) – *a vehicle used to travel in space.*
- **space station** (noun) – *a construction in space capable of supporting human life for a prolonged period of time.*
- **wormhole** (noun) – *a theorised connection or tunnel between two areas in space allowing for rapid travel over great distances.*

Using the vocabulary words above, complete the following sentences (remember to use the correct form of the word, e.g. verb conjugation or plural noun)

1. A **spaceship** designed to travel many light years could not be built on Earth as it would be too big to escape Earth's gravity. Instead, it would have to be built in an orbital dockyard.
2. To create a **wormhole**, you would need to generate enough power to warp the fabric of time and space of two regions so that they bend together and meet.
3. According to Stephen Hawking, if humans don't **colonise** space, our species could become extinct in the next 100 years.
4. Space Adventures, a **space tourism** company, has sent seven space tourists into space so far, with each one paying around $20 million.
5. One proposal for **terraforming** Mars is to create oxygen from underground reservoirs of water.
6. That's no moon. It's a **space station**.

Space Travel vocabulary comprehension questions

1. When do you think humans will start colonising other planets?
2. What would we need to do to terraform a planet so that humans could live there?
3. Do you think space tourism could become the next big industry? Would you be interested in this?
4. How would you cope if you had to spend several years travelling on a spaceship? What would you do to keep yourself occupied?
5. If you were to build a 'holiday/vacation' space station, what would you put on it?
6. Do you think there are wormholes connecting different parts of the universe? Could we create these to travel great distances in space?

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3. Video: Could We Live On Mars?

You are going to watch a TED Ed video called "Could We Actually Live On Mars?"

Watch the video here: https://yourenglishpal.com/blog/esl-conversation-lesson-plan-space-travel/

While you watch the video, answer the following questions:

Multiple choice

1. What level of tolerance would you need for cold, loneliness and radiation to live on Mars?
   a) low *b) medium* ***c) high***
2. How long would your food and oxygen need to last?
   a) until the supply ship arrives ***b) for the rest of your life*** *c) it is already present on Mars*
3. How much would your spaceship cost?
   a) millions of dollars ***b) billions of dollars*** *c) trillions of dollars*
4. When did Mars last have oceans?
   a) 4 billion years ago *b) 5 billion years ago* *c) 6 billion years ago*

Sentence completion

5. The northern hemisphere of Mars is mainly **flat**.
6. With the absence of oceans, Mars is one big dusty **desert**.
7. Gravity on Mars is around a **third** as strong as Earth's gravity.
8. Tars are sand dunes that can be up to **15 metres** tall.

Short answer

9. What colour do dust storms make Mars? **Red**
10. How long can dust storms last? **Months**
11. How high is Olympus Mons? **25km**
12. What colour are sunsets on Mars? **Blue**

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4. Space Travel Conversation Questions

1. Will humans ever visit Mars in our lifetime? What about any other planets or bodies in our solar system? What would be the point of visiting other places in the solar system?
2. Will humans ever live on Mars? Why would we want to? How about in different solar systems?
3. What reasons can you think of for why humans would need to leave the Earth and find a new home? Will humans have to leave the Earth to ensure the survival of the species?
4. Can humans be trusted to look after another planet if they can't be trusted to look after their own? What are the risks to another planet if humans visit?
5. Should humans start looking for a new home now? Why or why not? The Sun will expand and destroy the Earth in around 7.5 billion years; when should we start preparing for that?
6. Should we start genetically modifying humans so they can survive the radiation of space and the lack of gravity?
7. The nearest star to our solar system is 4.37 light years away. This means it would take you 4.73 years to arrive if you travelled at the speed of light. Do you think we will ever be able to travel at the speed of light or faster? If not, how could we travel to other solar systems?
8. Are you concerned about the militarisation of space? In which ways has space already been militarised by humans?

5. Space Travel Writing Task

Write about space travel and space colonisation. Try to use some of the vocabulary you learned earlier in this lesson. In your answer, you could include some of the following topics:

- Why we will need to find other planets to live on.
- What characteristics these planets will need to have.
- How we might travel to these new planets.

Alternative exam practice question:

Many scientists predict that humans will need to find another planet to live on to ensure the future survival of the species. Do you agree or disagree with this?

1.

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