



kandersteg
international scout centre

DISCOVER THE MYSTERY AND MAGIC IN THE NIGHT SKY!

Since the dawn of civilisation the stars have been marvelled at. Ancient civilisations gave names to the brightest stars and identified groups of stars known as constellations. Mythical legends and stories were woven into the constellations resulting in a whole world of activity being symbolised in the night sky. In recent times, modern technology and space exploration have uncovered some of their secrets but mysteries still remain.

Our nightly view of the stars is our own personal glimpse into the wonders of the Universe and we should all take the opportunity to delve into this fascinating world. With a little bit of learning, the world of the stars is open to us and the result is truly magical!

The Astronomy activity is self guided.

This leaflet provides:

- A step by step guide to star gazing
- Constellation pictures

Please read the leaflet thoroughly before you set off on your star gazing adventure.

winter
astronomy  **be eco**

Getting started...

Step 1 Equipment

We recommend the following equipment: astronomy leaflet, star chart, torch with red bulb or red filter (can cover light with red coloured plastic), warm clothes, flask of hot drink, blanket, binoculars.

Step 2 Preparation

Before you set off, make sure you have read this leaflet and familiarised yourself with the different constellations.

Step 3 Location

Find a quiet, dark area, away from lights, hazards and things overhead, such as trees. Make sure you are comfortable, you may be there for some time!

Finding the North Star.

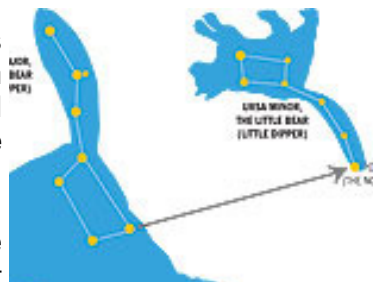
The North Star, or Pole Star, always points to due North, and stays in a fixed position in the night's sky. This makes it very helpful for locating other constellations. There are several ways of finding the North Star.

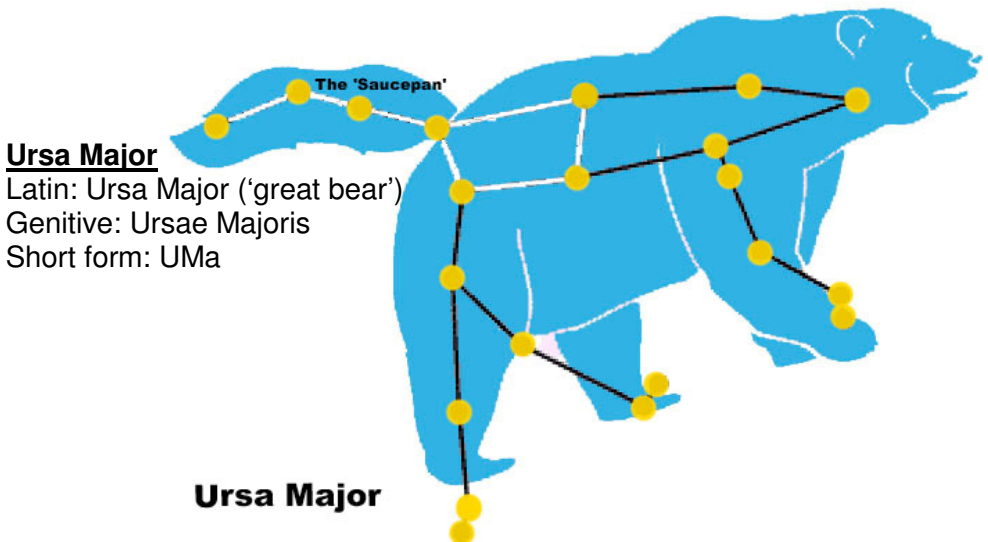
Firstly try to find Ursa Minor, or 'little bear' (see below). The Pole Star is found at the end of the 'tail' of the little bear.

Another method could be to locate Ursa Major or 'great bear' in the sky, (see below). The part of Ursa Major, marked with white lines on the next pages, is also known commonly as the 'Plough' in the UK, the 'Big Dipper' in the USA as well as the 'Saucepan'. If you look from the base of the saucepan and travel in a straight line for a distance of roughly five times the depth of the saucepan, you will reach the Pole Star. However, the Pole Star is not very bright and a common mistake is to think it will be the brightest star in the sky.

Struggling to find the North Star? Try these helpful tips.

At KISC: Due north is found by looking down the valley, slightly to the right hand side, towards Frutigen





How to find: Locate the North Star and then either to the left or the right, above or below lies Ursa Major. (It looks a lot like a large frying pan). In different cultures around the world, Ursa Major has been represented by many different objects including: a plow, wagon, coffin, skunk, camel, shark, canoe, bushel, sickle and even a hogs jaw. Stories about Ursa Major even date back to the Ice Age when ancient people could cross over the Bering Strait to North America. It is thought that Ursa Major was seen as a 'bear' as long as 50,000 years ago in Siberia and Alaska.

