VILLAGES STAR

Newsletter of The Villages Astronomy Club

Volume 10, Number 11
November 2026

Club Website:
http://vlgastroclub.org/

Facebook:
https://www.facebook.com/groups/vlgastroclub/

BEGINNER & GIFT SCOPES

Choose the right telescope and accessories for yourself or for a youth or child. Get something that works, not an albatross to hang around their neck!

See our special section, starting on page 11.

UPCOMING EVENTS

Space Academy/Observers' Workshop, November 2nd at the Truman Rec Center Pavilion: Star Party!

Truman Rec Center is in use as a polling place this month, so we will be meeting outside at the Picnic Pavilion for a star party! Our astronomers will show us the sky. There won't be any Moon while we're out, but we will have beautiful views of Saturn, the Eagle, Cygnus, Lyra the Harp, the Dolphin, Pegasus, and Andromeda (sky conditions permitting.)

We plan to meet unless the sky is solid overcast or there is active rain. If there are broken clouds, we'll work around them and hopefully get clear spots over interesting objects in the sky.

This will be a warm-up for our Starry Starry Night star party on the 14th of this month.

Come get an advance look at the fall sky!



Pac Man Nebula by member John Rourke. Seestar S30 Pro.

Smart Scope Meeting, Wed. Nov 4th, 6:30pm, Everglades Rec Center, 5497 Marsh Bend Trl, North Pavilion (by basketball court.)

Join us for our Smart Scope Meeting at Everglades Rec Center. Join us as we discuss the ever-developing world of smart telescopes, use our scopes to take images of the sky, and share techniques for image capturing, using software features, and otherwise getting the most out of our telescopes. Visual observers who wish to join us are welcome.

We will be at the Pavilion near the site where we hold Starry Starry Night. This is near the pickleball and platform tennis courts, not far from the multi-use field. This is ***not*** the pavilion near the pool!

Executive Directors' Meeting, Fri Nov 6th, 11am-12pm, Fishhawk Rec Center, 2318 Buttonwood Run

All members welcome to our monthly planning meeting. This month we'll be planning our Starry

Starry Night and other outreach events, as well as upcoming meetings and club activities.

Nov. General Meeting Cancelled

Due to maintenance at Laurel Manor Rec Center, the November meeting has been cancelled. Please join us at Starry Starry Night on Nov. 14th, either as a volunteer or as a viewer!

We'll see you again in December.

Starry Starry Night, Sat Nov 14th, 6-8:30pm Everglades Rec Ctr, 5497 Marsh Bend Trail, North Pavilion, Basketball Court, & Multi-Use Field



Site layout for Starry Starry Night. We will be at the north part of the complex (red box.)

Starry Starry Night is our twice-annual star party for The Villages! Residents and guests with ID are welcome to come enjoy the fall sky with our astronomers showing the universe.

We will be showing the Moon, Saturn, and fall views of the sky including the Eagle, Lyra, Cygnus, Sagittarius. Among the objects we'll see are the Ring Nebula, the Lagoon Nebula, the Pegasus Cluster, Andromeda Galaxy, and more!

The event will be on unless we have solid cloud cover or active rain. If we have broken clouds, we'll peek between them to show you whatever can be seen while the clouds are out of the way. Current predictions are for clear skies.

Fruitland Park Astronomy Group, Nov 21st, 5pm, 300 Shiloh Rd, Fruitland Park

Join us for an evening of observing and astronomy talk with the Fruitland Park Astronomy Group! Come to Cales Soccer Field in Fruitland Park, 300 Shiloh Road (at the corner of Shiloh Road and Dixie Avenue, north of the Fruitland Park water tower.) Enter on Shiloh Road (some GPS's will guide you to the Dixie Avenue entrance.) Gate opens at 5pm. We will stay as late as conditions permit and people are interested in observing. Bring power if required.

Public is welcome to this event, **no Villages ID required**! Bring family and friends to view the evening sky with our astronomers!

Your Club Officers & Directors

President	Mark Graybill
Vice President	Ken Katta
Secretary	Randy Gilbert
Treasurer	David Meng
Space Academy	Toni Graybill
Public Relations	Jeffrey Kahler, Sr.
Fun Czar	Tommy Kehne
Directors	Craig Henry
	Tim Connolly

Newsletter Contact: saundby@gmail.com

See Calendar at End of Newsletter, before star chart.

Club Calendar Online:
https://vlgastroclub.org/calendar/

Citizen Science Interest Group Report

We have added additional members to the Club's Zooniverse group and are looking for more. To join the group, you'll need a Zooniverse account:
Zooniverse: www.zooniverse.org
Then you can follow this link to be automatically added to the club's Zooniverse group:
https://www.zooniverse.org/groups/2735269?start_date=2025-04-05

In January, we will resume setting aside time before and after our General Meetings and Space Academy to discuss Citizen Science.

CORRECTION:



Jeannie Stanforth and Johnny Jue (above) were the members who attended Alcon 2026. We regret the error last issue.



M-57, The Ring Nebula by member Will Collier. Meade 8-inch LX200 at f/6.3, ASI183MC Pro, 315x10s, processed with AstroWizard.

NEWS

Nancy Grace Roman Telescope Enters Final Commissioning Phase



Nancy Grace Roman Telescope Prepares to Take Its First Images. NASA Rendering.

After travelling over one million miles through space, the Roman Telescope is preparing to take its first science-quality images prior to reaching its destination orbit around the Earth-Sun L2 libration point.

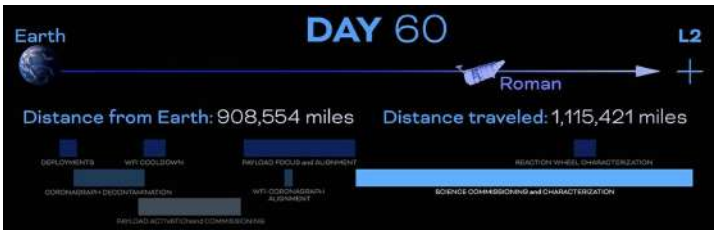
On Oct 22nd, NASA's science team for the telescope announced the completion of checkouts and calibration of the telescope's optical systems. This poises the scope to begin taking science quality images, expected for release soon.

Nancy Grace Roman is NASA's newest space telescope, which club members were able to watch launch aboard a Falcon Heavy on August 30th this year as the destination for our first bus trip.

The telescope is headed toward the Sun-Earth L2 "Lagrange Point 2", which lies on the far side of Earth from the Sun. The effect of the combined gravity of the Earth and Sun at that point is that they create a virtual point in space that spacecraft can orbit as if there were a body there. Multiple spacecraft are each in their own

orbits around L2, including the James Webb Space Telescope.

As of this writing, it has traveled over 1 million miles and ~900,000 miles from Earth.

