

# Stargazing Guide: General Information



## What might I see?

Stars! In a city you might see only a few stars because the city lights light the sky so much. But in dark countryside it's possible to pick out thousands of stars against a truly black sky.

You might also see the Moon or planets; these are lit by the Sun and reflect its light to us. Planets look just like stars and can be very bright. Also look for 'shooting stars' (trails left by tiny rocks falling from space) or slower-moving satellites.

If you're lucky enough to be somewhere very dark you could also try to spot nebulae (huge clouds of gas and dust) or even other galaxies. Both look like very faint smudges of light.

## Why do I see different stars at different times?

As the Earth spins every 24 hours, carrying us with it, our view of space spins too. We see new objects come into view to the east, whilst others go out of view to the west. The best example of this is the rising and setting of our closest star, the Sun.

Because the Sun is relatively close to us (millions of times closer than the night-time stars), it looks incredibly bright. This means we can't see much else while it's in the sky and so we are unable to see other stars in that direction.

However, as the Earth carries us on our yearly orbit around the Sun, we get to see the Sun from different angles. This means different stars will be 'hidden' behind it. So you'll be able to see different stars depending on the time of the year.

## Where will the Moon and planets be?

The Moon and planets are always moving (the Moon orbits around the Earth, the planets orbit the Sun). This means we see them against a different background of stars at different times, although they move across the stars too slowly for us to watch this motion by eye.

The Moon orbits the Earth every 27(ish) days, keeping the same side facing towards us. As it travels, it's lit from different angles by the Sun; this gives a clue as to when you'll see it:

If the near side is fully lit (Full Moon) it'll be up all night. If it's lit from the left you see it more in the morning, and if it's lit from the right you see it more in the afternoon. When only the far side is lit (New Moon) it'll be up all day.

Planets are more complicated as our view of them depends not only on where *they* are but also where *we* are as we orbit the Sun! You'll need a current sky guide to know where to look.

Download this star guide and those for other months from:

<http://www.winchestersciencecentre.org/starguides>

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