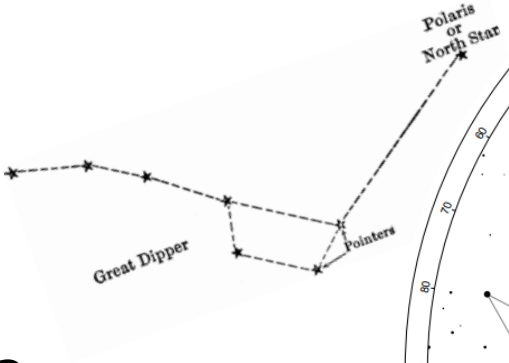
Stargazing Guide: February 2019

WINCHESTER SCIENCE CENTRE AND PLANETARIUM

What to look out for…

Constellations (star pictures) and interesting stars:

1 **<u>The Plough</u>** A well-known pattern. The last two stars point to the North Star, Polaris, which is always seen to the North as it's above the North Pole.

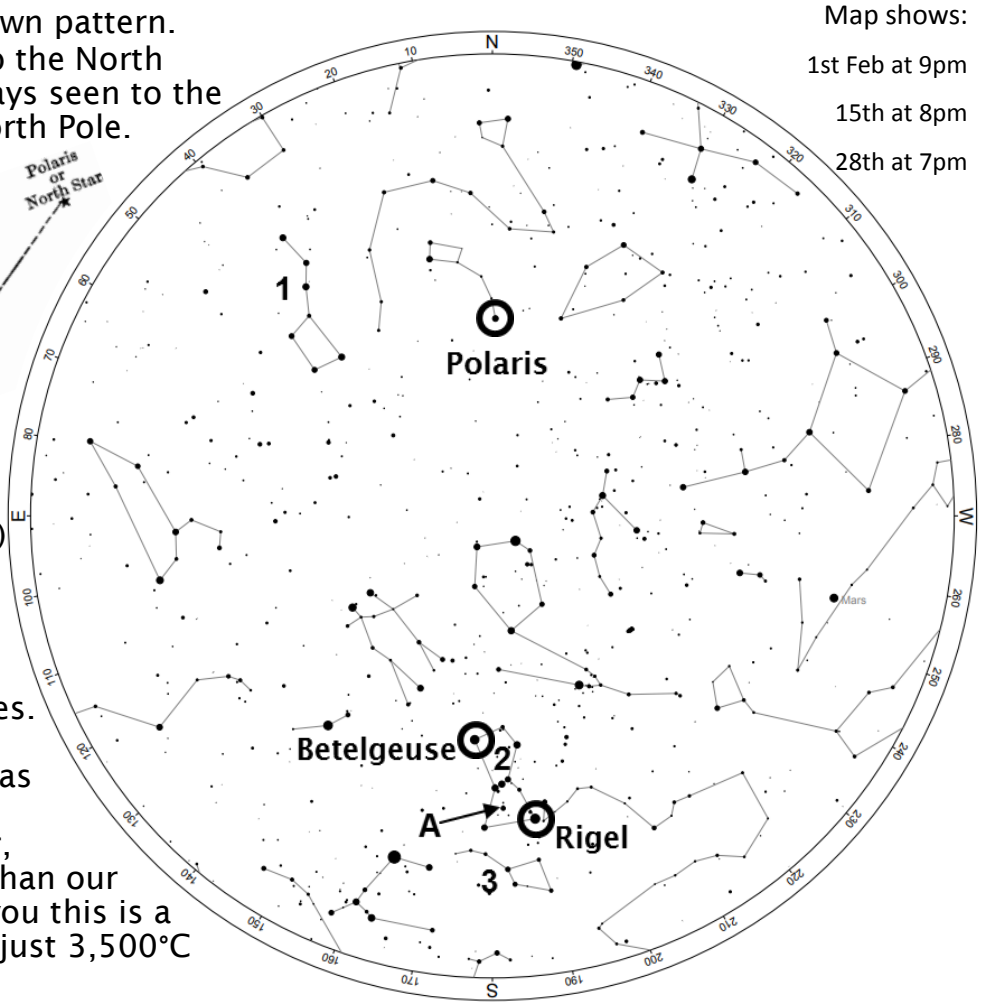


Map shows:

1st Feb at 9pm

15th at 8pm

28th at 7pm



2 **Orion** (say "uh-RYE-un") The Hunter. Easy to spot with three bright stars in his belt and a box of bright stars around these for his shoulders and knees.

