



Starscan

Johnson Space Center
Astronomical Society

Volume 26, Number 10 October 2010

October trip to Fort McKavett



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Un mensaje del Presidente (A message from the President)

Greetings:

OK Folks... I am very happy to get this issue out ON TIME! — and well before the trip to the Fort. There is info in here about the Fort, mainly policies that I would like everyone to review.

Chris Randall kindly announced it but Connie and I had the pleasure of being interviewed by Clayton Jeter for the HAS Guidestar. For those interested, our interviews appeared in the October 2010 issue (Guidestar, not the Starscan!).

Up this month is our trip to Fort McKavett. I can't wait to chill and get out there for some much needed star gazing. But again don't hold your breath... The very next weekend is the All Clubs (Oct 15th) and ADAY (Oct 16th). Remember, the All Clubs meeting at the HCC Downtown campus as in year's past and on Saturday, is Astronomy Day at the George. **VOLUNTEERS ARE NEEDED** to help man the club table and anything else including deck scopes and talks.

Hope to see you at the Fort and at ADAY.



David Haviland

LETTER FROM THE EDITOR By Connie Haviland

Hi everyone!!

Nothing has changed. I will be back either November or December with new things for the kids section and Dave and myself doing the Starscan. Until next month....

Hope you have clear skies,

Connie Haviland

LETTER TO THE EDITOR

Folks need to volunteer and tell us what they are bringing to the Fort for food on Friday!



Star Parties for 2010

Bob Taylor

Oct 7-10th Fort McKavett!!!

Oct 15th – All Clubs Meeting

Oct 16th – Astronomy Day at the George Observatory

November 20th, 7p.m. LPI—Jupiter



Need volunteers

What's Happening at the George!!!



Saturday Public Observing – All times are dusk to 11:00 p.m..Please contact the following building manager teams to volunteer:

Oct 2nd Building Managers - Justin McCollum (mccollumjii@gmail.com) / Tracy Knauss (birdbarn2000@yahoo.com)

Oct 9th Building Managers - Jack McKaye (jemckaye@comcast.net) / Justin McCollum (mccollumjii@gmail.com)

Oct 16th Building Managers - Tracy Knauss (birdbarn2000@yahoo.com) / Keith Rivich (jcgalaxies@cs.com)

Oct 23rd Building Managers - Joe Mills (k5jmm@yahoo.com) / Mary Lockwood (mplockwood@att.net)

Oct 30th Building Managers - Mary Lockwood (mplockwood@att.net) / Jessica Kingsley (gnjkingsley@att.net)



October 16th 10-1pm, Constellations.

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





**BE
INSPIRED**

**BE
CREATIVE**

**BE
HEARD**

Announcing the Opening of
**The Humans in Space Symposium
International Youth Art Competition**

What is the future of human space exploration
and *why* is it important?

Witness, shape and participate in the
"Next Golden Age of Human Space Flight"

Who: 10-17 year olds anywhere in the world

How: Express yourself through:

- Visual Art
- Literary Art
- Musical Composition
- Video Art

When: Submit your musical composition entry by October 13, 2010 and your visual, literary, and video entry by November 1, 2010.

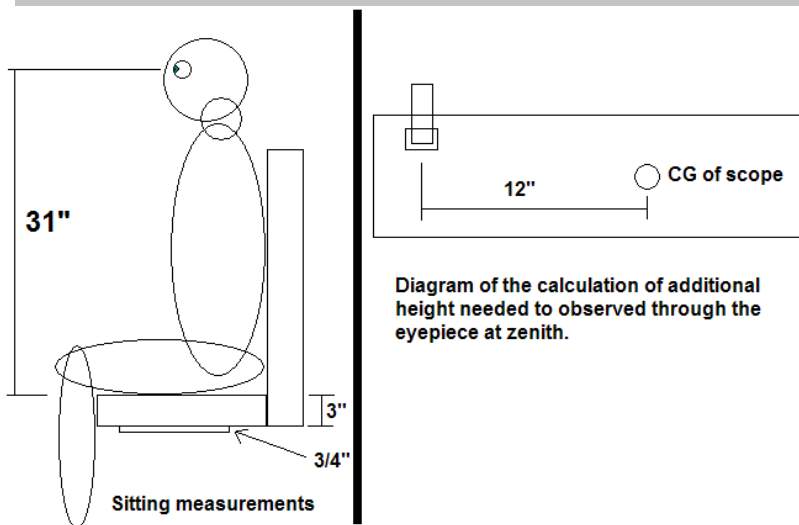
Why: Win and have your art displayed in the Online Gallery and at the April 2011 Humans in Space Symposium in Houston, Texas. Show current human space exploration leaders, including astronauts and scientists, what you have to say!

Visit www.humansinspaceart.org to enter and submit your art!
[Direct website address is: <http://www.dsis.usra.edu/meetings/IAA/artContest/>]

Measurements? Who needs stinkin' measurements?

