

Starscan

Johnson Space Center
Astronomical Society

Volume 24, Number 4 April 2008



WHAT IS THAT MYSTERIOUS LOOP IN THE SKY?

INQUISITIVE MINDS WANT TO KNOW!!!!

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Message from the el Presidente

Folks,

I can only hope that those that came out for the last meeting, enjoyed Gary Kilper's talk on the sun and the research being done on our nearest star. I found it fascinating a second time and judging by the questions, I think it was well received. Up this month we have our famed pilgrimage to Fort McKavett. I'm looking forward to seeing everyone there. At our next meeting back at the LPI, we're going to have Aaron Clevenson talking about Johannes Kepler, famed mathematician, astronomer, and - astrologer (eek!). (Of course we know that in his day there was actually no clear distinction between astronomy and astrology as there is now.) His talk is entitled "Keeping up with Kepler". In any case, onward to the Fort!

David Haviland

LETTER FROM THE EDITOR

By Connie Haviland

The month of March was filled with starparties and great speakers. Some of us met a former astronaut and viewed 3D videos of the sun. It was a busy month and there is more to come. So it is here that I want to announce our speaker for April's meeting; **Aaron Clevenson** and his presentation is called, **"Keeping up with Kepler"**. Don't miss it, I have been told that it should be good. Oh and don't forget, we are back at the LPI this month.

Check out the invites, special gatherings, April Observation, changes at the Fort and a whole lot more. This month's Starscan has a little bit of everything. I hope you find something you enjoy.

LETTER TO THE EDITOR

We received a few suggestions to the question posed on the cover sheet. Check out the responses on page 20.



Star Parties for 2008

By John Erickson

APRIL

April 03 to 06 - Fort McKavett Star Party

MAY

May 10 - Lunar Occultation (Seabrook)

JUNE

June 01-08 - Texas Star Party

June 28 - Moody Gardens Star Party

JULY

July—No Star Party

AUGUST

August—No Star Party

SEPTEMBER

September 06 - Moody Gardens Star Party

September 27 - Haak Winery Star Party

OCTOBER

October 18 - Astronomy Day @ George Observatory

October 23 to 26 - Fort McKavett Star Party

NOVEMBER

November 01 - Haak Winery Star Party

DECEMBER

December 12 - No Star Party

MOODY GARDENS' STARPARTY

By John Erickson

It was a dark but very clear and cool night at Moody Gardens. Unlike the previous Saturday at Haak Winery, dew was not a problem. We started by looking at Saturn, Mars and Orion. Jennifer Lamm, our new Education Manager at Moody, and her assistant, Education Supervisor Danielle Ortiz supplied a cooler of soft drinks. It was a friendly crowd but it was cool enough they left pretty early. They didn't have warm coats. Later we looked at faint fuzzy things like M81 and M82. I ended by looking at globular M3. Here are some pictures.

John Erickson
JSCAS Star Party person



PICTURES ARE COURTESY OF JOHN ERICKSON

WHAT WAS THE FIRST THING YOU SAW THROUGH A TELESCOPE THAT MAY HAVE GOTTEN YOU HOOKED ON ASTRONOMY?

From around the Club

Matt gave me a great idea for the Starscan. So this month, after collecting from the club, I put together this....

What's the first Astronomical Object you ever saw through a telescope?

How old was the oldest person to whom you provided their first look at an Astronomical Object?

For me it was:

1. Venus - My folks took me to an observatory when I was about 6 years old.
2. My neighbors father who was in his sixties saw me looking through my scope. I invited him to look at Saturn. He couldn't believe his eyes. It was a really cool experience to be able to do that. He had never looked through a telescope in his entire life before that.

Matt Hommel

1. Saturn - Through a 60mm Tasco refractor that I received as a birthday gift from my dad for my 9th birthday in 1964. Early the next morning, he got me up out of bed, dressed up in warm clothes and took me outside. He had the little scope setup on a card table and said "Look in there." When I saw the tiny little disk of Saturn with the rings clearly visible, I was smitten.