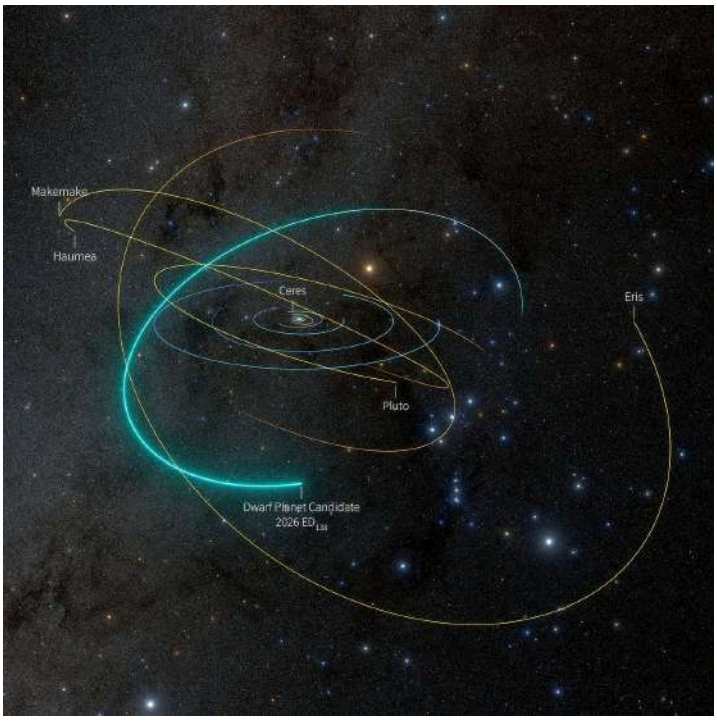


Current Status of Roman Telescope, NASA image.

Full Article from NASA:
https://science.nasa.gov/blogs/roman/2026/10/22/nasas-roman-space-telescope-enters-final-commissioning-phase/

"Where is Roman?", Roman Telescope Online Tracker:
Roman Commissioning - NASA Science

Vera Rubin Observatory Discovers New Planetary-Scale Body in Solar System



Orbit Visualization for Object 2026 ED138 Relative to Other Planet-Scale Trans-Neptunian Objects. Credit: NSF–DOE/NOIRLab/SLAC/AURA/R. Proctor

During testing of new algorithms to detect objects imaged by the new Vera Rubin Observatory, an object was located that may be a new planetary-sized object in our solar system.

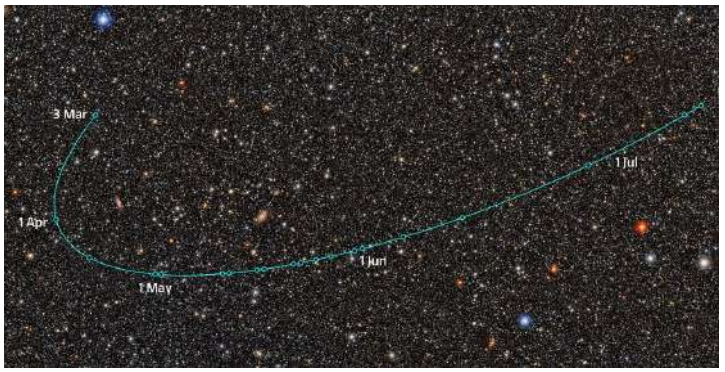
The object, given the designation 2026 ED138, or ED138, may be from 350 to 900 miles in diameter (600 to 1500km), a bit smaller than Ceres on the low end, and a bit larger than Haumea and Makemake on the high end. More information on its reflectivity and shape will be needed to determine where it falls within this range and whether its gravity has brought it to hydrostatic equilibrium (the geophysical definition of a planet.)

Its size places it in the "Dwarf Planet" category used by the IAU, a term employed by astronomers rather than planetary scientists.

It is in an orbit tilted about 25 degrees from the plane of the solar system, which places the orbit within range of a group of bodies that have been disturbed by the gravity of Neptune.

It is currently about 46 times the distance from the Sun as the Earth, and is among the largest and brightest objects discovered in this part of the solar system.

Matthew Holman of the Center for Astrophysics made the discover with algorithms he is developing for discovering distant moving objects in our solar system in the Vera Rubin data.



Track of ED138's Movement Across the Sky. Each dot marks a point where it was imaged by Vera Rubin. Credit: NSF–DOE/NOIRLab/SLAC/AURA/R. Proctor

Full article:
NSF–DOE Vera C. Rubin Observatory Reveals Its First Dwarf Planet Candidate in Our Solar System



Merging Galaxies II Zw 096 in a new image combined from multiple space telescopes. STScI.

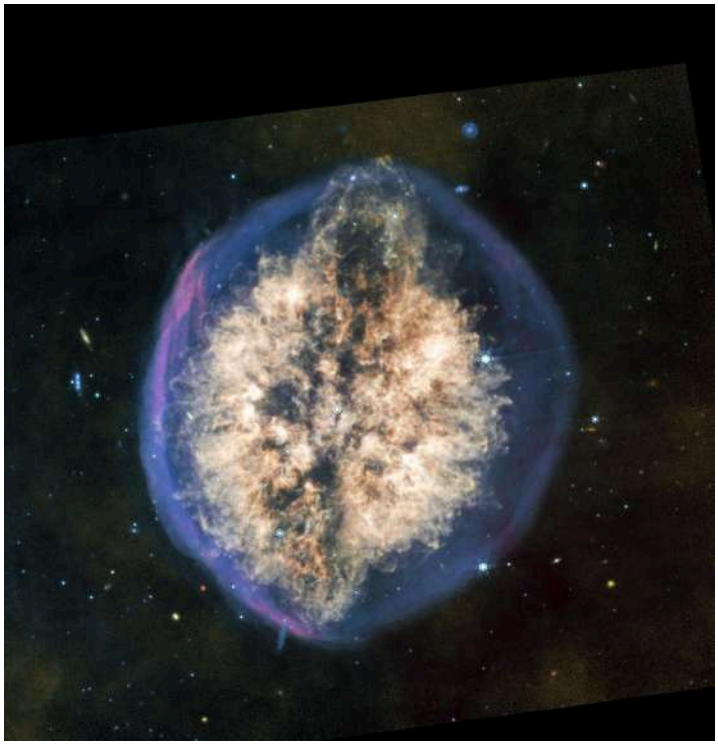
The Space Telescope Science Institute has combined data from Hubble, Chandra, and the James Webb Space Telscope to produce a new highly detailed image of a pair of merging galaxies known as II Zw 096. The image shows a burst of new star formation as a bright area between the parts of the two galaxies that are not currently in contact.

The combined images highlight dust clouds, disrupted galactic structure, and other changes brought on by the merger. Many other background galaxies are visible in the image as well.

The galaxies lie about 500 million light years away in the constellation of The Dolphin. It spans about 12 arcsec in the sky.

Release:
https://x.com/SpaceTelescope/status/2115079325485576486

JWST Examines Cranium Nebula



The Exposed Cranium Nebula, as imaged in mid-infrared wavelengths by JWST. NASA image.

