Starscan

Johnson Space Center
Astronomical Society

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THE GANG WAS ALL THERE AND THE WEATHER WAS ON THEIR SIDE-FORT McKAVETT IN OCTOBER 2009

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Un mensaje del Presidente
(A message from the President)

Greetings!

I don't know about anyone else but the past recent trip to Fort McKavett was one of the best trips I've ever had. Short of some dew first and second night, I felt that all three nights were exceptional.

I also want to thank everyone from JSCAS that helped with ADAY. I've had a very difficult time running the outdoor talks without Bob Taylor's tent and I think without question, a highlight of ADAY was Jim Wessel and Sarah Haviland conducting an NSN comet demo. I also want to thank everyone that took the time to manage the club tables (Connie and Ken Steele!), cheers to anyone running a deck scope (Ed!), and I will apologize to anyone that I've left of. The "gate" count seemed high at but none the less, I think ADAY was a very successful event.

This months speaker is Dr. David Garrison from UHCL, and I'll post his title later in the week!

David Haviland

LETTER FROM THE EDITOR
By Connie Haviland

Hi Everyone!!
Well..I have pics of the events, but no articles regarding the Fort or Astronomy Day. It was a very busy time for David, John and me and I am happy to say it was successful. On the other hand, it is over and I am ready to move on to the holidays and relaxing.

Enjoy…..Connie Havialnd

LETTER TO THE EDITOR

NOTHING THIS MONTH!!!

Star Parties for 2009

Bob Taylor

NOVEMBER 6 HAAK WINERY
DECEMBER OPEN

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Need volunteers

What's Happening at the George!!!

Cynthia Gustava

November 2009 George Observatory Events

Nov 06 – Boy Scout Pack 957 (170 scouts and parents) – Building Managers: Cynthia Gustava and Carl Sexton

Nov 13 – Rice University Continuing Education – Building Manager: TBD

Nov 20 – HMNS Member's Night – Building Manager: Barbara Wilson

Nov 27 – Thanksgiving Holiday

Saturday Public Observing – All times are dusk to 11:00 p.m.

Contact the following building manager teams to volunteer.

Nov 07 – Jessica Kingsley gnjkingsley@att.net and Cynthia Gustava cynm31@att.net

Nov 14 – Carl Sexton carlsexton@hotmail.com and Jack McKaye jemckaye@comcast.net

Nov 21 – Keith Rivich icgalaxies@cs.com and TBD

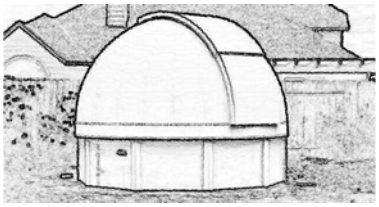
Nov 28 – Mary Lockwood mplockwood@att.net and Cynthia Gustava cynm31@att.netViewing of the Moon

November 21, 10 a.m. – 1 p.m. – Near Earth Objects
December – No Family Space Day Scheduled. Enjoy your holidays!
Please note: Each child must be accompanied by a responsible parent or adult the entire time they are visiting the LPI.
For more information e-mail Spaceday@lpi.usra.edu or call 281-486-2106.
For more information, go to
http://www.lpi.usra.edu/education/space_days/
Or call Katy at (281) 486-2106

3600 Bay Area Boulevard, Houston, Texas

Building Your Own Observatory (Part 2-C)

Wall Assembly



Upon completion of the dome ring, slit arch, and rib assembly, I constructed the walls for the observatory. With the walls, I used standard 2x4 framing techniques used in homes in my part of Texas. All walls consisted of pressure-treated sills, 16-inch on center studs, and a doubled header. Each wall segment was 44-inches long and 30-inches high. The sill was bolted to the slab and hurricane ties were installed at both ends of each stud. Details on 2x4 wall construction is readily available on the Internet or from books sold at the local home improvement store.

Initially, I minimally tacked the wall header into place. This was necessary because the design required the wall corners to approximate a circle of 11 feet 10 inches. After tacking the header, I measured the distances of each corner to its opposite corner. I found a variance of up to ¾ of an inch. Some diagonals needed compression, while others needed expansion in order to reach the ideal 11 feet 10 inch approximation of a circle. Using band clamps and spare 2x4 lumber I managed to true the shape. I then securely fastened the header to the walls.

I completed the wall header with a plywood wall cap that had circular 11 feet 10 inch outside diameter. This wall cap is, in effect, a soffet (it bridges the span between the wall siding and the bottom edge of the dome skirt). The walls were sided with Hardie siding. This siding is available at the home improvement store at reasonable prices and is virtually impervious to decay.

Framing the Dome

I started framing the dome by standing the two slit arches on end and securing three 36-inch 2x4 rafters between the 2 arches. I then set the arches onto the dome ring and secured them in place. Next came the attachment of the dome ribs. The weeks leading up to this step had me worried. The angle where each rib attaches to the dome ring was, in effect, 90 degrees (parallel to the rib radius). This angle was easily determined and cut. However, the angle where the rib attaches to the slit arch is complex in 2 axes. The angles could be derived mathematically but translating the angles into a saw cut was mentally overwhelming. It then occurred to me that the problem could be easily solved by breaking it down; solve the problem one angle at a time. From above the dome (see the Dome Plan View drawing from the article last month), each rib is connected to the slit arch at a multiple of 15 fifteen degrees (the design had the ribs spaced 15 degrees apart). To solve this angle I could set the fence on the miter saw to the appropriate angle for each rib. I could let gravity tell me the second angle. The ribs attach to the base ring in a horizontal position. I could recreate that horizontal position if I flipped the rib upside down and set a spirit level on the dome ring end of the rib. Pressing the slit arch end of the rib against the miter saw fence would allow the dome ring end to be raised or lowered until the spirit level showed it to be horizontal. Upon finding the horizontal position the correct cut could be made. These cuts required two people, one to level the dome ring end, the other to hold the rib against the fence and make the cut. The cutting and attaching the ribs required 3 evenings and the task was accomplished with no problems.

Skinning the Dome

Skinning the dome with hardboard (masonite) gores required a full week effort. The task involved creating a pattern for each gore, tracing the pattern onto a sheet of hardboard, cutting the gore, and finally fitting and attaching the gore to the ribs. Upon first inspection, a gore appears to consist of straight edges. This not true because each gore is a 2 dimensional object wrapped onto a three dimensional surface. A gore edge is actually a curve when cut from the hardboard. For each gore I stapled a sheet of rosen paper (a 36-inch wide roll of paper purchased from the local home improvement store) to the ribs, then traced the gore outline from the inside of the dome. I removed the paper from the ribs, added ¾ of an inch to the traced pattern (needed to account for the rib width), and then cut the excess paper from the pattern. I transferred each pattern onto a 4x8 foot sheet of hardboard. Fortunately the curved edges of each gore were gentle and could be cut with a circular saw. After I cut each gore, I tacked it into place on the dome. Many gores needed to be trimmed a second time so that they fit properly with neighboring gores.

Dome Raising

June 7, 2009 a collection of family, friends and neighbors gathered at the garage to move the dome onto the walls. I was not sure of the weight of the dome. I estimated it to weigh between 550 and 700 lbs.

I had concerns about how manageable the structure would be and felt that a group of at least 12-15 people would lighten each individual load and make the move safer for everyone involved.

