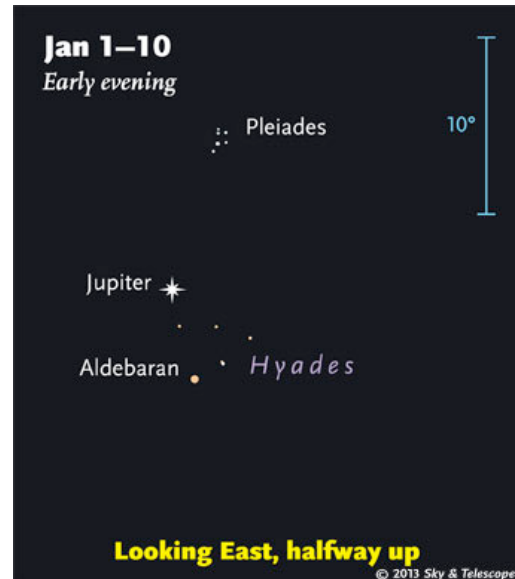


Jan 1-10: Jupiter-Aldebaran-Pleiades

Watch Jupiter gradually creeping toward a better lineup between Aldebaran and the Pleiades. It won't quite get there, however. Instead it will gradually stop and reverse direction at the end of January, just short of forming a straight line. (The 10° scale is about the width of your fist held at arm's length.)

**Jan 1: Asteroids Ceres and Vesta**

The two leading asteroids, Ceres and Vesta, are still in good binocular range at magnitudes 7.1 and 6.9, respectively. Vesta is near Jupiter and Aldebaran, and Ceres is between the horns of Taurus not far away. (See reverse for more about the path of Ceres and Vesta in 2012-13)

**Jan 5: Saturn Shines Near the Moon**

Before dawn Sunday morning, Spica shines to the upper right of the waning Moon, and Saturn shines to the Moon's upper left, as shown here. With dawn coming its latest at this time of year, take a look outside for the waning Moon passing Spica and Saturn.



Ceres and Vesta: July 2012 – April 2013

The two brightest asteroids are close to each other in late 2012 and early 2013. Moreover, they're traversing one of the most interesting areas in the night sky.

Vesta and Ceres are normally far from each other in the sky. But every 17 years swift Vesta, with an orbital period of 3.63 years, catches up to slower Ceres in its 4.60-year orbit. The asteroids were extraordinarily close, just 3° or 4° apart, in October and November 1996, but they were then poorly placed for northern observers, in Sagittarius and southern Ophiuchus.

They're close to each other again in late 2012 and early 2013 — though not as close as in 1996 and never much closer than 6°. But, in compensation, they're ideally placed for northern observers, near the northernmost section of the ecliptic, in Taurus and Gemini.

Moreover, this is one of the finest parts of the sky for binoculars and small telescopes, including three of the finest star clusters: the Pleiades, the Hyades, and Messier 35. To add to the excitement, Jupiter is in this sector of the sky throughout the entire period, and Venus is there in July.

Vesta reaches opposition to the Sun on December 9th and Ceres on December 18th. Those are the dates when they rise around sunset, set around sunrise, and are highest around midnight. They're also at their brightest then (Vesta magnitude 6.4 and Ceres 6.7) and conceivably visible to the unaided eye in a pristine sky.

Vesta passes about 1° north of the remarkable open-cluster pair NGC 1807 and 1817 in the first week of December and about the same distance south of the big, bright cluster NGC 1647 in late December and early January. In late February Vesta dips briefly back into the easternmost fringe of the Hyades.

Vesta passes through M35's companion NGC 2518 and clips M35's southern margin at the very end of April 2013. The asteroids disappear into the sunset glow in mid-May 2013.

Ceres and Vesta will be even closer to each other during their next apparition, which starts in October 2013, and they will be within 1° of each other in July 2014.

[The table above shows the magnitudes of the asteroids on selected dates]

Date	Ceres	Vesta
July 1, 2012	9.1	8.4
August 1, 2012	9.1	8.3
September 1, 2012	8.9	8.1
October 1, 2012	8.5	7.8
November 1, 2012	8.0	7.2
December 1, 2012	7.3	6.6
January 1, 2013	7.1	6.9
February 1, 2013	7.8	7.5
March 1, 2013	8.3	7.9
April 1, 2013	8.6	8.2
May 1, 2013	8.8	8.4

<<http://www.skyandtelescope.com/observing/objects/asteroids/Ceres-and-Vesta-July-2013-148149915.html>>