2. I showed Saturn to a 92 year old man at one of our summer-time public star parties a few years ago using my 20" Tectron. He said it was the first time he'd ever seen Saturn and was just astonished that you could do something like that! I chatted with him for a few minutes, what a delightful old fellow he was. I'm not sure if the view of Saturn was his very first view as there were about 25 scopes there that night and he might have seen something else first.

Gordon Pegue

For me? it was:

1. Saturn - I was visiting John for BSA Winter Camp at Camp Strake in Conroe, approximately 1998. Someone had brought a scope, about the size of an 80mm, maybe a little bit bigger, like a Achromatic Refractor. It wasn't anywhere near the size of my 10" and being totally "green" when it came to astronomy, I didn't take note of what size of telescope it was. That said, I could see the rings and it was sooo clean, clear and crisp in the scope..it was great...
2. At Ft. Mac, during the public viewing. This gentleman had to be in his 70's and he was very impressed with our club. Can't remember exactly what he was viewing..but I can almost bet it was in Sagittarius (the Tea Pot), my favorite spot to go for the public viewing.

Connie Haviland

1. Observing our moon in 1961 through my neighbors 3" f 10 reflector from a Pasadena neighborhood. The shadowed craters blew me away. It was like a fly over. I was there!

2. On July 11, 1991 during that great solar eclipse, an astronomy friend of mine and myself took off from work and set up our telescopes in a local Alvin bank's parking lot. We drew a large crowd including 2 local newspaper reporters. There was one VERY elderly gentleman who was shocked when he saw the solar disc...and then watching it disappear through my borrowed 10" Coultter (HAS loaner scope). That was a rewarding experience.

Clayton L. Jeter

1. The moon, with 2" refractor that I built when I was about 13. My dad gave it to me, it was an f10 achromat..he said it was not a good magnifying lens. I could actually see craters with this thing....!

2. My mom, when she was in her 60's, the moon again with a 6" f12 newt I made the optics for.

Andy "Yoda" Saulietis

1. I knew of Orion, the Usra Major/Minor, as constellations, quite likely from school and the time I spent in scouts as a youth but I never "dissected" them with at telescope until I got a telescope. I don't recall looking through a scope in my youth until the Celestron 6" Starhopper arrived back in 1998. I wasn't sure what to do with it but I put it together and figured I may as well learn how to use it. Without a TelRad it took me nearly 20 minutes to find Beetleguise and I was bored and frustrated when I did find it. The second object was the moon, but the third and most breathtaking was one morning I got up around 5:30 and noticed Orion was up and found M42 for the first time (yes, after discussions with JSCAS folk, I had procured a TelRad by then). I just sat there in awe looking at it until the sun came up some 30 minutes later. It is still my favorite.

2. Some older gentleman at one of the Moody Garden star parties who (being tactful) seemed like he stepped right out of the TV show "Green Acres" overall and all. He had to be in 70's or so. He sauntered up to my scope and asked "I want to see the flag on the moon!" I swallowed hard and as I cued my scope on the A15 landing site, I proceeded to gently explain that we can't see the flag from a 60 mile lunar orbit let alone see a 3 foot flag from 245,000 miles away. In probably adding insult to injury, I also mentioned there were 6 flags, not just one, that was planted there and that 12 people had stepped on the surface of the moon. I don't think I made his day at all. Although trying to be tactful, I think I shattered his concept of our manned exploration of the moon that evening. He wandered away fairly disgruntled. Although I still come across folk that even today don't realize we've been to the moon more than once, I've yet to run into a person like this gentleman since.

David Haviland



APRIL OBSERVING

★ SSO: (Solar System Objects) Summary for the 15 Feb 08

Object	Const	Mag	% Ill	Rise Time	Transit	Set Time
Sun	Psc	-26.7	100	06:53	13:20	19:46
Moon	Leo	----	82	15:44	22:15	04:11
Mercury	Psc	-2.1	100	06:58	13:21	19:48
Venus	Psc	-3.9	97	06:21	12:30	18:39
Mars	Gem	1.0	90	11:59	19:04	02:05
Jupiter	Sgr	-2.3	99	02:07	07:17	12:27
Saturn	Leo	0.5	100	15:29	22:04	04:34
Uranus	Agr	5.9	100	05:19	11:10	17:02
Neptune	Cap	7.9	100	03:59	09:29	14:58
Pluto	Sgr	13.9	99	00:27	05:49	11:10
Comet Boattini C/2007 W1	Crt	9.9	97	18:06	23:26	04:42

Highlighted times denote daylight events.