Okie Tex Star Party 2009
By Dennis Webb (dennis@arpgalaxy.com)

For several years, friend from the Texas Star Party (TSP), Gordon Pegue of Albuquerque had said I needed to go to Okie Tex. I had long planned to go but the long distance from Houston and the pressures of normal life kept me from doing so. Now that I have retired and moved 5 hours closer (near Fort Worth), I resolved to go. Gordon provided information in addition to the excellent Okie Tex website (http://www.okie-tex.com), and I made appropriate registrations and preparations.

Several other things would be new for me: (1) I was not aware of organized Fort Worth Astronomical Society or Johnson Space Center Astronomical Society contingents going, so I was traveling on my own – fortunately, Gordon invited me to set up with his club, The Albuquerque Astronomical Society (TAAS – the "The" is very important), and I had met several of these folks at TSP over the years and a couple visits to the TAAS club as I would pass through New Mexico on vacations. (2) I had traded in my deteriorating minivan in for a Hyundai Santa Fe – I had estimated that I could fit my disassembled 17.5-inch dob in the back but had not actually demonstrated that it and the additional stuff (including a 6-foot stepladder) would fit. (3) My wife would not be coming as we determined there were not likely sufficient non-astronomy things in the area (we are city people). (4) My cousin from Colorado, Rob Grover, has recently been infected with astronomical imaging and he and observing friend David were planning to come down from northern Colorado (his drive was actually shorter than mine), so for the first time at a big star party, I would have kinfolk observers!

I packed the car on Monday and it all fit without completely blocking the rear view mirror (one of the metrics of Telescope Cargo Management). The top of the 6-foot stepladder hung over the passenger side headrest so I will need to get smaller ladder if I take passenger with telescope system (unless passenger is really short). While the weather did not look promising, I set off Tuesday morning and, apart from missing the cutoff from Interstate35 to 287 north of Fort Worth, the trip passed without incident, and I got to see Highway 287 almost to Colorado, parts of this road I had not seen since moving around in the 1960's as child of oil people. I arrived with a couple hours of sunlight remaining. I got checked into my accommodations in Kenton, courtesy of the Black Mesa Bed and Breakfast, and headed over to the star party at Camp Billy Joe, a Christian youth camp that transforms itself into an observers' paradise, courtesy of the Oklahoma City Astronomy Club. Interestingly, in the short drive from Kenton to the Camp, you cross the Central-Mountain time boundary – apparently many people at the star party live without formal time and wait for the dinner bell and the visible end of twilight to mark their days. This is a star party for RV's, camping trailers, and tents. As I pull into the area where Gordon suggested I set up, I see Gordon and he motions me to a blank place in their camp. I unload and assemble my telescope and observing gear. Cousin Rob wanders by as I set up and we greet and he helps me unload my telescope.

the haze, and tried some fainter objects but it clouded out before I could see much. It had been a long day so I turned it at 2AM. As I returned to my accommodations, I saw faint shapes wheeling around the mercury vapor light – these were bats feeding on insects drawn to the light. I had never seen this before. I turned in and slept until I woke up, just in time for lunch at the Camp.

Wednesday: I was scheduled to give an afternoon talk on the Arp peculiar galaxies, so I showed up early to see the previous speaker, Mike Lockwood (http://loptics.com), who gave two talks, one on his experiences building fast optic Newtonian telescopes – one of his shortest was a 20-inch f/2.55, which you could observe at the zenith from a seated position! He had a joke photo of Bob Kirschenmann standing on a ladder way above the eyepiece. His second talk was part of a personal crusade to encourage people to build their own telescopes, as it appears amateur telescope making is less active than 10 years ago (when I made my own dob). Mike gave a good summary of the evolution of amateur telescope making. He observes that many new innovations are coming out of Europe where some of the largest amateur scopes are being built, showing pictures of a 42-inch f/4.5 dob from Germany – there is a 45-inch f/3.7 mirror in work at the moment in Germany. He summarized several trends I had not heard of: cellular mirror blanks (like the big observatories), the loss of Corning Glass as a manufacturing source for pyrex blanks (though there is a lot of inventory still out there, and other manufacturers are picking up the slack), as well as the steady increase in maximum aperture.

I gave a talk on the Arp peculiar galaxies, using the many recent Hubble Space Telescope images of interacting galaxies that include a high percentage of Arps. There was a really good crowd for afternoon talks, owing to the poor sky. I had been scheduled for the end of the afternoon so that I could sell and autograph copies of my book with Jeff Kanipe, "The Arp Atlas of Peculiar Galaxies, A Chronicle and Observer's Guide", and I nearly sold out of my inventory and autographed several books that folks had previously bought and brought along with them. Glen Sanner and George Robert ("Bob") Kepple took the remaining copies to sell alongside Bob's astronomical paintings (I have one of them) and their fine "Night Sky Observers Guides" and Astrocards. Had a pleasant dinner with lots of visiting with new friends, old friends and my cousin. The evening speaker was unavoidably delayed, so I offered to give another talk that was conveniently still on my laptop: "Scale of the Universe in the Amateur Eyepiece, an Observing Plan For 14 Orders of Magnitude." The small crowd seemed to enjoy it and we adjourned to the observing field. Host Mike Dennis of the Oklahoma City club did a great job of hosting the talks.

Wednesday night started out very clear so I set my finders back on Andromeda. M31/M32/M110 were very bright and almost fit my widest field eyepiece. I made a failed attempt to detect the double nucleus of M31 at high power (probably not possible, since it was first measured by the Hubble), and the sky conditions started deteriorating. I switched to the Blue Snowball planetary (NGC 7662) nebula and was starting to make out texture and the ring structure when the north clouded out. I turned back to Sagittarius and observed NGC 6822, one of the milky way's faint companion galaxies – I had observed it in shorter telescopes and large binoculars where it was a clear glow; in the longer focal length, it was faint though still visible but the H-II regions were distinct. Nearby, I observed planetary nebula NGC 6818: small but clearly blue (am I prejudiced by the Blue Snowball?), with hints of

were still uncovered but everybody was gone. I surmised that they were snacking at the snack bar and, after getting lost in the unfamiliar dark, I found them at the tent with food. I bought a bland but warming green chili stew and we visited. This led to a long conversation with Bob Hill of Amarillo where we debated the Arp paradoxes and approaches to understanding the 3-D structure of the universe – one of several memorable conversations I have had during cloudy nights at star parties. Bob and I had previously exchanged a few emails on the Arp galaxies, and it was good to put a face and voice with this remarkable observer and thinker.

Thursday Afternoon: since Wednesday had been a tiring day, I slept very late and drove to Boise City to get cellphone signal. I had been able to email home from the Okie-Tex wireless internet system (hooray for internet and the Okie-Texers who make it possible), but I needed to hear my wife's voice. I had tried collect calls on two different local phones but the bureaucracy of telecommunications does not seem to support this ancient protocol and when we moved, I lost our calling card – word to the wise! We had a nice leisurely visit and all was well at home. I filled up the gas tank and headed back. Between Boise City (pronounced Boys City) and the Camp are two notable roadside attractions: (1) the southern "Cimarron" path of the Santa Fe Trail runs across this segment of the Oklahoma panhandle and (2) a "dinosaur quarry" marked with a cement cast of a big bone. My father was a geologist and we had together hunted fossils all across the Rocky Mountains when I was a kid so I spent an hour looking for dinosaur bone fragments, being careful not to stumble on a snake or fall down. I found five rocks that sort of looked like bone and after returning home, my dad agreed that they were probably dinosaur bones (though he may have been being polite). I returned to the Star Party in time for dinner and the evening program.