Some nebulas have names that take imagination. Less so for the Exposed Cranium Nebula, which looks like a medical image.

NASA has released a new image of the Cranium Nebula showing deeper and finer detail than we have seen before. The mid-infrared image allows JWST to see more of the material within the nebula, rather than seeing through it in the near-infrared images taken by NIRCam (see comparison below.)

Nebula PMR1 lies in Vela, spaning 2 arcmin.



NIRCam (left) vs. MIRI (right). NASA image.

NASA's Webb Examines Cranium Nebula

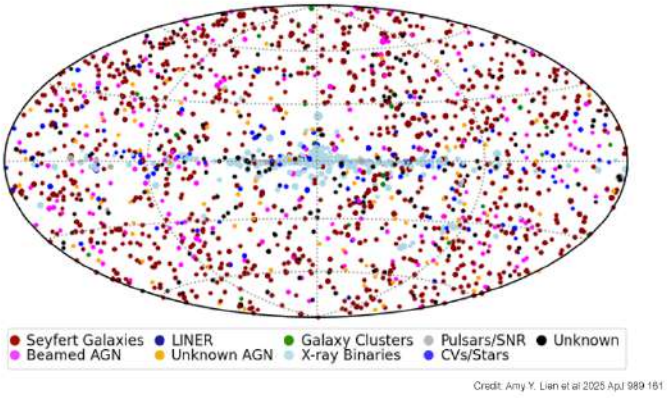
SWIFT Observatory Mission Ends



On October 22nd, NASA announced the end of mission for the Niels Gehrels SWIFT Observatory. It has descended too deeply into the Earth's atmosphere to be able to maintain its attitude to locate the origin of gamma ray bursts.

A reboost of the satellite to a higher orbit was attempted, but the rescue spacecraft failed after launch. The rescue spacecraft gave its operators valuable experience toward future efforts to build similar rescue spacecraft, but it entered a tumble that prevented it from docking with SWIFT to reboost it.

Launched Nov. 20th, 2004, it viewed over 2000 gamma ray bursts, locating them rapidly for other instruments to perform follow-up observations. It found over 1,400 supernovas, giving us the to better understand different types of supernovas, including "standard candles" we use to measure the size of the universe.



Credit: Amy Y. Lien et al 2025 ApJ 989 161

Announcement:
https://x.com/NASAUniverse/status/2114724737209253944

New Glenn Prepares for Flight



LC-36A Module 9 Installation. Blue Origin image.

Work continues at a rapid pace to restore Blue Origin's Launch Complex 36A for New Glenn's return to flight before the end of the year.

The launch tower has been fully stacked, and work to re-establish plumbing and cable runs on the tower is expected this month, as well as the new platforms to support the new concept of operations where New Glenn is stacked vertically at the pad rather than brought in assembled horizontally, then stood upright.

Prospects look good for New Glenn taking launch before the end of the year or very early next year.

At Stennis Space Center, a test complex last used by Apollo has been restored and coverted into a test stand for New Glenn stage 2 vehicles.

Starship Plans Busy End of Year

Starship has completed static fire testing on Booster 22 and Ship 42 in preparation for Flight 15, expected to launch before mid-November. The vehicles have returned to their bays for final inspections and installation of their flight termination charges.

Flight 15 is expected to have catch

attempts for both the booster and the ship (2nd stage.) If so, this would represent the first recovery of all stages of a rocket for reuse.

Beyond flight 15, work is underway for the first flight from Florida at Launch Complex 39A. The Starship pad there is now complete except for tests that require a Superheavy booster on the pad.



Starship Superheavy 22 Fires 33 Raptor Engines. SpaceX image.

A range planning agency has shown a no-earlier-than launch date of December 10th for Flight 16 from Florida, expected to deliver Starlink V3 satellites for the first time since Falcon 9 ceased Starlink flights from Florida in August.

SpaceX continues to work toward increasing its launch capacity for Starship. It currently has 3 Superheavy boosters assembled, the most since early 2025 during the Starship V2 testing campaign. They are also roughly six months away from restoring the Texas Pad 1 to operation with its new flame trench, tower 'chopsticks' crane, and launch mount the same as those on Pad 2.

Launch Complex 37A and 37B are progressing rapidly in Florida, with the tower complete at 37A and flame trench and launch mount work moving quickly. It will probably host its first launch within a year. LC-37B is currently receiving foundations for the pad and nearby infrastructure. It will share its propellant tank farm with LC-37A, in a configuration that will become familiar at Starship pads in Louisiana where there will be two launch pads for each tank farm.

NASA Human Landing System

In late October NASA released an update on the accelerated Moon landing plan that included Starship updates. A high fidelity mockup of the lander's cabin will arrive at Kennedy Space Center in December for astronaut training and testing.

A flight test scheduled for February will have two Starships transfer propellant in orbit to demonstrate the technology necessary for taking Starship to the Moon.

One Starship will launch from Texas, the other from LC-39A in Florida. They will meet up in orbit and transfer propellants from one to the other before de-orbiting. Be prepared to watch for them in the sky, the pair will be brighter than ISS when it had Shuttle docked to it!



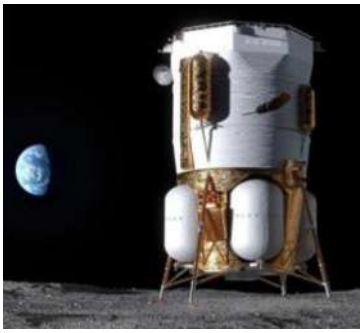
In mid-2027, Artemis III will include docking of Orion with a Starship fitted with a docking port on the nose, demonstrating the configuration in which Starship will transport Orion to the Moon.

Then in late 2027, a full test of a Starship landing, without crew, will be performed. This will include multiple flights to a propellant depot by tanker Starships, followed by a Starship HLS

launching to the depot.

There the HLS will dock with the depot, fill its tanks, then set off for the Moon. At the Moon it will land autonomously.

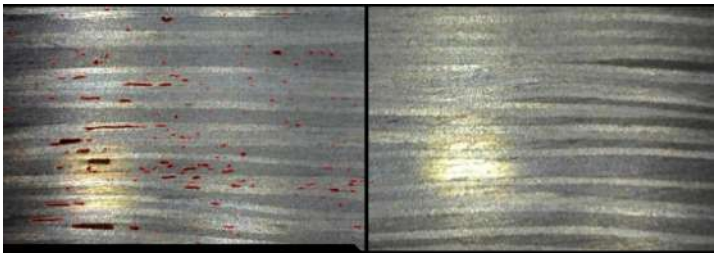
Blue Origin also has a landing system that is presently less developed than SpaceX's. But if SpaceX experiences any mishaps or delays, they may be overtaken by their rival.



In the end, both company's landers will be needed to maintain the pace of operations at the Moon base that NASA envisions.

Other Space News, In Brief

Rocketlab's Falcon 9-class booster, Neutron, has been delayed to 2027 due to flaws in manufacturing its carbon fiber first stage.



