

## Astronomy Without A Telescope



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As hobbies go, astronomy has a tough reputation. Too hard, too expensive is what I often hear. The problem is simply that people often start on the wrong foot. In particular, they imagine that the way to start is to buy a telescope.

Wrong! The easiest and best way into astronomy is actually with no telescope at all. There are lots of interesting things to see and enjoy in the night sky with just your eyes. First though, watch out for the effects of [light pollution](#), it's your biggest enemy.

If you live in the city or near bright lights you're going to get a significantly reduced view of the sky. If possible you need to get away from the city and any bright lights. Take a short road trip out to somewhere less populated. Instead of seeing hundreds of stars you will see thousands! It really makes a big difference.

Let your eyes adjust to the dark. It should only take about 10 minutes or so for them to relax and open up to their full light gathering capability. If you go in and out of the house this effect is ruined and you need to readjust OK.

If you are using star maps you are going to need some kind of a light to look at them. Using bright torchlight can ruin your night vision so what you need to do is dull down the brightness. Simply place some red or blue cellophane or similar over the torch lens with a rubber band.

Your eyes are not very responsive to red or blue light and your pupils will not dilate under a mild red or blue light. This is a trick that the military has been using for a long time and you can buy torches with coloured lenses fairly cheaply.

The night sky is chock full of all kinds of interesting stuff and it'll be a much more rewarding experience if you have some help in the form of [star charts](#). Here's a site to download free monthly sky maps and some useful information on what to look at. [www.skymaps.com](http://www.skymaps.com)

The weather is something you really should consider. In winter stand on flattened cardboard boxes to insulate you feet from the cold. You'll stay warmer longer. A cheap rain cover for your telescope can be made easily from packing plastic you'll find at the back of department stores in their dump bins.

In hot conditions we're experiencing now you're going to need bug repellent and a few bottles of water. Just use common sense, OK/

The [Moon](#) is the first and most dramatic thing you can look at in the night sky but it's also a big source of light pollution, so if there's a full moon you probably don't want to try observing [deep sky objects](#). The moon itself is best viewed as a crescent giving the longest shadows and the best contrast in view.

'Starwalk' is a great iphone app that will help you find the location of all the planets. A good rule of thumb about identifying planets is that they don't twinkle! Stars often twinkle and this is due to atmospheric disturbances.

Under a very dark sky and after your eyes are adjusted you are going to realize that stars come in a remarkable range of colours and brightness. Just sit back and soak it in.

Learning the constellations and their history is a lot of fun too. If you have an iphone get 'Skyview'. You can also try this free downloadable PC program called '[Stellarium](#).' I use them all the time.



*Skywatching with just your eyes can open up a whole new vista.*

**Let's take a look at some of the great things we can see in the night sky without the aid of a telescope:**

**The Moon:** This is the first and most dramatic thing you can look at in the night sky. And you might not have considered it but it is also a big source of light pollution so if there is a full moon you probably don't want to try observing deep sky objects. And the moon itself is best viewed as a crescent. The crescent form gives the longest shadows and the best contrast in view. You see much more detail. [Here is a great interactive map of the moon](#)

**Stars:** Now before you laugh because this is quite an obvious statement you have to give a bit of consideration to the fact that every star is different! Under a very dark sky and after your eyes are adjusted you are going to realize that stars come in a remarkable range of colours and brightnesses! Just sit back and soak it in.

**Planets:** Yes, you can see planets in the night sky. But they move in relation to the rest of the sky so you will need a planet locator chart to identify them. A good rule of thumb about identifying planets is that they don't twinkle! Stars often twinkle and this is due to atmospheric disturbances but planets do not twinkle! If it doesn't twinkle it's probably a planet. Mercury, Venus, Mars, Jupiter, and [Saturn](#) are all visible with the naked eye at various times of the year.

**Constellations:** These are groupings of stars that form patterns people have interpreted as heroes, animals and other objects. Learning the constellations and the history/name of each is a lot of fun. It also helps you to identify other objects in the sky. It gives you a good reference to what is where.

In no time you'll be on your way to mastering the cosmos and impressing friends and family with your grasp of this vast celestial arena.