

Starscan

Johnson Space Center
Astronomical Society

Volume 25, Number 3 March 2009



**TWO TAKES ON THE NIGHT SKY—EITHER
ONE SPELLS
B-R-E-A-T-H-T-A-K-I-N-G**



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CONNIE HAVILAND

Un mensaje del Presidente (A message from the President)

This note may be a tad bigger than normal, so I'll warn you ahead of time. Connie has asked a two to three month reprieve from the Starscan so since I also double as publisher, loading it up to Ken's "riverofstars" website, I figure "why not" so I'm assuming the reins as "Editor pro-tem" for a short while. Who knows... maybe in the future, I might want this job!

In any case, we have some interesting items coming up. Former astronaut Thomas P. Jones will be our March speaker and if I do this right his biography will be in the pages that follow. We also have a trip to the fort coming up, March. I hope those of you wishing to attend NEED to be in communication with Lisa Lester (lisa@riverofstars.net) a member of our "Fort Observation Reconnaissance Team", who needs a preliminary head count for Buddy Garza (head ranger). Also inside is the tentative schedule for the weekend as I understand it as this goes to press (disclaimer, it can change) and a gentle reminder from the Texas Historical Commission.

I'm very glad things work out this past weekend in regards to the Moody Gardens star party and the Family Space Day event at the LPI despite the club being double booked that night. Unfortunately, Connie and I were pre-committed that night else we would have been at the LPI in a heartbeat.



Clear skies!
David Haviland

LETTER FROM THE EDITOR

By Connie Haviland

Hi Everyone!!

I have decided to take a couple months off as editor and hand it over to someone to give me a break. I just want to acknowledge our cover page since I had it set up. Here is an unprocessed image of Comet Lulin taken February 24th, with a Nikon D-300, ISO 1600, 20 seconds and tracking was on comet. The photo were taken by Don Halter. The other photo is by Randy Brewer of Venus and a Crescent Moon at sunset.

Enjoy.....Connie



LETTER TO THE EDITOR

NOTHING THIS MONTH



Star Parties for 2009

Bob Taylor

MARCH 19-22	FORT MCKAVETT
APRIL 18	MOODY GARDENS
APRIL 19-26	TEXAS STAR PARTY
MAY 22	HAAK WINERY
JUNE—AUGUST	OPEN
SEPTEMBER 12	MOODY GARDENS
OCTOBER 15-18	FORT MCKAVETT
NOVEMBER 6	HAAK WINERY
DECEMBER	OPEN



(I searched high and low for other club's calendars and other than ours and that for FBAC and the George all I could find is up to date is here and on page 15. - DLH)



Space Shuttle Launch in Limbo Over Suspect Fuel Valves

By Tariq Malik

Senior Editor

posted: 20 February 2009

11:12 pm ET

From: <http://www.space.com/missionlaunches/090220-sts119-launch-update.html>

(Summarized from the website)

NASA delayed the planned February launch of the shuttle Discovery for the fourth time late Friday, leaving the space station-bound construction flight in limbo as debate continues over whether the space-

craft can fly with potentially faulty fuel valves. Discovery's mission has already been delayed several times so shuttle engineers could run a series of tests on the fuel control valve concerns. The shuttle was slated to launch on Feb. 12, with subsequent delays pushing it back three more times to give engineers more time to complete valve tests. On Friday, shuttle managers were unable to settle on an acceptable rationale to fly the mission until a more complete analysis on the valves is available.

More analysis needed: Shannon said mission managers hope to reconvene by next Wednesday to take stock of new progress on the fuel valve assessment and again discuss potential launch dates for Discovery and its STS 119 crew. NASA space shuttles each have three fuel control valves, one for each main engine. The valves function much like pop-up lawn sprinklers to route gaseous hydrogen through a set of plumbing lines that feed into the liquid hydrogen reservoir of a shuttle's attached external tank and maintain the proper pressure during flight.

During NASA's most recent shuttle launch last November, one of the Endeavour orbiter's fuel control valves developed a crack, with a small chip breaking off. While Endeavour successfully reached orbit without incident, mission managers want to be sure a similar event during Discovery's launch would not puncture the shuttle's vital plumbing lines and cause catastrophic damage. (For more details and information, please see the website above.)

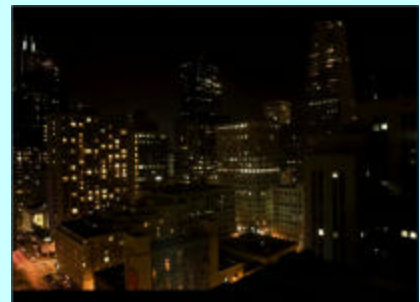
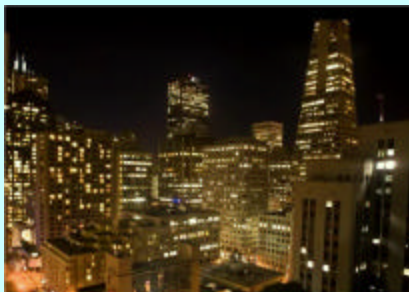


I know this may seem like an extremely early post, but I feel that if we are aware of it now, we can get it put in motion in the cities that we are associated with. So that is why it is here.

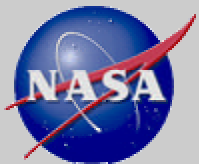
EARTH HOUR 2009—March 28, 2009...8:30pm to 9:30 pm

<http://www.earthhour.org/>

Join millions of people around the world in turning out the lights for one hour to symbolize that each of us can make a positive impact on climate change—no matter where we live. Visit earthhour.org to join the movement and register your support for Earth Hour 2009



Dr. Thomas P. Jones is our featured speaker for March 13th meeting. Not only is he a former astronaut, but is also an amateur astronomer, speaker, and author. The title of his talk and book is: “**Planetology: Unlocking the Secrets of the Solar System**”. The mysteries of the Solar System are the focus of Tom's newest book, **Planetology**, published by National Geographic Books in November 2008. Tom and his colleague, planetary geologist Ellen Stofan, explain the dynamic physical processes that shape the faces of our Earth and its companion worlds. This spectacular collection of planetary imagery from NASA, (including orbital views from the Shuttle and Station). The book will be available for sale at the meeting.



NAME: Thomas D. Jones (Ph.D.)
NASA Astronaut

PERSONAL DATA: Born January 22, 1955, in Baltimore, Maryland. Enjoys baseball, hiking, biking, camping, skiing, and recreational flying. An avid reader and author, his favorite subjects are space aviation and American military history.

EDUCATION: Graduated from Kenwood Senior High School, Essex, Maryland, in 1973; received a bachelor of science degree in basic sciences from the United States Air Force (USAF) Academy in Colorado Springs in 1977, and a doctorate in planetary science from the University of Arizona in Tucson in 1988.