Myths of Ursa Major:

The Greek myth of Ursa Major tells of a young woman named Callisto, and her son, Arcas who were turned into bears by Zeus, king of the gods. Both Callisto and Arcas were then thrown into the heavens and became the constellations we know as Ursa Major (great bear), and Ursa Minor (little bear).

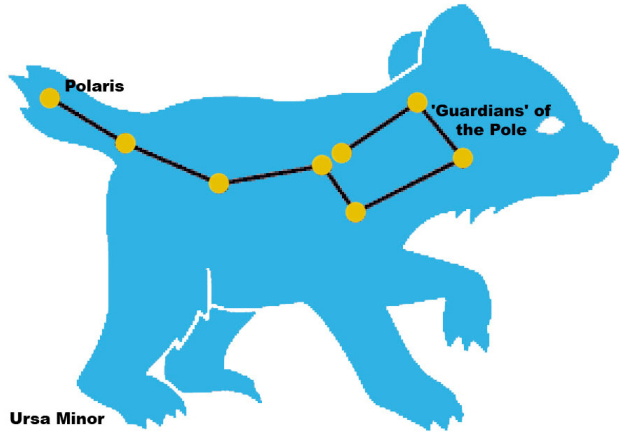
The Micmac Indians of Nova Scotia and the Iroquis Indians along the St. Lawrence Seaway tell of how the quadrangle of the dipper represents a bear that is pursued by seven hunters. Throughout the year, and as the sky turns throughout the night, the hunt appears to move across the sky.

Ursa Minor

Latin: Ursa Minor ('little bear')

Genitive: Ursae Minoris

Short form: Umi



How to find: The Pole Star forms part of the 'tail' of the 'little bear' of Ursa Minor. Like Ursa Major, Ursa Minor looks a lot like a saucepan, and is commonly known also as the 'little dipper'. "The little dipper" is pouring into "The big dipper".

Myths: In Greek mythology, Ursa Minor was a boy named Arcas who was turned into a bear and thrown into the heavens by Zeus.

Cassiopeia and Cephus

Latin: Cassiopeia

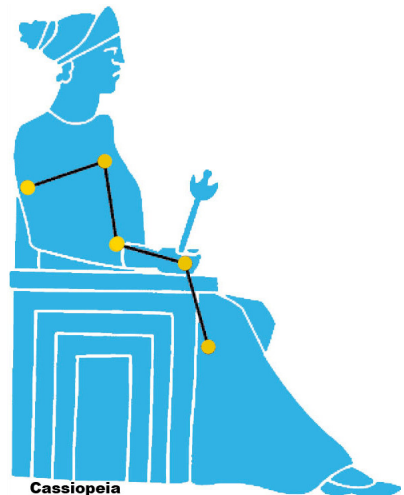
Genitive: Cassiopeiae

Short form: Cas

Latin: Cephus

Genitive: Cephei

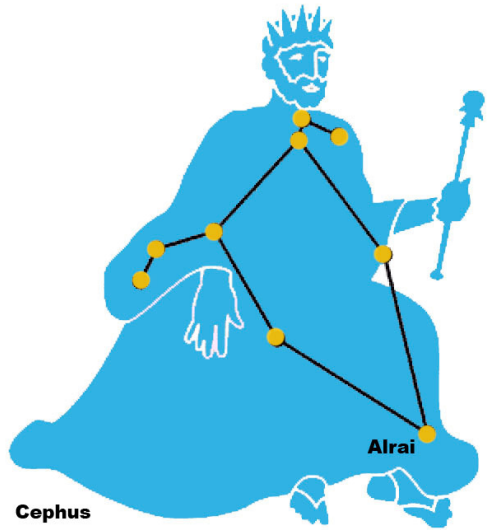
Short form: Cep



How to find Cassiopeia: You can use the same method to locate Cassiopeia as you used to find the Pole Star. Follow a line from the base of the 'saucepan' to the North Star, and then travel about the same distance again on the other side. Here you will find a constellation in the shape of a 'W'. This is Cassiopeia. If the sky is dark enough you may well see that our galaxy, the Milky Way, goes through Cassiopeia.

How to find Cephus: Use the same method to find Cephus as you have done to find the Pole Star and Cassiopeia. Cephus is located between Cassiopeia and Ursa Minor, and looks a bit like a stick drawing of a house.

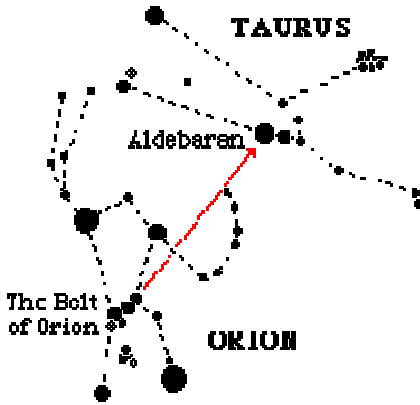
Myths: The Greeks believed that the constellation Cassiopeia represented an ancient queen of Ethiopia who was wife to the King Cephus. She once angered the sea god Poseidon by saying that her daughter, Andromeda, was more beautiful than the Nereids (sea-nymphs). Poseidon sent floods and a sea monster to destroy Cassiopeia's land. King Cephus believed that the only way to save his kingdom was to sacrifice his daughter, Andromeda, to the sea monster by chaining her to a rock. However, Perseus, nephew to the king of Argos, fell in love with Andromeda, and killed the sea monster. Perseus later married Andromeda and became king of Ethiopia.



