



How to See Lots of Stars!



Give your eyes time to get adjusted to the dark, and don't look at bright lights.

When you go outside from a lighted room, it takes a while for your eyes to get adjusted to the dark. You will see a big improvement after the first minute; then a gradual improvement over the next fifteen minutes; and then a slower gradual improvement over the next hour.

In order to be able to look at charts and guidebooks outside, without ruining the progress of your night vision, use a red flashlight. You can make one easily by taping some red cellophane over the end of an ordinary flashlight.



When Does the Moon Rise?



The moon's main phases are about a week apart. In general, every night the moon rises (and sets) about 45-50 minutes later than on the previous night.

New moon: small crescent. Rises at sunrise and sets at sunset.

First quarter: half circle. Rises at noon and sets at midnight.

Full moon: full circle. Rises at sunset, and sets at sunrise.

Third quarter: half circle. Rises at midnight, and sets at noon.

The weather page of your local newspaper will have the dates of upcoming phases of the moon, along with the exact times of moon rise and set for the date of the newspaper.

Also, the website of *Sky and Telescope* magazine, www.skyandtelescope.com, includes an almanac that you can set to show sunrise/sunset and moonrise/moonset times for your location. You can also find a list at the website of the US Naval Observatory: <http://aa.usno.navy.mil/data/docs/MoonPhase.html>



"Handy" Guide to Measuring Distances Across the Sky



Your hand is an excellent tool for measuring the distances between stars across the sky. This is useful for reading star charts.

When you hold your hand at arm's length:

Your hand with fingers fully spread apart (one span) covers about 20-25 degrees of sky.

Your hand with fingers together, or your fist, covers about 10 degrees of sky.

Each finger covers about 2 degrees of sky.



Recommended Books



Your local public library will have many good books about astronomy. Here are a few recommended ones for learning about the sky, the stars, and the universe:

Nightwatch by Terence Dickinson

40 Nights to Viewing the Sky by Fred Schaaf

Skywatching by David Levy

The Urban Astronomer by Gregory Matloff

A good guidebook is also useful for reference.

It's good to read several books, and to get them at first from the library. The more you read, the more you'll know!



Websites



There are many good websites about astronomy. The best one is the website of *Sky and Telescope* magazine: www.skyandtelescope.com. *Astronomy* magazine also has a good website at www.astronomy.com.

And there are lots of great astronomy websites just for kids! Here are a few interesting ones:

<http://www.frontiernet.net/~kidpower/astronomy.html>

<http://spacekids.hq.nasa.gov/>

<http://starchild.gsfc.nasa.gov/docs/StarChild>

"FINDING THE CONSTELLATIONS" BY LEAH SAPIR, PHOENIX ASTRONOMICAL SOCIETY



Telescope Not Required!



You don't need a telescope to enjoy astronomy. In fact, the first and most important advice about buying a telescope is - don't rush into it! There are lots of things you can see and enjoy in the sky without a telescope.

Binoculars are like a small telescope, and if you happen to have any already, you can use the ones you have. (In fact, today's binoculars are stronger than Galileo's first telescope!) When using binoculars, the important thing is to sit in a lawn chair with arm rests, so you can brace the binoculars and get a steady view. Some astronomers prefer binoculars instead of a telescope, because they show a larger field of view.

Many books and websites about amateur astronomy have a chapter or section about choosing a telescope. This is useful when you reach the stage where a telescope would enhance your experience.



Astronomy Software



Astronomy software is available for both computers and PDA's, and it can be very useful for learning to find your way around the sky. An advantage of software is the ability to "dim out" the fainter stars so that the picture on screen looks exactly like what you're seeing in the sky at your location; and to then turn the constellation lines and star names on and off as needed. You can't do that with a guidebook!

A few popular programs are:

"Skyglobe" - a shareware program that can be downloaded from various sites on the internet. After you try it (for free), if you decide that you like it, you are requested to pay \$25.

"TheSky" and "Starry Night" are also well-known programs that are available in several versions (lite, pro, etc.)



Benefits of an Astronomy Club



There are lots of good reasons to join an astronomy club, including: interesting lectures on astronomy topics at monthly meetings, and a monthly newsletter with interesting articles. And, you can participate in star parties and use everyone else's big telescopes for free!

The members of astronomy clubs are a friendly bunch and they'll welcome you if you show up at a meeting or star party, even if you're not a member. But why be just a "visitor" when you can be a real member?

I personally recommend the Phoenix Astronomical Society. For more information, visit our website at www.PASAZ.org, or contact Terri Finch at 602-561-5398 or email cosmicstarstuff@yahoo.com.



Astronomical Support!



PAS offers "astronomical support"! If you have any questions about astronomy you can send me an email at: astronomy-questions@pasaz.org

I'll try to answer ASAP! ☺

Wishing you good luck and clear skies,

Leah