From the Editors of

SKY & TELESCOPE

Let's Go Stargazing!

Your Guide to Getting Started in Astronomy and Exploring the Universe

How often have you gazed skyward and wished you knew which constellation was which, or how to spot a planet, or even how to find the North Star? You don't have to be a science whiz to be a successful stargazer. You *do* need three things: curiosity, a clear view of the night sky, and some pointers on how to get going. If you've got the first two, this friendly introduction provides the third. To learn how to start right, turn the page!

Courtesy of / Gracieuseté de
RASC Ottawa Centre
For information on free public stargazing:
Pour venir observer les étoiles avec nous:
www.ottawa.rasc.ca

visit SkyandTelescope.com

How to Start Right in Astronomy

Some folks do it alone; others like their astronomy in groups. Here, stargazers prepare for dark at Vermont's annual Stellafane convention.

S&T: DENNIS DI CICCO

Did you know you can see a galaxy 2½ million light-years away with your naked eyes, or Jupiter's moons with binoculars? Countless wonders await you overhead any clear night.

But how, exactly, do you get started in stargazing? There are many beautiful sights to see out there, and many different pieces of equipment to choose from. So the editors of *Sky & Telescope* huddled to brainstorm what advice would help beginners most. Pooling more than 100 years of collective experience, we came up with the following pointers to help newcomers find the road to success.

Learn the sky with just your eyes.

Astronomy is an outdoor nature hobby. The first step is to go outside on a clear night and learn the names of the brightest stars and constellations overhead. Use the big, monthly sky charts in *Sky & Telescope*, the hobby's essential magazine. Or download our free Getting Started in Astronomy flyer from SkyandTelescope.com/gettingstarted. If you live in a densely populated, light-polluted area, you'll find even more to see if you can venture into the dark countryside.

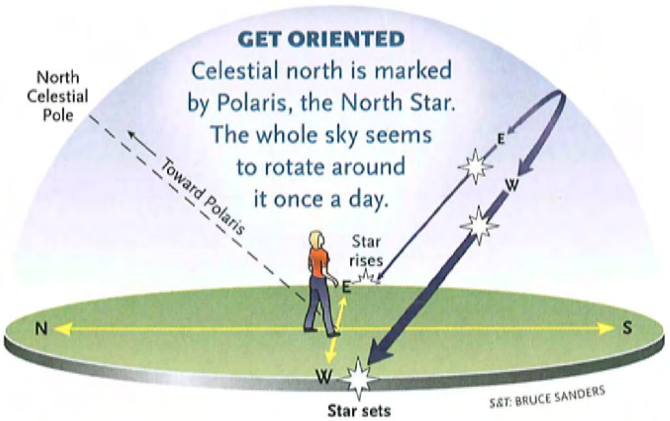
Just being able to look up and say, "There's Polaris!" or "That's Saturn!" will give you pleasure and a sense of your place in the cosmos for the rest of your life.

Astronomy is a learning hobby.

Astronomy's joys come from intellectual discovery. Gaining the know-how to navigate the starry pathways of the night sky takes some time. But long-time stargazers often say learning to find their away around the stars and constellations was one of the funnest parts of becoming an astronomer.

One way to start is to visit a local bookstore or library. Comb the astronomy shelf for books about the basic knowledge you need to know, and for guidebooks that describe what you can see out there in the wide universe. And check the magazine racks for *Sky & Telescope*.

The internet is also a tremendous resource. There's lots of excellent stuff on the web, but it can be a hodgepodge. Visit reputable websites such as SkyandTelescope.com and websites of leading planetariums.



S&T: BRUCE SANDERS

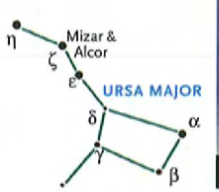
Thinking telescope? Start with binoculars.

Binoculars make a fine "first telescope," for several reasons. They show you a wide field of view, making it easy to find your way around the sky. Binoculars show a view that's right-side up and in front of you, making it a snap to see where you're pointing. Binoculars are also relatively inexpensive, widely available, and easy to carry and store.

A quality pair of binoculars will reward you with beautiful views of the night sky's treasures. Binoculars that magnify objects 7 to 10 times improve on the naked-eye view about as much as a good amateur telescope improves on binoculars — for much less than half the price.

For astronomy, binoculars with large front lenses are better than those with small lenses. High optical quality is also important, more so than for daytime use. Modern *image-stabilized* binoculars are a tremendous boon for astronomy. Check to see if you have a pair of binoculars somewhere in your home. If so, it alone will be enough to launch you on your way to becoming an amateur astronomer.