The constellation of Cassiopeia represents a chair upon which Cassiopeia, the wife of Cephus, the King of Ethiopia, sits. The constellation Cepheus is in the shape of a house.

INFO

In the northern hemisphere several constellations revolve around the Pole Star. These are known as circumpolar constellations and they are visible throughout the year. Ursa Major and Ursa Minor fall into this category as do the two constellations, Cassiopeia and Cepheus.



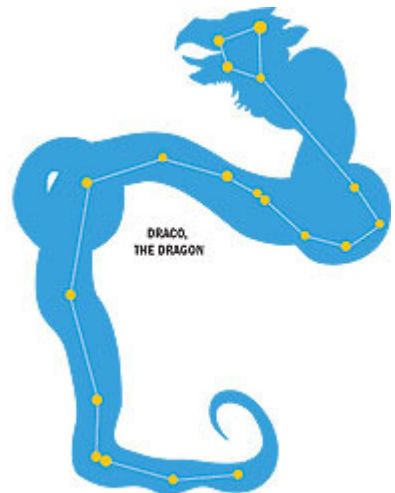
Orion

How to find: The constellation of Orion is very noticeable in winter and spring skies. Look for a line of three closely spaced stars known as Orion's belt.

Myth: Orion was son of Poseidon and was known as a great hunter or worrier and lover. One story tells that he was killed by a scorpion. Artemis, who was his lover, asked for him to be set up on the sky, so he goes down when the scorpion goes up.

Draco

How to find: Between Ursa major and Ursa minor is the tail of Draco. When you follow the stars that goes around ursa minor in an s-shape, opposite direction of the pole star, you got Draco.

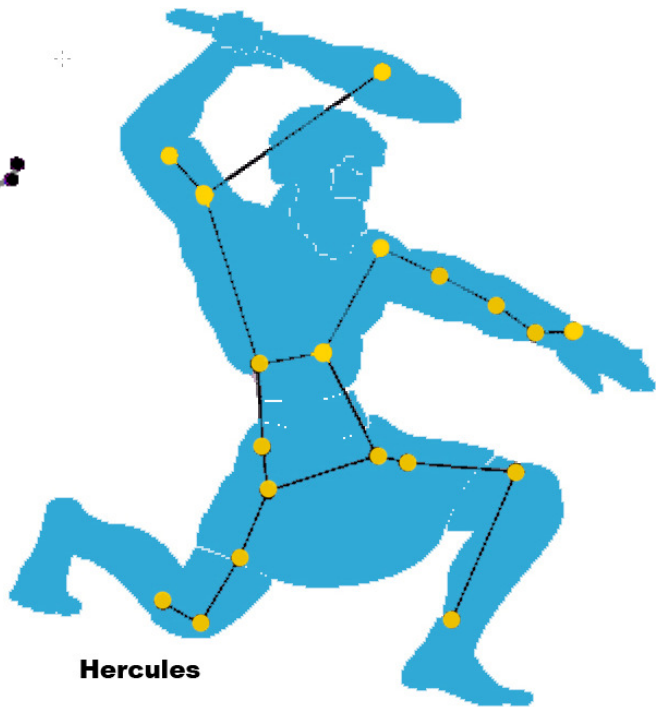


Myth: The dragon Ladona was guarding a garden with Hera's golden apples, which she got as a wedding present. Hercules then wanted the apples because they gave everlasting youth and immortality. He then killed the dragon, and so that the dragon would be remembered forever it was set up into the night sky.



Hercules

Latin: Hercules
Genitive: Herculis
Short form: Her



Hercules

How to find: This constellation is the fifth largest and at its centre comprises a large square with four long arms, representing limbs, stretching out from each corner of the square.

Hercules is not an easy constellation to find. The stars which make up Hercules' figure are not particularly bright which makes it hard to pick out a distinctive shape.

Myth: The constellation Hercules is named after a superhero, the half god Herakles, in Greek mythology. Herakles was the son of the king of gods, Zeus and an earthly queen called Alkmene.

Herakles was set 12 seemingly impossible tasks known as the 12 labors of Hercules. He completed all of them and at the end of his earthly life he became an immortal god and Zeus placed his image in the sky as a constellation.

Star constellations

In modern times the sky is split in to 88 official star constellations. The most of the star constellations of the northern sky were named in the Classic Antiquity. Most of them are based on the Greek tradition and were passed down through the middle ages.

The star constellations of the southern sky were named in the 16th and 17th century.