Ideally, a well designed astronomer's stool (or chair) would allow the observer to comfortably view through the telescope when the target object is near the horizon, or approaching zenith. Obviously, the type of telescope you use and the height of the supporting tripod or pier also play a large role. The determination of the total height of the combination of my upper body and the stool to view through the eyepiece was perhaps the most challenging facet of the entire project. John and I spent a considerable amount of time sketching diagrams, taking measurements, comparing back to Rod Nabholz's original design, and sometimes just plain guessing. Part of my problem lies in the fact that I don't own the tripod that I am targeting for an eventual purchase down the road – a computerized Celestron CGEM. Surprisingly enough, there is no mention of that tripod's height (legs NOT extended) anywhere on Celestron's website, or anywhere else that I could find. So with that caveat in mind, we took a measurement of John's Celestron CPC tripod and used that as a rough guesstimate (30"). We thought this would be a reasonable estimate since I doubt I would ever extend my tripod's legs out fully for observing. We then tacked on 10 inches for an approximation of the height of the mount.

Since my telescope is a Newtonian, I have to account for a rather wide difference in eyepiece height between a near horizontal view and one near zenith. To arrive at a semi-accurate measurement of this additional height, we balanced out the telescope and found a center of gravity, and then found the distance from the center of gravity through a vertical through the center of an eyepiece. This would account for the scope's portion of total height while viewing at zenith. Now we made the 'personal' measurement that is pretty much unique to each astronomer – your upper body length. This is taken by sitting in a chair and assuming a comfortable (or your typical) posture and measuring from where your posterior rests on the seat to the center of your eye level. All of us can slouch, and similarly, we can sit very erect, so there is some variability possible (for me, it's a little over 4 inches without much strain) to help account for less than a perfect height when viewing. The sketch below gives an idea of our two measuring schemes.



He who builds his own pedestal had better use strong materials

To partially offset the total needed height, the minimum size of the stool's 'pedestal' needed to be increased over that of Rob's original design. Back calculating out the other measurements, John and I found that the minimum height to the top of the seat (integrated – seat cushion, support piece of wood, two floor flanges, and the pedestal of the stool) needed to be about 25 inches (as it turned out, we ended up at 26" at the highest spot with the seat cushion uncompressed). This is only half of the final design measurement. Owing to the fact that the pipe is the total adjustable height feature of the stool, it has to also be sized to accommodate viewing near zenith. This complicated things, but just a little. The

previously determined total height to view through the eyepiece at zenith MINUS my upper body height and all the fixed height items provided a maximum length needed for the pipe. Obviously, the length of the pipe is the easiest thing to change to allow for a larger future combination tripod, mount and telescope, but it also changes the minimum viewing height and the overall stability of the stool when it is extended to full height. The stability of the stool will be addressed later, but realize here that how snugly the support pipe rides in the pedestal is ultimately the prime preventer of slop or play in seat movement, both of which you want to avoid. The neck of the pedestal needs to be a minimum of 6 inches in length. This neck length certainly factors in for the final needed length of the pipe, and equally important the final length of the pedestal. John and I decided that for my needs the pedestal needed to be 19 inches tall, with the internal pipe being a total of $19 \frac{3}{4}$ inches including the threaded end. The near difference of the height of the pedestal and the pipe is completely offset by the threads seating into the pipe flange, and the two pipe flanges proper. A side view of the partially assembled pedestal column is shown below:



Two points of construction of the stool are critical. One is the seat attachment, which I will cover later, and the other is the creation of the pedestal column. In the simplest description, the pedestal column is 4 pieces of wood that are joined together to form a sleeve around the pipe that supports the chair. In the final design, this sleeve has extensions sticking off to the sides to create a larger footprint

and holes drilled through it for pin placement that regulates the height of the bottom of the pipe. The pedestal needs to be the strongest designed portion of the stool. After a few checks to confirm no noticeable pipe bend over its length and uniform outer pipe diameter, we used Rob's layout as a template for our design. As shown in the following picture, each individual piece of wood provided a place for the pipe to rest against and two surface areas for the next pieces of wood to attach. I can't convey strongly enough how important it is to make absolutely sure that the four pieces of wood making the pedestal form a tight collar around the pipe. This was truly a two person job and the use of locking clamps helped to facilitate this particular step. When the four pieces of wood are held together, and the unit is placed on end on a level surface, you actually want it tight enough that it is snug and difficult (but not impossible) to slide the pipe up and down inside the pedestal. You will also get a first indication of the amount of terminal (seat end) play or movement if you slide the pipe to the normal maximally extended spot. This is the time to get it right. John and I micro ripped the boards lengthwise time and time again until we were sure we had the correct fit.



