

NASA. May 22, 2022. *The clay-rich and sulfate-rich areas of Mars.*^[18]



In 2011, NASA launched *Curiosity*, a car-sized Mars rover designed to explore the Gale crater on Mars (see the photograph above). *Curiosity* is a key element of NASA's Mars program to explore the planet and to provide a continuous flow of scientific information. However, NASA is not the only organization interested in Mars. Several private companies, including SpaceX, are planning commercial missions to Mars.

Visiting—and, importantly, colonizing—Mars has been a central theme of SpaceX and its use of the Starship rocket, a reusable super heavy-lift launch vehicle. SpaceX's Mars Program seeks to reduce the cost of the six-months of space travel needed to reach Mars; the cost-reduction is thought to facilitate the eventual establishment of settlements there (see <https://www.spacex.com/human-spaceflight/mars/>).

Early missions to Mars will likely feature infrastructure (i.e., the life-supporting systems necessary of humans to survive on the planet's surface) and later missions likely include economy-building, mining, and colonizing elements.

SpaceX's plan has been criticized for violating international law. Does it?

The Outer Space Treaty of 1967 states that outer space exploration should be done for the “benefit all countries” and that “space shall be free for exploration and use” by all nations. Article II of the treaty explicitly forbids any nation from claiming a moon or planet or celestial body as its own territory, whether by declaration, occupation or any other means. However, SpaceX is a private company and does not formally represent any nation. Also, there is no indication that SpaceX plan to claim sovereignty over Mars, as if it was its own territory.

Persistent Issues History...

1. Should SpaceX be allowed to establish settlements (i.e., colonize) on Mars... why? Be sure to describe the different “sides” to this dilemma and which you think is stronger.