Night Sky Guide

What will you see in the night sky this autumn and winter?

Winchester Science Centre

By Wonderseekers

Night sky highlights November

New Moon

On 20th November we'll see a new Moon phase. The new Moon happens when the Sun and Moon are aligned, with the Sun and Earth on opposite sides of the Moon. A new Moon is the best time to explore the night sky as nights are dark. This New Moon makes it easier to view other celestial objects like planets, meteor showers, and deep sky objects such as star clusters, nebulae, and galaxies.

Saturn

Saturn is the second of our Gas Giants and famous for its beautiful rings. These rings are primarily made up of water ice with dust and rock making up the rest. Saturn will be visible every night in November and can be located beneath Pegasus. You can see Saturn's rings through binoculars or a telescope during this time.

Constellation spotting

Andromeda

Throughout November, you will be able to spot the Andromeda galaxy all night. Starting in the east after Sunset and travelling westwards over the course of each night. The darker the viewing conditions, the easier it will be to spot with the naked eye.

Pegasus

Note – in the Southwest, you can spot the great square of Pegasus that will help lead you to Andromeda. This outlines the winged horse's torso that is one of the most dominant features in the Autumn night sky. This constellation, just like the Andromeda galaxy, travel from

Night sky highlights December

Super Full Moon

This occurs when a full moon or new moon is the closest in its approach to Earth. This is called the Perigee and can be seen on 4th December. The Moon will look its biggest in the sky and orbiting at its fastest speed. This also has increased Tidal effects due to the stronger gravitational pull, leading to higher tides.

December Solstice

December is one of two times in the year where the Earth is at its most extreme tilt relative to the Sun. During this month, the northern hemisphere will be leaning its furthest away from the Sun, giving us longer days and shortest night. This is know as the Winter Solstice. This year it will take place on Sunday 21st December, at approximately 3pm GMT.

Geminids Meteor Shower

Peaking around 13th/14th December these bold, white meteors will be able to be seen throughout the night if the weather is clear. The Geminids differ to most meteor showers as they derive from an Asteroid rather than the usual comets.

Constellation spotting

Ursa Major

The Great Bear is one of the easiest patterns to spot in the night sky. Part of the constellation is more commonly known as The Plough, Big Dipper or Saucepan.

Ursa Minor

Face north to north east and look for Polaris, the North Star. This is the tail star of Ursa Minor, The Little Bear.

Night sky highlights January

Super Full Moon

January 10th, Jupiter will reach opposition. This is where Earth will fly between Jupiter and the Sun. This means that Jupiter will be the brightest and opposite the sun in our sky. This event happens roughly every 13 months due to Jupiter's and Earth's rotation around the Sun.

Quadrantid Meteor Shower

These showers will start on December 28th and run through to January 12th. It will peak between January 3rd and 4th producing up to 80 meteors an hour (depending on where you are observing from). Meteors will be visible all over the sky, but they will appear to radiate out from a point between the constellations of Draco and Bootes, near the tail of Ursa Major.

Constellation spotting

Orion

Also known as The Hunter, this is one of the most recognisable patterns in the sky. Three stars form Orion's Belt, his left shoulder is the red supergiant Betelgeuse and the blue supergiant Rigel is his right knee.

Taurus and The Pleiades

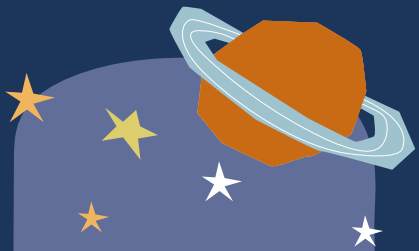
Look for a V-shape of stars just above Orion's Belt. This is Taurus, the Bull. It's also home to The Pleiades, a young star cluster known as The Seven Sisters.

Winchester Science Centre

By Wonderseekers

Top tips for stargazing and Moon watching

- Find the darkest spot you can. Get away from street-lights or moonlight.
- It will take your eyes up to 20 minutes to get used to the dark so be patient. The longer you wait, the more you'll see.
- Try stargazing laying down.
- You can see lots in the night sky with just your eyes. Telescopes and binoculars are great for getting a better look at the Moon and star clusters.
- If you are using a telescope or binoculars let them have 15 minutes to cool down to the outside temperature.
- Look slightly to one side to see faint objects. This is called Averted Vision.
- Monitor the Moon on different nights. Compare its position against the background stars to see how far its moved.
- See the Moon at different phases. It looks quite different depending on how the Sun is lighting it.



For more stargazing tips...

wonderseekers.charity/science-at-home/stargazing-guides

With thanks to Explorer Dome

EXPLORER DOME