Betelgeuse (often known as "beetle-juice"!) is a red supergiant in his shoulder, about 1,000 times wider than our Sun. The red colour tells you this is a cooler star: the surface is just 3,500°C (our Sun is 5,800°C).

Rigel (rhymes with Nigel) is a blue supergiant. It's not possible to see the colour of blue stars by eye (try a long exposure photograph), but this tells us the star has an extremely hot surface, at about 11,000°C.

3 **Lepus** (say "LEP-us") The hare, hiding under Orion's feet. You need a very good imagination for this picture!

Orion Nebula (marked with an arrow from 'A') The best bit of Orion is a faint fuzzy spot in the sword hanging from his belt. You'll need to be somewhere reasonably dark to see it. This is the Great Orion Nebula; an unimaginably vast cloud of gas almost twice as far away as the red star Betelgeuse. In some places, gravity is pulling this gas together to form new stars. These bright young stars light up the surrounding gas so we can see it.

<u>How to use this chart</u>:

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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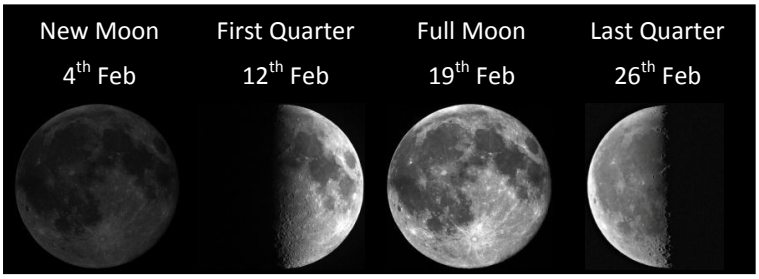
The Moon

Next time you see the Moon at night, remember its position compared to background stars. Look again the next day and it will have noticeably moved. In this way you can get a sense of how far it's moved in its orbit around our planet.



Planets

Venus, Jupiter, and Saturn All rise in the early hours of the morning in the East shortly before sunrise at the start of the month.

Venus will be visible until the sun rises each morning throughout the month rising at a similar time each day and appearing a similar distance from the Sun.

Jupiter and Saturn will rise earlier each day throughout the month, with Saturn appearing closer to Venus each day until mid-month when it will appear in the sky before Venus.

Mercury will rise later each day, shortly after the Sun so will be unlikely to spot this.

Mars remains visible during the month in the sky towards the south once the sun sets. Mars will set each night of the month shortly before midnight

Using Binoculars

Don't miss the Great Orion Nebula (marked 'A' on the star map. Binoculars will help you see more of the faint details our eyes are unable to see.

There are many star clusters to find in the sky around Orion; explore along his left-hand side and up above his head. In this direction you are looking along the 'Milky Way' - there are more stars in this direction as we live inside a flat, spiral-shaped galaxy of stars, and in this direction you are looking through the flatness of our galaxy (towards its outer edge). There are hundreds of billions of stars in the Milky Way galaxy; we see the Sun up close and other nearby stars as dots, but the more distant ones we see only as a misty light in the sky.

Tip of the Month

Your eyes take up to 20 minutes to get used to the dark; your pupil gets bigger quickly, but the back of your eye (the retina) adapts too. Be patient and you'll see more the longer you look! If you need a torch, use a red light (use the back light from a bike or put a normal torch in a red plastic bag). Red light is helpful in that it doesn't effect your night vision as significantly and you are still be able to see in the dark when you turn it off. This is because of the way the retina works. Strange but true – give it a try!

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

Winchester Science Centre & Planetarium, Telegraph Way, Winchester SO21 1HZ.
Tel: 01962 863791, email info@winchestersciencecentre.org. Registered Charity No. 294582