Lunar phases for April 08

New 	First 	Full 	Third 
05 th 22:55	12 th 18:32	20 th 05:25	28 th 09:12

Central Daylight Time

Meteor showers for April 08

Shower	Activity Period	Maximum Activity
Lyrids (LYR)	Apr 16-Apr 25	22-Apr
Pi Puppids (PPU)	Apr 15-Apr 28	23-Apr
Eta Aquarids (ETA)	Apr 19-May 28	5-May

★ BSO: (Bright Sky Objects)

NGC 3532 (C-91, Cr 238, Mel 103) - Open Cluster in Car, Magnitude 3.0, Size 55', 150 Stars.

NGC 3114 (Cr 215, Mel 98) - Open Cluster in Car, Magnitude 4.2, Size 35', 171 Stars.

NGC 3293 (Cr 224, Mel 100) - Open Cluster in Car, Magnitude 4.7, Size 5', 93 Stars.

NGC 3766 (C-97, Cr 248, Mel 107) - Open Cluster in Cen, Magnitude 5.3, Size 12', 100 Stars.

★ DSO: (Dark Sky Objects)

NGC 3132 (C-74, PK 272+12.1) - Planetary Nebula in Vela, Magnitude 8.2(p), Size 88" x 58".

NGC 3242 (C-59, PK 261+32.1) - Planetary Nebula in Hya, Magnitude 8.6(p), Size 75". Gost of Jupiter

NGC 3626 (C-40) - Galaxy in Leo, Magnitude 11.8(b), Size 3.2' x 2.3'.

NGC 4027 (A-22) - Galaxy System in CrV, Magnitude 11.7 (b), Size 2.8' x 2.5'.

★ CDMP: (Chris' Don't Miss Pick)

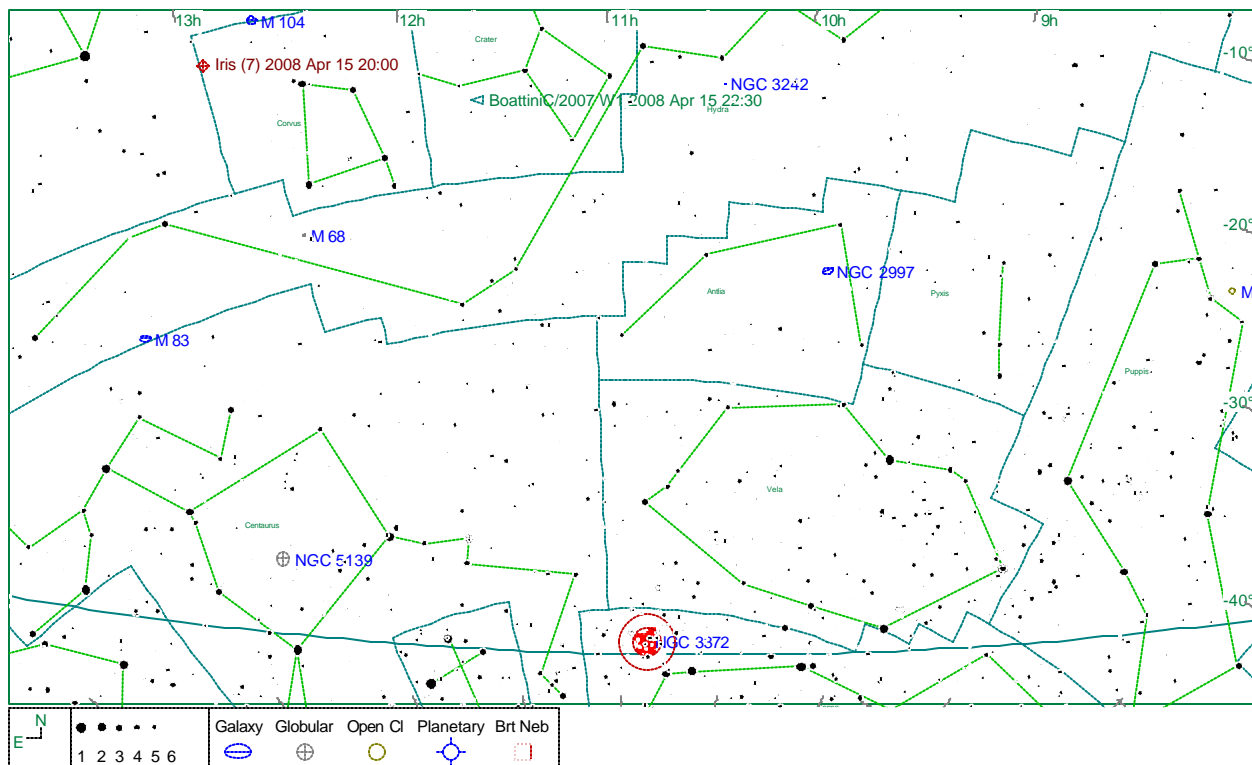
NGC 3372 (C-92) Eta Carinae Nebula in Car, Magnitude 3.0(b), Size 120'.