After assuring we were content with the pedestal column's interlocking fit with the integrated pipe, all edges of the wood were gently sanded. The column was then assembled with the pipe in place. Pilot holes were drilled for all screws a drill size diameter under the root diameter of the 3" wood screws. For our efforts, the Y-axis was extremely snug, and we found that the X-axis has play in it less than the width of a quarter. After we attached the 1" floor pipe flange to the top of the pedestal column (see picture below), even more of the lateral play was removed. All in all we were very happy with the result and the fully assembled stool does not have an uncomfortable amount of 'looseness' to it when extended to the maximum height.



Next Month: I will cover the seat attachment site on the underside of the chair and the construction of the armrests.

Don't forget: All Clubs meeting at the HCC on Oct 15th and ADAY on October 16th from 3-10:30 at the George Observatory at Brazos Bend State Park!!!

Contact Cynthia Gustava at cynm31@att.net for any questions and volunteering!!!

Folks:

As a gentle reminder for those going to the Fort. Remember that over the Netslyder and at September's meeting we had discussed what to do for Saturday lunch. We elected to have our own BBQ at noon on Saturday. We are doing this **IN ADDITION** to the pot luck on Friday night.

Menard is about 25 miles away and has some amenities in the way of restaurants. Many club members cook and have been more than delighted to share.—just be friendly! The trading post that many of us know about at the fort is closed so that makes Menard the nearest place for ice. Coordinate with your bunkmates and fellow campers so the lot of us aren't going for the same trip.

Anyone wanting to go must contact: "Lisa Lester" lisa@riverofstars.net

A very basic schedule as to how to plan your meals is below in the table. Bring what you like to eat, read, and do... during the day, you are also on vacation!



| | Thursday | Friday | Saturday | Sunday |
|-----------|---|---|-------------------------------|---------------------|
| Breakfast | On your own as you travel to the Fort. | On your own | On your own | On your own |
| Lunch | On your own as you travel to the Fort. | On your own | JSCAS BBQ and cook-off | Travel back home... |
| Dinner | On your own—but some do head to local restaurants in Menard that night. | JSCAS Pot Luck—please state on netslyder what would like to bring. | On your own | Travel back home... |

(Continued....)

Also... recall that Fort McKavett is also under the auspices of the Texas Historical Commission who happen to have a fairly tight policy with alcohol. It doesn't mean we can't bring any of our favorite beverages but the word is MODERATION and DESCRETION.

As such we are responsible for our own "empties" and we are NOT to burden the receptacles at the Fort with our empties. Keep them in your car, hidden from view, in your trailer, and dispose of them off site. Also, no one can be on the field that has imbibed too much—hopefully that is obvious. No kegs or "rita" machines need be brought.

The same applies for pets. Our wonderful four legged friends are welcome but must be leashed and contained during their stay. You MUST pick up after pooch at all times as well and UNDER NO CIRCUMSTANCES are pets allowed on the observation field after dark.

The Evolution of an Observatory

By Becky Ramotowski, assembled and noted by the editor...

Editors note: When Becky Ramotowski posts things to her blog, I can't help but hit the link. Some of the stuff she has is truly amazing and often works of art. It varies day to day and often well worth hitting the link. In particular I was very entertained with the thread of their efforts to get their observatory foundation poured and the observatory set up. So, with permission, I extracted the needed photos, and adjoining comments and assembled the following. The captions on the first two pictures are of my doing (responsibility) and the rest extracted from Becky's blog.



In the beginning, there was an open space with a good view of the sky, a man, and a shovel...

And man saw that the hole was good enough to be the foundation for the pier to a telescope...



more digging for the observatory

Friday, September 11th, 2009

Observatory building is a slow process....especially when rain interrupts the digging schedule. It's been over a week since the last shovel of dirt was turned because it's been raining every afternoon.

The dirt here is very clingy and gets really sticky when it's wet. The progress so far is above. The final digging will show about a 2.5 feet deep footer for the slab that will support the walls. Since the property has a gentle slope to it, the sticks serve as leveling helpers.



done digging...

Saturday, November 7th, 2009

the digging is done, and the forms are finished! Yipeee!

Next— a four inch layer of gravel in the bottom for drainage, then concrete. Finally, the observatory walls and dome will complete this months long project.

The image on the left shows the four foot deep “footer” surrounding the center plug for the pier. The forms are masonite, and let me tell you, it is a bugger to wrestle. (Soon, we will be astronomers that stare at Capricornus!)



The Big Pour!

Wednesday, May 26th, 2010

After waiting for six months, we made the final pour today for the observatory! Weather, freezing temps, and snow delayed our dream from happening last year, but today was a perfect day for pouring so we did! Our ace concrete dude, David was a magician. This guy really knew his stuff and didn't spill a drop of concrete. Check out those nice forms! Shane & I spent most of Sunday re-building and leveling them. We had to re-build part of them because they warped under this past Winter's snow load!

