

## Space Tourism and Colonialisation - ANSWERS

➤ **Discussion:**

Encourage students to use “will” “going to” or “might”, “may” or “could” with adverbs of degree and other expressions from the Predictions & Speculation summary sheet when giving their opinions

Which of the things listed below a) have already happened, b) will happen in your lifetime, c) could happen in the distant future, d) are unlikely ever to happen? Give your reasons why/why not

- First humans land on Mars
- Tourist flights into space
- Space hotels
- Reusable spacecraft
- Colonisation of another planet
- People living on huge space station

➤ **Video** - Watch this video and answer the questions below

How space tourism will work - Tech Vision – November 2020

<https://youtu.be/kSOJg6hIUSs>

- 1) What were the aspirations and motivations behind the first “space race” in the 1950’s and 60’s? Who were the competitors?  
 “Superpowers flexing industrial and technological muscle” (1’00) – The USSR/Soviet Union & the USA (1’15)
- 2) Why are private companies leading this billionaire space race and not NASA? What is their motivation?  
 Once the space race was won and with the end of the Cold War the US government didn’t feel the need to fund space exploration. (2’00) – self-made billionaires see space tourism as a profit-making enterprise (2’35)
- 3) Fill in the table with as much information as you can about three of the main space competitors

Name	<b>Elon Musk</b> Paypal founder & Tesla CEO	<b>Jeff Bezos</b> Founder of Amazon and world’s richest man	<b>Richard Branson</b> Founder of Virgin
Space company	SpaceX founded 2002	Blue Origin	Virgin Galactic
Achievements so far (related to space)	Partner of NASA supplying ISS with goods & personnel  Private interplanetary shipyard in Boca Shica S. Texas developing new generation of Starships  Re-usable space craft  Starlink satellite communications programme	Re-usable space craft	Designing and building “space plane”
Ambitions for space	A self-sustaining colony on Mars	First privately run mission to the moon and back (potentially by 2024)  Commercial low-orbit space tourism  Longterm:  Humans expand “almost limitlessly into space”  Creating vast floating space stations inhabitable by trillions of humans – “floating utopia”	Low Earth-orbit tourism  By the end of this century 100s of thousands of people will be able to visit space

Motivation for space travel	Colony on Mars as back-up plan should Earth be destroyed in some kind of disaster (World War III)	Earth is going to run out of energy due to growing population and demand for electricity	Make space travel affordable so "anyone" to be able to become an astronaut
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4) What two motivational factors are shared by all three competitors

Boyhood passion & space travel as a profit-making enterprise

5) Meanwhile what projects is NASA working on?

Commissioning SpaceX and Blue Origin Tech and coordinating the new "Space entrepreneurs"

Artemis Programme – scheduled to put the first woman on the moon in 2024 and establish a space station in lunar orbit

Parker Solar Probe (mechanical mission) – closest we've ever been to the sun in 2025

James Webb space telescope – possible to find out about more about galaxies formed just after the Big Bang as the more powerful the telescope the further back in time we can see.

6) What comparisons are made between this space race and the one in the 1950's and 60's?

Many more nations are involved – including China, India, United Arab Emirates

7) What are the main challenges faced by astronauts on long distance space travel?

For humans there would be long periods of time in isolation and small groups confined together over long periods time generally split into factions. There is also an impact on mental & physical health when experiencing weightlessness for long periods of time.

## ➤ Discussion

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☞ Do you think the ambitions of Musk, Bezos and Branson are realistic?

☞ Whose project do you think is the most ambitious?

☞ Should we be pouring so much money, time and expertise into space travel? Why/Why not?

☞ Which of the following things do you think you'd like to experience if you had the chance:

- a) a space flight/orbit    b) stay in a space hotel    c) live on a giant space station    d) be one of the first people to colonise Mars