Flaws (left) in carbon fiber for Neuron. Rocketlab.

Stoke Space is preparing its launch site for their Nova fully-reusable launch vehicle at Florida's Launch Complex 14. They announced plans for the larger Nova 2, and secured funding.



Stoke Space Image.

Relativity Space is also rebuilding Launch Complex 16 for its Terran-R medium lift rocket as it prepares for vehicle stage testing at Stennis Space Center. They have secured launch contracts with IntelSat and were admitted to NASA's launch services program.



Relativity Space Image.

European space company **Isar Aerospace** launched their Spectrum rocket from northern Sweden on their second attempt, carrying five small satellites. This was the first successful commercial orbital launch from Europe.



Isar Aerospace image.



The Mineral Moon. Member Bill Hillman. Oct 20.

IN THE SKY THIS MONTH

Also refer to the sky map on the last page.

THE MOON

Last Quarter, Nov. 1st
New Moon, Nov 9th
1st Quarter, Nov 17th
Full Moon, Nov 24th
Last Quarter, Dec 1st

THE PLANETS

THE PLANETS

November 1, 2026

Planet	Rise	Transit	Set
Mercury	6:50 am	12:20 pm	5:50 pm
Venus	5:40 am	11:10 am	4:40 pm
Mars	1:30 am	7:40 am	1:50 pm
Jupiter	1:50 am	8:00 am	2:10 pm
Saturn	4:15 pm	10:15 pm	4:15 am

November 15, 2026

Planet	Rise	Transit	Set
Mercury	5:10 am	10:40 am	4:10 pm
Venus	4:30 am	10:00 am	3:30 pm
Mars	12:10 am	6:40 am	1:10 pm
Jupiter	12:15 am	6:45 am	1:15 pm
Saturn	3:00 pm	9:00 pm	3:00 am

November 30, 2026

Planet	Rise	Transit	Set
Mercury	5:20 am	10:50 am	4:20 pm
Venus	3:50 am	9:20 am	2:50 pm
Mars	11:40 pm	6:10 am	12:40 pm
Jupiter	11:25 pm	5:55 am	12:25 pm
Saturn	2:30 pm	8:30 pm	2:30 am

Mars/Jupiter Conjunction

Jupiter and **Mars** will be in close conjunction in the middle of this month. They will be closest on the early morning of November 16th, rising shortly after midnight, but they will be close enough to be seen together in a single low power field of view for a day or two before and after that date.

Use your lowest power eyepiece to see them together (that will be the one with the longest focal length, e.g. a 25mm or 32mm eyepiece of longer) with a field over 1.2 degrees in size.

They will be up from when they rise (see chart above) until dawn.

On November 30th, the pair will be near Regulus, and the Moon will arrive near them, all within a 5 degree field. Best seen with binoculars, a wide field smart telescope, or a rich field visual scope, they will rise shortly after midnight and grace the sky until dawn.

Jupiter shines at magnitude -2.0, brightening to -2.2 over the month. It grows from 36 arcsec across to 39. Rising shortly after midnight, you can stay up a bit late to see it rather than counting on your alarm to get you up before sunrise.

Mars brightens from mag 0.9 to 0.5 this month, and grows from 6.5 to 8 arcsec. This will increase the surface detail visible on Mars from the largest features like Syrtis Major to medium sized features like Olympus Mons with good sky conditions.

Observing information for Mars:
https://in-the-sky.org//data/object.php?id=P4

Jupiter observing information:
https://in-the-sky.org//data/object.php?id=P5

Saturn will be our evening showpiece this month. The rings are gradually opening up toward maximum tilt in 2032, but as a result of the movement of the Earth, the tilt of the rings will decrease slighlty across the span of the month from 7.8 degrees down to 7.5.

That's won't detract from the show, however, and a good scope will show not only the rings, but divisions in the rings (most notably the Cassini division) as well as bands on the surface of the planet.

Large aperture scopes will show the most

detail, but may give an image so bright that the bands on the planet are washed out. A way to improve the view is to partially block the aperture, or to hold something over the end of the scope (like a hat) and move it to cover more or less of the end of the scope.

This will allow your eyes to pick out more detail as the illumination changes since our eyes are very sensitive to change, and it will reduce the overall brightness to improve contrast.

Saturn will shine at magnitude 0.6, the planet itself will span 19 arcsec, and the rings over double that at about 42 arcsec.

It will take at least 30x magnification to make out the rings, and more like 50-75x to see them well. They are beyond the reach of normal binoculars, but any telescope, even a spotting scope capable of working at these magnifications, will see them.

Saturn finder chart:
https://in-the-sky.org//data/object.php?id=P6

Saturn's Moons Location Calculator:
Saturn's Moons

Mercury will be difficult to view this month, starting from mid-month through the end of the month. It stays low in the sky, reaching greatest elongation on Nov. 20th. It reaches a bright magnitude of -0.6 at month's end, so if it can be seen it will be an obvious bright orange star.

Mercury online viewing chart:
https://in-the-sky.org//data/object.php?id=P1

Venus comes out from behind the Sun this month and rises rapidly in the morning sky, reaching mag -5 at the end of the month. It will be near the Moon in the predawn sky of November 7th. On the 10th it will be about 1 degree from Spica.

Venus online finder chart:
https://in-the-sky.org//data/object.php?id=P2

Hurricane Isaias brought a break in our weather, releasing fall on central Florida, but it was a continual battle between cool fall weather with clear skies and ongoing summer-like conditions with heat, clouds, and high humidity. This pattern is expected to continue through February, though with a generally clearing trend and several days in a row with clear skies followed by a few nights of clouds.

Take advantage of the clear nights when you get them, and remember that a cloudy day does not necessarily mean a cloudy night. When the air cools after sunset, we will often have the sky clear and present us with a good night for observing.



Galaxy M-33 by member Craig Henry.



New Glenn Stage 2 Being Transported to the Pegasus Barge at Cape Kennedy. Image by John Rourke.

TELESCOPE BUYING GUIDE

1. Don't buy a telescope from a place that doesn't specifically deal in telescopes.

Only buy telescopes from telescope companies or astronomy retailers. Many of these sell products *through* sites like Amazon and WalMart, but the seller themselves should be an actual telescope company. For example, Celestron and SVBony sell through Amazon.

That doesn't guarantee the scope will be good, however. They all sell bad scopes (which should embarass them, but money talks.) But if you talk to an advisor, they will steer you away from the junk models.

DO NOT buy from department stores, discount stores, big box stores, etc. Among other things, they often sell "special" versions that aren't the same as the base model.

2. Don't buy a telescope with a science institution's name on it.

Telescopes with names like Smithsonian and National Geographic are junk. The names are licensed to put on usuable plastic junk.

3. Buy a telescope based on its mount, not its optics.

The mount is the most important part of any telescope. A telescope is unusable without a good mount.

