

Stargazing winter planets



Midwinter provides great stargazing opportunities—both inside and outside. Outside, the humidity has dropped—yes, along with the temperatures. But this low humidity means that you, the observer, have less water vapor in the air to distort your view of the heavens. So the skies are clearer on cloudless nights, and the stars take on a crisp and well, stellar appearance.

City dwellers need not despair. There is plenty of star gazing that you can do in spite of problems with light pollution. Use the more simplified night sky that is visible from urban and city locations to begin to get to know the sky. The winter sky contains some of the biggest and brightest constellations that we see through the year, as well as a scattering of interesting and bright planets.

Venus, Mars, and Saturn are all visible in December. To find bright Venus, look southwest right at sunset. Venus is a brilliant and white planet high in the sky, and it will be setting about three hours after the sun. Mars is rising at sunset, so with some patience you will be able to pick out the red planet. Look to the east southeast to find this planet that will be up all night. Saturn is always my favorite planet. It won't be rising until about four hours after sunset, but it will be coming up earlier as the month progresses. Use your binocu-

lars, or a telescope to see whether you can pick out this planet's magnificent ring structure. Connecting the dots between these planets allows you to locate the curved ecliptic, that path across the sky that planets and the moon travel upon.

During December we will experience two new moon phases. Perhaps you have heard of the "blue moon," as in the phrase "once in a blue moon," used to express something that is a rare occurrence. But this month we will have two invisible new moons pass overhead. The new moon is not visible to us because it takes place when the moon's shadowy side is facing the earth. For this to happen, the moon must pass between the earth and sun as it orbits the earth.

The moon phase cycle is 29.5 days long, so in order for us to have two new moons, the first must happen early in the month. It does, disappearing on December first, only to wax fully and then wane again by the 30th of the month.

If you are not eager to spend time outside on a cold winter's night to experience the beauty of Orion or planets in the actual sky, you should take a trip to your local planetarium. If you are not certain where your local planetarium is, take a look at <http://www.ips-planetarium.org/>, where the world's planetaria are

listed. A planetarium is a place that is designed to teach you all about the night sky. It has a dome that represents the night sky, and then it has a number of nifty electronic devices that are used to recreate the night sky and all its many phenomena for you. In addition, it is not a planetarium without a person there to help guide you in your exploration and search for answers. The planetarian, as he or she is known, will welcome your curious mind and help to unlock the mysteries of our wondrous sky. Take advantage of this resource, and seek out the planetarium when they are having a special event, such as a program about the moon or Mars, or some other topic that is interesting to you. This way, you will still get to see the beauty of the night sky, but you'll be able to keep warm and cozy under the dome. 🏠

—Lisa Daly