Our



original pour date was before Thanksgiving last year but the weather skunked us big time!

David, up to his boot tops in concrete. Where he's walking is about 12-14 inches deep. The outer edge is about three foot deep.

You DON'T want to step there!



Wednesday, May 26th, 2010

David pushes some flashing around the center that will eventually come out. It's just a cover for the pier mount. I'll post pix of it later this week after the cement cures a few days so you can see the mounting base!



Wednesday, May 26th, 2010

Here's what the floor looks like with the forms pulled away. We started at 7 a.m. and wrapped this phase up around 2 PM. It was a busy morning!

This doesn't look that big in this photo, but it's 9'9" in diameter! We'll move the observatory on top of it in a few weeks, drill some holes to fasten it to the floor, install a pier, a telescope and then I'm spending my summer out here!!!!



some more pix of the observatory floor...

Saturday, May 29th, 2010

We pulled the plug away from the center bolts where the pier mount will go. This part is not attached to the surrounding floor so no vibrations should be interfering with the telescope when we make photos. This is an important feature and one that many amateur astronomers battle with when they have an observatory.



Glued to the cement, next the anchor bolts

Wednesday, June 16th, 2010

Not that this thing is going anywhere....but it gets anchor bolts tomorrow and the welder is working on the pier which should be complete sometime this weekend. Life is pretty good at Casa Ramotowski!



the pier that goes inside

Friday, June 25th, 2010

Finally, the pier is ready! The welder fantastic job.

It's 8 inch diameter schedule 40 pipe 52 inches tall. It will get painted then stalled inside the dome. Can't wait!



did a
that's
in-



the pier is installed!

Sunday, June 27th, 2010

We picked up the pier from the welder on Friday and painted and installed it this weekend!

We're getting real close to having first light in here. You can see the burn marks along the walls where the lightning ran when it struck it last year.

We'll probably paint over all that, but it's just a cosmetic thing and nothing critical to function. We still need to install some cushiony tile on the floor so a dropped eyepiece won't shatter if we drop one.

never mind the monsoons....we have first light!

