

“The Search for Life on Mars” – The history of our fascination with and exploration of Mars (From ancient times to 2000)

Name _____

Date _____ Pd. _____

1. Mars (or Ares as the Greeks call it) always seemed _____ from the other objects in the sky, earning the name “_____” from the ancient Egyptians. It’s appearance and very irregular _____ across the sky brought this about.
2. After Copernicus and _____ straightened out the place of planets in our system around 1600, further observations then become limited for the next 300 years by the capabilities of the ever-improving _____ that began with _____’s 1-inch variety which only saw Mars as the size of a _____ held 8 feet away.
3. In the mid 1600s, Christian Huygens uses precise observations to determine that the Martian _____ is very close in length to Earth’s and it also has _____ like Earth. It is not until the late 1800s that its two _____ are discovered.
4. At this time, Giovanni Schiaparelli then creates a stir among scientists by calling the _____ markings he sees on Mars “_____”, unintentionally implying to English-speaking people that a boat-riding _____ of beings might exist on Mars. In the midst of Schiaparelli’s controversy, a French astronomer details a periodic change in the planet’s appearance that he calls “the _____ of _____”, thereby suggesting _____ changes in vegetation on Mars.
5. The above debates remained confined to the scientific community until Percival Lowell began to publicly insist that the 183 total _____ he catalogued must be Martian-made even though many were really just fuzzy _____, not lines. His published maps and theories get the _____ on his side since he was “such a good _____”.
6. Lowell’s ideas lead to the creation of the _____ genre. H.G. Wells’ 1898 novel “_____” (recently a remade movie with Tom Cruise) depicts the Martians as _____, an idea that has persisted at times up through today with movies like “Independence Day”. In 1899 and for many years that follow, many people believe that there is not only life on Mars but _____ life.
7. Attempts made soon after in 1901 to use _____ wave communications to contact that life resulted from human tendencies to either fear the unknown or “want to have a _____” with new friends. Despite attempts by David Todd in 1924 to establish contact from Mars with “radio _____” cooperation from the US Dept. of Defense, results are inconclusive. This setback along with discoveries in the following years that the “darkening” is actually caused by seasonal planet-wide _____ storms and that typical nighttime temperatures in Mars’ CO₂ atmosphere are about _____ degrees below zero, casting major doubts on the potential for life there.
8. With only sci-fi left to keep the Martian idea alive, the news format of a _____ broadcast of H.G. Wells story creates a panic nationwide and helps the belief of life on Mars to linger. It was also no coincidence that the connection of the color red to Mars and _____ also fueled existing fears during the _____ War.
9. While fear was nurtured in some, the curiosity and passion it created for others in all things space-related led to career choices by the eventual _____ and _____ of NASA that would design and create _____ 4 and the other probes we began to send in 1964.
10. The 21 pictures it sent back though were a major _____ as the planet appeared to be nothing more than a second _____ from its surface features. Overnight, the idea of Martians becomes passé and all sci-fi from then on deals with life and exploration _____ of our solar system.

11. While man walks on the moon for the first time, other Mariner missions are barely noticed but in 1971, the 7,000 pictures taken by Mariner 9 reveal the largest _____ in the solar system with a width equal to that of the state of _____. More importantly, although they weren't canals, numerous empty _____ suggest that _____ must have flowed on its surface long ago. Very suddenly, the search for Martian life was back in business.
12. In 1976, the tests run by the _____ landers at first detect signs of _____ism by microorganisms in its soil but then are later seen as standard _____ reactions. In not finding life, the exploration of Mars is put on hold for the next _____ years.
13. Public interest is peaked again though when a specific photo of the surface eventually called "The _____" led some to believe it was an attempt at communication and along with nearby _____ shapes is perhaps part of an engineered complex. NASA's downplaying of this idea was seen by some as a possible government _____.
14. Then in 1984, both sides are brought together when a _____ of Martian origin discovered in Antarctica reveals what some think are micro_____. This leads to ideas that not only did Mars once have life but extreme hypotheses that those rocks served as _____ of life here. Eventually, it is shown that regular chemical reactions could create the markings found in the rock.
15. Nevertheless, interest in Mars grows again and the _____ rover in 1997 is watched by a larger TV audience than the one that viewed the moon landings. The Global Surveyor also gets a chance to photograph "The _____" again, showing it to be nothing but a rock formation (although some still consider it a construction today).
16. Conspiracy theorists though were given ammunition when the next _____ probes sent failed to reach the _____ of Mars, fostering an idea that someone was there _____ them. In all, two-_____ of all missions to Mars have failed.
17. The lingering question now is (assuming that liquid water can be found somewhere _____) how do we design and send probes that can _____ into the ground and then perhaps bring samples back to _____ for analysis? The even bigger question is are we up to the great _____ project required to send people for a lengthy stay?
18. Former teacher/aerospace engineer Robert Zubrin says we can, by sending _____ specific spacecraft. One will land ahead of time and sit on the surface with the return _____ and the ability to use the _____ in the atmosphere and H₂ to create its own _____. The other will bring people later. (More recent ideas say we would send a second ahead of the people that would place itself in orbit with the spacecraft the astronauts would use to _____ on the planet.)
19. The very long term idea that many have is to "_____ " Mars, making it a second Earth for our ever-growing population. Just find a way to add _____ gases in large quantities to its atmosphere to warm it up and make it conducive to _____ life which could then make _____ for animals like us. Zubrin sees this effort as nothing more than humanity's _____ and what has happened naturally with every other unexplored and barren place on Earth throughout history.
20. In the meantime, we continue with _____ probes that search for water and life today even as you read this question. As it stands now with current NASA plans, a trip to Mars with people won't happen much sooner than the _____s after we MAYBE return to the moon to practice interplanetary travel and study in approximately the _____s.

The rest of our Mars exploration discussion will resume with the important discoveries of the Spirit and Opportunity rovers that landed on the red planet in 2004.