

# November night sky

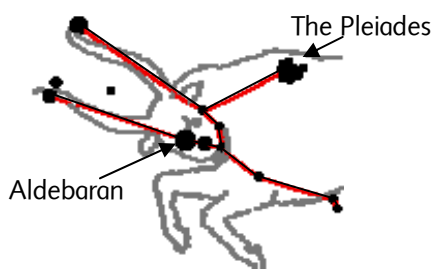


When we can see the constellation called “the Pleiades”, we know that winter is upon us. Get those thermal undies out and prepare yourself for a feast of stars and planets!

## Constellation of the month – Taurus

In early Greek mythology, Zeus, the King of the Gods, falls in love with Europa, the daughter of the King of Tyre. Europa was constantly guarded by her father's servants so Zeus could never see her. One day Zeus changed himself into a beautiful white bull with golden horns. He then mixed with the royal herd that were grazing in a large field by the sea. Europa, who had been walking along the beach, noticed this beautiful animal and could not resist going up to it and feeding it. So friendly and gentle was this splendid bull that she climbed onto its back and grasped its golden horns. Zeus then swam off across the sea to Crete with Europa on his back. This bull is represented by the pattern of stars called Taurus.

The constellation Taurus— look for the V-shaped pattern of the bull's face and horns in the South East at 10pm.



## Finding Taurus

When you look for Taurus in the sky, don't expect to find the entire bull. You are supposed to see only his front half. The explanation is that his hindquarters are underwater since he is carrying Europa across the sea to Crete. Look for Taurus in the South West in the evenings. If you know the constellation Orion, draw a line up from the three stars on Orion's belt and you will come to 'Aldebaran', a red giant star, the eye of Taurus. If you can find his eye (it looks slightly orange to the naked eye), see if you can make out the V-shaped pattern of the bull's face and long horns.

Within the constellation of Taurus there are two clusters or groups of stars: the 'Hyades' are a hazy cloud of stars around Aldebaran and the 'Pleiades', which are much easier to see, are a cluster to the right of Taurus. Although both clusters appear to be made up of a handful of stars, they each contain hundreds of stars.

## The Pleiades

“A swarm of fireflies tangled in a silver braid” was how poet Alfred Tennyson described the glittering star cluster. There are many different stories about these stars from all over the world, many of them describe the stars as a group of young girls being chased by a man, either Orion or Aldebaran. One of the cluster's popular names is the “Seven sisters”. Polynesian navigators used the Pleiades to mark the start of their year and farmers in the Andes rely on how well they can see the Pleiades as a guide to planting their potatoes. How brightly or faintly they can see the Seven Sisters depends on the El Nino weather system and this weather system will affect their planting.

## Moon Calendar

## The planets in November

**Jupiter** is still king of the night this month in Capricornus, it will appear low in the south west until 9.45pm by end of the month.

**Neptune** shines faintly in Capricornus just to the left of Jupiter. You will need a telescope to see it.

**Uranus** is on the borders of Aquarius and Pisces and visible with binoculars.

**Venus** is visible in the dawn glow. It rises at 5.15am at the beginning of the month.

**Mars** rises in the north east at 10pm at the beginning of the month. It gets considerably brighter over the month as it moves from Cancer towards Leo.

**Saturn** rises in the East in Virgo around 3.15am at the start of November.

## Theme of the month: clusters

### What are they?

A star cluster is a group of stars physically close to each other in space. Sometimes a group of stars that look close together to us on Earth, are not actually physically close to each other, but clusters are genuinely near to each other.

### Are there different types?

There are two different types of star cluster: OPEN and GLOBULAR.

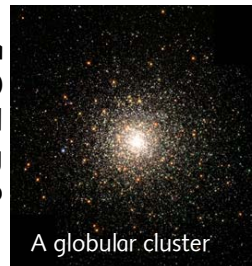
### Open Clusters

An open cluster is a group of up to a few thousand stars that were formed from the same giant molecular cloud, and are still loosely bound to each other by gravity. Open clusters are found where active star formation is occurring. They are usually less than a few hundred million years old.



### Globular cluster

Globular clusters are groups of thousands of stars in a sphere shape. Globular clusters are very old, at least 10 billion years old, and evolved when the galaxy was still forming. They are scattered in a spherical halo surrounding our galaxy and they need hundreds of millions of years to orbit it.



### Explore further at:

Explore - details of our planetarium and back issues of this handout are at:  
[www.at-bristol.org.uk/explore/planetarium.htm](http://www.at-bristol.org.uk/explore/planetarium.htm)

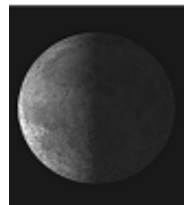
NASA - activities and information on space and other science topics. Lots of fun activities for children and a great resource for images of space are on the website:  
[www.nasa.gov](http://www.nasa.gov)

Stellarium - is a free planetarium program for your computer, showing a realistic 3D sky, just as you would see if looking with your eyes or a telescope.  
[www.stellarium.org](http://www.stellarium.org)

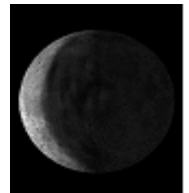
2nd November  
Full Moon



9 November  
Last quarter  
(half Moon)



13 November  
Crescent  
Moon



16 November  
New Moon



20 November  
Crescent  
Moon



24 November  
First quarter  
(also known as  
half Moon)