Saturday, July 3rd, 2010

that just about sums it up!

~~~~ The End ~~~~





# ADAY/ALL Clubs Meeting.

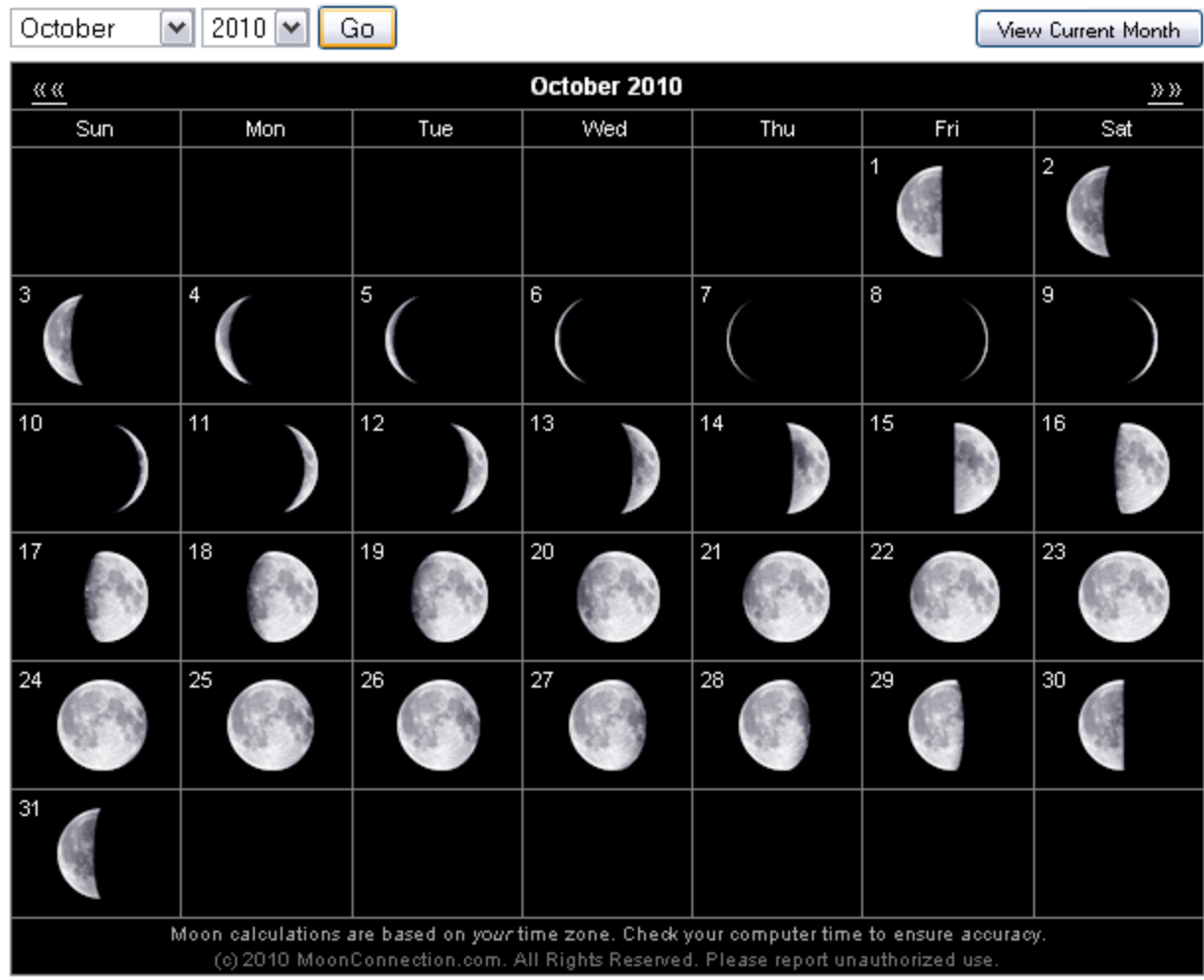
The All Clubs Meeting is a “GO”... set your calendars for October 15th Friday at the HCC downtown main auditorium. 3100 Main Street, Houston, TX. Meet, greet, and eat 7pm. Meeting at 8pm, ends 10pm. Speaker is Dr. David Talent. Contact Aaron Clevenson for any questions: [aaron@clevenson.org](mailto:aaron@clevenson.org)

Astronomy Day is Saturday October 16th at Brazos Bend State Park, George Observatory starting at 3pm ~ 10:30pm. Please check the new ADAY site for more information:  
[www.astronomyday.info](http://www.astronomyday.info)

We need volunteers to help man the club table from 4pm on through 9 pm and if you are interested in running a deck scope you MUST contact Cynthia to put you in contact with the person coordinating the deck scopes: [cynm31@att.net](mailto:cynm31@att.net)



# PHASES OF THE MOON FOR THE MONTH OF OCTOBER -2010



# SUNRISE AND SUNSET SCHEDULE FOR

## OCTOBER -2010

October 2010

Houston, Texas

| Sunday                                                                                                              | Monday                                                                                                              | Tuesday                                                                                                              | Wednesday                                                                                                            | Thursday                                                                                                                               | Friday                                                                                                                                  | Saturday                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                     |                                                                                                                     |                                                                                                                      |                                                                                                                      |                                                                                                                                        | 1<br>Twil A: 5:55am<br>Sunrise: 7:14am<br>Sunset: 7:08pm<br>Twil A: 8:27pm<br>Moonrise: 12:25am<br>Moonset: 2:44pm                      | 2<br>Twil A: 5:55am<br>Sunrise: 7:15am<br>Sunset: 7:07pm<br>Twil A: 8:26pm<br>Moonrise: 1:29am<br>Moonset: 3:30pm                       |
| 3<br>Twil A: 5:56am<br>Sunrise: 7:15am<br>Sunset: 7:05pm<br>Twil A: 8:25pm<br>Moonrise: 2:35am<br>Moonset: 4:11pm   | 4<br>Twil A: 5:57am<br>Sunrise: 7:16am<br>Sunset: 7:04pm<br>Twil A: 8:23pm<br>Moonrise: 3:43am<br>Moonset: 4:50pm   | 5<br>Twil A: 5:57am<br>Sunrise: 7:16am<br>Sunset: 7:03pm<br>Twil A: 8:22pm<br>Moonrise: 4:50am<br>Moonset: 5:28pm    | 6<br>Twil A: 5:58am<br>Sunrise: 7:17am<br>Sunset: 7:02pm<br>Twil A: 8:21pm<br>Moonrise: 5:58am<br>Moonset: 6:05pm    | 7<br>Twil A: 5:58am<br>Sunrise: 7:18am<br>Sunset: 7:01pm<br>Twil A: 8:20pm<br>Moonrise: 7:07am<br>Moonset: 6:45pm<br>New Moon: 12:46pm | 8<br>Twil A: 5:59am<br>Sunrise: 7:18am<br>Sunset: 6:59pm<br>Twil A: 8:19pm<br>Moonrise: 8:16am<br>Moonset: 7:27pm                       | 9<br>Twil A: 6:00am<br>Sunrise: 7:19am<br>Sunset: 6:58pm<br>Twil A: 8:18pm<br>Moonrise: 9:24am<br>Moonset: 8:12pm                       |
| 10<br>Twil A: 6:00am<br>Sunrise: 7:19am<br>Sunset: 6:57pm<br>Twil A: 8:16pm<br>Moonrise: 10:32am<br>Moonset: 9:03pm | 11<br>Twil A: 6:01am<br>Sunrise: 7:20am<br>Sunset: 6:56pm<br>Twil A: 8:15pm<br>Moonrise: 11:35am<br>Moonset: 9:57pm | 12<br>Twil A: 6:01am<br>Sunrise: 7:21am<br>Sunset: 6:55pm<br>Twil A: 8:14pm<br>Moonrise: 12:32pm<br>Moonset: 10:54pm | 13<br>Twil A: 6:02am<br>Sunrise: 7:21am<br>Sunset: 6:54pm<br>Twil A: 8:13pm<br>Moonrise: 1:23pm<br>Moonset: 11:53pm  | 14<br>Twil A: 6:02am<br>Sunrise: 7:22am<br>Sunset: 6:53pm<br>Twil A: 8:12pm<br>Moonrise: 2:06pm<br>Moonset: none<br>First Qtr: 3:28pm  | 15<br>Twil A: 6:03am<br>Sunrise: 7:23am<br>Sunset: 6:52pm<br>Twil A: 8:11pm<br>Moonrise: 2:45pm<br>Moonset: 12:50am                     | 16<br>Twil A: 6:04am<br>Sunrise: 7:23am<br>Sunset: 6:50pm<br>Twil A: 8:10pm<br>Moonrise: 3:18pm<br>Moonset: 1:46am                      |
