

STAR TRAK for January 2012

January 5 2012



Venus. Photo courtesy of NASA

The planets Venus and Jupiter will dominate the sky as darkness falls during January. Jupiter will be twice as bright as any star, and Venus will be four times brighter than Jupiter.

Venus will be well up in the west-southwest an hour after sunset at the beginning of the month, a brilliant "evening star." By month's end it will be 10 degrees higher at the same stage of twilight and set more than three hours after the sun.

[Jupiter](#) will blaze more than halfway up the southeastern sky as night falls in January. It will reach its highest point in the south several

minutes earlier each night, and by month's end it will be at maximum elevation when it appears around sunset. It will remain visible throughout January until midnight local time.

Saturn will rise before 1 a.m. local time by the middle of January and appear halfway up the southern sky by daybreak. The best time to view it with a telescope will be just before the start of morning twilight, when it will be highest in the southeast. Its rings will be tilted 15 degrees to our line of sight, and details of the rings such as the Cassini Division will be visible with a telescope.

Mars will nearly double in brightness this month as Earth moves significantly closer to the red-orange planet. It will rise after 10 p.m. local time at the beginning of the month and two hours earlier by month's end. For the best telescopic views, wait until after 2 a.m., when Mars will be high in the [southern sky](#).

Mercury will appear about 10 degrees above the southeastern horizon a half-hour before sunrise at the beginning of the month, to the lower left (east) of the bright orange star Antares. Binoculars will help you spot them in the [morning twilight](#). Mercury will sink lower each morning, disappearing by the middle of the month.

Meteor shower

The [Quadrantid meteor shower](#) is active for the first week of January, having peaked during the hours before dawn on Jan. 4. The waxing gibbous moon will interfere with the display until it sets around 3 a.m. local time, when viewing conditions under a clear sky will be good for the rest of the night. The rate of this shower varies considerably and unpredictably from year to year, but observers may see up to 100 meteors per hour during the brief peak.

The Quadrantids will appear to come from a point called the radiant near the end of the handle of the Big Dipper, which will rise in the northeast. The radiant is in the constellation Bootes the Herdsman, which contains the bright orange star Arcturus as a conspicuous marker.

Try facing northeast toward the Big Dipper. If you extend the curve formed by the handle's three stars, it forms an "arc to Arcturus." Meteors should be visible in all parts of the sky, but the higher Arcturus is above the eastern horizon, the more meteors there will be. More information about viewing meteor showers, including the Quadrantids, is available from the American Meteor Society at www.amsmeteors.org/showers.html .

Perihelion

Earth will reach the closest point to the sun in its orbit, the position called perihelion, on Jan. 4 at 7 p.m. EST (0:00 Universal Time on Jan. 5). A common misconception is that our seasons are caused by Earth's changing distance from the sun. The actual cause is the tilt of Earth's axis. In the Northern Hemisphere, winter happens when the North Pole is tilted away from the sun, so sunlight must pass through a greater amount of Earth's atmosphere to reach the surface. We experience the coldest time of year when we are closest to the sun.

Provided by Indiana University

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