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Mankind has an immense history of exploration, discovering new lands across the face of the Earth over thousands of years. Today in the modern era, we have discovered a new frontier in outer space full of new places to explore and discover. Should we make another home for humanity in our solar system or even travel to a new star? And how are we going to get there?
This is only the beginning of our adventure, are you ready?



Coloni sation

WHY SHOULD WE COLONISE ANOTHER PLANET?

Science - all planets have a unique environment which are different from the Earth, for example scientists believe there are seas of frozen water on Mars' surface. Scientists could potentially discover more secrets hidden on these celestial bodies and we may even learn more about our own planet and our origin.

To grow our civilisations – There are concerns about population growth and our expanding cities on planet Earth. Another home could allow us to begin from the start and create a new, better and safer civilisation. We could create outposts on closer planets such as Mars to set up expeditions to a further out celestial body such as Europa.

Technology- In order to get to these planets, we would need sophisticated technology that would help us survive and flourish. This would mean more research is devoted to discovering breakthrough technologies that could bring us closer to colonising a new world. Many technological advancements that we use in everyday modern life was originally used in space such as:

- Laptops
- Smoke detectors
- Satellite TV
- Camera phones
- Artificial limbs



HOW ARE WE GOING TO GET THERE?

Currently, we have only ever sent a man as far away as the moon (239,000km) which took over eight days. Today, we send astronauts 354km high to the International Space Station. With our current propulsion technology and understanding of orbits, we could get to Mars in around 333 days. Going further to the moons of Jupiter may take up to 8 years. Travelling to our nearest star, Proxima Centauri, would take up to 76,000 years to reach.

Many ideas for this have been proposed such as more efficient ion engines or 'game-changing' nuclear thermal propulsion which could harness heat produced by fission reactions to create tremendous speeds.

There are also many ideas for interstellar travel such as:

Generation ships - a spacecraft that could travel at speeds only slightly faster speeds than today. The arrival time would be several hundred or even thousands of years. The first generation of travellers would reproduce another generation who are educated in the survival and objective of the mission. This is repeated until the spacecraft arrives at the destination.

Wormholes – a wormhole is an essentially a tunnel which acts as a short-cut through the fabric of space time. What is being said here is that a spacecraft could travel through a giant space tunnel in a couple of minutes and would end up several light years away.