| 17<br>Twil A: 6:04am<br>Sunrise: 7:24am<br>Sunset: 6:49pm<br>Twil A: 8:09pm<br>Moonrise: 3:49pm<br>Moonset: 2:40am  | 18<br>Twil A: 6:05am<br>Sunrise: 7:24am<br>Sunset: 6:48pm<br>Twil A: 8:08pm<br>Moonrise: 4:18pm<br>Moonset: 3:32am  | 19<br>Twil A: 6:05am<br>Sunrise: 7:25am<br>Sunset: 6:47pm<br>Twil A: 8:07pm<br>Moonrise: 4:47pm<br>Moonset: 4:24am   | 20<br>Twil A: 6:06am<br>Sunrise: 7:26am<br>Sunset: 6:46pm<br>Twil A: 8:06pm<br>Moonrise: 5:16pm<br>Moonset: 5:17am   | 21<br>Twil A: 6:07am<br>Sunrise: 7:26am<br>Sunset: 6:45pm<br>Twil A: 8:05pm<br>Moonrise: 5:46pm<br>Moonset: 6:10am                     | 22<br>Twil A: 6:07am<br>Sunrise: 7:27am<br>Sunset: 6:44pm<br>Twil A: 8:04pm<br>Moonrise: 6:19pm<br>Moonset: 7:05am<br>Full Moon: 7:37pm | 23<br>Twil A: 6:08am<br>Sunrise: 7:28am<br>Sunset: 6:43pm<br>Twil A: 8:03pm<br>Moonrise: 6:56pm<br>Moonset: 8:01am                      |
| 24<br>Twil A: 6:09am<br>Sunrise: 7:29am<br>Sunset: 6:42pm<br>Twil A: 8:02pm<br>Moonrise: 7:38pm<br>Moonset: 8:59am  | 25<br>Twil A: 6:09am<br>Sunrise: 7:29am<br>Sunset: 6:41pm<br>Twil A: 8:01pm<br>Moonrise: 8:26pm<br>Moonset: 9:58am  | 26<br>Twil A: 6:10am<br>Sunrise: 7:30am<br>Sunset: 6:40pm<br>Twil A: 8:01pm<br>Moonrise: 9:20pm<br>Moonset: 10:55am  | 27<br>Twil A: 6:10am<br>Sunrise: 7:31am<br>Sunset: 6:39pm<br>Twil A: 8:00pm<br>Moonrise: 10:19pm<br>Moonset: 11:50am | 28<br>Twil A: 6:11am<br>Sunrise: 7:31am<br>Sunset: 6:39pm<br>Twil A: 7:59pm<br>Moonrise: 11:21pm<br>Moonset: 12:41pm                   | 29<br>Twil A: 6:12am<br>Sunrise: 7:32am<br>Sunset: 6:38pm<br>Twil A: 7:58pm<br>Moonrise: none<br>Moonset: 1:27pm                        | 30<br>Twil A: 6:12am<br>Sunrise: 7:33am<br>Sunset: 6:37pm<br>Twil A: 7:57pm<br>Moonrise: 12:26am<br>Moonset: 2:08pm<br>Last Qtr: 6:46am |
| 31<br>Twil A: 6:13am<br>Sunrise: 7:34am<br>Sunset: 6:36pm<br>Twil A: 7:57pm<br>Moonrise: 1:31am<br>Moonset: 2:47pm  |                                                                                                                     |                                                                                                                      |                                                                                                                      |                                                                                                                                        |                                                                                                                                         |                                                                                                                                         |

