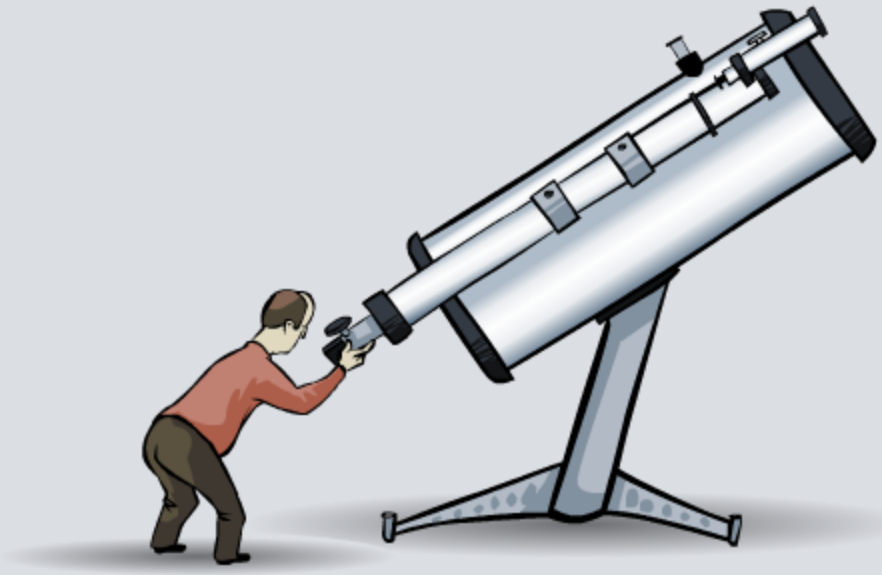
Exploring Space



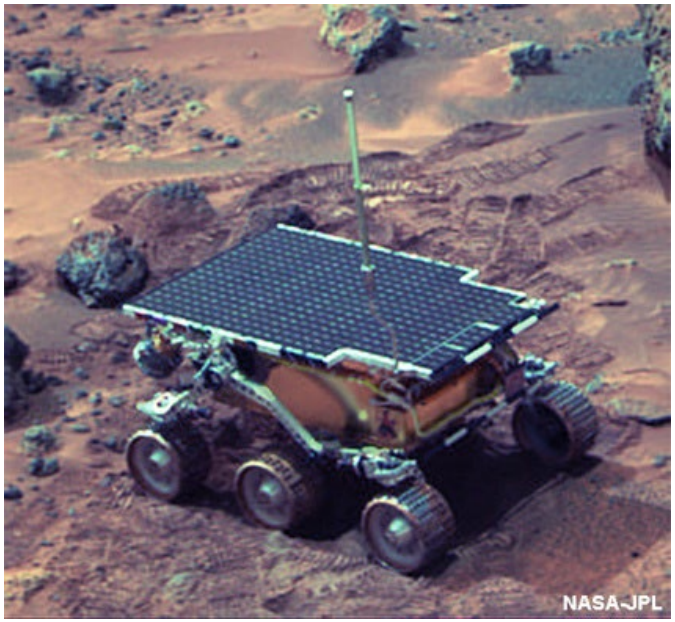
Exploring space – mission to Mars

Our search for answers and clues to the origin of the Solar System and the possibility of life elsewhere led to the development of unmanned **space probes**.

For years, science fiction had brought us stories of Martians – but could they really exist or have existed?

On December 4th, 1996, NASA launched the *'Pathfinder'* Discovery Mission to Mars. It cost $150 million and took 7 months to reach Mars.

When it had landed, the '*Sojourner Rover*' buggy tested Mars's atmosphere, surface and weather, amongst other things.



Mission to Mars – tests on Mars

The tests carried out by the Rover showed that Mars is much more like the Earth than was expected.

Was Mars like the Earth until something catastrophic happened?

The tests also showed that the crust of Mars is very similar to continental crust on Earth and that volcanoes had played a part in Mars's formation.

Why did the volcanoes stop?

Did the gases they gave out kill any Martian life?

