

THE NIGHT SKY ABOVE YORK FOR MARCH & APRIL 2014

This chart is oriented for 9pm March 17th, 8pm March 31st, 7pm April 14th, but can be used at any time.

To use the chart, hold it up to the sky. Turn the chart so that the direction you are looking is at the bottom of the chart. If you are looking to the south then have the 'South Horizon' at the bottom edge. As the Earth turns the stars appear to rotate anti-clockwise around the North Celestial Pole, marked by the star Polaris. Stars rise in the east and set in the west just like the Sun. The sky makes a small westward shift every night as we orbit the Sun.



PLANET WATCH

Jupiter is the brightest object (besides the moon) in the evening sky in March and April. It is the largest planet in the Solar System. With a small telescope you can see the four Galilean moons of Jupiter. Io, Europa, Ganymede and Callisto were discovered by Galileo when used his telescope to look at the night sky. They are some interesting places too. Io has more than 400 active volcanoes making it a sulphuric yellow colour. Europa is an icy ball but perhaps has liquid water underneath the ice which may even harbour life. Ganymede is a giant moon - larger than the planet Mercury and Callisto is one of the most cratered objects in the Solar System. The moons orbit in 2 to 17 days so are always changing position.

Mars begins to rise in the later part of the evening. This small reddish planet is close to the bright star Spica. Mars is the second smallest planet in the Solar System (after Mercury), only half the size of Earth. Despite this Mars has the tallest mountain on a planet, Olympus Mons, and one of the largest canyons, Valles Marineris, both features that dwarf their equivalents on Earth. Recent missions to Mars (five of which are still active) have shown it is likely liquid water used to flow over the now dusty red surface. Nowadays it just has two polar caps of water and dry ice (carbon dioxide).

CONSTELLATION WATCH

Orion the Hunter is one of the easiest constellations to recognise, look for the three stars of his belt in the SW sky. Orion is well equipped with a sword and bow as he is hunting Taurus the bull. The two brightest stars, Rigel (blue) and Betelgeuse (red) can

be seen to be distinctly different colours. Rigel is a hot blue supergiant star and Betelgeuse is a huge cool red giant, 8 times larger than Rigel. Although they appear to be the same brightness, Rigel is further away (772 light years compared to 644 light years), meaning it is naturally brighter. The sword of Orion can be seen as three stars hanging diagonally down from his belt. The second star down is not a star at all! It is a large cloud of gas where new stars are being born.

Gemini can be found by identifying the two bright stars above Orion's arm. The Twins of Gemini are well known as one of the 12 signs of the Zodiac and best visible from mid-Winter to late-Spring. The two brothers Castor and Pollux are represented by two bright stars, although the stars themselves are completely unrelated. The brighter star, Pollux is slightly orange, is the closer of the two and has a planet more than twice the size of Jupiter - nearly big enough to become a star itself. Castor is a sextuple star system which means it is six stars gravitationally bound together! Imagine having being on a planet nearby and having six Suns in the sky!

The Great Bear, Ursa Major, is best seen towards the North in the Winter and Spring. Also known as the Big Dipper or the Plough the Great Bear is a funny looking bear with a long tail. One story says the beautiful woman Callisto was thrown into the sky with her son Arcas (Ursa Minor) by Zeus' jealous wife. They were swung into the sky creating their long tails. The Hubble Deep Field, a photograph that shows galaxies formed just after the Big Bang was also taken in a small patch of dark sky in Ursa Major. Although the deep field covers only the area of a pinhead on the sky, more than 10 000 galaxies can be identified in the photo, and this is the case for any point in the sky. This one photo demonstrates the true vastness of the Universe.