Daylight Saving/Summer Time is in effect for the entire month.

Courtesy of [www.sunrisesunset.com](http://www.sunrisesunset.com)

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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**

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BAGS OR ANYTHING ELSE**

CONTACT CONNIE AT:  
[conniescreativdesign@gmail.com](mailto:conniescreativdesign@gmail.com)

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



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WHAT I HAVE DONE  
BOTH LIGHT  
AND DARK  
BACKGROUNDS

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- Custom fabrication
- Schmidt Cassegrain Telescope specialist



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service**



*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](#)

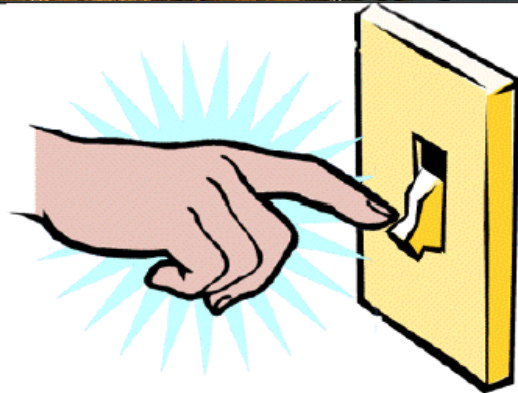


## Help turn off the lights...

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."



### 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](mailto:Jim.Gilliam@dars.state.tx.us) or

At (409)795-3620, M - F, 8AM to 5PM

**Houston**

**Area**

**Astronomy**

**Clubs**

## 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 it much easier to edit and set up the Starscan

Please send all submissions to:  
[conniesstarscanaccount@gmail.com](mailto: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*

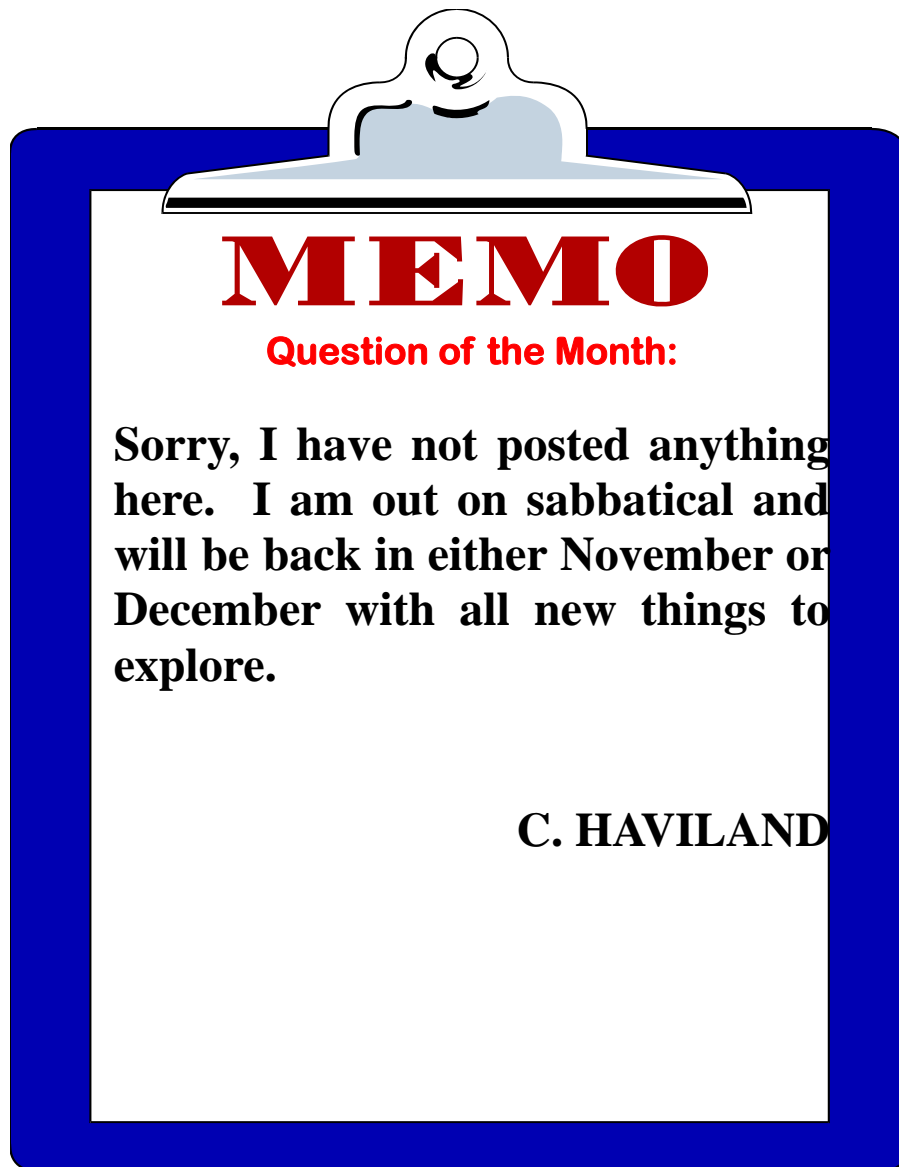
WHO SAID ASTRONOMERS DO NOT HAVE A SENSE OF HUMOR?



Dr. McWit ponders the Big Bag theory  
for Creation of the Universe.

# Astronomy and Kids

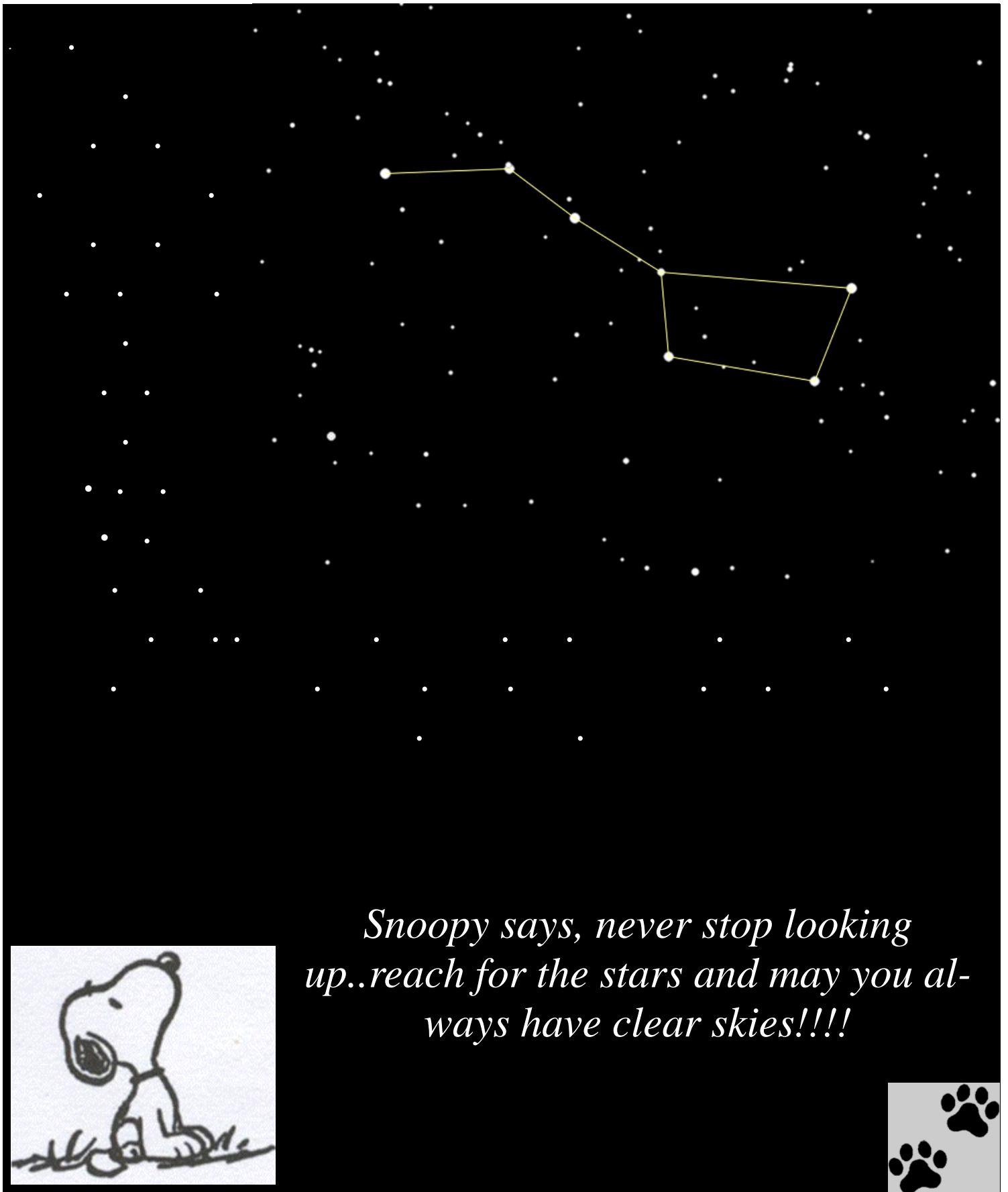
This is the section strictly for kids (or kids at heart). We will be including information, stories, ideas, puzzles or anything that has to do with astronomy. The only difference here is, it will be directed for children. We don't discourage parents or any other adult to get involved. In fact, we encourage 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!!





# LEARN YOUR CONSTELLATIONS





*Snoopy says, never stop looking  
up..reach for the stars and may you al-  
ways have clear skies!!!!*