Thursday Night: The evening talk was "The Works of Galileo," by Kerry Magruder of the History of Science program at University of Oklahoma. His presented Galileo's published works as narrative of Galileo's journey, as a part of the International year of Astronomy 2009 observance. He showed the visual symbolism in the books' illustrations that depicted the political stuff a researcher had to go through to be able to live and continue his researches in this time. I had previously searched the program's on-line collection of images from historical star atlases and it was great to hear about the program that produced it – I need to go see these wonderful historical books. After the talk was the first of Okie Tex's door prize drawings. I had donated an Arp book and the recipient seemed pleased as I autographed it. Fantastically, I won a 4mm TMB planetary eyepiece; curiously, I had been thinking about getting a high power planetary eyepiece. My cousin Rob won that night's grand prize, a shiny, massive new 22mm Type 4 Nagler – who would believe cousins would win fancy eyepieces sitting next to each other?

We adjourned to the observing field and I continued by observations on Andromeda. The sky was pretty good so I got a nice view of big galaxy NGC 891 and the fainter galaxies in Abell Galaxy Cluster 262 – I managed to detect 8 galaxies in this dense nest. Cousin Rob brought his winning eyepiece and our camp tried it out on my scope, evaluating the M31 field, the Dumbell, the Veil (with borrowed Ultra-High Contrast filter) and M33. I tried out my new 4mm eyepiece on Jupiter but the seeing (or my scope and collimation) would not lead to improvement over my other eyepieces. The night was good observing

and even when it clouded up, we visited until 5:30AM and I drove back to my accommodations. The bats had given up and gone to bed but I heard three owls hooting back and forth.

Friday: I had some shopping to do. I had planned to buy Bob and Glen's Night Sky Observer's Guide series (they recently published their southern skies volume), so I bought these wonderful books. Since the new 4mm eyepiece now exceeded the comfortable capacity of my little eyepiece case, I had to buy a new eyepiece case – I NEEDED it. Really. I found a large one with "pluckable foam" and bought it. Since there are a variety of approaches to laying out eyepieces in a pluckable foam case (and once foam is plucked it is plucked forever), I asked my neighbors on the field how they approached the design issue. Several opened their cases and discussed the pros and cons of their layout and I photographed them for reference. Useful learning is I had not thought about filter accommodations. After seeing all the different approaches and considering the potential for buying future eyepieces (there is never a perfect set…), I decided that I would put off the foam plucking to calm reflection and strategic planning when I got home so I left the eyepieces in their old crowded case. I ran into Clayton Jeter from Houston, the only other fellow I knew from my old home, while I was visiting with master telescope maker Gil Machin from Kansas City. Clayton had been within hollering distance the whole time – I should have yelled out "Clayton" when we were yelling out "Howard" (some obscure Okie-Tex tradition that had at least two different reported folkloric origins). As the sun set, we ate wonderful cookies made by Becky Hill, patient spouse of Bob Hill.
The forecast for observing had been for cloudy until midnight and then clearing. I figured I did not need to stay out late as I was driving back tomorrow (8-9 hours), so I decided to tear down the telescope and leach off the other observers. The clouds persisted after midnight so I took some of my stuff back to the car and dragged out my guitar and serenaded the Albuquerque-ites. Midway through my set, the sky cleared but I hung onto a few listeners as some observers crowded around the few uncovered telescopes and it turned out to be a great night of observing. Some beverages improved people's appreciation for my music and Grateful Dead Heads showed up so we swapped stories of concerts and recordings and music of our youth. Another guitarist, Rex, showed up and played some beautiful instrumentals, reviving the show. I turned in at 4:00 (bats near the end of their hunting).

Saturday: I dragged myself out of bed, packed up, checked out, and drove over to the Camp to pack up my observing equipment. After getting loaded, I had a long Deadhead and imaging discussion with Peter from Albuquerque who offered me four CDs of a fabulous Grateful Dead show from 1972 which I played on the way back. Hugs and goodbyes with cousin, all the new and old friends, and I hit the road for home.

Okie Tex Star Party is great! While we had poor sky this year, the atmosphere, camaraderie, and standard of observing was wonderful. I think I will be back. If you can find accommodations that suit you, it is a well-run event with great observers and I recommend it.

The November Sky

It's galaxy peeking time. The ladies of the night, Cassiopeia and Andromeda are bejeweled with celestial gems. Andromeda boasts of the largest spiral galaxy in our local group, M31 and its satellite galaxy, M32. M31 is the most distant object we can see with the naked eye. Of course you have to have dark skies. Cassiopeia, in a thick of the Milky Way, is wonderfully rich with open galactic clusters. Befitting royalty, the ladies have interesting and tragic stories

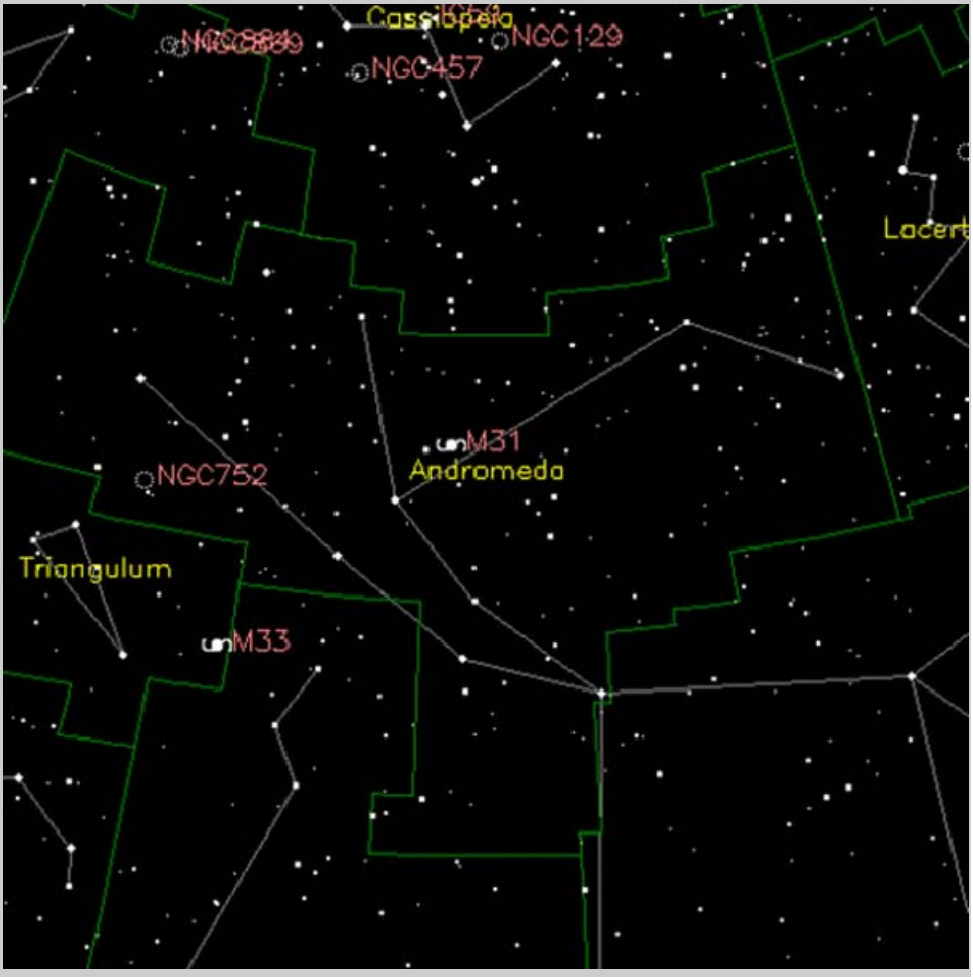
Cassiopeia boasted that she and her daughter were more beautiful than the sea nymphs, which were the daughters of Poseidon, the god of the sea. Angered by the insult to his daughters, Poseidon punished Cassiopeia by chaining her to her throne and sent floods to the lands ruled by Cassiopeia and her husband, King Cepheus. To appease Poseidon, King Cepheus had his daughter, Andromeda, chained to a rock by the sea as a sacrifice for the monster Cetus.