ORGANIZATIONS: Member of the American Astronomical Society (Division for Planetary Sciences), the American Geophysical Union, and the Association of Space Explorers.

SPECIAL HONORS: NASA Space Flight Medal (2001, 1996, 1994). NASA Exceptional Service Award (2000, 1997). NASA Outstanding Leadership Medal (1995). Komarov Diploma, Federation Aéronautique Internationale (1997, 1995). Phi Beta Kappa, University of Arizona (1988). NASA Graduate Student Research Fellow (1987). Air Force Commendation Medal (1983). Distinguished Graduate and Outstanding Graduate in Basic Sciences, USAF Academy (1977). National Merit Scholar (1973). Eagle Scout (1969).

EXPERIENCE: A Distinguished Graduate of the USAF Academy, Dr. Jones served on active duty as an Air Force officer for 6 years. After pilot training in Oklahoma, he flew strategic bombers at Carswell Air Force Base, Texas. As pilot and aircraft commander of a B-52D Stratofortress, he led a combat crew of six, accumulating over 2,000 hours of jet experience before resigning as a captain in 1983.

From 1983 to 1988 he worked toward a Ph.D. at the University of Arizona in Tucson. His research interests included the remote sensing of asteroids, meteorite spectroscopy, and applications of space resources. From 1989 to 1990, he was a program management engineer in Washington, D.C., at the CIA's Office of Development and Engineering. In 1990 he joined Science Applications International Corporation in Washington, D.C. as a senior scientist. Dr. Jones performed advanced program planning for NASA's Solar System Exploration Division, investigating future robotic missions to Mars, asteroids, and the outer solar system.

After a year of training following his selection by NASA in January 1990, Dr. Jones became an astronaut in July 1991. In 1994 he flew as a mission specialist on successive flights of space shuttle *Endeavour*. First, in April 1994, he ran science operations on the "night shift" during STS-59, the first flight of the Space Radar Laboratory (SRL-1). Then, in October 1994, he was the payload commander on the SRL-2 mission, STS-68. Dr. Jones next flew in late 1996 on *Columbia*. Mission STS-80 successfully deployed and retrieved 2 science satellites, ORFEUS/SPAS and the Wake Shield Facility. While helping set a Shuttle endurance record of nearly 18 days in orbit, Dr. Jones used *Columbia*'s robot arm to release the Wake Shield satellite and later grapple it from orbit. His latest space flight was aboard *Atlantis* on STS-98, in February 2001. Dr. Jones and his crew delivered the U.S. Destiny Laboratory Module to the Space Station, and he helped install the Lab in a series of 3 space walks lasting over 19 hours. The successful addition of Destiny gave the first Expedition Crew the largest space outpost in history and marked the start of onboard scientific research at the ISS. A veteran of four space flights, Dr. Jones has logged over 52 days (1,272 hours) in space, including 3 space walks totaling over 19 hours..



Reminder from the Texas Historical Commission

Folks:

I have been in contact with Ken Lester at Fort McKavett and as much fun as we all have had at the Fort, we need to revisit the rules set forth by the Texas Historical Commission pertaining to alcohol and its consumption while on the premises. As we are on the precipice of another journey to the Fort, Ken has suggested that I specifically review the Texas Historical Commission's policy.

Obviously, we want to have a good time and Buddy and the staff want us to have a good time; however, there are limits that have been "brushed" upon recently. That said, the THC rule is "no public consumption of alcohol is allowed in the park". Remember that on Saturday night at the public star party, the park is open to the public which can show up anytime during the night. Also, I have been told that Fort McKavett has seen a huge increase in after hours visitation by special interest groups. There have been scout groups staying in the park at the same time as JSCAS in the past and there is a scout group that has recently contacted the staff about staying this March during the star party. Anytime the public or a group like the scouts is in the park extra care must be taken when it comes to the consumption of alcohol and/or the display of alcoholic beverages. We need to keep a low and discrete profile here. Even when closed to the public, at no time during our stay at the fort will over indulgence be tolerated by park staff.

The key is moderation, discretion, and prudent disposal of the trash. However, it has come to my attention that with THC's policy on alcohol, we don't want to take a chance that some park visitors may take exception to trash cans overflowing with "empties" or having bottles stacked next to a trash can. This has been a problem at times. As such, by "**executive action**", I am requesting that effective immediately, the policy is that JSCAS'ers are responsible for the disposal of their own "empties" and not burden the Fort with them. In Boy Scouts we have a self-explanatory policy called "Leave no trace" which now applies here.

All of our behavior is reflected back to us as a group. We of JSCAS have a reputation that is highly regarded and respected, and we need to keep it that way. Because of JSCAS's history and track record of "public performance" we have set the bar high. I have heard more than once through the grapevine that we are **welcome** at the Fort where other clubs are **tolerated**.

Every function we attend is important and it is vital that we make a good impression every time we go out, whether to the Fort, the LPI, Haak Winery, or nearby locations and schools.

(continued next page...)

I will finish this with the reminder that the reality is that all it will only take is ONE incident (by one of the park's visitors who may be offended by alcohol) to be reported to the site staff or worse directly to THC in Austin to ruin a good thing. Any such incident will compromise our standing and future with Fort McKavett. It goes without saying that Ken is not only an elder in the club, but is also a friend to many that come there. Unfortunately, even after hours when we are there, Ken is still on the clock as a THC employee above being a JSCAS member. I'd like to star gaze with Ken and Lisa again, and I don't want our club to give Ken or Buddy one single cause to worry about anything when we are there. Above all, I don't want Ken to be put in the position of having to come up to me and say "Dave, we have a problem...".

Clear skies,

David

Ft. McKavett Spring Star Party

(by David Haviland)

It is almost here!! The dates are March 19-22, so check your calendar and weather as the dates approach so you bring the appropriate clothes. In March, we have had temps anywhere from upper 70 daytime temps to 21°F night time temp in 2003. Situated at about 2,000 feet, Ft. McKavett is northwest of Junction, Texas, and is about a 6.5 hour drive from Houston, depending how lucky you feel about pushing the speed limit. To get to Ft. McKavett, take I-10 west through San Antonio, keep going west through Junction until you come to Hwy 1674 (marked by large signs). Take 1674 north for ~26 miles until you reach Ft. McKavett. (Be wary at dawn or past dusk, 1674 is loaded with wildlife—once at 0200, we counted over 79 deer and half a dozen rabbits when coming up the road.) Once you reach Ft. McKavett, turn right on Hwy 864 and enter the Fort through the second gate on the left. Drive slowly and don't kick up any dust. Please find either Ken or Lisa Lester to check in.

All things being equal, Thursday and Friday nights will be just us JSCAS folk viewing. However, Saturday is the public star party as well as the BBQ hosted by Buddy Garza and his staff. Anyone planning on going to the Fort needs to be in email contact with either Ken and/or Lisa Lester (lisa@riverofstars.net). If you are planning on bringing an RV, they need to know that as well.