NEVER buy a telescope on a camera-style mount or tripod. Even the best camera tilt and pan head is not adequate to support a telescope.

4. The mount should represent at least half the cost of the total package.

Except for Dobsonian telescopes, mounts are usually available as a separate purchase. Before buying a scope, check the price of the mount on its own. If it is priced higher than half the price of your complete telescope package, it is highly likely to be a decent mount for that telescope.

5. Don't spend your entire budget on the scope itself.

You will need to buy a few accessories to make any scope you buy pleasant to use, and to store and transport the scope and its mount.

You will need a finder, and will want to get a storage/transport bag (or two.) You will probably want another eyepiece or two.

Don't tap yourself out on the telescope.

6. You will need a better finder.

Unless the telescope comes with a Telrad or a finder of 35mm+ aperture, you will need a better finder. Expect to spend about $50-100 to get one, because the *second* most important part of any scope is its finder.

7. Eyepiece cellphone holders are junk.

If the telescope comes with a cellphone holder, throw it away. They put them in because people won't buy a scope unless it has one.

8. Electronics make a scope harder to use, not easier.

Electronics make a scope harder to use, and add more things to go wrong.

While a smart scope like the Dwarf Mini listed below can give a very good experience after the initial learning curve, nothing beats a manual scope for the take-it-out-and-see-it experience.

9. Make sure you can carry, store, and transport the telescope.

Don't buy more scope than you can handle..

10. There is no "best" telescope.

The scopes below are all good all around scopes. If you develop a special interest, you will know what you need to better pursue that when you buy accessories or another scope for that purpose.

SMART SCOPES

For a tech-savvy teen or for a new user who wants to come in from the astrophotography side, an inexpensive entry level Smart Scope can be a good purchase.

They make a good introduction to observational astronomy. They require patience to learn the software. Don't give them to a kid who doesn't have patience and a willingness to fight through the early stages of learning to operate them.

They can make a good family gift, however, where the tech savvy person can learn to use it first then share that with the rest of the family, or simply run the scope while others watch on their camera as observers (multiple devices can connect to watch, the first to connect will be the device that controls the telescope.)

The Dwarflab scopes can also be moved manually without damaging them, unlike Seestars, and this is used as a feature during setup of the scopes.

Dwarf Mini, $419

30mm aperture.
Field of view: 2.46 x 1.35 degrees.
Resolution: 1920 x 1080 (2.1 Mpixels.)
Exposure durations: up to 90s in EQ mode,
up to 15s in Alt/Az mode.
Includes wide angle "Milky Way" camera.
Weight: 1.85 lb.

The Dwarf Mini is small and light. Get a camera tripod with a mounting shoe to support it up off the ground during use. The lower resolution still produces excellent photos and they take up memory space more slowly than higher resolution smart telescopes.

It has a landscape and object tracking mode, so it can be used to photograph wildlife, landscapes, and the Milky Way as well as objects in the sky like the Andromeda Galaxy and Moon. It is not good for viewing planets.

Accessories required: Camera tripod (quick release shoe preferred) and carry case (that can also carry the tripod is nice), and an external USB-C phone charger battery (to extend the Dwarf Mini's internatl battery or keep your phone charged during use. I carry two of them.)



Dwarf Mini. DwarfLab image.

Dwarf 3, $549

35mm aperture.
Field of View: 2.95 x 1.66 degrees.
Resolution: 3840 x 2160 (4K, 8.3 Mpixels.)
Exposure durations: up to 60s in EQ mode,
up to 15s in Alt/Az mode.
Includes wide angle "Milky Way" camera.
Weight: 2.9 lb.

The Dwarf Mini's big brother is still at an entry level price, gives higher resolution images, and captures more light.

In all ways it is similar to the Dwarf Mini for what it's good at and what it isn't, though it will fill memory cards faster with its higher resolution.

Buy it for yourself or for adults who are interested in getting into astronomy without hauling a heavy telescope around, or whose prime interest in astrophotography.

Get a solid camera tripod with a mounting shoe that you can attach to the Dwarf to rapidly attach and detach it from the tripod. If the tripod

head can be rocked to a position about 60 degrees above level, it can be used directly for equatorial imaging, which allows longer exposures and eliminates losing the corners of long duration images to ‘field rotation’ (rotation of the sky that the smart scope’s base doesn’t follow.)

Accessories required: Camera tripod (quick release shoe preferred), a carry case (that can fit the tripod is nice for all-in-one carrying), and one or two external USB-C phone batteries to keep the Dwarf and your phone or tablet topped up while observing.)



Dwarf 3. Dwarflab image.

6” or 8” Dobsonian Telescope

My top recommendation, particularly for a youth or family, is the classic Dobsonian Telescope in 6” or 8” aperture. It’s the easiest to use overall, it’s rugged, and is an all around telescope that’s good for both planetary and deep sky viewing.

Setup is easy: plant the base in a stable spot, put the optical tube on the base, drop in an eyepiece, align your finder, and you’re off.

Most scopes will hold their optical alignment well, but I recommend going through the collimation (optical alignment) process most times that you set up at first to get used to it and remember how. The payoff will be sharp images every time, and not being at a loss of what to do if a car ride or a bump knocks things out of alignment.

I am not a fan of all the features of commercially constructed Dobsonian telescopes, however. My greatest complaint is the bases being made of engineered woods heavier than plywood, usually adding 5-8 lb to the weight of the base. My second complaint is that the eliminate the tube box, which allows the tube to be rotated to a convenient angle, and slid lengthwise to balance the telescope. There are simple work-arounds, though.

For the ultimate family or personal adventure, I recommend making your own Dobsonian telescope from parts. I did it alongside my daughter when she was 10, then again when the other daughter was 9 and her sister was 12.

They each made their own 6” Dobsons that were light enough for them to easily carry and set up on their own, and the base was made so that they could adjust the height of the scope as they grew (thanks to John’s design that we used.)

If you’re interested, let me (Mark Graybill) know, and have a look at this video:

Telescope Building with John Dobson

Orion SkyQuest XT Classic Dobsonian



6”, $450. 8”, $600

Orion may be gone, but High Point Scientific is selling the stock that they had when they closed. It doesn’t matter, because they are still good telescopes.

I recommend the 6” and 8” telescope for beginners. The 6” scope weighs about 45 lb all together, but it separates into a 25 lb base and a 20 lb optical tube. The optical tube is about 44” long.

The 8” base weighs about 30lb and the tube about 25 lb.

They come with a simple 25mm eyepiece that gives about 50x magnification and a barely usable red dot finder.

Accessories:

- Buy an eyepiece in the range from 10mm to 13mm to use on the Moon and planets.
- Buy a Telrad to replace the red dot finder.
- Buy a heavy shower cap to replace the included dust cap.
- Get a cheap tackle box to use as an eyepiece case.