The November sky is also a convenient time to visualize the celestial coordinate system. The prime meridian, the longitude where right ascension is zero, can be drawn from Polaris through Caph in Cassiopeia through just west of the two eastern stars of Pegasus.

Deep Sky

M31: the Andromeda galaxy also see its satellite galaxy M32.

M33: The Triangulum galaxy sometimes called the Pinwheel Galaxy, but is not the official name. The Pinwheel officially refers to M101. This is a spiral galaxy in our local group.



Solar System

Jupiter is slowly descending in the western sky. **Saturn** is the morning star rising before dawn.

Mars is high in the sky before dawn.

November Events

Look for Leonids meteor shower after midnight from the 10th to the 23rd with the peak occurring on the 17th and the 18th. Expect 20 to 100 meteors per hour.





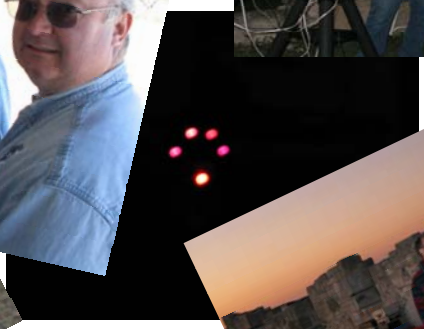
FRIENDS,
FOOD,
FAMILY
AND FUN
THEN ADD
CLEAR, COOL SKIES
AND THAT IS
FORT McKAVETT
AT ITS BEST!!!



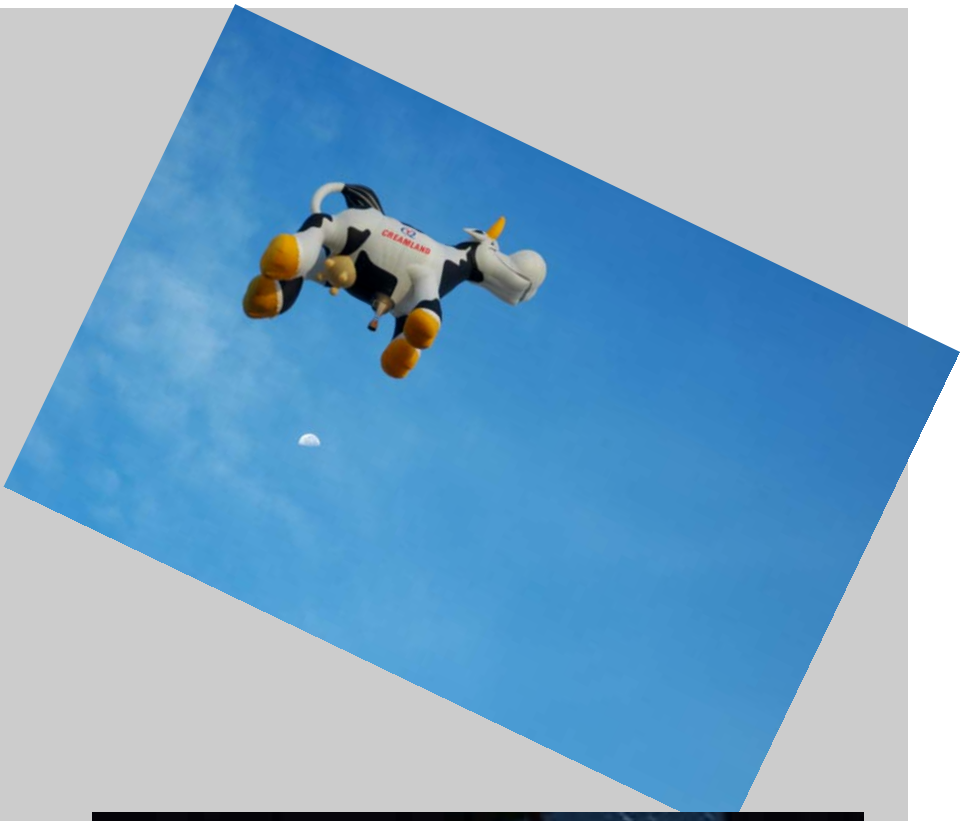









Members' Gallery—
NOVEMBER 2009

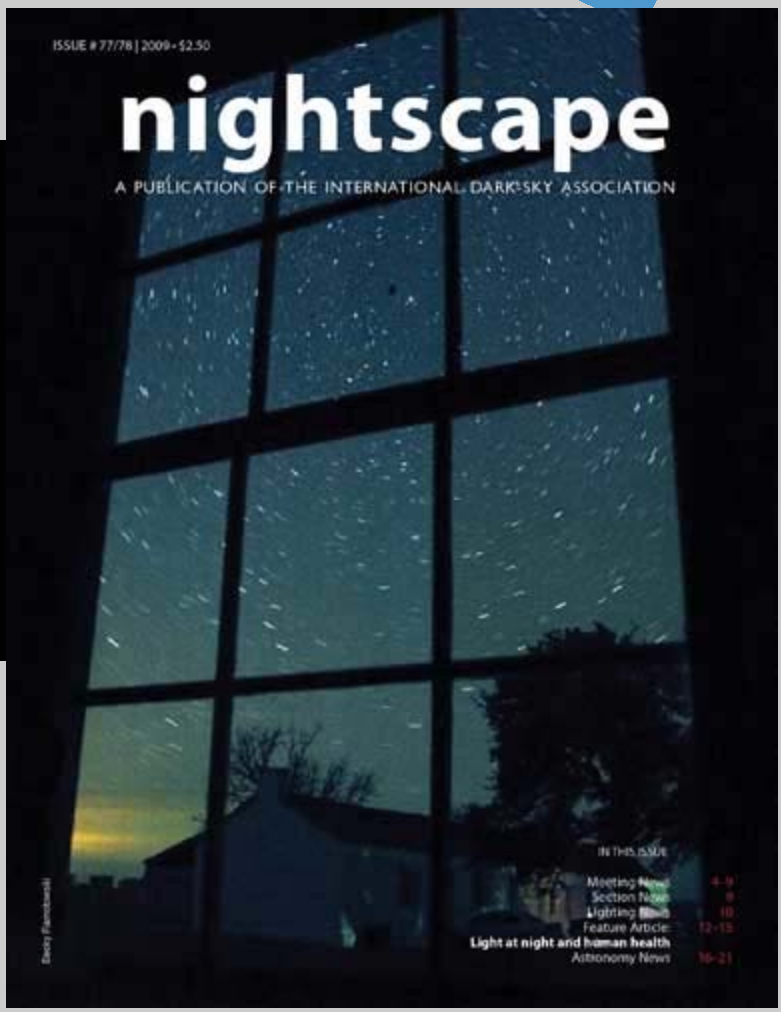


During the 2009 Albuquerque International Balloon Fiesta.