As of this printing, on this date, the schedule to my knowledge is the following:

Thursday—Arrive. Thursday night will be our JSCAS pot luck BBQ—starting at 5pm. Bring something to grill and a side dish to share.

Friday—you will need your own breakfast and lunch. JSCAS has been invited to the Flying B ranch by Ms. Susan Buchholz for a BBQ dinner. If interested, Ken Lester needs to know (ken@riverofstars.net) so he can tell Susan how many of us to expect. If not interested, you'll need dinner.

Saturday—breakfast, unless you want to hold off as Buddy and staff put on a big BBQ luncheon at *noon* (chicken, brisket, sausage, and sometimes goat) with all the fixing's to go with it. You may want a light dinner. A donation of \$10/ head is requested to cover the cost of the food. This is the night for the public star party.

Sunday—breakfast and leave for home.

See you there!



ANNOUNCING THE 2009 GOLDEN STATE STAR PARTY

Information was provided to our club by Amelia & Steve Goldberg

We are pleased to announce that the Golden State Star Party in 2009 will again be held under the very dark, clear, and hospitable skies of Frosty Acres Ranch near Adin, California. GSSP 2009 will happen a little earlier this year, starting on Saturday, June 20, and ending Wednesday, June 24.

The Early Registration Period begins on January 2, 2009 and ends March 30, 2009. The adult registration fee for all four days is \$50. The fee will increase to \$60 on April 1, 2009, and to \$75 after June 12, 2009. As in previous years, children under 18 years of age will be free.

Sponsored by The Astronomy Connection (TAC), this event has established itself over the years as the premier star party in California. GSSP will continue to feature the darkest skies available to large groups in California and a huge observing field ideal for camping and equipment set-up. In addition to observing activities, attendees can also enjoy nearby wildlife refuges, geothermal sites, Burney Falls, state parks, swimming in nearby Bieber, and other activities. We also plan to have an encore of last year's popular Ranch Day event hosted by the Albaugh's and other local families.

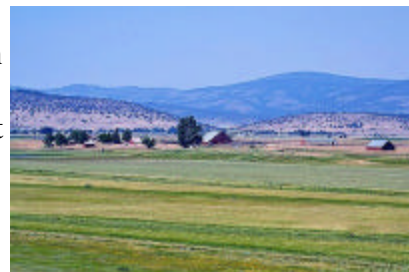
For registration and more information, visit our official GSSP Website at <http://www.goldenstatestarparty.org>. Register early and take advantage of the lower registration fee. We hope to see all of you at the Golden State Star Party in June!

Bill Porte
GSSP Organizing Committee

For those who know little or nothing about this event, I have pulled some information off of the internet for you.



Location: Frosty Acres Ranch near Adin in northeast California at an elevation of 4400 feet, with a stunning view of Mount Shasta 66 miles to the west. Enjoy the amenities of nearby towns and distance from city lights. Entrance gate coordi-



RVs are welcome, but there are no hookups. There is plenty of room, good highway all the way there, and easy drive-in access. Off-site accommodations are available in the nearby towns.

If you are camping, read the section on Campsite Preparation. (<http://goldenstatestarparty.blogspot.com/2007/12/gssp-2008-campsite-preparation.html>)

Groundcover recommendations

The observing field and camping area consists of hard clay ground covered with dry rooted cut grass. Although the type of grass in the field is not the type that sticks to clothing and works its way into your socks, there is, nonetheless, a tendency for the cut pieces to blow around and get into your belongings.

We recommend bringing three tarps, or two tarps plus a sizable piece of astro-turf. Use the tarps under your tent and as a "front porch" and the astro-turf as groundcover for your equipment. You'll find that this arrangement is comfortable and will keep the grass out of your stuff.

Wind and Stakes

In the afternoon, particularly on hot days, the northern Nevada desert cools off, and causes a westerly wind to pass over the cascades and down through Big Valley and Adin. When this happens, the wind picks up at about 3:00 pm and dies down at around 6:00 pm. By sunset, the air is still.

During the windy periods, tents, tarps and easy-ups can easily turn into kites. For this reason we will require that all of the above be secured with 1/4 inch diameter, or better, "nail-stakes". Standard tent stakes (the flimsy kind that probably came with your tent) will not suffice. We also recommend that you open a top corner of your easy-ups in the afternoon to prevent them from becoming airborne. At past star parties, we've have some incidents involving flying easy-ups; and we'd like to avoid any recurrence.

We also strongly suggest that you plan for securing your equipment. If you have a big dob, a piece of rope staked to the ground can be used to tie down the cage, pointing downwind. Dob's make great weather vanes; so protect your investment with a piece of rope and a nail stake.

Would more recommendations help?

We've been making trips like this, camping together at star parties for a long time. If you need any help, suggestions, pointers, etc., please write GSSP or ask questions in the GSSP Blog section of our web-site.

You will need to keep the sun off your tent in order to be comfortable. Make sure to read our page on Shading Tents.

For more information, go to <http://goldenstatestarparty.blogspot.com/> But don't forget to check out the rules and guidelines site.





2009 Mulberry Mountain Star Party

The Arkansas/Oklahoma Astronomy Society is proud to announce their second annual 2009 Mulberry Mountain Star Party, to be held on June 19th & 20th, 2009.

Once again, this year's event will take place at Mulberry Mountain Lodging & Events, which is a 650-acre facility located 16 miles north of Interstate 40, on Arkansas Hwy 23, near the city of Ozark, Arkansas. Highway 23 is otherwise known as the Pig Trail Scenic Byway. The facility boasts some of "The Darkest Skies in Arkansas," at GPS coordinates N 35° 42' 36": W 93° 47' 44"

Mulberry Mountain offers cabins, pull-through RV sites and improved tent campsites with water, electricity & showers. Virtually unlimited primitive campsites are also available. Contact Mulberry Mountain Lodging & Events by phone at (866) 667-1919 or by e-mail at mulberrymountain@aol.com for lodging information and reservations, AOAS plans to set up a Public



Observation Area on the south side of the resort on Friday and Saturday evenings. Several of our members' telescopes will be available. Non-members may set up their equipment in the Public Observation Area if they wish. All scopes are welcome. Amateurs who do not wish to participate in public viewing or who require a "lights-free" area will be located away from established light sources.

NOTE: It is our sincere hope that this event eventually grows to the point that we will someday require enforceable lighting regulations.

Vendors are being invited, and a "Swap Meet" will take place Saturday afternoon in the Main Lodge Meeting Room, where anyone will be able to buy, sell, or trade any astronomical items.

The newly formed Arkansas Section of the International Dark Sky Association will also conduct their 2009 Annual Meeting in the main Lodge meeting Room during the weekend.

For more information, contact Leonard Lynch, AOAS Mulberry Mountain Star Party Coordinator:
Phone: 479-782-1131, E-Mail: nspace01@swbell.net.

