



This House would not send humans into space

The costs of space exploration



- NASA's unmanned Perseverance Rover (above, left) is currently on Mars. The mission's total cost is £2.7 billion.
- In 1986, NASA's manned Challenger mission (above, right) exploded shortly after take-off, killing all 7 astronauts.
- The financial costs of a manned mission to Mars are probably \$100-\$500 billion. The human costs and benefits are unknowable.

Humans and progress



- Can a robot do anything that a human can do? Would we want them to?
- Research: What are the Artemis missions?

Technology



Many of earth's problems (like climate change) are partly caused by technology. Will space travel bring more problems or solutions? What areas of technology could benefit?

Vocabulary

exploration
astronaut
mission
inspiration
resources
cosmos
endurance
solar system
probes
experiments
colonies
expense
tourism

Exploration

- Explorers have always taken risks, and spent money on ships or planes. Are these risks and expenses acceptable? Who should decide?
- Do we know what we will find before we set off on a voyage of discovery?
- Is space the only place with things left to discover?
- How much of space can humans explore from earth?
- Can humans be trusted to act responsibly as we explore?

These are the voyages* ...

 ... it takes 3 days to travel about 385,000km to the moon

 ... it takes at least 7 months to travel over 100 million km to Mars ...

 ... Jupiter is over 700 million km away, but we couldn't land on the planet itself ...

... if we could travel at the speed of light, it would take 4 years to reach Proxima Centauri, the next nearest star. At current speeds it would take around 50,000 years ...

* pictures not to scale!