and you thought it was just a nursery rhyme…thanks Becky Ramotowski

From Becky Ramotowski...The Moon and Jupiter

Becky landed a magazine cover..way to go Beckster



SUNRISE AND SUNSET SCHEDULE FOR NOVEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 DST Ends Twi N: 5:42am Twi: 6:10am Sunrise: 6:35am Sunset: 5:35pm Twi: 6:00pm Twi N: 6:28pm Moonrise: 4:39pm Moonset: 5:24am	2 ○ Twi N: 5:42am Twi: 6:11am Sunrise: 6:35am Sunset: 5:34pm Twi: 5:59pm Twi N: 6:27pm Moonrise: 5:19pm Moonset: 6:27am Full Moon: 1:14pm	3 Twi N: 5:43am Twi: 6:11am Sunrise: 6:36am Sunset: 5:33pm Twi: 5:58pm Twi N: 6:26pm Moonrise: 6:06pm Moonset: 7:32am	4 Twi N: 5:44am Twi: 6:12am Sunrise: 6:37am Sunset: 5:33pm Twi: 5:57pm Twi N: 6:26pm Moonrise: 7:00pm Moonset: 8:38am	5 Twi N: 5:44am Twi: 6:13am Sunrise: 6:38am Sunset: 5:32pm Twi: 5:57pm Twi N: 6:25pm Moonrise: 8:01pm Moonset: 9:42am	6 Twi N: 5:45am Twi: 6:14am Sunrise: 6:38am Sunset: 5:31pm Twi: 5:56pm Twi N: 6:24pm Moonrise: 9:07pm Moonset: 10:41am	7 Twi N: 5:46am Twi: 6:14am Sunrise: 6:39am Sunset: 5:30pm Twi: 5:55pm Twi N: 6:24pm Moonrise: 10:15pm Moonset: 11:33am
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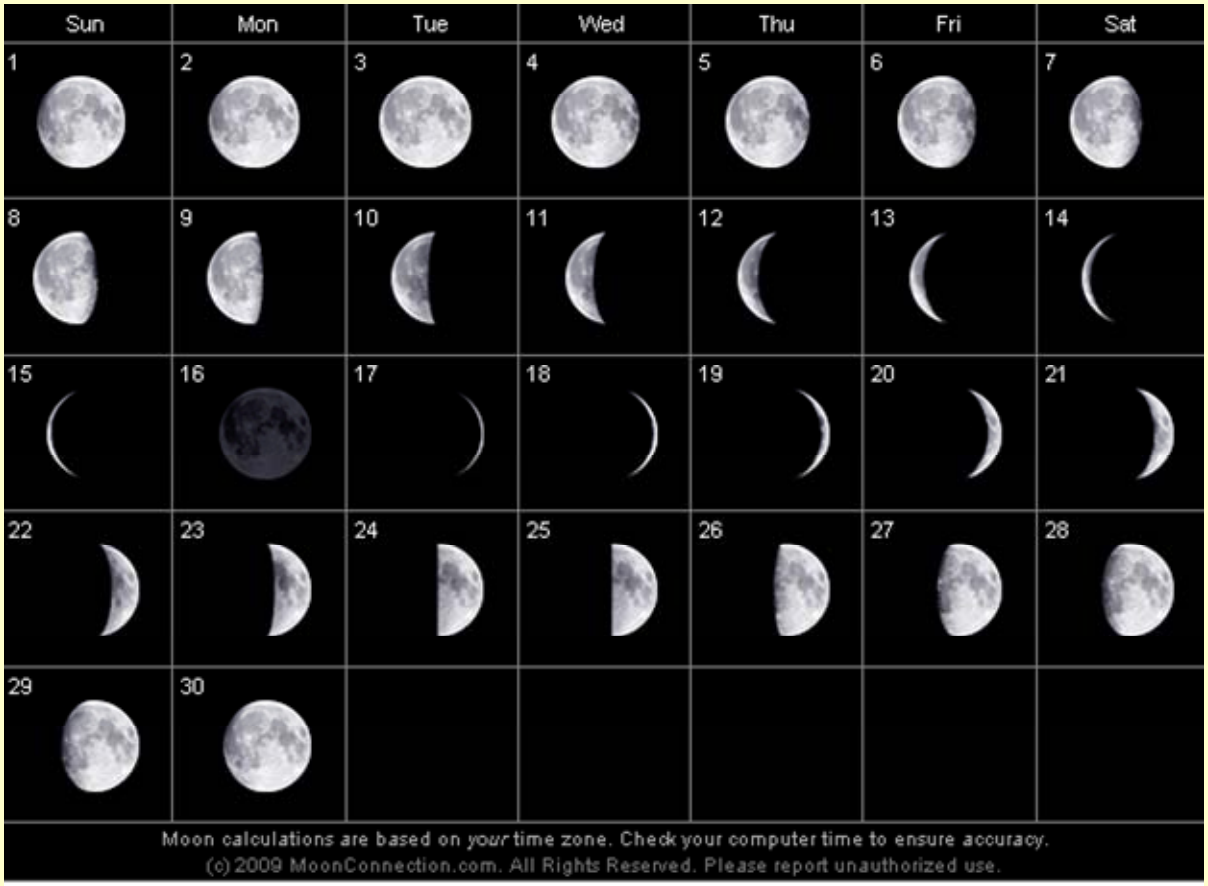
29 Twi N: 6:02am Twi: 6:31am Sunrise: 6:57am Sunset: 5:21pm Twi: 5:47pm Twi N: 6:17pm Moonrise: 3:11pm	30 Twi N: 6:03am Twi: 6:32am Sunrise: 6:58am Sunset: 5:21pm Twi: 5:47pm Twi N: 6:17pm Moonrise: 3:55pm					

PHASES OF THE MOON FOR THE MONTH OF NOVEMBER



Folks:
In times past, people that have wanted to take advantage of the club discount have had to write their check, put it in with the renewal slip, and then either mail it to me at my home or chase me down at a meeting. In most cases, within a week, I have sent out the renewal. Sometimes, and I don't really mind, the renewals have gone out at my expense for the postage. Without hesitation, question, or fail, it is not the most efficient means to maintain club subscriptions. So as secretary, I'd like to try something new...

You get all your stuff ready for the subscription, whether it be Astronomy or Sky & Telescope, you keep it - you hang on to it. Email (most reliable) or tell me when you see me that you want to take advantage of the club discount for either or both of these publications and that you need a supporting letter. What I'll do is get the letter together and email the "letter from the treasurer/secretary" back to you as a PDF. You print it off, and enclose it with your renewal. For this to work your computer must have Adobe Reader (which is free) and a means to print it. I would like this procedure to become the "Standard Operating Procedure" for Astronomy/ S&T discounts through JSCAS. For those still not in the computer age, we can process things as we have in the past.

