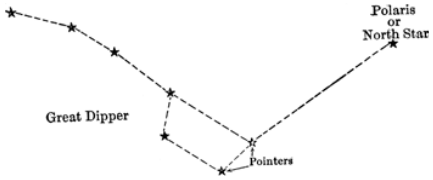
Stargazing Guide: December 2019

WINCHESTER SCIENCE CENTRE AND PLANETARIUM

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-East. The last two stars point to the North Star, **Polaris**. Polaris is always seen to the North as it is above the North Pole.



2 **Taurus** (say "TOR-russ"), The Bull. He has a bright orange eye - the giant star Aldebaran, which is about 44 times wider than the Sun. The rest of the "V" shape that makes his face is formed by a star cluster called the Hyades, older than the Pleiades and only about a third as far from us.

3 **Perseus** (say "PER-see-us"). Contains Algol, the Winking Demon Star, which marks the eye of the Medusa's severed head as carried by the hero.

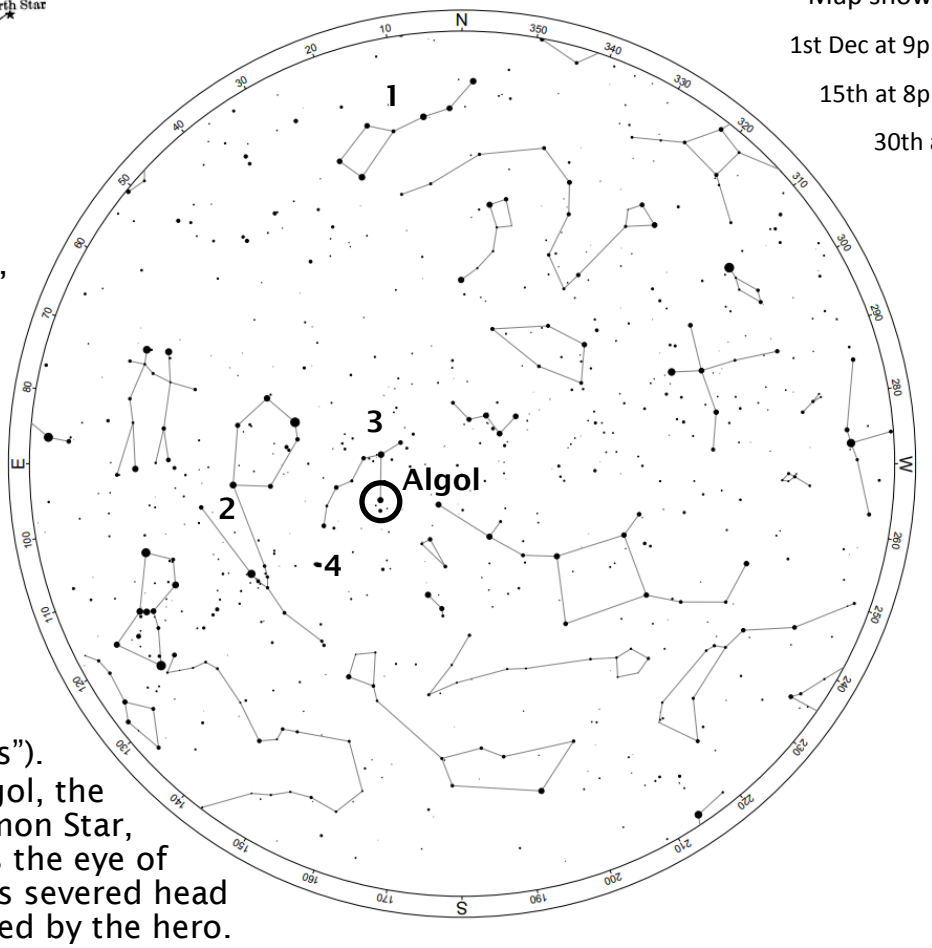
4 **Pleiades** (say "PLY-uh-deez"). A beautiful group of young stars also known as the Seven Sisters. Although you'll be lucky to see even six stars, there are over a thousand in this young cluster. Unusually, they really are close together in space, having formed from the same gas-cloud (nebula).

Map shows:

1st Dec at 9pm

15th at 8pm

30th at



Algol seems to wink every 69 hours. This is because it's actually two stars orbiting around each other. The wink comes when the dimmer star moves between us and the brighter one, blocking its light. Compare Algol's brightness to its neighbours and see if you can spot the wink!

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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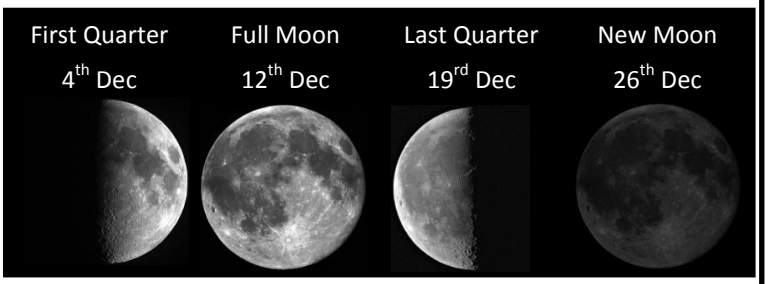
The Moon

Best viewed when lit from the side, as the craters throw long shadows. Look after dark around the 15th or between Christmas and the new year!



Planets

Venus, Jupiter and **Saturn** are all visible close to the horizon as the sun is setting at the start of the month. All three will set shortly after the sun. As we go through the month Jupiter and Saturn, which remain the relatively the same distance apart, appear to get closer to the Sun, until Jupiter matches and overtakes the position of the Sun in the Sky at the end of the month. Reversely Venus appear slightly further away from the sun each day, making it easier to spot as the month continues.

Mars and Mercury both rise in the early hours shortly before the Sun. Both remain visible throughout the month. Both planets appear close in the sky at the start of the month but drift further away from each other as Mercury appears closer to the sun with each day, rising later and later throughout the month. Mars rises shortly after 5am each month, and can be seen as a slightly pinkish dot that doesn't appear to twinkle.

Meteors (shooting stars)

The 14th December marks the annual Geminid meteor shower, and with this year it being close to the time of the full moon it will make viewing these 'shooting stars' unfavourable. These meteors are famed for their brightness so you may be lucky! The event occurs as the Earth orbits through a region containing small pieces of rock caused by an asteroid, 3200 Phaethon, these rocks hit our atmosphere and burn up.

Using Binoculars

Binoculars are fantastic for looking at the Moon. You'll see different features depending on how it is lit. The best place to look is along the edge of the shadowed part, known as the terminator. Here the light slants against the surface creating beautifully long shadows that throw the landscape into sharp relief, dramatically lighting mountains and craters.

Tip of the Month

Find the darkest spot you can, even if this just means finding a shadow of a tree or wall to shield you from street-lights or moonlight. You'll be amazed how many more stars you can then see.

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

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