

Star gazing

Try out some 'star gazing' on your break. Most of the stars mentioned in this guide can be seen by the naked eye. Use the star maps to identify the different constellations.

The moving sky

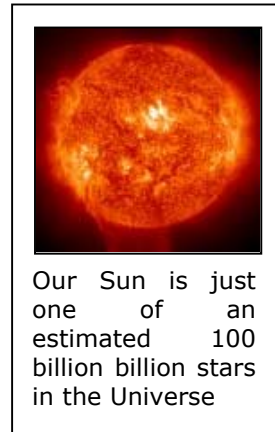
Because of the rotation of the earth, stars appear to move across the sky each night. This rotation gives the impression that they move in an anti-clockwise direction around a central point.

This central point is very close to a star called Polaris. In the British Isles Polaris always appears due north, midway between the zenith (directly overhead) and the northern horizon.

Polaris is marked on the 'Looking North' star map in this sheet. See if you can locate Polaris in the sky. The stars close to Polaris, such as those of Ursa Minor appear to move slowly across the night. Those further away will appear to move much faster.

It takes 23 hours and 56 minutes for a star to make a complete rotation around this central point. Because our 'solar' day is 24 hours long a star will be seen in the same location 4 minutes earlier each night.

This is why the night sky changes over the months and different groups of stars (constellations) become more visible at different times of the year.



Constellations

Ancient astronomers separated the stars into constellations. Each one represented a different mythological figure. You can spot the different constellations by using the star charts provided.

Milky Way

The Milky Way is an indistinct luminous band that stretches right across the night sky.

It is formed by concentrated light of countless stars that lie between the earth and the outer rim of the galaxy. It can be a good guide to locate stars that lie on or near it.

Planets

Planets are satellites of the sun and like the earth they depend on the sun for heat. They shine because they reflect the sun's light. They revolve in regular and clearly defined orbits but relative to the stars their motion is irregular.

Why do stars twinkle?

Stars twinkle because they are very far away, and so appear as tiny points of light in our night sky.

Some of this light is absorbed by moving air in the Earth's atmosphere, making the star appear to sparkle.

Planets, like Saturn or Jupiter, don't twinkle.

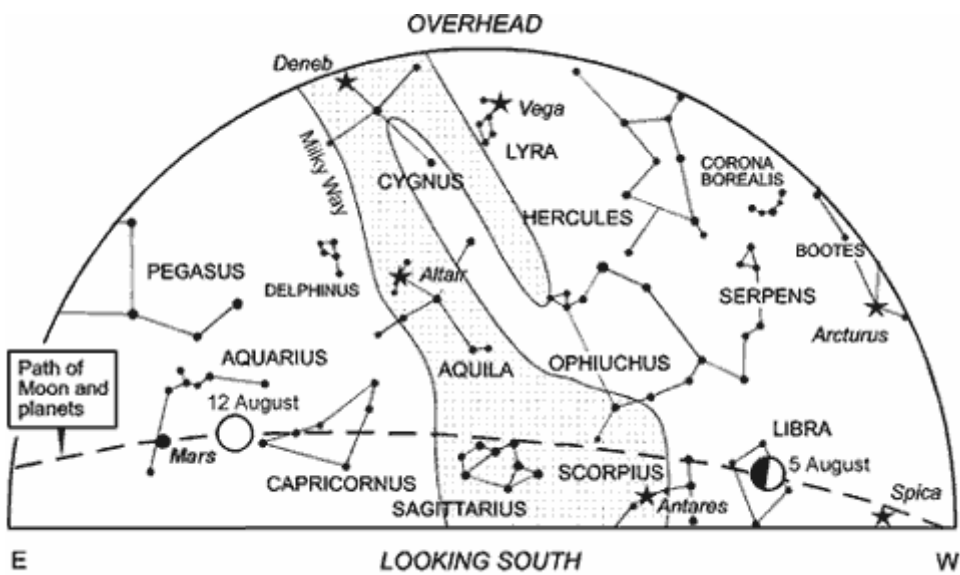
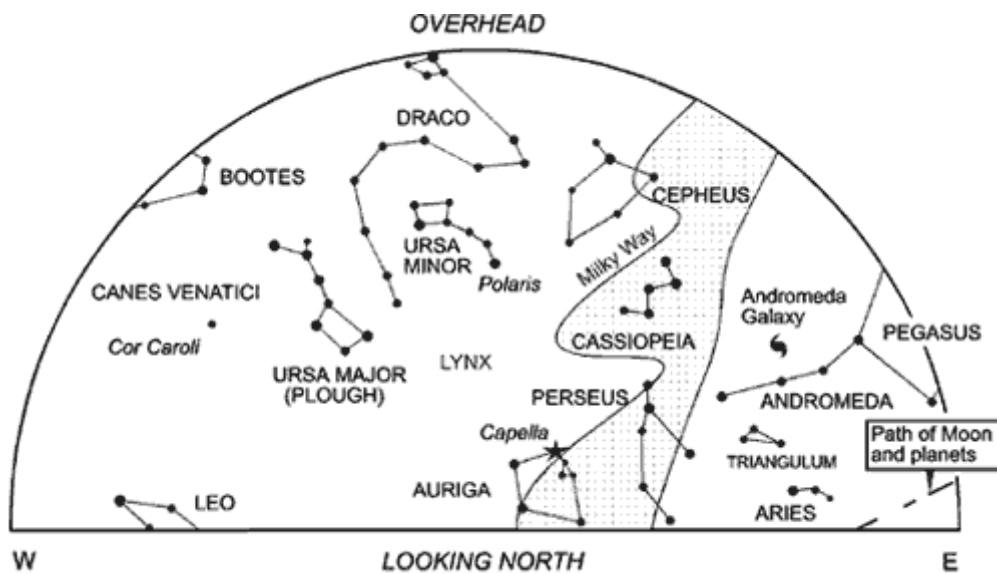
This is because they are a lot closer to the Earth and so they look bigger in our sky than stars.