Once you have the binoculars, what will you do with them? You might think they're too limited to show you much at night. But binoculars can reveal dozens of star clusters, galaxies, and dim, ghostly nebulae. They'll show you the cratered landscapes of the Moon, the ever-changing positions of Jupiter's four big moons, and the crescent phases of Venus. You can split scores of double stars and follow the brightenings and fadings of many types of variable stars . . . *if* you know what to look for!



It takes practice . . . but pretty quickly you can trace out star patterns overhead with a good constellation chart in hand.
Akira Fujii

Dive into maps and guidebooks.

Invest in paper. A sailor of the seas needs top-notch charts, and so does a sailor of the skies. Fine star maps make it easier to find seemingly hidden jewels in the sky's sparkly realm. Many guidebooks describe how to find the most interesting objects and the nature of these things. Moreover, the skills you'll develop using binoculars to locate these objects are the same skills you'll need to put a telescope to good use.

Do your planning indoors before heading out into the nightly wilderness. Spread out your charts and guides on a table, find objects that ought to be in range of your equipment, and figure out how you'll hunt them down. Once you've obtained detailed maps and guidebooks to show you the possibilities, binoculars can keep you happily busy for years.

Seek out other stargazers.

There's nothing like sharing an interest. Thousands of astronomy clubs exist worldwide, from tiny to huge. Scan the directory at SkyandTelescope.com/clubs and then call or e-mail a club near you to see what it has to offer. Many clubs organize "star parties," where you can check out a variety of telescopes and learn what they can and cannot do. Star parties are wonderful for picking up advice and skills, and making new friends.

When it's time for a telescope, plunge in deep.

Know what matters when you choose. You'll know when you're ready to buy a telescope. You will have spent hours poring over ads and reviews, and talking to other skygazers. You'll know the different kinds of telescopes, what you can expect from them, and what you'll do with the one you pick.

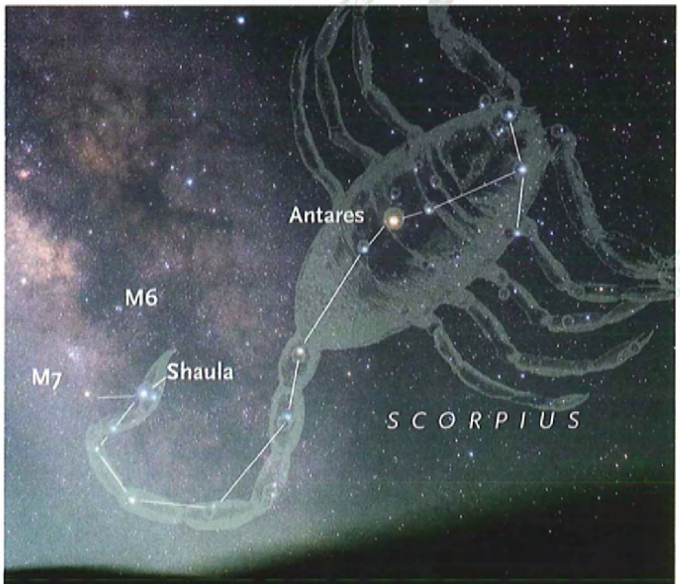

GARY SERONIK

Even in a city, the planets and Moon shine bright.

This is no time to skimp on quality; shun the flimsy, toy-like shopping-mall or department-store scopes that may have caught your eye. The telescope you want will have a solid, smoothly working mount and high-quality optics.

Naturally you'll also want large *aperture* (size), but don't lose sight of portability and convenience. Remember, the best-choice telescope for you *is the one you will use the most.*

Some telescopes have computers and motors that can point the scope to any celestial object at the push of a few buttons (after you set it up and align it). But don't expect to depend on this technology. You'll still need to know the night sky and how to point a telescope.



AKIRA FUJII

The constellations are rich in mythological lore — and are also your framework for finding beautiful treasures.