Mission to Mars – erosion on Mars

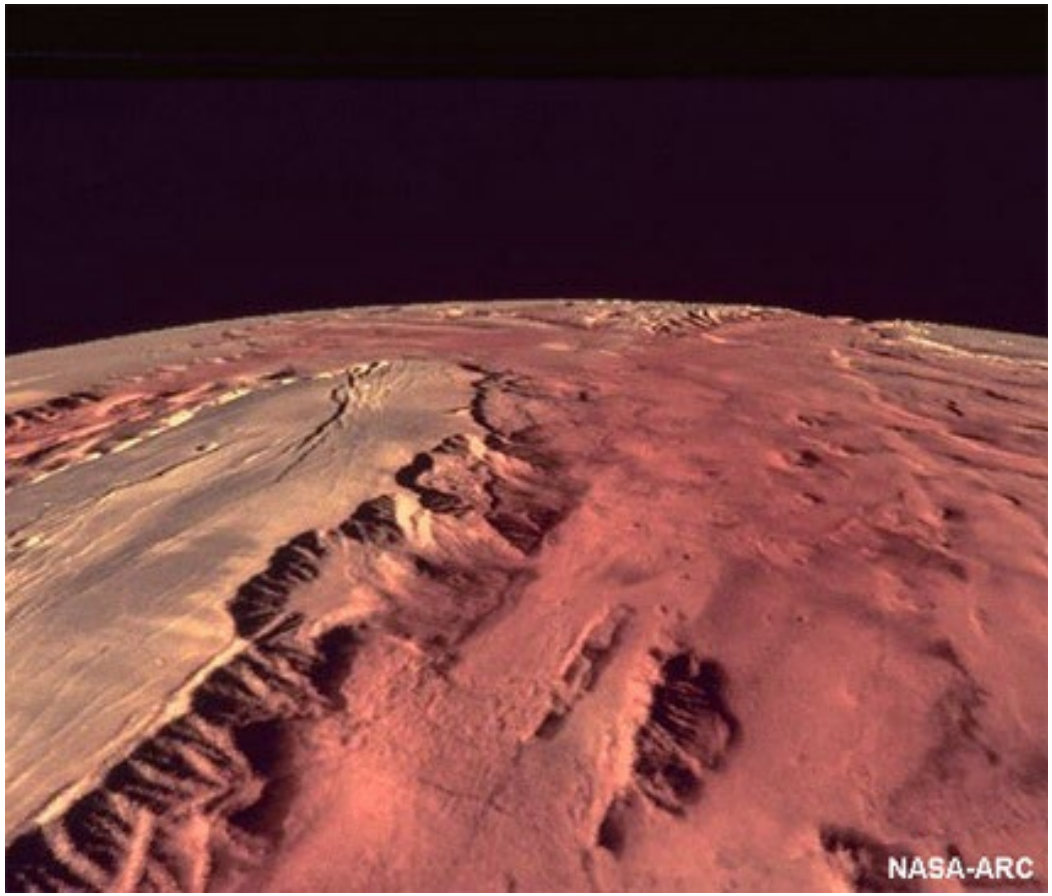
The surface of Mars has undergone intense erosion by massive floods and by strong winds.

Did it rain on Mars?

How much water was there on Mars?

Was there life in the water?