MARCH OBSERVING - The March Sky

Hernán Contreras

As the winter constellation move to the west, the spring constellations rise in the east. Three of spring constellations, Lynx, Cancer, and Hydra, are quite dim and very hard to see in light polluted skies. No star in Cancer is brighter than 4th magnitude. Fortunately these constellations are bracketed two dominant constellations, Gemini and Leo, and are good guides to finding the others. Cancer is on the ecliptic, Lynx north of the crab and Hydra, the water snake, south of it. You should be able to see these dimmer constellations in dark skies of Ft. McKavett.

Of these constellations Gemini has the most interesting history and mythology. The group was first identified as twins in India some 6000 years ago. Then took that designation in Persia and finally adopted by the Greeks and, in turn, the Romans. The Greek-Romans have the more interesting and twisted mythological story. The twins, Pollux and Castor, are half brothers! Same mother but different fathers. I didn't know that could happen, but in this story, it did. Castor is the son of Leda's husband, Tyndareus, the king of Sparta. Pollux is the son of Zeus and thus immortal. I don't have any details on how Zeus impregnated Leda other than that he visited Leda in her wedding night, disguised as a swan. Why a swan? Did Tyndareus look like a swan? The image boggles the mind.

Though half brothers, the twins very close to each other. Together they joined the Argonauts' expedition with Jason and his quest for the Golden Fleece. The twins saved the ship Argus during a storm. For this reason they became protectors of the sailors, who believed that they saw them as flames leaping from their masts during the storms. This phenomenon is known today as St. Elmo's fire. The twins also went on to fight in the Trojan War to rescue Pollux's sister, Helen of Troy. Apparently the swan had more trysts. The Romans referred to the twins as brethren and often swore oaths of brotherhood by their name. That's the source of the phrase, "By Jiminy."

The most common explanation for their presence in the heavens is that Pollux was overcome with sorrow when his mortal brother died, and begged Zeus to allow him to share his immortality with Castor. Zeus, acknowledging the heroism of both brothers, consented and reunited the pair in the heavens.

Deep Sky

Challenge Object: Multiple star system:

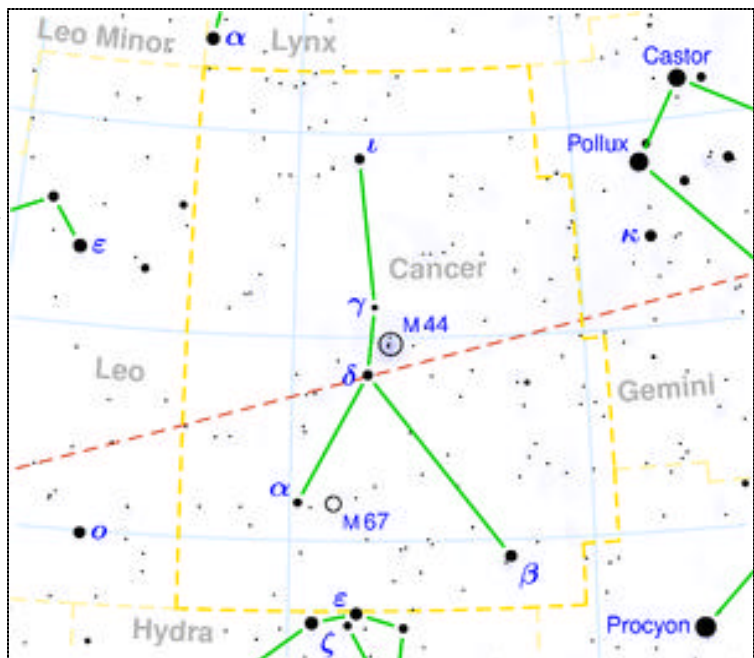
Castor In a small telescope at 80x or so, Castor resolves into two bright stars. The A component has magnitude 2.0 and lies some 4' from the slightly fainter B component. Castor A and B are blue-white A-type stars only 45 light-years from the Sun. There is a third star in the Castor system: to the south, you'll see a much fainter red-orange 9th magnitude companion in your field of view. Each of the three stars in the Castor system is itself a double star... so there are six stars in all.

“Clown” Nebula

Also known as Eskimo Nebula lies just east of the “waist” of Gemini, near star Wasat. This is one of the youngest-known planetary nebula— only 1,000 years old— and it’s easily visible in a small telescope, even in city skies. If you have a 6-8” scope or larger, look for the central star of NGC 2392. This Sun-like star is puffing off its outer layers as it runs out of fuel in its core. In a few tens of thousands of years, the nebula will disappear and the star itself will become a hot and faint white dwarf.



M44 The Beehive in Cancer is an open cluster in the constellation Cancer. It is one of the nearest open clusters to the solar system and it contains a larger star population than most other nearby clusters. Under dark skies the Beehive Cluster looks like a nebulous object to the naked eye; thus it has been known since ancient times. The classical astronomer Ptolemy called it "the nebulous mass in the breast of Cancer," and it was among the first objects that Galileo studied with his telescope. The cluster contains red giants and white dwarfs which represent a later stage of stellar evolution.



Solar System:

