

## **This brief guide will set you up for some practical observational astronomy.**

You will need stout warm boots with a thick pair of socks or several pairs of thin socks. Next warm trousers, tracksuits bottoms are quite good provided they are warm. Consider at least two pairs. Ladies may favour leggings underneath. Avoid jeans as they provide very little warmth. Next warm clothing on you upper body. T-Shirt with long sleeves, one or two jumpers and a jacket. For you head you will need a woolly hat. For you hands warm gloves. Now you are ready.



Note I have not mentioned anything about optical aids such as binoculars or telescopes. The reason that clothing is so important is that astronomy occurs at night and even in the summer it gets cold. Unlike your day time activities astronomers stand and stare so you are not generating much warmth. If you are cold you will not enjoy the wonders of the celestial sky nor will you stay out long enough to let your eyes adapt to the the dark conditions. Dark adaptation is very important. You will get little benefit from peeking out of window from a well lit room for a few minutes. It takes 15 minutes for you eyes to become accustomed to the darkness and then you will be able to see stars down to magnitude 6. (Magnitude is explained in another ESAS cue card).

It does not matter at this stage that you do know neither any star names nor cannot locate any planets. Just let you eyes wander around. What do you see? Notice that stars particular bright ones near the horizon twinkle. Hence the the song “Twinkle, twinkle little star..” It is not the star that is twinkling but the turbulent atmosphere of the earth that the star light is passing through. Try looking over head where there is hardly any twinkling. You will notice planes but also moving spots of light. These do not flash like the planes and are artificial satellites placed into orbit above Earth. Some are still working others are pieces of space junk. You may be lucky to see a shooting star or meteor. These appear as swift line of light that end abruptly. The line can persist for a few seconds before fading. You may see the International Space Station. See the ESAS Cue Card on how to find where it is.

While you are looking skywards see if you can see fuzzy objects. Not all the objects you can see are stars. Some fuzzy patches are galaxies. If you are in an area of of dark skies on a moonless light you will notice a band crossing the night sky. Here there are so many stars that they show up as rich part of the night sky. You are looking at the stars in our own Galaxy the one we call the Milky Way.

So far all you have used are your eyes. Now look at the stars. Do some of them suggest patterns? Try turning away and then looking back and recognising the pattern. The Greeks imagined a whole mythology of creatures and artefacts populating the night sky. Some constellations are very well known. See if you can spot Ursa Major? It may be overhead or low on the north horizon. It depends on what time of the year you are observing. Ursa Major is shown in this picture. If you



find it then use the two stars on the right hand side of the picture and imagine a line from the the star in the bottom right passing through the star above and slightly to the right. This imaginary line will pass through another star and that star is Polaris. The pole star. This star appears in the same place in the night sky every night.

**East Sussex Astronomical Society** meets on the first Thursday of each month except August. Check our website for details [www.esas.org.uk](http://www.esas.org.uk)