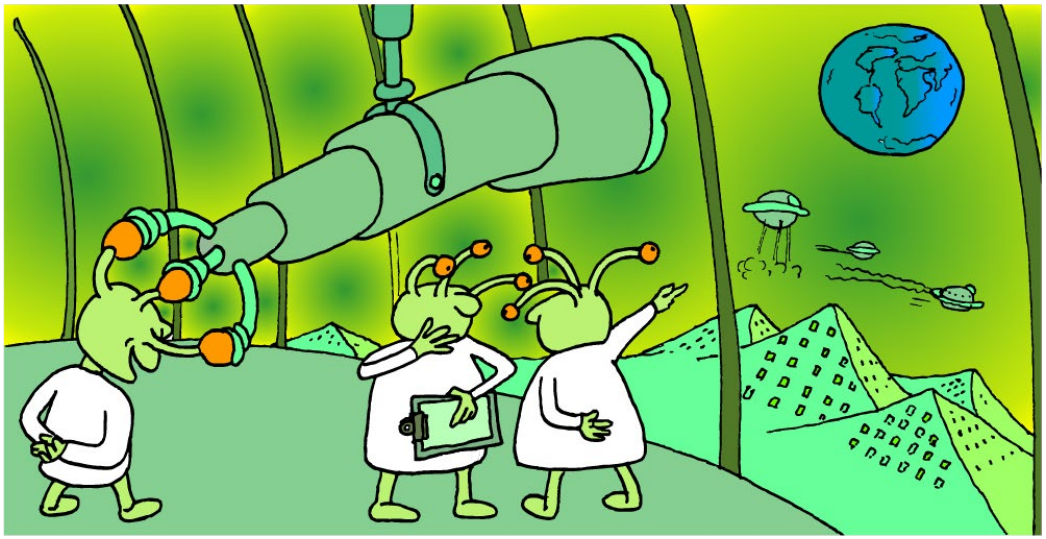
What kind of life could have existed in the Martian atmosphere?



Video from Mars

Is there life out there?

Although many people believe that there is intelligent life on other planets, it is a great challenge to find proof.



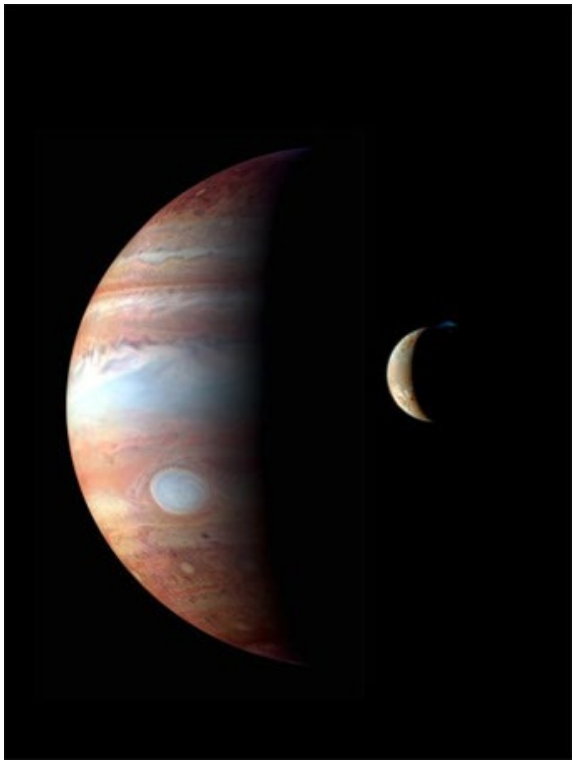
Should we spend money looking for aliens when there are huge numbers of plants and animals on our planet that we know nothing about?

Would the money be better spent on feeding people on Earth or solving environmental problems?

Radio signals from space

Scientists have suggested that it might be possible to communicate with aliens using radio waves. The Search for Extra-Terrestrial Intelligence (SETI) initiatives have involved sending and receiving radio signals to and from space.

The *Voyager 1* probe has detected radio signals from near the surface of Jupiter.



Do these signals provide any evidence for the existence of aliens elsewhere in the Solar System?

Most scientist agree that the signals are probably just interference and not created by alien life forms.

Searching for aliens

In what other ways could we look for aliens?

1. Look for evidence of water, or other surface features suggesting life, using powerful telescopes like Hubble.
2. We could send more unmanned probes into space to collect information.
3. We could send scientist to other planets.

What problems are there with each of these methods?

The problem is that we don't know what we are looking for – aliens may be too small (or even too big) for us to detect. They might not need water or use radio waves.

Life on other planets?

Do you agree or disagree with these opinions on life and the Universe?

Li (student)
"There are about 100 thousand million stars in the Milky Way alone, and there are millions of other galaxies. There must be life on some planets around other stars."

-5 -4 -3 -2 -1 **0** 1 2 3 4 5

disagree not sure agree