

A Few Facts about Mars

- Temperatures can range from -225°F to 70°F on the surface
- Mars's atmosphere is around 100 times thinner than Earth's
- Water cannot survive as a liquid on the surface, but it can be found in frost, brines (salty water), minerals, the polar caps, and sub-surface ice!
- Dust devils and wind on Mars cleaned off dusty solar panels on the Mars Exploration Rovers Spirit and Opportunity, allowing a greater amount of electricity to be generated
- Mars is approximately half the size of Earth
- Mars has the highest mountain (Olympus Mons) and the deepest canyon (Valles Marineris) in the Solar System

Why it is tough to live on the surface of Mars

- There is not enough oxygen in the atmosphere of Mars for humans to breathe. The oxygen must be concentrated out of the atmosphere, or created out of carbon dioxide (which makes up most of the atmosphere) or dihydrogen monoxide (water), for humans to use in order to survive on the surface.
- The thinner atmosphere on Mars allows more radiation to reach the surface than Earth.
- A reliable source of water close to or at the surface, and the ability to obtain, purify, and recycle the water, is needed for any human habitat on Mars to be sustainable
- If the crew needs a part they cannot make on the surface of Mars, it will take at least 6 months to receive the part from Earth. Resupply missions will take at least 6 months to arrive from Earth.
- It takes between 4 minutes and 24 minutes (depending on the positions of Earth and Mars as they orbit the Sun) to transmit phone signals between Earth and Mars.