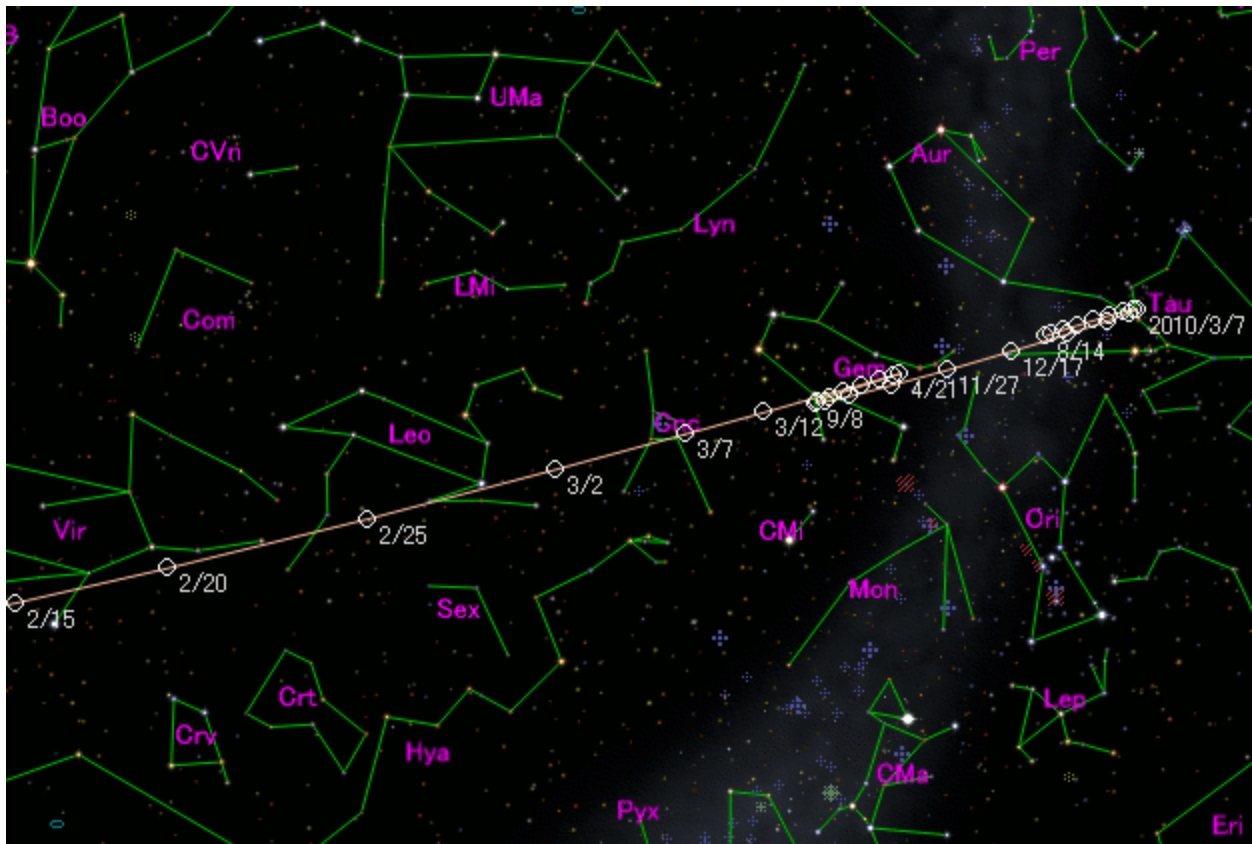
You be able to see all five “wandering” stars this month, but not at the same time.

Venus Viewed through a telescope in the coming weeks, its crescent grows larger but thinner as the planet approaches the Earth in the celestial scheme of things and shows us more of its night side. Early in March, Venus is similar in apparent size to Jupiter – but less than one-quarter of it is lit.

Saturn The Lord of the Rings reaches opposition to the sun on March 8 it will be visible all night from dusk to dawn. Two nights later, on March 10, Saturn will ride high above the full moon.

The other 3 planets are early predawn objects.

Comet Lulin



This is a great month for sky watching. Of course, every month is a great month for sky watching. Keep looking up.



Need volunteers

What's Happening at the George!!! Cynthia Gustava



George Observatory March 2009 Events

Friday Night Groups (all times are 19:30 to 22:30)...Volunteers for domes and deck scopes are needed. Bring those laser pointers and instruct the visitors on the constellations and bright objects! Contact Cynthia Gustava at cynm31@att.net to volunteer.

Mar 06 – Sky Search Overnight (Full)

Mar 13 – Events & Adventures (40) – Building Manager: Cynthia Gustava

Mar 27 – Indian Princesses (20) and LaMarque Middle School (50) – Building Managers: Carl Sexton and Cynthia Gustava

Saturday Night Public Viewing (dusk to 23:00)...Volunteers for domes and deck scopes are needed. Contact the building manager teams below.

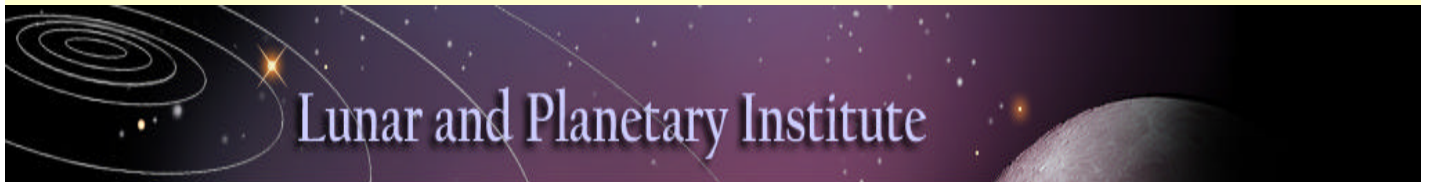
Mar 07 – Justin McCollum and Carl Sexton justinmccollum@hotmail.com or carlsexton@hotmail.com

Mar 14 – Cynthia Gustava and Joe Mills cynm31@att.net or k5jmm@yahoo.com

Mar 21 – Jack McKaye and Jessica Kingsley jemckaye@comcast.net or gnkingsley@att.net

Mar 28 – Tracy Knauss and Keith Rivich birdbarn2000@yahoo.com or icgalaxies@cs.com

Thanks!
Cynthia Gustava



Go to the flyer on page 26 for the March event





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



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ETX-125 For Sale:

All the telescopes I have put up for sale here sold quickly. Here's one more: A 2006 Meade ETX-125 (5" SCT) with Autostar computer control, 8x25 right angle finder, plus additional red dot finder. Has latitude adjustable tripod, bag, Meade custom hard carry case, 2 Televue eyepieces (17mm and 13mm), camera adapter with Nikon T-ring, dew shield, car adapter, A/C adapter, red/white flashlight plus the scope also runs on 8 "AA" batteries. \$650. If interested, contact me OFFLINE at RNugent@wt.net or at 832-755-4447.

Photos are here: <http://houston.craigslist.org/pho/1048275691.html>

Members' Gallery—March 2009
By Al Kelly and Randy Brewer



Al Kelly's LRGB color composite of 2683 (Lynx) . CGE-14 at F5.6 and SX MX916. L:R:G:B = 120:50:30:40 minutes (RGBs binned 2x2) <http://www.kellysky.net/2683larg.jpg>



This picture was taken by our newest west coast member,

Randy Brewer, at Rendondo Beach, California. As always, it was posted on his website (<http://www.randybrewer.net/images/Redondo/GreenFlash.jpg>). Derek Newton kindly provided a link as to why this occurs (http://en.wikipedia.org/wiki/Green_flash) and is best summarized as “Green flashes are by-products of the large variations in astronomical refraction near the horizon. “

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>

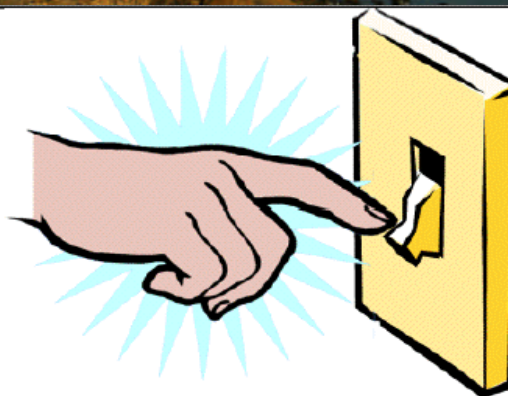
Photograph © [Phil Hart](#)



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.