Clear skies,
David Haviland

NEED A NEW CLUB SHIRT?

CONNIE'S CREATIVE DESIGN
FOR YOUR MONOGRAM NEEDS

FOR CLUB CLOTHING, HATS, APRONS, TOTE BAGS OR ANYTHING ELSE

CONTACT CONNIE AT:
conniescreativedesign@gmail.com

Webpage is under construction, but will be up soon and I take PayPal as well.

ACTUAL PICTURES OF WHAT I HAVE DONE BOTH LIGHT AND DARK BACKGROUNDS

REMEMBER, CHRISTMAS IS RIGHT AROUND THE CORNER!!!!!
****

WE DID A PRESENTATION FOR JUNCTION ELEMENTARY WHILE AT THE FORT

David Haviland, Bob Taylor, Ken Lester, Ken Steele, Aldora Louw John Cavuoti and Lisa Lester (photographers) Connie Haviland (editor and support)

Light pollution:

Any adverse effect of artificial light including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste.

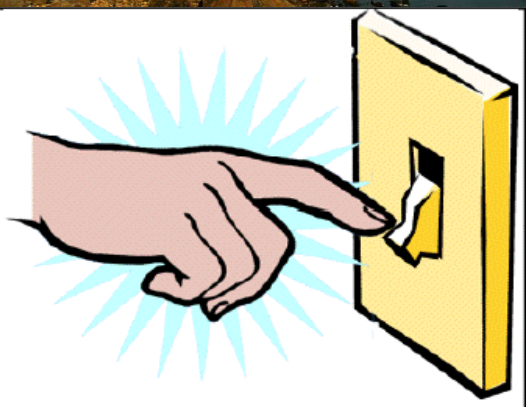
.Do you have a question about light pollution, protecting the night sky, or IDA's resources? **Get Help from IDA** http://www.darksky.org/mc/page.do?sitePageId=56399

Photograph © Phil Hart

IDA
THE LIGHT POLLUTION AUTHORITY

Help turn off the lights...

Join the
International Dark-Sky Association (IDA)
http://www.darksky.org
"To preserve and protect the nighttime environment and our heritage of dark skies through quality outdoor lighting."



Houston Area Astronomy Clubs

Brazosport Astronomy Club
Meets the Third Tuesday of the month, 7:45p.m.
At the Planetarium
400 College Drive
Clute, Texas (For more information, contact Judi James at the Planetarium 979-265-3376)

Fort Bend Astronomy Club http://www.fbac.org
Meets the third Friday of the month, 7:00 p.m.
Houston Community College Southwest Campus—Main Lecture Hall
10141 Cash Rd
Stafford, Texas 77477

Houston Astronomical Society http://spacibm.rice/edu/~has
Meets the first Friday of the month, 8:00 p.m.
University of Houston, University Park
Science and Research Building, Room 117

North Houston Astronomy Club http://www.astronomyclub.org
Meets the fourth Friday of the month, 7:30 p.m.
In the Teaching Theatre at Kingwood College
20000 Kingwood Drive
Kingwood, Texas

Galveston Stargazers
Meets the first Wednesday of the month At Home Cut Donuts, 6807 Stewart Rd, Galveston, TX
From 7PM to 9PM.
Contact: Jim Gilliam at Jim.Gilliam@dars.state.tx.us or
At (409)795-3620, M - F, 8AM to 5PM

Starscan Submission Procedures

Original articles of some relation to astronomy will be accepted up to 6 p. m. (18:00 hrs) on the 25th of each month. THE most convenient way to submit articles or a Calendar of Events is by email and is preferred, but hard copies (CD, disk) are also accepted. All articles must include author's name and phone number. Also include any picture credits. Word, WordPerfect, and text files will be accepted. I have set up a special email account so that I can keep all of the Starscan articles, pictures, information, etc, separate from all of the other email I get. This makes is much easier to edit and set up the Starscan

Please send all submissions to:
conniesstarscanaccount@gmail.com

The author of individual articles bears all responsibility for publishing any e-mail addresses in the article on the World Wide Web

Johnson Space Center Astronomical Society

2008-Club Officers

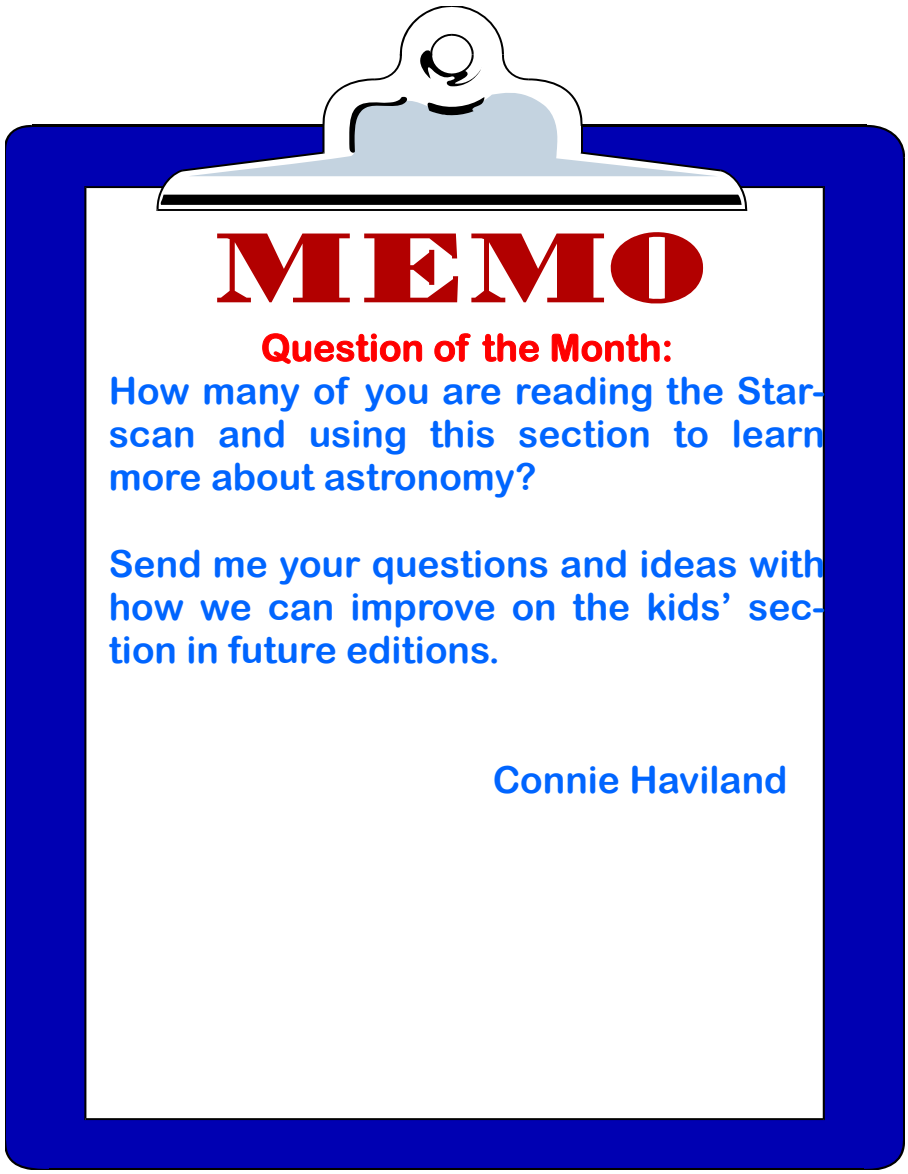
President – David Haviland
Vice President – Chris Randall
Secretary – David Haviland
Starscan Editor – Connie Haviland
Star Party Chairperson –
Librarian – Bob and Karen Taylor
Historian – Chris Randall
Scientific Expeditions – Paul Maley
Web Master—Chris Randall

