

Recommendations for a First Telescope **by Scott Young** **The Manitoba Museum, Winnipeg, Manitoba, Canada**

Here are some recommendations on how to choose a first telescope. It's a bit like buying a car – there's no "best" car, but there is the one that will work best for you. It depends a bit on what you want to do with it, and of course your budget.

First step: educate yourself. Pick up "Nightwatch" by Terrence Dickinson (either from us or the Museum Shop upstairs). It will provide you with information on a first telescope, and help you use whatever telescope you buy. This is THE best book for first-time astronomers, and will help you not only choose a telescope, but learn to use it as well.

Second step: learn the sky. If you can't point your finger at a galaxy, a star cluster, or a planet, you won't be able to point your telescope at it either. Unless you spend a thousand dollars or more, you're not going to get a computerized telescope that will do everything for you – you still need to know where to look. Space is mostly empty space (hence the name), and so finding the interesting objects takes some work. Learn the constellations (again, "Nightwatch" is a great reference), use binoculars if you have them, get to know the sky, take an astronomy course (the Planetarium offers one), join an astronomy club (the local group is called the Royal Astronomical Society of Canada – Winnipeg Centre – www.winnipeg.rasc.ca).

Now you're ready for your first telescope. Here are some basic facts to help guide your choice.

The main thing about a telescope is its aperture - the diameter of the main lens or mirror. The bigger the aperture, the more "power" a telescope has - it gathers more light, it resolves finer detail, it makes objects look better. Of course, the telescope also gets physically larger and more expensive.

Contrary to popular belief, magnification is **not** an important function of a telescope- any telescope can theoretically magnify any amount! What matters is, how much can a telescope magnify and still provide a clear image? Small department-store telescopes often claim "600x" or "1000x" but that's baloney. You can almost never use more than 200-300x on any telescope because the atmosphere of the earth is not clear enough - the image gets bigger but fuzzier, and you lose detail. Most of my observing is done in the 50x to 200x range. So, avoid any telescope advertised based on magnification – they're trying to fool you into buying a junky telescope.

We also recommend you avoid a telescope with a computer built in, unless you're spending \$500 or more - every dollar that goes into the computer is taken

away from your optics, and you usually wind up with a telescope that isn't very good optically or electronically. (I know - I won one as a door prize, and it's useless.)

One big question: where are you using the telescope? If you have to carry it down stairs or load it in a car with a family every time you're going to use it, I would recommend a different scope than if you're going to use it mostly in your own backyard. Most "real" telescopes are bigger than the ones you see in camera stores, and are bigger than people expect. They're not unreasonable, but they won't fit in the back seat with two kids.

Recommendations

In my opinion, the ideal starter scope for an adult or serious teenager is an 8" Dobsonian reflecting telescope - this uses mirrors instead of lenses to focus the light. ("Dobsonian" refers to the style of mounting - a simple, "lazy Susan" design that makes the telescope look a bit like a cannon). An Orion 8" Dobsonian is under \$500 (taxes included) through The Manitoba Museum's Planetarium, and comes with a 25mm Plossl eyepiece, a finder scope, and everything you need to start observing. It's a great scope with lots of power that you won't outgrow. The rings of Saturn, moon craters, Jupiter's moons, and thousands of star clusters, galaxies, and nebula are within reach of this scope. It is a big bulky, though, so if you're not using it in your own backyard that will be a factor - come down and see one in person to see if it's too big for your situation.

For more budget-conscious adults, we recommend a 6" aperture reflecting telescope. You can get a 6" reflector for under \$400 (taxes included) through the Planetarium. You can also go down to a 4.5" aperture at around \$300 (taxes included), but that's a significant drop in capability. We also have a very portable 4.5" that is a great travel scope as low as \$230 (taxes included) which will still show you the major celestial sights, and it makes a great first telescope for younger stargazers and adults who need a portable telescope (or second telescope).

The Planetarium carries Orion brand telescopes, which are well-known for their user-friendliness and quality. You can see their stuff on the web at www.telescope.com - we can bring in anything you see online, at about the same cost as they list but without any extra shipping or duty charges. We stock the most popular types of scopes and can order anything else in about 2-3 weeks. Call us for a quote or to place an order, or email us at skyinfo@manitobamuseum.ca.