

Dance of the Planets in Our Summer Skies

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Has anyone else noticed some bright "stars" in the western skies just after sunset lately? Take a closer look at them through binoculars or a telescope and you will discover that three of the brightest objects in view this month are actually the planets Saturn, Venus, and Mars.

Now is the time to get out and start looking at them so you will become well acquainted with their locations. Over the next few weeks they will be moving closer together every night until they meet in a lovely 5-body conjunction with the planet Mercury and the crescent moon during the second week of August. Here's how to find them.

The first object that becomes visible after sunset is Venus. You will find Venus in the West above the setting sun. By 8:45pm, Venus should be blaring like the headlight of an oncoming airplane. After our Moon, Venus is the brightest object in our night sky. This is because Venus orbits very close to Earth, is relatively large (~95% the size of Earth) and is surrounded by a permanent layer of extremely reflective clouds. These clouds reflect about 65% of the sunlight that reaches them. By comparison, our Moon and Mars reflect only 10-14% of the sunlight that hits them.

Twenty minutes after Venus comes into view, look to the southwest about an open hand's width to the left of Venus (find the hand's width with your arm fully extended in front of you) and about two times higher than Venus. A dimmer, smaller, also white object should be glowing. This is Saturn. With a pair of binoculars Saturn looks wider than it does tall because of its rings which are made of highly reflective chunks of ice.

Just about half way between Saturn and Venus, dim Mars shines with an orange glow. Having little atmosphere, the orange color reflected by Mars is that of its red, rocky surface. As the 4th planet from our sun, Mars can get as close to Earth as Venus, and becomes quite bright when nearby. But right now Mars is heading around the other side of the sun and is relatively far away, so it looks smaller than usual. But it's always worth a look to see that one-of-a-kind color.

By August 5 the party really starts! Mercury, our solar system's innermost planet, begins appearing to the right of Venus, just peeking over the horizon after sunset. Mercury is always tricky in the treasure hunt for planets. It is difficult to see because it is our solar system's smallest planet and reflects only 11% of the sunlight that reaches it. Also, being so close to the Sun, its glow is drowned out by the sunset. You'll need binoculars and an unobstructed horizon to find it. If you can catch a glimpse of Mercury during its brief and low-to-the-ground appearances between sunset and dusk that week, give yourself a point!

The crescent moon joins the party on August 12, just in time for the peak of the spectacular Perseid Meteor Showers. Treat yourself to this lovely meeting of Mars, Saturn, the crescent moon and Venus in the western sky just 30 minutes after sunset. Then stay out in your lawn chair and watch as nature's fireworks begin. As Earth passes through a trail of dust from Comet Swift-Tuttle, bright green meteors will streak through our atmosphere. If you're up past midnight, look in the East for rising Jupiter, shining almost as brightly as Venus! The four largest moons of Jupiter are also easily seen through binoculars.

You can enjoy all this from your own backyard. Or if you wish to learn more from a staff of trained observatory docents, join us at the Community Observatory at our upcoming special event, "The Sun, Four Planets, and a Meteor Shower" on Saturday, August 14 from 6PM – 11PM. See communityobservatory.com for more details.