

# Mars landing sky show

July 30 2012, By Dr. Tony Phillips

---



Every time NASA lands a rover on Mars--or even makes the attempt--it is cause for celebration. On August 5th, the heavens themselves are aligning to mark the event.

Only a few hours before the [Mars Science Lab](#) spacecraft reaches the [red planet](#) and drops Curiosity on a hair-raising descent mission planners have dubbed the "seven minutes of terror," Mars itself will be put on a special show in the sunset skies of Earth: Together with [Saturn](#) and Spica (a blue [giant star](#) in the [constellation Virgo](#)), the Red Planet will form a "Martian Triangle" visible from almost all parts of our planet.

Go outside after sunset on August 5th and look west where the setting sun has just disappeared. As soon as the sky fades to black, a triangle of first-magnitude lights will pop out of the twilight. The vertices are Mars,

Saturn, and Spica. Together, they form an equilateral triangle about 5 degrees on each side. This means you could hide the Martian Triangle behind your outstretched palm. It would also fit comfortably inside the bowl of the Big Dipper. The tightness of the triangle makes it extra eye-catching.

The three objects are very different: Mars is a small rocky planet relatively close to Earth; Saturn is a ringed gas giant halfway across the solar system; Spica is a massive binary star on the other side of our galactic spiral arm. Nevertheless, they shine with the same intensity as seen from Earth. On the scale of astronomical brightness, all three are ranked first [magnitude](#). This makes them easy to see with the unaided eye.

Not long after the Martian Triangle follows the sun below the horizon, the real action begins:

At approximately 10:30 pm PDT, Curiosity's entry capsule will slam into the upper atmosphere of Mars raising temperatures around the heat shield to 2100 C--more than twice as hot as basaltic lava.

What happens next seems almost unbelievable. Because [Curiosity](#) is so much bigger and heavier than any previous rover, old ways of landing, such as air bags, wouldn't work. Mission planners had to come up with something new and unorthodox. Reporter Scott Gold of the LA Times described it this way:

"In the time it takes to drive to the grocery store, the [spacecraft](#) will change shape like a toy Transformer six times, slowing from 13,000 mph to 1.7 mph while using 76 pyrotechnic devices, ropes, knives and the largest supersonic parachute ever built."

At the end of the maneuver, a "Sky Crane" gently lowers the rover onto

the floor of Gale Crater.

If the rover survives the hair-raising descent and lands intact as planned, it will mark the beginning of an extraordinary mission of discovery.

Bristling with the most advanced sensors ever sent to Mars, the one-ton rover will spend the next two years (at least) finding out whether one of the most intriguing places in the solar system ever offered an environment favorable for microscopic life.

Let's just say, it's a good reason to go stand outside under the stars.

After the Martian Triangle sets, go inside and turn on [NASA](#) TV for the Mars landing itself. The real show is about to begin.

Provided by Science@NASA

Citation: Mars landing sky show (2012, July 30) retrieved 27 April 2024 from <https://phys.org/news/2012-07-mars-sky.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.