First Colony Conference Center

3232 Austin Pkwy

Sugarland, Texas

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

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:
conniestarscanaccount@gmail.com

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

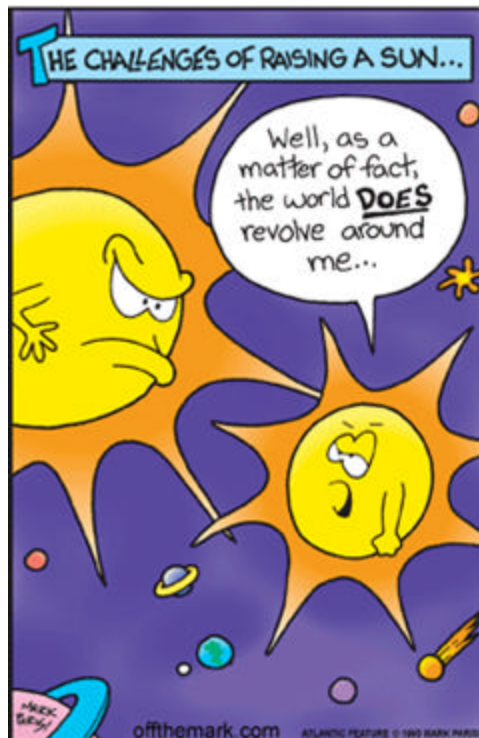
Johnson Space Center Astronomical Society

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

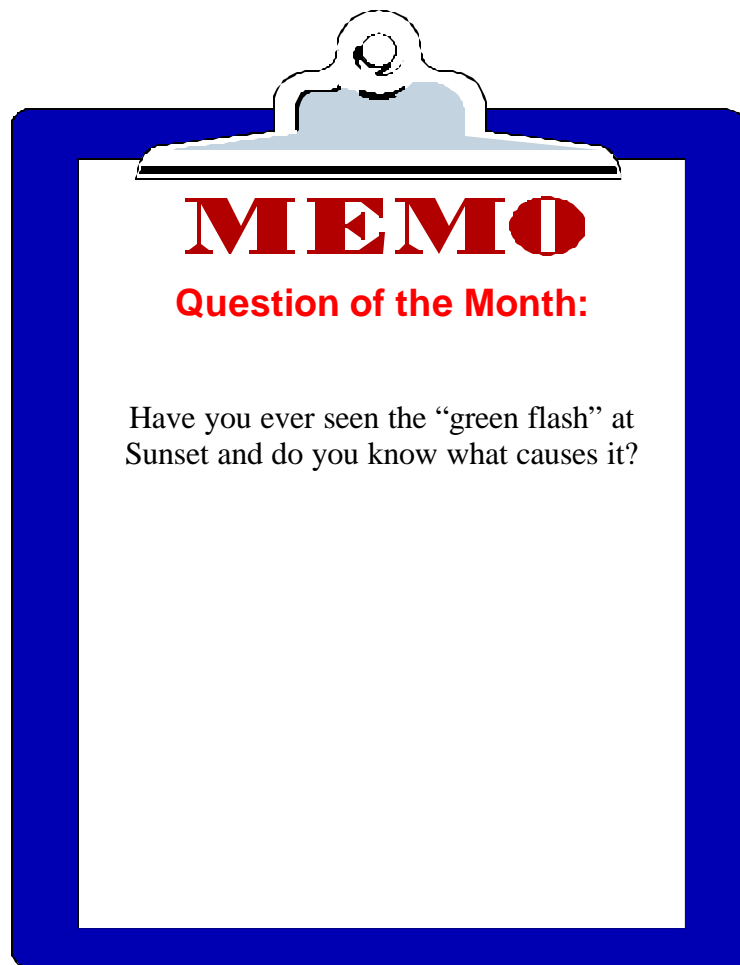
SIGS

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



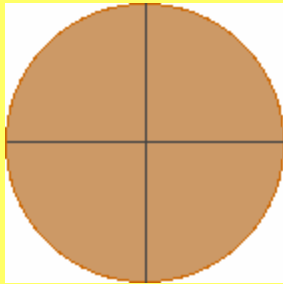
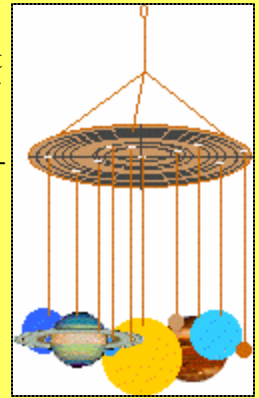
Solar System Model

This is a model of our Solar System, picturing the Sun and the eight planets and dwarf planet that orbit it: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto (a dwarf planet).

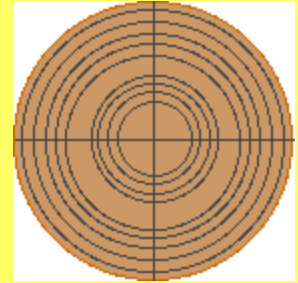
Nicolaus Copernicus (1473-1543) was a Polish astronomer who developed the Copernican system, a model of the solar system in which all the planets orbit the Sun.

- A round piece of cardboard about 1 ft across (the cardboard from a frozen pizza works well)
- Lots of colors of oak tag (or construction paper)
- Scissors
- Tape
- String
- Pencil, crayons, or markers

A compass (for making circles)

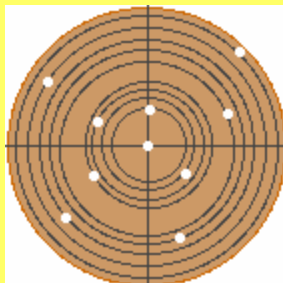


Find the center of the large cardboard circle by drawing a line from top to bottom and a line from right to left. Where these two lines meet is the center of the circle. This will be the position of the Sun.

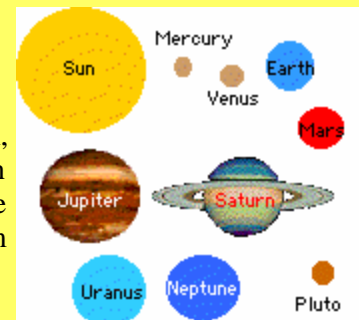


Using a compass, draw the orbits of the 9 planets (draw circles around the center of the piece of cardboard).

The first 4 planets orbit relatively close to the Sun, then there is a gap (this is where the asteroids orbit). Then the last 5 planets orbit very far from the Sun.



Using an awl, the sharp point of scissors, or a large nail, punch a series of holes in the cardboard. First punch a hole in the center (this is where the Sun will hang). Then punch one hole somewhere on each circle (orbit); a planet will hang from each hole.



If you want an accurate picture of where the planets actually are today, go here: <http://www.fourmilab.ch/cgi-bin/uncgi/Solar>

Cut circles from oak tag to represent the Sun and each of the planets. Since the range in size of the Sun and the planets is far too large to represent accurately, just make the Sun the biggest.