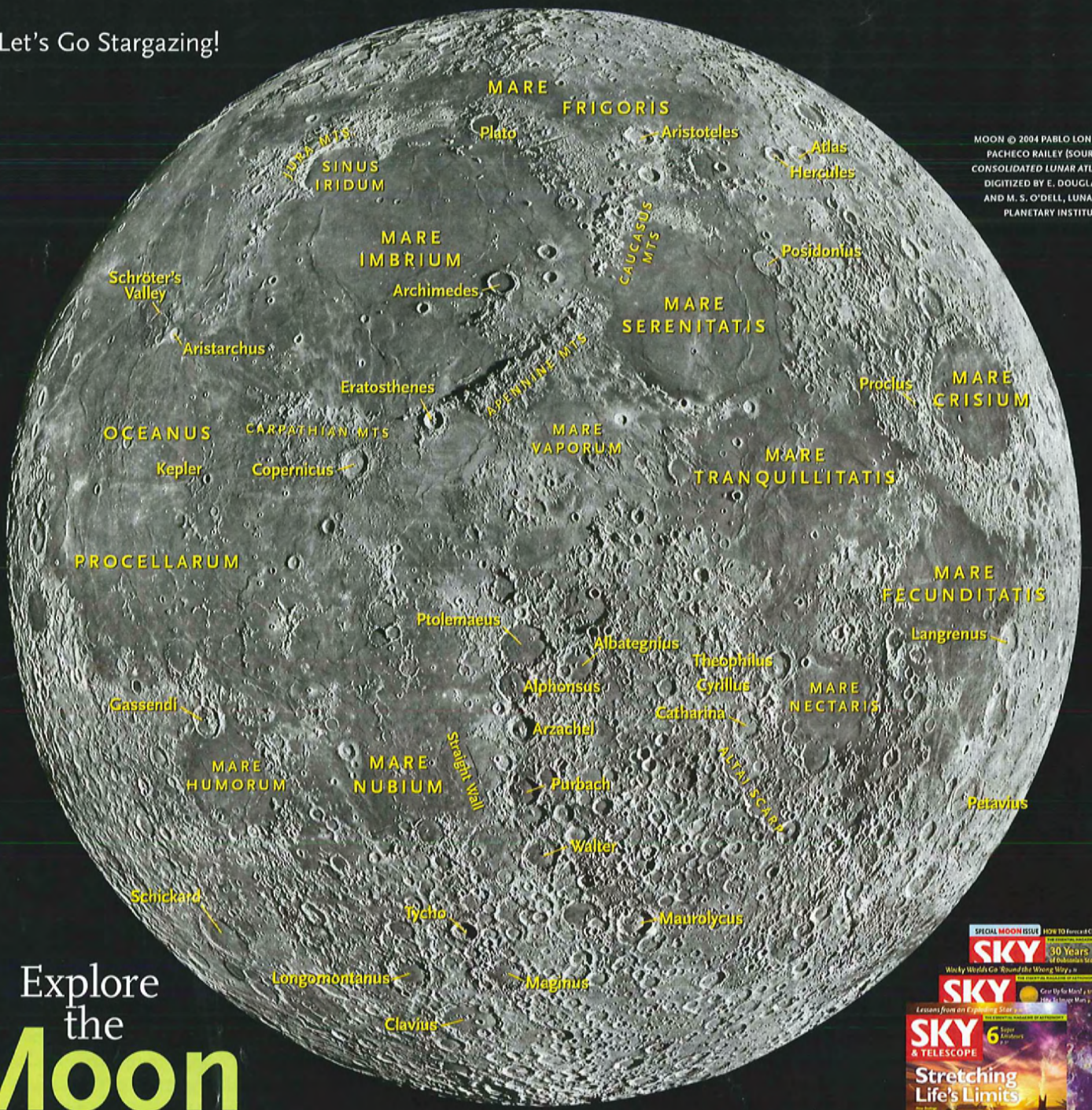
Lose your ego.

Astronomy teaches patience and humility. Invariably, when you go stargazing, you'll hunt for some wonder in the dark depths and miss it. You'll hunt it again and miss it again. This is normal. There's nothing you can do about the extreme distance and faintness of the objects of your desire, or the clouds that occasionally move in. The universe will not bend to your wishes; you must take it on its own terms.

Most objects within reach of any telescope, no matter how big it is, are *barely* within its reach. But stay persistent in your hunt, because your patience will be rewarded. Finding an object for the first time is *always* a thrill.

Relax and have fun.

Amateur astronomy should be calming and fun, so don't get upset if things aren't perfect. If you find yourself getting wound up over Pluto's faintness or your eyepiece fogging up, take a deep breath and remember why you're doing this. It's a big universe out there. Enjoy it!



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Explore the Moon

The most rewarding celestial object for a small telescope, by far, is the Moon. Even a very small scope will reveal its bleak, blasted landscape of mountain ranges, plains, hills, valleys, and craters. Even binoculars can show many features, and there are enough interesting sights on the Moon to keep a telescopic explorer busy for life.

Whenever the Moon isn't full, it's divided by the *terminator*, the line separating lunar day and night. That's where you'll see the most detail. When the Moon is a crescent in the evening, you'll see the parts near the right edge of this map. At first-quarter phase you'll see the entire right half, and so on as the terminator moves day by day.

For more information go to: SkyandTelescope.com/letsgo.

Let's Go Online!

Has this introduction whetted your appetite to do more stargazing? Visit SkyandTelescope.com/LetsGo to begin your astronomy journey with projects for the whole family.

Find the constellations. See why the Moon has phases. Follow our calendar of events in the night sky. Learn about binoculars. Get tips on choosing a telescope. Find out how to use a star map to find celestial objects and what maps to buy. Shoot lovely constellation pictures with your point-and-shoot camera. Learn about cutting-edge deep-sky photography. Welcome in, and click away!