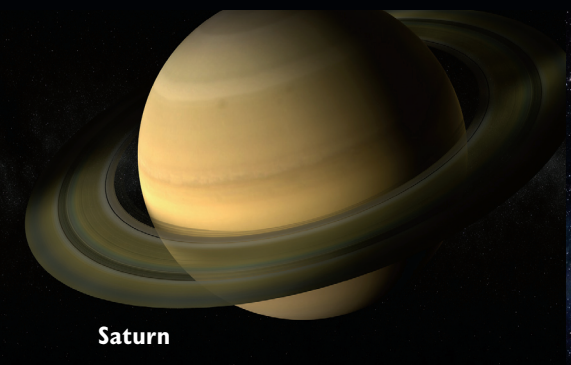
From the Editors of

SKY & TELESCOPE

Let's Go Stargazing!

Your Guide to Getting Started in Astronomy and Exploring the Universe



Saturn

Andromeda Galaxy

The Moon

The Pleiades

Whirlpool Galaxy

Jupiter

Orion Nebula

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 just need three things: curiosity, a clear view of the night sky, and some pointers on how to get going. If you have the first two, this friendly introduction provides the third. To learn how to get started right now, turn the page!

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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. Pooling more than 150 years of collective experience, the editors of *Sky & Telescope* came up with the following pointers.

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 the North Star!" or "That's Saturn!" will give you pleasure and a sense of your place in the cosmos — and you'll impress friends!

S&T: DENNIS DI CICCO

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 way around the stars and constellations was one of the most fun parts of becoming an amateur astronomer.

One way to start is to visit a bookstore or library and look for books that describe what you can see out there. Check the magazine racks for *Sky & Telescope* or its special annual issue, *SkyWatch*. The internet is also a tremendous resource with news and discussion, but it also spreads a great deal of misinformation. Visit reputable websites such as **SkyandTelescope.com** and those of leading planetariums.

Thinking telescope? Start with binoculars.

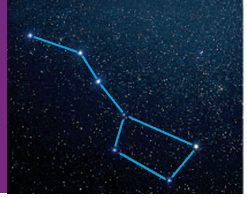
Binoculars make a great "first telescope." A quality pair of binoculars will reward you with beautiful views of the night sky's treasures. They can reveal dozens of sparkling star clusters, glorious galaxies, and ghostly nebulae. Binoculars show you the Moon's cratered landscapes, the ever-changing positions of Jupiter's four big moons, and Venus's crescent phases. You can resolve the members of double-star systems and follow the brightenings and fadings of variable stars.

Binoculars have a wide field of view, making it easy to find your way around the sky. The view is right-side up and in front of you, so pointing at celestial targets is a breeze. 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 money. They're also widely available, and easy to carry and store.

For astronomy, binoculars with large front lenses are better than those with small lenses. High optical quality is also important. Modern image-stabilized binoculars are a tremendous boon for astronomy.

Dive into maps and guidebooks.

Invest in star charts. A sailor of the seas needs top-notch charts, and so does a sailor of the skies. Fine star maps, such as those in the *Pocket Sky Atlas,* make it easier to find hidden jewels in the sky. Although traditional paper star



AKIRA FUJII

It takes practice, but pretty quickly you can trace out star patterns with a good constellation chart in hand. The two front stars in the Big Dipper point to Polaris, the North Star.

maps, just like paper road maps, remain an excellent way to plan your observing sessions and locate celestial objects, today there are scores of superb apps for smartphones and mobile devices. Most of these apps show the sky as it appears for your time, location, and even the direction in the sky where you are looking, thus making it particularly easy to find and identify objects. Some allow you to adjust the display to match your observing conditions, which is helpful if you're viewing from urban environments where fewer stars are visible.

Many of these apps include lists of the most interesting objects visible at the time you're looking. 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. With detailed star charts 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. Consult 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 for making new friends.

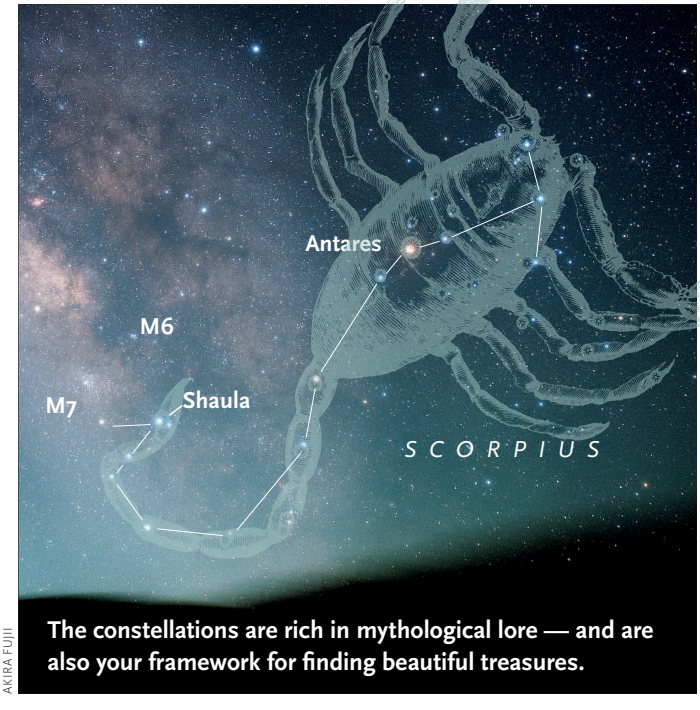
When it's time for a telescope, plunge in deep.

Know what matters when you choose. You'll know when you're ready to buy a telescope. After reading ads and reviews, and speaking 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 select. This is no time to skimp on quality; avoid flimsy, toy-like shopping-mall or department-store scopes. Your telescope will have high-quality optics and a sturdy, smoothly working mount.

GARY SERONIK

Naturally, you'll also want large *aperture* (the size of the primary lens or mirror), 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. Some of these scopes even use built-in cameras to initialize their computer brains and help beginners learn their way around an unfamiliar sky.



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 for 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.

Many deep-sky objects — star clusters, galaxies, nebulae — are within reach of any telescope, but will appear faint. 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. Don't get upset if things aren't always perfect. If you find yourself getting worried 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!

Explore the Moon

Download our FREE *SkyWeek* app!

Whether you're a new skywatcher or a veteran amateur astronomer, our free *SkyWeek* app for mobile devices will become your handy, everyday guide to what's up in the night sky.

SkyWeek is a daily calendar of objects and events you'll want to observe in the changing night sky. *SkyWeek* features interactive, custom sky maps that are automatically set for your location. Starting from the displayed sky scene, you can pan all around your heavens, change the scene to other times and dates, and zoom in or out.

Visit shopatsky.com for all of your astronomy information needs, including books, magazines, globes, star wheels, and much more.

■ 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 entire 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. Learn how to use a star map to find celestial objects. Shoot lovely constellation pictures with your point-and-shoot camera. Learn about cutting-edge deep-sky astrophotography. Welcome in, and click away!