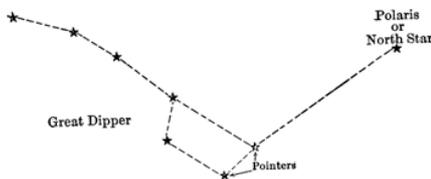


Stargazing Guide: November 2018

What to look out for...

Constellations (star pictures) and interesting stars:

1 The Plough always the easiest place to start! Find it to the north-west. The last two stars point to the North Star, **Polaris**. Polaris is always seen to the North as it is above the North Pole.



4 Pegasus the big square of stars marks the winged horse's body. This constellation is a useful reference when looking for other things, like....

5 Andromeda (say "An-DRUM-eh-duh"). This is the beautiful daughter of Queen Cassiopeia and King Cepheus. Her body is shown as two curves of stars close by each other, stretching away from one of the corners of the Square of Pegasus.

2 Cassiopeia (say "kass-ee-oh-PEA-uh"). Her "W" of stars is an easy shape to find in the sky at any time of year, but is seen particularly high in the winter.



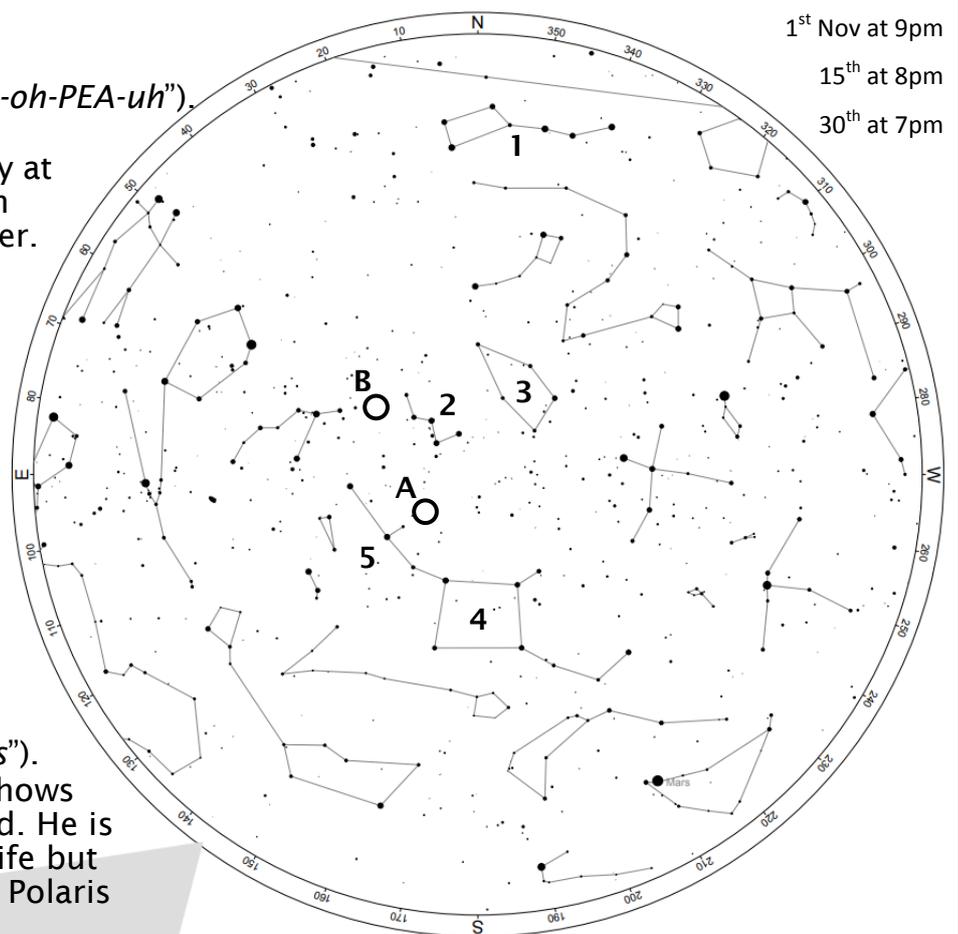
3 Cepheus (say "SEA-fee-us"). This house-shape of stars shows Queen Cassiopeia's husband. He is less easily found than his wife but you can use Cassiopeia and Polaris to help you spot him.

See next page for **A & B**... Map shows:

1st Nov at 9pm

15th at 8pm

30th at 7pm



How to use this chart:

Imagine the chart flat & upside-down above your head. The circle around the outside shows the horizon all around you. Turn the chart to have North (N), South (S), East or West at the front depending on which direction you are looking.

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Other things to see...

The Moon

Best viewed when lit from the side, as the craters throw long shadows.



Planets

Mars, Jupiter and **Saturn** all rise before the Sun sets each day of September, and all set before the Sun rises in the morning. Jupiter will unlikely be visible setting shortly after the Sun. Saturn will appear in the midst of the band that is the Milky Way. To the left of Saturn and being pointed to by the Summer triangle, Mars will appear as a slightly pinkish, bright dot. All three will set before midnight during the month

Venus rises in the early hours rising earlier and earlier each day of the month, and will be visible before the sun rises each day

The Andromeda Galaxy

A galaxy is an enormous group of stars in space. Last month's guide explained how to see our own galaxy. The next closest large galaxy is the Andromeda Galaxy, shown as **A** on the map.

You'll need dark skies to see this as it's very faint. Using the corner of your eye, look for a very dim smudge of light about the size of the full Moon. This is just the bright core; the whole thing is six times this size. This galaxy is the most distant thing you can see by eye, being over 20,800,000,000,000,000 km away. That's 145,000,000,000 times further than the Sun!

The Perseus Double Cluster

Shown as **B** on the starmap, two lovely open clusters of stars that appear very close together from our viewpoint. On a very dark night they can be seen as one tiny fuzzy blob by eye.

Using Binoculars

If you have binoculars, these can help you find the Andromeda Galaxy and will show the Perseus Double Cluster as two separate gorgeous groups of stars..

Tip of the Month

Winter is great for stargazing but do remember to wrap up warm else you won't want to stay outside for long! If you can find somewhere out of the wind, this will also help.

Download this star guide and those for other months from:
<http://www.winchestersciencecentre.org/starguides>

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