Orion SkyQuest XT6 Classic Dobsonian Telescope

Orion SkyQuest XT8 Classic Dobsonian Telescope

Apertura AD Series Classic Dobsonians



Apertura AD6, $500, AD8, $650

The Apertura AD series Dobsonians add a bit of weight to their design to try to make up for the lack of adjustment to balance the scope by sliding the telescope tube in a tube box.

They can adjust their pivot point a few inches along the tube for balance and have an adjustable tension on the altitude axis.

This is the best commercial system for dealing with balance and creep issues in a commercial Dobson-style mount.

The 6” tube weighs 18 lb. and the base weighs 26 lb. The 8” tube weighs 25 lbs and the base weighs 27.

The 8” scope actually comes with a good finder, 50mm aperture with 8x magnification, and a diagonal to make it comfortable to look into. It also comes with two eyepieces, a 30mm and a 9mm.

The 6” scope comes with a 6x30mm finder, with a diagonal. It comes with 9mm and 25mm eyepieces.

I would add a Telrad to either of these, but in this case you don’t have to throw away the provided finder.

Accessories: A cheap tackle box to use for carrying eyepieces and accessories. The Apertura telescopes don’t need any other accessories right off, though a Telrad would be a nice addition.

Apertura AD6 Dobsonian 6" Telescope with Accessories

Apertura AD8 Dobsonian 8" Telescope with Accessories



Entry Level Refractor Bundles

Explore Scientific Firstlight 80 Sidara Nano, $210



This scope uses a style of alt-az mount that I like. The telescope is well suited to the mount. Overall, there is more plastic in the scope than I like.

There is a different version of this bundle that has a 90mm telescope. Do not get it! The diagonal is terrible, the scope is heavier. You will get more out of this 80mm bundle.

This is the only telescope bundle I've found that is ready to go with the parts it comes with.

FirstLight 80mm f/8 Refractor and Sidara Nano Alt-Az Mount

Ed Ting Review of the Firstlight 80:

Bargain Alert! Explore Scientific FirstLight 8…

Accessories: The red dot finder will be the first thing you want to replace. See finders, below. An eyepiece with a focal length from 10 to 13mm will allow you to see bands on Jupiter and the rings of Saturn. A storage and transport case that holds the tripod and telescope in separate padded compartments will make it easier to store and transport.

SVBony SV520 Beginner Bundle, $240



The finderscope is unusable, buy a red dot or reflex finder to replace it when you buy the telescope (see Finders, below.)

The tripod's spreader design is very awkward. It requires an allen wrench as delivered. Pull out the set screw, take it to the hardware store, and buy a thumbscrew you can adjust by hand.

SVBony SV520 Beginner's Bundle: https://link.amazon/B01Kdb4vr

Ed Ting Review of the SVBony 520:

A New Best Beginner Telescope! Review of…

Accessories:
Upgrade to better eyepieces at some point. SVBony themselves sell higher quality eyepieces in the same focal lengths. Just as with the Firstlight 80 above, a storage and carry case would be a very important addition to this scope. They're the simplest and most underrated add-on for any scope.

Tabletop Dobsonians

Tabletop Dobsonian telescopes are a good way to get a compact, portable scope with decent aperture. The first one was the Orion Starblast. A friend bought one when it came out, and we'd planned to spend an evening at a star party evaluating it.

However, his daughter had other plans. She took off with it as soon as they arrived, and a pack of other kids from 9 to 15 took off with her. They apparently had a great time with the scope that night, looking at all sorts of things.

My buddy and I declared that a success.

The primary flaw in the design is that you need a stable tabletop under the sky. If you can manage that, then the scope will give you a good experience. They are especially appealing to youth (as noted above), who love a scope that they can entirely make their own.

But they can also be used for serious observing, with apertures up to 6 inches.

Orion Skyscan 100mm Tabletop Dobson, $130



[Orion SkyScanner 100 mm Tabletop Reflector Telescope]

Orion StarBlast 4.5" Astro Dobsonian, $220



[Orion StarBlast 4.5 Astro Dobsonian Telescope | High Point Scientific]

Celestron StarSense Explorer 114mm, $340

This model adds Celestron's cellphone guide system, which our members have used effectively.



[Celestron StarSense Explorer 114mm Tabletop Dobsonian]
https://link.amazon/B01z3P2fC

Sky-Watcher Heritage 130, $270

If you need even more compactness, this one collapses when not in use.



[Sky-Watcher Heritage 130 Tabletop Dobsonian]
https://link.amazon/B03nHhuVN

Sky-Watcher Heritage 150, $309



[Sky-Watcher Heritage 150 Tabletop Dobsonian]
https://link.amazon/B0cxEkDpE

Celestron StarSense Explorer 130mm, $530
This also has Celestron's StarSense cellphone-based finder system, in addition to a red dot.



[Celestron StarSense Explorer 130mm Tabletop Dobsonian
https://link.amazon/B07kD6Yep]
Explore Scientific 6 inch Tabletop, $500



[6-inch Tabletop Dobsonian Reflector Telescope]

Celestron StarSense Explorer 150mm, $510



[Celestron StarSense Explorer 150 mm Tabletop Dobsonian Telescope
https://link.amazon/B09pPLYhQ]

Tripod Base for Celestron StarSense Tabletop Dobsonian Telescopes, $135



[Tripod for StarSense Explorer Tabletop Dobsonian Telescopes – Celestron
https://link.amazon/B02JAGokL]

Mounts/Saving a Junk Scope

If you already have a telescope, but it came on a spindly camera tripod you can save it with a better mount that will hold it steady

Explore Scientific Sidara Nano, $100



This is the newest entry in this category, and the lowest priced. The arm can be moved 45 degrees to give a better look upward for refractors and other long telescopes. I have ordered one for myself, so you'll hear more about it.

Downsides are the plastic spreader bars, but I have a different mount (on my solar scope) that uses the same spreaders, and they're rugged enough if you don't abuse them.

The price includes both the mount head and the tripod.

[https://explorescientific.com/products/sidara-nano]

SVBony SV225 Mini, $210 w/tripod, $115 w/o.



The smaller version of the SV225, it reduces the price while having half the payload capacity (11lb/5kg vs 22lb/10kg.) SVBony builds confusing packages, be careful that you're getting what you think you're getting when buying bundles off their site. The Amazon link below includes the mount head and the tripod. My only negative comment about this mount is that the slow motion controls are rigid. Expect to replace them with a normal set of flexible slow motion controls.

https://link.amazon/B0eSq35ys

https://www.svbony.com/products/sv225-mini-alt-azimuth-telescope-mount

Explore Scientific Twilight I, $300



The Twilight I falls into a heavier category of mount than the Sidara Nano, rated to support up to 18lb of payload--roughly double the Sidara Nano.

If your scope and its accessories are over about 7-8 lbs, you will have a much better experience with this mount than with the Sidara Nano.

Twilight I Adjustable Angle Alt-Azimuth Mount

SVBony SV225 Mount/Tripod Bundle, $264
($160 without tripod)



This mount is rated for 22lb or 10kg. Reviewers have noted some play in the altitude axis that's troublesome at high magnifications.