Make Jupiter, Saturn, Uranus, and Neptune a bit smaller than the Sun. Make the remainder of the planets much smaller. Saturn has beautiful rings.

Write the name of each planet on its back.

Tape a length of string to each planet (and the Sun).

Lace the other end of each string through the correct hole in the large cardboard circle (Mercury goes in the inner orbit, Venus goes in the second orbit, Earth goes in the third, etc.). Tape the end of the string to the top side of the cardboard. After all the planets (and the Sun) are attached, adjust the length of the strings so that the planets (and Sun) all lie in a plane.



To hang your model, tie three pieces of string to the top of the cardboard - then tie these three together. Tie them to a longer string (from which you'll hang your model).

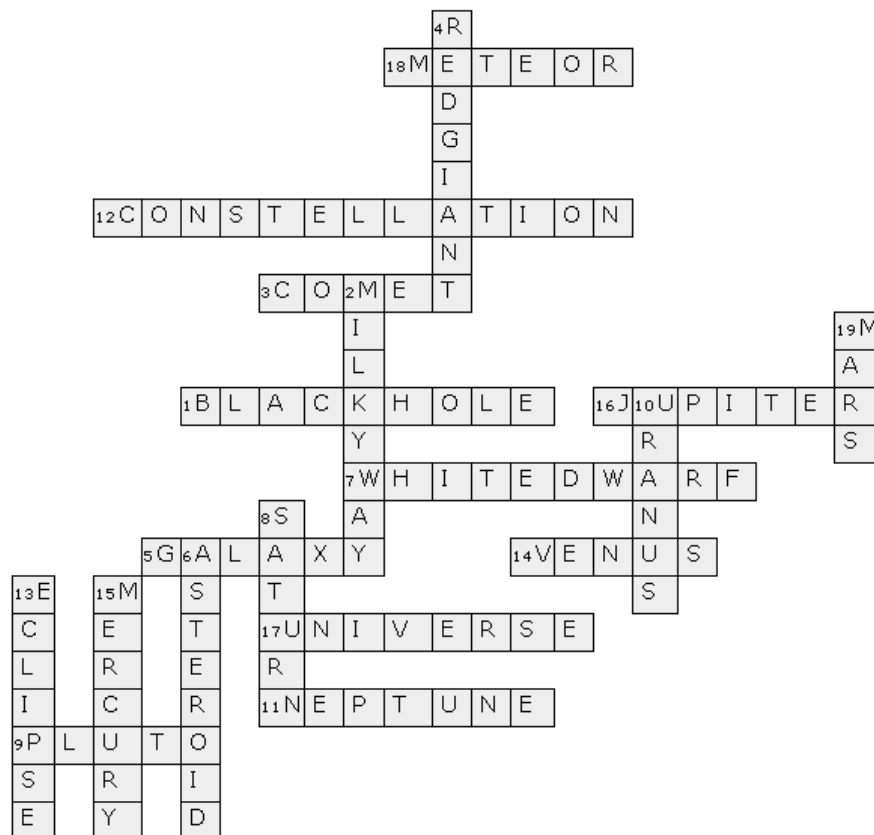
SOLUTIONS TO FEBRUARY'S PUZZLES

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

International Space Station
Kennedy Space Center
Endeavour
Zarya
Krikalev
CabanaNode One
Unity
Centrifuge

Habitation
Photovoltaic
Truss
Manipulator
Radiators
Japanese
Europe
Laboratory Modules

SOLUTIONS cont'd



Across:

1. What remains when a star dies
3. A gaseous mass that orbits the sun
5. A gathering of stars, gas and dust
7. The faint white star
9. no longer a planet
11. Named after the Roman god of water
12. a pattern of stars
14. The hottest planet and surrounded by gas
16. Largest planet of the solar system
17. Everything that exists
18. A piece of space debris that is burning

Down:

2. our galaxy
4. A cool red star
6. A small dense object that circles the sun
8. Surrounded by rings
10. a cold planet which the days last 42 years
13. A blocking of light from another object
15. The closest planet to the sun
19. The red planet

Question of the Month:

1. When did the US begin our involvement with the ISS?
2. Which shuttle was launched on that date?
3. Who was the US commander of this mission and what is he doing today?
4. How long was this mission?
5. What was the name of the module from the US?
6. Whose module was already up in space, orbiting earth, and what was its name?

Answer:

1. Dec. 4, 1998, 2. Endeavour, 3. The commander of that first space shuttle construction flight to the station was astronaut Bob Cabana -- now director of NASA's Kennedy Space Center in Florida., 4. 12-day mission to deliver, 5. NASA's Unity module and 6. connect it to Russia's Zarya control module already orbiting Earth.

NAME _____

DATE _____

WORD SEARCH

Atmosphere

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

- AIR
- AURORA
- CYCLONE
- EXOSPHERE
- GASES
- HYDROGEN
- MESOSPHERE
- OXYGEN
- RAINBOW
- TORNADO
- WATER

- ARGON
- CARBON
- DIOXIDE
- FOG
- GRAVITY
- IONOSPHERE
- MOISTURE
- OZONE
- SMOG
- TROPOSPHERE
- WHIRLWIND

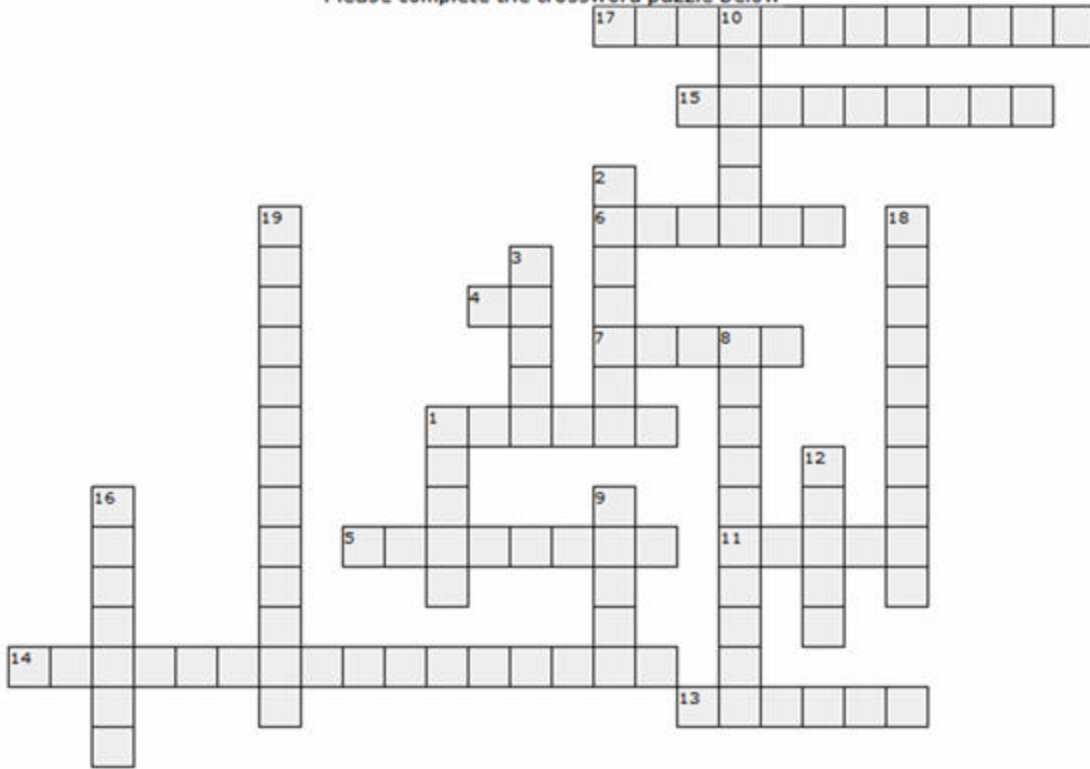
- ATMOSPHERE
- CLOUD
- DUST
- GALE
- HURRICANE
- LIGHTNING
- NITROGEN
- RADIATION
- STRATOSPHERE
- VAPOR
- WIND

