Mars

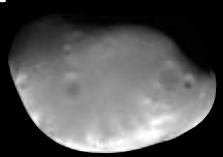
JPL/CALTECH/NASA (*top*); NASA (*bottom left*); JPL (*bottom right*)

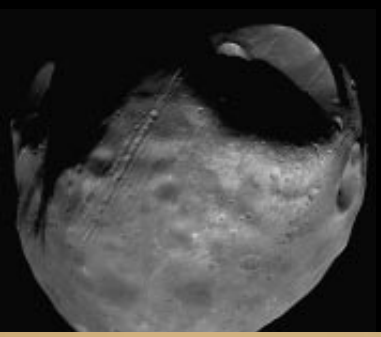
SIZE COMPARED WITH EARTH

MARTIAN LANDSCAPE, (*right*) was photographed in July 1997 by the Mars Pathfinder lander, part of which is visible at the bottom of this panoramic image. The bumps on the horizon, called Twin Peaks, were about one kilometer south-southwest of the lander. Pathfinder carried a roving vehicle, Sojourner (*left*), which analyzed soil and a group of rocks. In the panorama, Sojourner can be seen in front of one of the rocks, which was dubbed Yogi.

MARTIAN METEORITE ALH84001 (*above*) was found to contain segmented objects, about 380 nanometers long (*right*), which some researchers took to be the fossilized remnants of bacterial life that came into contact with the rock more than 1.3 billion years ago. Other scientists, however, were more skeptical, contending that the formations had nonbiological origins and that the rock was chemically contaminated after it fell to Earth.

MINUSCULE MARTIAN MOONS Deimos (*below, top*) and Phobos (*bottom*) are respectively about 15 and 27 kilometers (nine and 17 miles), at their longest. Because both moons are carbon-rich, some planetary scientists have concluded that they are captured asteroids from the relatively nearby asteroid belt.

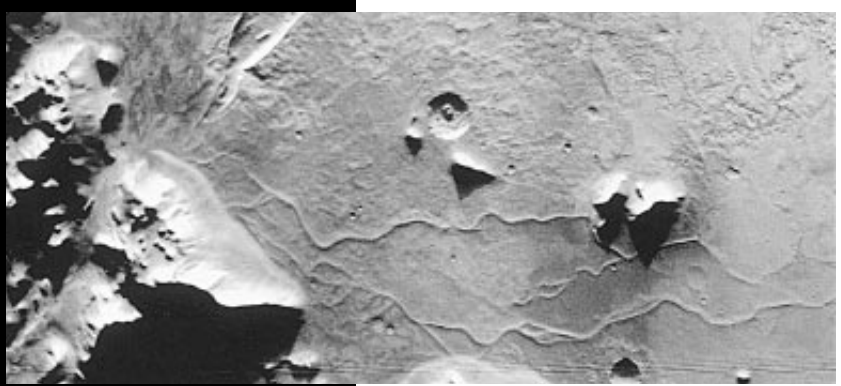




NASA JOHNSON SPACE CENTER (*top two images*); COURTESY OF NASA/JPL (*Deimos*); NASA/JPL, ©1997 CALVIN J. HAMILTON (*Phobos*); JPL/CALTECH/NASA (*landscapes*)

Mars's relative nearness, mythological connotations and even its hue have made it the favored planet of popular culture. Countless works of science fiction and science have explored the possibility of life on Mars. In 1976, however, the two U.S. Viking probes found no evidence of life at their landing sites.

Two events thrust Mars back into the public consciousness lately. In 1996 a team from the National Aeronautics and Space Administration Johnson Space Center and Stanford University announced that unusual characteristics in a meteorite known to have come from Mars could be best interpreted as the vestiges of ancient bacterial life. In the summer of 1997 the Mars Pathfinder lander and its diminutive roving vehicle, Sojourner, analyzed and imaged Martian rocks, atmosphere and soil. Investigators concluded that many of the rocks were deposited by a massive flood at least two billion years ago and that some of them were surprisingly similar to a class of Earth rocks known as andesites.



SINUOUS RIDGES known as eskers are made up of soil deposited by streams running under a sheet of ice. They appear to exist on the floor of the Argyre basin (*above, seen from orbit*) on Mars, suggesting that melting glaciers once covered the area. Evidence abounds that the planet was warmer and wetter in the past, although scientists still cannot say how much water there was, how many wet periods there were or how long they lasted.