You are going to have to grovel in the southern horizon about 22:30 for this one. This is one of the most stunning nebulae in the entire sky is and is larger than M42, the Great Nebula in Orion. You might need to get some specialized observing equipment. You are going to have to have a clear southern horizon because at 22:33 local time it at its maximum height of One degree. **Get a DitchWitch!!!!** The nebula, located about 8,500 light years away, is a giant complex of emission and dark nebulae surrounding the unique variable star Eta Carinae. One of the most conspicuous features is the Keyhole Nebula, which is formed by its brightest part

The nebula was discovered by Abbe Lacaille during his 2-year journey to the Cape of Good Hope in 1751-52. Lacaille made two catalog entries situated in the region covered by this object: Lac III.5 and Lac III.6, which the elder literature both identifies with NGC 3372. While the description of III.6: "Large group of a great number of small stars, little compressed, and filling out the space of a kind of a semi-circle of 15 to 20 minutes in diameter; with a slight nebulosity widespread in space", matches well with what Lacaille should have seen in his 0.5-inch refractor, he describes III.5 as: "Two small stars surrounded by nebulosity". Ronald Stoyan has found that close to Lacaille's position for this object, there is indeed a small cluster, Collinder 228, which would match Lacaille's description when observed with such a small telescope.

This nebula is one of the largest H II regions in our Milky Way galaxy. The star-forming nebula NGC 3372 has produced the very conspicuous peculiar star Eta Carinae, which is among the most massive and luminous stars in our Milky Way, and perhaps in the universe. The star is about 100 times as massive as our own Sun, but produces 6 million times the light output. In the 1840's, Eta Carinae erupted visibly and was the second brightest star in the sky during this time.

Further info go <http://www.seds.org/> or <http://www.ngcic.org/> for more information.



The Lunar and Planetary Institute Presents
**COSMIC EXPLORATIONS:
A SPEAKER SERIES**

April 17, 2008

***TO THE MOON!
ITS SCIENCE, MYSTERIES, AND FUTURE SETTLEMENTS***

NASA is preparing to return to the Moon, and this time, we will be there to stay. What do we need to know about the Moon first? What science will we do when we live there permanently? Planetary scientist Jeff Taylor shares the latest scientific insight into the Moon and its unexplored mysteries, and describes why both scientists and explorers want to return to Earth's neighbor.

This FREE presentation at 7:30 p.m. is geared toward all inquisitive adults and will be followed by a light reception and an opportunity to meet Dr. Taylor.

Speaker presentations held at
USRA's Lunar and Planetary Institute
3600 Bay Area Boulevard, Houston TX

For more information, please call
281-486-2135 or visit
www.lpi.usra.edu/education/lectures

We invite you to join us for Dr. Jeff Taylor's presentation To the Moon: Its Science, Mysteries, and Future Settlements. This free public presentation on April 17 is part of the Cosmic Exploration Speaker Series at the Lunar and Planetary Institute (LPI), as it continues its 40th anniversary celebrations. Taylor offers scientific insight into the Moon and its unexplored mysteries, and describes why scientists and explorers want to return to Earth's neighbor.