SIGS

Observing Awards – Triple Nickel
Astronomy 101 — Triple Nickel
CCD Imaging – Al Kelly
Binocular Observing – "OPEN"
Telescope Making – Bob Taylor
Deep Sky Observing – Hernan Contreras

Astronomy and Kids

This is the section strictly for kids (or kids at heart). We will be including information, stories, ideas, puzzles or anything that has to do with astronomy. The only difference here is, it will be directed for children. We don't discourage parents or any other adult to get involved. In fact, we encourage it strongly. So we hope you enjoy this section and if it touches a child's interest in astronomy, our goal has been achieved. Enjoy!!



MEMO

Question of the Month:

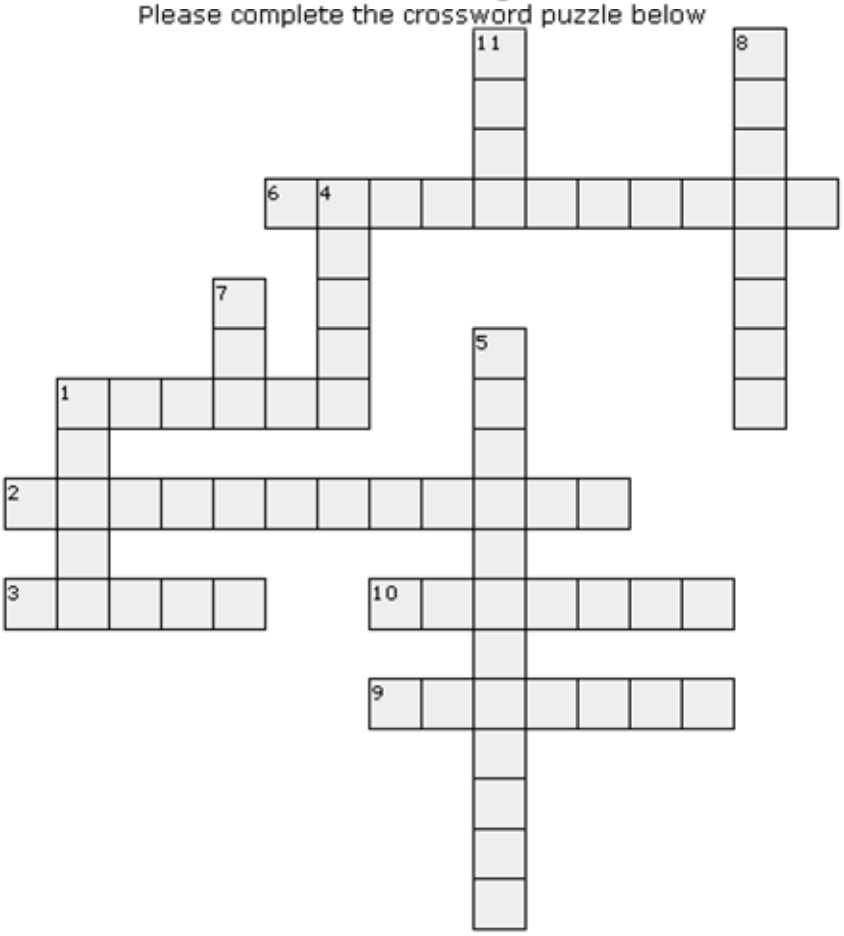
How many of you are reading the Starscan and using this section to learn more about astronomy?

Send me your questions and ideas with how we can improve on the kids' section in future editions.

Connie Haviland

The Solar System

Please complete the crossword puzzle below



Across:

1. a large body of rock or gas that orbits the earth
2. five planets farthest from the sun
3. large ball of ice and dust that orbits the sun
6. the sun and the objects that orbit around it
9. the force of one object's pull on another
10. largest planet

Down:

1. smallest planet
4. the path the object takes as it moves around another object in space
5. four planets closest to the sun
7. center of the solar system
8. chunk of rock or metal that orbits the sun
11. hot ball of glowing gases

CONSTELLATIONS IN THE AUTUMN

G R M C D Y U N B S G X Z C I O L Z K P X G J F D Y W Y U A
N C H E T D K E N H H L M L G L X N R I L S R P F I C Q H C
G O V J L J T H I B T Q G Z B E C Y S I S P V E I R O T E N
J A F I W A K O R Y P I S I S A G E P R E B O T C O U Z E X
J M H F S M D E A N R P F L U T D M O N O Q O O F H Y V G A
P B M U X G R D T Y N W Q H P U N N S H Y H R E T D R H U O
R R H N Q T E D U W J M U H J M N C J C P C X G V T A A Z N
T W F V Q M O F N U A U G M S E O H S Z E O Z M E J I L E H
U M E M O G H Y Q X T A D O U G I Y M Y R S H Z M E E X E J
T I G R F U G S O V M K J L N U T V G B S V P D P W Y N H F
F W D Z N Y X B F M R F G T G Q A X N G E T U O A E R E V S
C N Z Q N R T A A Z S I A L Y T L X B U U Z I T R H F O G D
A I G O L V V M X A W K M M C A L B O C S S U O G N L S G A
S B X F I K P M C C P Z P U H L E K K X S A M D A H H H G F
T U J H C N S G A F O F A C G C T K M A J L S H G E Q G E L
C B N S U R U A T O U G S P R D S X C M X P L F W G P I E F
R V K I O O E T C N B F C M U K N J Z O N H Q S U P B P K D
Q M V W R G T U S N V B U T K K O G M N O A U Y O I Y O T X
D C Z Y T T B O U I R X L W Y C C E Y S N M R M E T O W F I
R X D F R X S H I L N P P A L I U Q A P Z G X I R I Z R F Q
I H C R P B W U R O Y T T C L I Y N Z R Q A L X I N N Y T U
D J A E C T M E A I E P O I S S A C A T E M M G D Q C J G U
M E Y I P Y Y O U S X Y R A L K Q O L R R K U U A E D Z V M
A T W S T H F R Q B I H D S L Y C Z Y T H U L C N N L F B F
F C Y S W B E F A P H C Y X X Q E Y R Y Z J L F U J H T G D
I N E E U Q N U L G O Q S F W S B Z A O O G O W S B N K A W
K O T M Y S Y R S B E M K I A M U J V Z T G Z C W R B A E N
P O S E I D O N J Q Y L V Z P P M T U I V E D P N Z O C D X
R T S M P Z S W X I V G P E I W Z K E K O P Q U N T G B H F
H N L V T G V W Q P H O U H E C L Y S C L A S I V G J S B C

ALPHA
ANDROMEDA
AQUARIUS
AQUILA
BETA
CASSIOPEIA
CEPHEUS
CETUS
CONSTELLATIONS
CYGNUS
DELTA
ERIDANUS
ETACASSIOPEIAE
GAMMA
LYRA
MESSIER
OCTOBER
PEGASIS
PERSEUS
PISCIS AUSTRINUS
POSEIDON
QUEEN
SCULPTOR
TAURUS

AUTUMN SKY HIGHLIGHTS FOR CONSTELLATIONS

During the month of October and somewhat November evenings, look toward the north to see Ursa Major along the northern horizon. If you live south of 40º north latitude, you will see part, or maybe all of the Big Dipper, sinking out of sight, temporarily that is. You wil see thw "W" of Cassiopeia, called the Queen somewhat overhead and midway between these two *asterisms*(a star pattern formed from several stars in a constellation) lies the North Star, Polaris. Note: the height of Polaris above the northern horizon tells you the latitude for you location on earth.