The Amazon link below is for the mount/tripod bundle, the manufacturer's link goes to SVBony's page which offers various bundles--be careful that the contain the parts you think they do..

https://link.amazon/B0btc4Rn6

https://www.svbony.com/products/sv225-alt-azimuth-telescope-mount

Finders

Telrad, $55 or $50 (Amazon link below)
Attaches to telescope with tape on base, or screw holes on base. Projects 4, 2, and half degree rings on the sky for star hopping. Finger adjustment for alignment.



https://www.highpointscientific.com/telrad-finder-with-base-telrad
https://link.amazon/B0h5FP2We

Rigel Quikfinder, $59 or $54 (Agena Astro)
2 degree and half degree rings projected on sky. Finger alignment. Smaller base than Telrad, fits on smaller scopes.



https://www.highpointscientific.com/rigel-systems-quick-finder-1x-finder-r-crs

https://agenaastro.com/catalog/product/view/id/1080/s/rigel-systems-quikfinder/

Orion 8x50 Finder, $80
Large aperture optical finder to provide a bright image. Right angle allows easier view.



https://www.highpointscientific.com/orion-8x50-right-angle-finder-scope

9x50 right angle erect image finder, $130



https://www.highpointscientific.com/celestron-right-angle-correct-image-finderscope

Williams Optics Red Dot/Changeable Retical Finder, $108
Requires allen wrench (provided) for adjustment.



https://www.highpointscientific.com/orion-8x50-right-angle-finder-scope

Meade 8x50 with base, straight through, $60



https://www.highpointscientific.com/meade-8x50-viewfinder-with-dovetail-base

Explore Scientific ReflexSight, $60, $70 (Amazon)



https://explorescientific.com/products/explore-scientific-reflexsight
https://link.amazon/B0hp6Bz1K

Astromania StarPointer Red Dot Finder, $50
Multi-retical sight, requires allen wrench (included) for adjustment. Standard finder shoe.



https://link.amazon/B09DXgxXq

Club Calendar

Special events by The Villages Astronomy Club
Events not hosted by The Villages Astronomy Club
Notable dates with no event planned.

November 2026
1 DST ENDS
2 Observing Workshop 7pm. Star Party for All Members., Truman Rec. Ctr. 2705 Canal St. Replaces Space Academy this month during polling at Truman.
4 Smart Scope Meeting, 6:30pm
6 Astro Exec Meeting, 11am, Fishhawk Rec Ctr, 2318 Buttonwood Ln.
7 Observing Session - Scouts, Sandhill Scout Reservation
14 Starry Starry Night, 6pm-8:30pm, 5 day Moon, Saturn, Uranus, Cygnus, Lyra, Sagitta, Pisces, Taurus.
17 No General Meeting Laurel Manor Maintenance.
21 Fruitland Park Observing, 5pm, 300 Shiloh St. Fruitland Park

December 2026
2 Smart Scope Meeting 6pm
4 Astro Exec Meeting, 11am, Fishhawk Rec Ctr, 2318 Buttonwood Ln.
7 Space Academy, Observing Workshop, Truman Rec. Ctr. 2705 Canal St.
15 General Meeting, Lowell Observatory, Holiday Treats, Laurel Manor Rec Ctr. 1985 Laurel Manor Dr.
19 Fruitland Park Observing, 5pm, 300 Shiloh St. Fruitland Park

Jan 2027
1 No Exec Meeting, Holiday Closure of Rec Center
4 Space Acad 6:30pm, Observers Workshop 6pm, Truman Rec Ctr, 2705 Canal St.
6 Smart Scope Mtg 6pm, Everglades Rec Ctr North Pavilion (by basketball court.),
9 Boy Scout Merit Badge Session, Sand Hill Scout Reservation 2:00 - 8:00 PM. Volunteers arrive at 1:00
16 Fruitland Park Astronomy, 5pm, Cales Soccer Field, 300 Shiloh St. Fruitland Park
19 General Meeting 6:30pm**,** Ken Katta: Gravity and Space Time , Laurel Manor Rec Ctr, 1985 Laurel Manor Dr

Club Calendar on the web:
https://vlgastroclub.org/calendar/



Kennedy Space Center Visitor Center Rocket Garden. Image by member John Roarke. From left to right: Redstone-Mercury, Atlas-Mercury, Juno, Thor-Delta, Atlas-Agena, Delta II, Titan IIG-Gemini. Saturn IB in background.