Taylor is widely recognized in the planetary science community for his research on the Moon, and has served on and chaired many NASA committees on missions to the Moon and Mars. Taylor's research has focused on using Apollo samples and data collected by numerous spacecraft missions to understand the general composition of the Moon's surface and interior and how its geology compares with Earth's. His studies have improved our understanding of how our Moon and the planets formed and changed. His research encompasses planning future human and robotic exploration of the Moon and use of resources found there.

"The Moon is the eighth continent," Taylor says. "Its settlement will enable us to use all the space near the Earth and Moon, for both science and commerce." He notes that the Moon contains vital evidence about planet formation, melting, and early impact bombardment of the inner solar system. "Settling the Moon will allow us to decipher that complex record."

LPI's Cosmic Exploration presentation begins at 7:30 p.m., and will be followed by a light reception. No reservation is necessary. All inquisitive adults are welcome. LPI is located in the USRA building at 3600 Bay Area Boulevard in the Clear Lake region of Houston; the entrance is located on Middlebrook Drive. The Lunar and Planetary Institute is part of the Universities Space Research Association (USRA). Please feel free to pass along this information to anyone who may be interested.

Thank you,
Christine Shupla
Education Specialist
Lunar and Planetary Institute
3600 Bay Area Blvd
Houston, TX 77058
(281) 486-2135
shupla@lpi.usra.edu

YURI NIGHT IN HOUSTON

Pre-purchase Yuri's Night Houston tickets

OFFICIAL PROGRAM



The official program for Yuri's Night Houston as of March 16, 2008:

6:30 am: Setup for [Fun Run](#)

7:45 am: [1K Kid's Run](#) (Challenger Park)

8:00 am: [5k Fun Run](#) (Challenger Park); All proceeds to go charity: Permission to Dream and The Challenger Center

8:00 am: [Exhibit](#) setup (Space Center Houston -SCH)

10:00 am: [Education Day](#) (SCH) (educational exhibits, classroom lectures, guest speakers, [Texas Outlaw Music Festival](#))

11:00 am: [Aerospace Speaker](#) (Blastoff Theatre)

12:00 pm: Official Greeting from [JSC Center Director, Mike Coats](#) (Main Stage)

1:00 pm: [Astronaut Speaker](#) (Blastoff Theatre)

2:00 pm: [Astronaut Speaker](#) (Blastoff Theatre)

3:00 pm: [Aerospace Speaker](#) (Blastoff Theatre)

4:00 pm: [Aerospace Speaker](#) (Blastoff Theatre)

4:30 pm: Trams load for Rocket Demonstration (SCH)

5:00 pm: [Rocket Demonstration](#) (via Tram at RocketPark)

7:00 pm: [Yuri's Night Celebration](#) Starts

7:30 pm: Welcome from Special Guest

8:00 pm: [Texas Legend Billy Joe Shaver](#) takes stage (exact time still tbd)

9:30 pm: [Zero G Raffle Drawing](#)

10:00 pm: Yuri's Night Houston officially ends

Merchandise: Official Yuri's Night T-Shirts and commemorative pins will be sold throughout the event. Mens and Womens shirts will be available.

Pre-purchase Yuri's Night Houston tickets

Pre-purchase your Yuri's Night Houston 2008 World Space Celebration tickets today. The event, co-hosted by the American Astronautical Society and the Bay Area Motorcycle Rally, will be held at Space Center Houston on Saturday, April 12 with a full day of activities including exhibits, speakers, educational events and a world space celebration. This year's event celebrates three major space milestones, including NASA's 50th anniversary; the first human in space, Yuri Gagarin, on April 12, 1961; and the first space shuttle launch on April 12, 1981. For more information on all the Yuri's Night events visit the Web site below. <http://www.yurisnighthouston.net>

Yuri's Night is an international celebration held on April 12 every year to commemorate the first human in space, Yuri Gagarin on April 12, 1961, and the first Space Shuttle launch on April 12, 1981. In 2008, people will celebrate together on April 12th in over 40 individual events and 20 countries around the world. Locations will include Los Angeles,

Stockholm, Antarctica, Tel Aviv, Tokyo, Houston and the International Space Station.

