

Mountain Skies

Orion And Taurus Rise Higher In The East

The Stars

Orion, the hunter, is rising higher in the eastern sky each evening. Locate his belt marked by three bright stars in a row from east to west, Alnitak, Alnilam and Mintaka. Now, draw a line through his belt and extend it upwards towards the west; you'll come to a bright red star, Aldebaran, the fierce eye of Taurus, the bull. The face of the bull is made up a group of stars forming a noticeable letter "V." This is the famous Hyades star cluster.

Although Aldebaran is the brightest star in the face of the bull, it is not actually a member of the Hyades cluster. Instead, it is what astronomers call a foreground star, one that lies in the same direction but which is closer to us. Realize that, while the celestial sphere over our heads at first glance appears to be a two-dimensional surface, it is not. Objects that appear to be close together in the sky often are at vastly different distances from us.

Since Orion has a fierce competitor in the bull, he holds up a shield made from the skin of a lion. This can be found in a faint arc of stars between Orion and Taurus. On the shoulder of the bull is a small cluster of stars that some people mistake for the Little Dipper. This is the Pleiades or the "Seven Sisters." In the tradition of the Native American Mono tribe, the Hyades were a group of mountain lion hunters while the Pleiades were their wives. As the Earth rotates, the hunters are eternally chasing their wives across the nighttime sky.

The Planets

The two brightest planets grace our early evening skies at this time. Venus, the brightest of them all, can be found without difficulty in the southwest as the sky darkens. Meanwhile, the giant planet Jupiter is high in the south. If you've been watching these two over the past several weeks, you will have noticed that they are moving closer together. Venus has come around from behind the sun and is rising earlier as it catches up with the Earth in our



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eternal race around the Sun. Meanwhile, Jupiter is very slowly moving westward with the constellations as observed from our vantage point on a moving Earth. Thus, as the next couple of months go by Venus will approach Jupiter until, on March 16, it will pass just to the north of the giant planet.

In the meantime, another race of the planets is taking place in our morning skies. Tonight the red planet Mars rises just after 10 p.m. By midnight it will be well up in the east and by dawn will be in the southwest as it hangs between the eastern end of Leo and the western head of Virgo. Following it across the sky by almost exactly three hours is the ringed planet Saturn. Rising just after 1 a.m., Saturn lies in the south by dawn. Also, in the wee hours of tomorrow morning we have a waning crescent moon just to the east of Saturn. Look to the west of the moon for two bright objects. The lower one is the bright star Spica in Virgo while the upper one is none other than Saturn.

Celestial Calendar

Jan. 16, 4:08 a.m. EST, last-quarter moon.

Jan. 19, The sun in its annual path around the sky passes from Sagittarius, the archer, into the fainter constellation of Capricornus, the sea-goat.

Jan. 23, 2:39 a.m. EST, new moon.

Jan. 30, 11:10 p.m. EST, first-quarter moon.

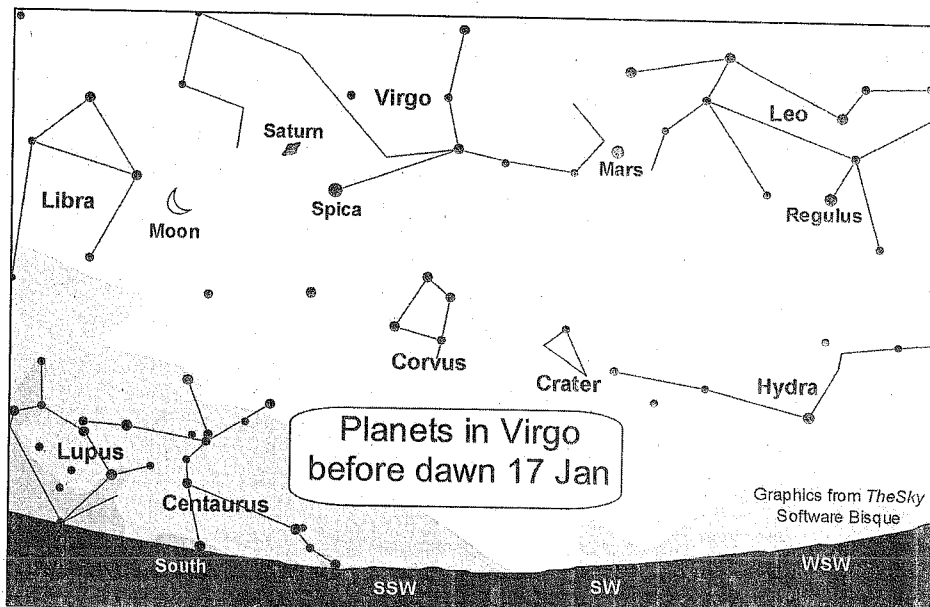
Feb. 7, 4:54 p.m. EST, full moon.

Astroquestion

We keep referring to the planet Venus as the brightest planet in the sky and, except for the moon, the brightest object in the nighttime sky. We also point out that Jupiter is the second brightest planet in the nighttime sky. What makes these planets so bright?

Answer To Astroquestion

In general, the apparent brightness of an object is



due to two considerations. The first is the nature of the object itself. Stars have different luminosities because stars are different. Some are bigger than others; some are hotter than others. A planet has no intrinsic brightness in itself but simply reflects the light of the sun. So, its brightness is related to how big it

is, how far away from the sun it is, and how much light it reflects. A second consideration is how far away the object is. Stars, except for the sun, are little twinkling lights in the sky simply because they are very far away. Venus appears bright because a) it is close to the sun, the source of its light, b) it's

visible appearance is the tops of some very light colored clouds, and c) it is close to us. Jupiter is bright because a) it is big and b) its appearance is the tops of some light colored clouds.

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