Going part of the way up the northeastern sky, but below and to the right of Cassiopeia, you will find perseus and Auriga, rising. Turn your head to the western sky and you will see the Summer Triangle (Deneb, Vega and Altair) moving toward the horizon.

Now, turning to the south, Near the meridian, this is the centerline of the sky, lies the famous Great Square of Pegasus, the Winged Horse. This is the prim autumn constellation. Use this square as your guide to several other autumn constellations. You will see Andromeda, the daughter of Cassiopeia and Cepheus, the King. Some not so conspicuous constellations that you will see are Triangulum and Aries.

Southeast you will find Aquarius and east of there is Cetus, know as the Whale. Note the locations are using Pegasus to find these other constellations. Southwest is Capricornus, the Sea-Goat, under the western side you will see Fomalhaut, the brightest light in Piscis Austrinus, the Southern Fish.

Toward midnight Auriga and Taurus appear in the northeast, Orion is rising above the eastern horizon and then the winter sky starts coming back. We are saying goodbye to the autumn sky that included Bootes, Sagitta and Vulpecula, Aquila and Scutum, even my favorite Sagittarius.

79

HERE IS A STAR CHART FOR THE TIME FRAME OF EARLY SEPTEMBER TO LATE NOVEMBER 7pm

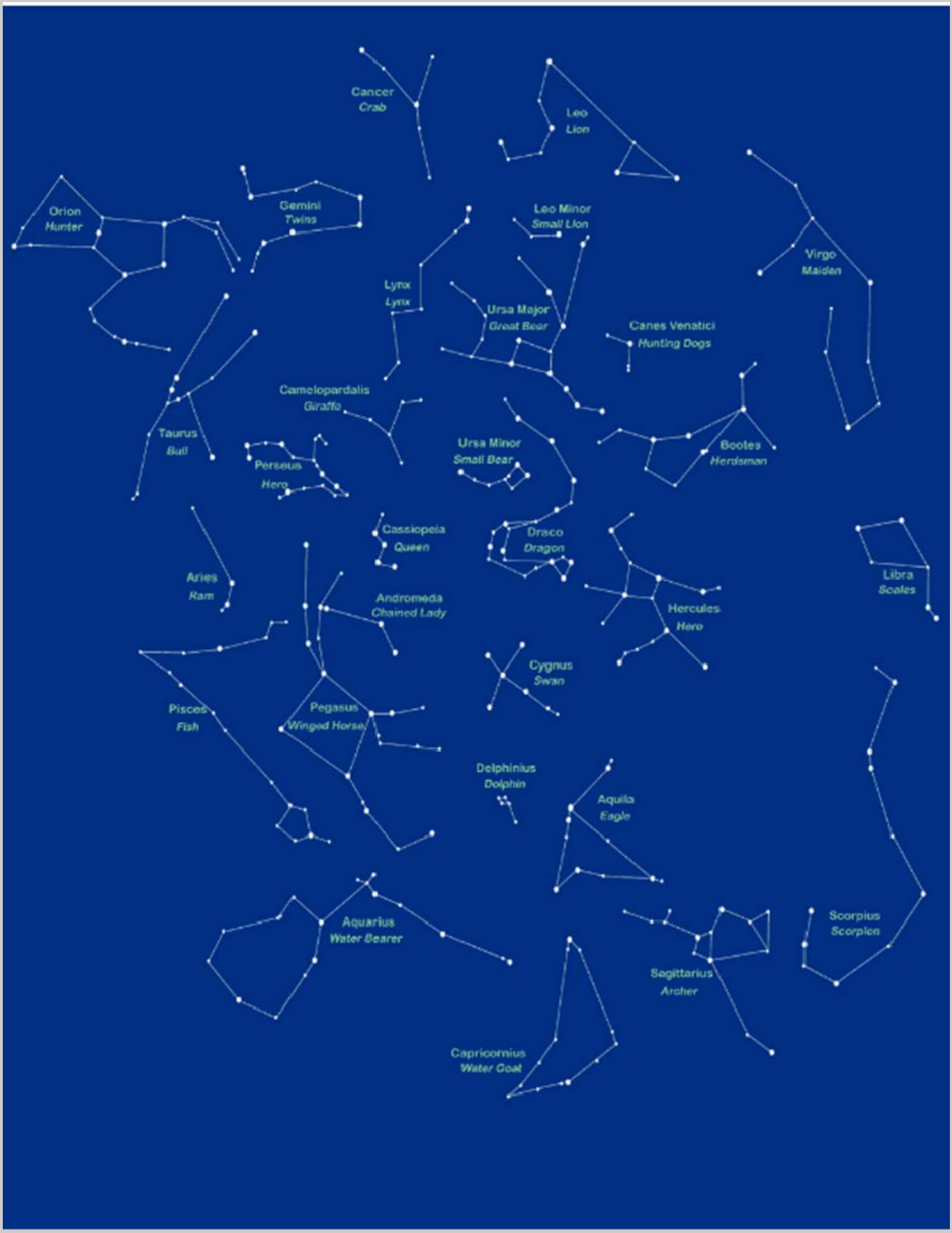
Cassiopeia

The Queen, located in the northern Milky Way is a five-star asterism that forms a "W" or "M" pending on how you look at her. This constellation sits opposite of the Big Dipper, where both are 30º from the North Star, Polaris. This is Cassiopeia and when the Big Dipper gets near the northern horizon, Cassiopeia is at its highest point in the sky.

It's 3 brightest stars are β (Beta) at the western tip of the "W", (a yellow giant that is 28 times more luminous than our sun). There is ά (Alpha) to its east and is an orange giant with more than 800 times the sun's brightness) The 3rd star is γ(Gamma), which is the middle star of the five, it is a blue star and they say it is the prototype of a bariable start that ejects gas at intervals that cannot be predicted. I don't want to forget ή (Eta Cassiopeiae). This is a double star and can be seen in smaller scopes. It consists of a yellow star, similar to our sun and a reddish orange star. This binary system is about 5 centuries old.There is also δ (Delta) and an open cluster, M103.

Cassiopeia is from Greek Mythology and was a very vain Queen of Ethiopia, wife of Cepheus and mother of Andromeda. She felt that she was more beautiful than the sea nymph and when Poseidon heard this, he bound Andromeda to a rock for the monster Cetus and the gods placed Cassiopeia in the far northern sky where you will see her several months out of the year, "clinging to her throne, upside down. Something you would never think of for a "Queen".

LEARN YOUR CONSTELLATIONS



Snoopy says, never stop looking up..reach for the stars and may you always have clear skies!!!!