The night sky

The sky charts below show the stars and constellations to look out for.

To get you started, there is an easy way to find out which way is north or south. At sunset, notice where the sun sets (but don't stare at the sun). This direction will be roughly west, and the opposite point on the horizon will be east.

When it's dark stand with your left side towards the west and your right towards the east. You'll be automatically facing north and can use the 'Looking North' map below. If you turn around and face the other way you can use the 'Looking South' map.



Constellations to look out for

Ursa Major, the plough, also known as the Great Bear.

Ursa Minor, the little bear, contains the Polaris star.

Draco, or the dragon, rears up above Ursa Minor.

Cygnus, the swan, in full flight soars downstream along the Milky Way.

Delphinus, the starry dolphin, is one of the smallest and most elegant of all constellations with its four brightest stars arranged in a tiny perfect diamond.

Aquila, the eagle, flies up from the South – its wings outspread over the milky path.

Lyra, the harp, was first named after a vulture, standing wings half-closed, on the western bank of the starry river. Lyra may have changed into a harp for King Arthur or the lyre of Orpheus in ancient Greece.

Legend has it that a different story surrounds the constellations of Aquila and Lyra

The story tells of a cowherd (Aquila) and a spinning maiden (Lyra) with whom he fell in love. The girl's father banished them to the sky, but they were allowed to meet once year if they could cross the river Milky Way.

Each year on the seventh night of the seventh moon, they were able to do this, thanks to their friends the magpies, who formed a feathered bridge for them to pass over.

The next day the magpies returned to earth.

Phases of the Moon



The moon always keeps the same face towards Earth. The changes in the moon's appearance are due to the changing relationship between the sun, moon and Earth. The moon shines by reflecting sunlight.

With the naked eye you should be able to see the Seas on the moon. These are large dark lava plains found in lowland areas and are for the most part located on the side of the moon facing earth.

First quarter: 2nd - Full Moon: 10th - Last quarter: 18th - New Moon: 25th

Herstmonceux Observatory Science Centre

Herstmonceux Observatory is located in the grounds of Herstmonceux Castle. In 1946 the Castle became the home of the Royal Greenwich Observatory.

They observed the night sky until the early 1970's when the Sir Isaac Newton 98 inch reflector telescope was moved to the Canary islands.

The Observatory is now a hands-on science centre with a Discovery park and various special events and tours of the remaining telescopes.



More details can be found in the section on 'places of interest to visit'.