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Astronomy for Beginners

By Lora Reynolds, Neighborhood News Staff Writer

Stargazing is a fun family activity providing an opportunity for exploration and learning from your own backyard. Your experience will be better if you are away from city lights, of course, but with help from a smartphone app you can still see stars, planets and constellations on a clear night. Even better, you can invest in a telescope to see elements of the amazing cosmos in greater detail. A visit to a planetarium may be possible in the months ahead once facilities open following the pandemic, but for now, many offer virtual programs.

Students

Children from kindergarten through grade 12 have many options for learning about astronomy through games, activities, and virtual adventures using apps and websites. The Common Sense nonprofit organization features a list on their website at <https://www.commonsense.org/education/top-picks/best-astronomy-apps-and-websites-for-students> of the 24 best tools, many at no cost, to help children become interested in astronomy.

Smartphone Apps

Use your phone to decipher what you're seeing in the sky when you download a skyviewing app for iOS or Android. Many of the apps are free and if you do have to pay, most cost less than \$5. According to Digital Trends, "...the best astronomy apps use the gyroscope and compass in your smartphone or tablet, along with date, time, and location services. Best of all, if you're in the wilderness, far from a Wi-Fi or cell connection, you can still get the celestial information you need from astronomy apps. Some use augmented reality (AR) through the device's camera to show you exactly where stars are positioned. Most apps are extremely easy to use and targeted to beginners and enthusiasts—just point your device's camera toward the heavens and find the stars and constellations." Visit <https://www.digitaltrends.com/mobile/best-astronomy-apps/> to read about the top apps Digital Trends recommends.

Telescopes

Do your research before investing in a telescope, which can cost from \$200 to \$2,000 or more. The Space.com website at <https://www.space.com/15693-telescopes-beginners-telescope-reviews-buying-guide.html> offers a beginner's guide to buying and explains the differences between refractor and reflector telescopes. Their advice includes, "The aperture is one of the most important things to consider when purchasing a telescope, then you should next consider the focal length. The main thing to remember here is that bigger isn't always better. It really all comes down to the targets you are wanting to view. Shorter focal lengths, say of about 20 inches (500 mm), will provide a field of view for you to take in large areas of the Milky Way and showpieces such as the Pleiades (Messier 45) and Orion Nebula (Messier 42). Meanwhile, high-power objects such as the moon, planets or double stars need a telescope with a longer focal length of about 80 inches (2000 mm)."

Planetariums in Texas

The state of Texas features a number of planetariums, and while you might not be able to visit in person, you'll find virtual events and videos on many of their websites. Visit <https://www.go-astronomy.com/planetariums-state.php?State=TX> for a list of planetariums in Texas.

Celestial Events

<http://www.seasky.org/astronomy/astronomy-calendar-2021.html> provides a calendar of upcoming astronomical highlights and you'll find details on their website.

- **June 24:** Full Moon, Supermoon
- **July 28, 29:** Delta Aquarids Meteor Shower
- **August 12, 13:** Perseids Meteor Shower
- **August 22:** Full Moon, Blue Moon