NAME _____

DATE _____

The Outer Planets and Other Objects in the Solar System

Please complete the crossword puzzle below



Across:

This planets rings are the most visual rings of all the planets

4. This moon on Jupiter has active volcanoes that spew sulfur.

5. Rocky object, smaller than a planet, that orbits a star

6. This planet rotates on its side.

7. The largest moon on Saturn is _____.

11. This used to be thought of as a planet, but is now classified as a dwarf planet.

13. Brief streak of light seen when an astroid enters the earth's atmoshere and burns up

14. The great red spot on Jupiter's 'Great Red Spot' rotates in a _____ direction.

15. Astroid that hits the surface of a planet or moon after traveling throught space

17. Reigon between Mars and Jupiter where most asteroids orbit the sun

Down:

2. This is the largest planet in the solar system

3. Ball of ice, rock, frozen gases, and dust that orbits the sun

1. Saturn is the _____ planet from the sun.

8. Like Jupiter, Neptune also has a big spot in it's _____ where a storm is taking place.

9. Uranus has at least twenty-two moons and Eleven _____.

10. The diameter of Jupiter is _____ times larger than earth's.

12. One day on Uranus is seventeen earth_____.

16. This planet is named after the Roman god of the sea

18. Neptune takes 164 years to complete one_____.

19. Meteors are commonly know as _____.

Space Weather, Solar Storms, Sunspots, Oh My!

Learn about the **Sun** at



Family Space Days!

at the *Lunar and Planetary Institute*

FREE EVENT!

FREE EVENT!

FREE EVENT!

Children between 5-8 years and their families are invited to explore space science together!

March 21st, 10am - 1pm

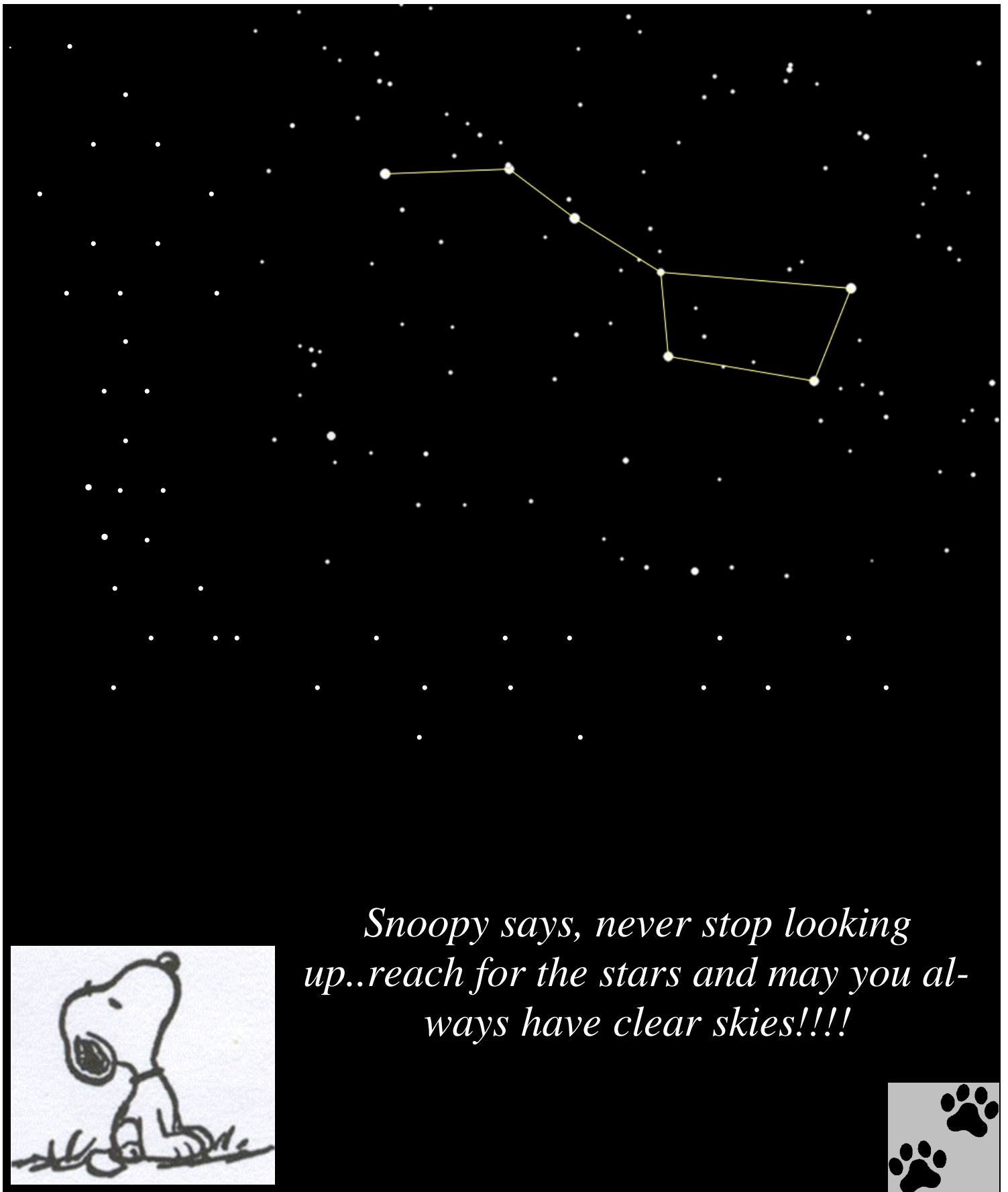
For information, visit <http://www.lpi.usra.edu/education>
Or call Katy at 281-486-2106.

Children must be accompanied by an adult at all times.



3600 Bay Area Blvd., Houston, TX 77058

Create S



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