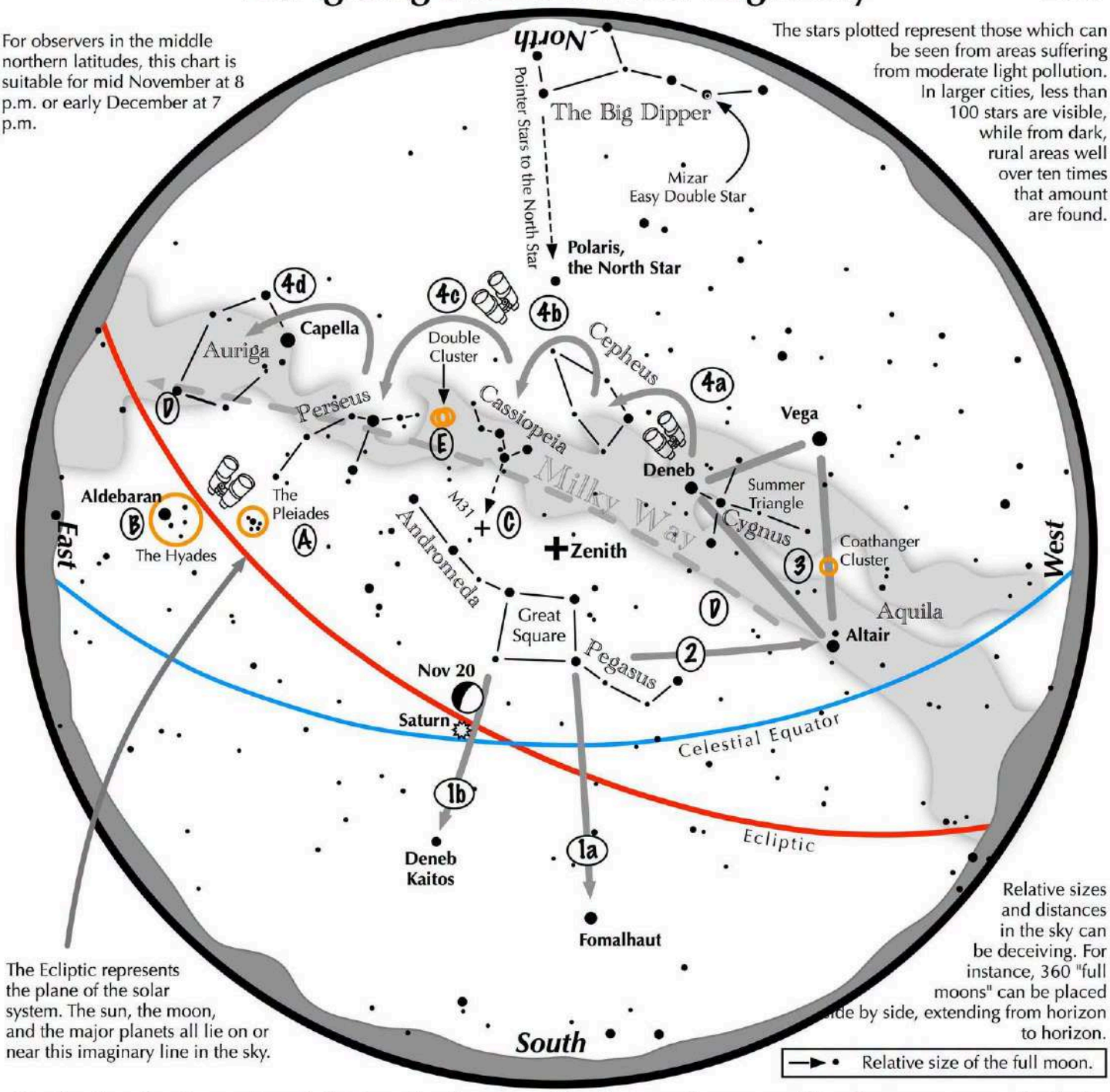


Planet Saturn, member Bill Hillman.

See the monthly star charts on following pages:

Navigating the November Night Sky

2026



Navigating the November night sky: Simply start with what you know or with what you can easily find.

1. Face south. Almost overhead lies the "Great Square" with four stars about the same brightness as those of the Big Dipper. Extend a line southward following the Square's two westernmost stars. The line strikes Fomalhaut, the brightest star in the south. A line extending southward from the two easternmost stars, passes Deneb Kaitos, the second brighest star in the south.
2. Draw a line westward following the southern edge of the Square until it strikes Altair, part of the "Summer Triangle."
3. Locate Vega and Deneb, the other two stars of the Summer Triangle. Vega is its brightest member, while Deneb sits in the middle of the Milky Way.
4. Jump along the Milky Way from Deneb to Cepheus, which resembles the outline of a house. Continue jumping to the "W" of Cassiopeia, then to Perseus, and finally to Auriga with its bright star Capella.

Binocular Highlights

A and B: Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **D:** Sweep along the Milky Way from Altair, past Deneb, through Cepheus, Cassiopeia and Perseus, then to Auriga for many intriguing star clusters and nebulous areas. **E.** The Double Cluster.

Astronomical League *www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.*

NGC 457, Caldwell 13, Owl, ET Cluster

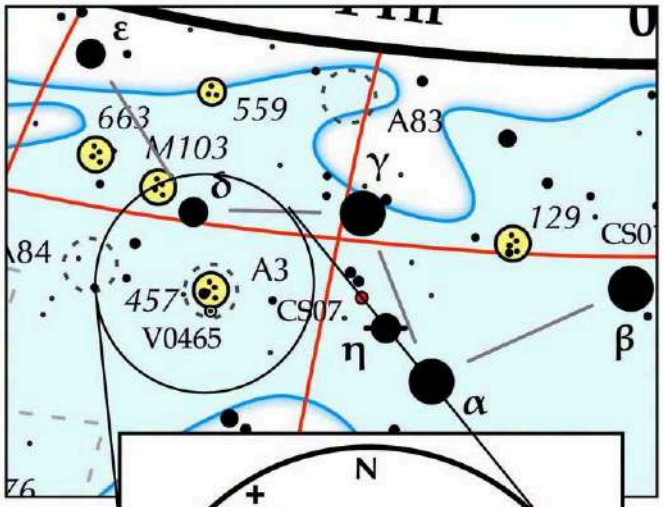
A good open star cluster for people new to observing.

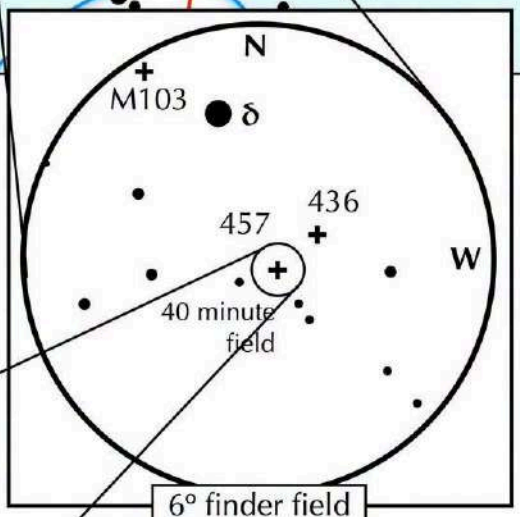
A bright open cluster that Messier missed.

Navigate to NGC 457 (Caldwell 13):

1. Locate the two easternmost primary stars of Cassiopeia, Delta and Epsilon.
2. Continue the line formed by Epsilon and Delta to the southwest for half that length.
3. Aim the finderscope to that location.

M103 lies in the northeast edge of the finder field. Other open clusters are nearby.





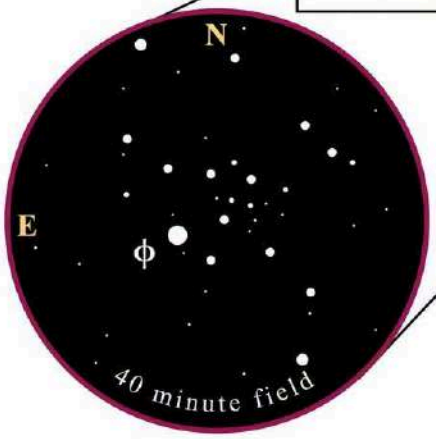
Easily visible in steadily held 10 x 50 binoculars!

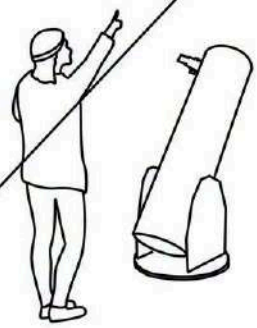


Published Characteristics for Caldwell 13:

Integrated magnitude: 6.4
(excluding 4.9 magnitude Phi Cas)
Size: 13 minutes
Surface brightness: little meaning due to Phi Cas
Distance: 7900 light-years

Try your hand at sketching!





Eyepiece Impressions:

- 10x50 binoculars: "Glimmering glow off the west side of Phi. Half dozen dim stars spotted." JG
- 4 inch Refractor, f/10, 53x: "Irreg shape cluster; "stick figure" or "owl with wings outstretched"; 2 bright stars as eye; about 35 stars counted." AB
- 12 inch Reflector, 50x: "Nice cluster with about 10 stars including 2 brighter stars, one of the two is orange." PH

© 2026 **Astronomical League** www.astroleague.org/

2609