The Houston 2008 celebration, hosted by the American Astronautical Society, is shaping up to be the largest space celebration in history! We are celebrating the 50th anniversary of space flight and planning a celebration that will be the first of its kind in Houston. The Yuri's Night Houston organization has partnered with the organizers of the Bay Area Motorcycle Rally to throw a celebration that will attract thousands of visitors from around the United States and the World! In fact, the motorcycle rally is a family friendly event based on a sister event held annually in Ruidoso, NM that attracts more than 35,000 visitors from 32 states. The inaugural Houston event will include a huge exhibit area, an all day Texas music festival, two VIP areas, a David Beverly Memorial Ride, and a ton of educational events. This event is supported by the local cities, chambers of commerce, and numerous sponsors.



YURI'S NIGHT 08

Dream. Explore. Celebrate. APRIL 12th

Presented by: **BOEING**



5K Fun Run ★ Space Day ★ World Space Celebration

...for more info visit our booth on Saturday April 12th or
www.yurisnighthouston.net

Official Yuri's Night Program

7:45 AM	1K Kid's Run (Challenger Park)
8:00 AM	5K Fun Run (Challenger Park)
10:00 AM	Space Education Day Starts (educational exhibits, classroom lectures, guest speakers)
11:00 AM	Aerospace Speaker (Blastoff Theatre)
12:00 PM	Official Welcome from Johnson Space Center Director, Mike Coats (Main Stage)
1:00 PM	Aerospace Speaker (Blastoff Theatre)
2:00 PM	Aerospace Speaker (Blastoff Theatre)
3:00 PM	Aerospace Speaker (Blastoff Theatre)
4:00 PM	Aerospace Speaker (Blastoff Theatre)
4:30 PM	Tram Loads for Rocket Demonstration
5:00 PM	Rocket Demonstration (via Tram at Rocket Park)
7:30 PM	Welcome From Special Guest
8:00 PM	Texas Legend Billy Joe Shaver
9:30 PM	Zero G Raffle
10:00 PM	Yuri's Night Officially Ends

ASA Rocket Demonstration
National Speakers and Astronauts
Telemetry and Mission Booths
Classroom Lectures
Space Museum
Yuri's Night Luncheon
Special Events
NASA Interactive Exhibit
Zero Gravity Raffle

Enter for your chance to experience
the weightlessness of spaceflight

JE JACOBS

Purchase your ticket for only \$5.00*

* Includes round-trip airfare, hotel accommodations, and a ride on
G-Force One. For more information and complete rules visit
www.yurisnighthouston.net or stop by the Yuri's Night booth on
Saturday April 12th.



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the weightless experience

collectSPACE.com
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USA
United States of America

A special thanks to all of our sponsors

For even more information, download the Press Pack at, http://www.yurisnighthouston.net/documents/YurisNight08_PressPak.pdf

JSC EAA free offer at the Radio Music Theatre

Enjoy a free night of comedy for all NASA employees, contractors, family and friends at the Radio Music Theatre in April for the 8:30 p.m. show on Thursday and the 10:30 p.m. show on Saturday. Currently playing is "Young and Fertle." Call 713-522-7722 for reservations, and be sure to mention you are with NASA. Please see the flyer for more information.

http://starport.jsc.nasa.gov/EmployeeActivities/documents/RadioTheater08_000.doc

A FREE NIGHT OF COMEDY

**For all NASA employees
and their families and friends**

**AT
RADIO MUSIC THEATRE**

"Houston's Best Live Comedy"

**As featured on: SATURDAY NIGHT LIVE,
THE USA NETWORK, OFF-BROADWAY,
MTV, and syndicated weekly on national radio
by Dick Clark's *United Stations***

**CALL (713) 522-7722
RESERVATIONS REQUIRED / SEATING IS LIMITED**

**Just give your name, the number in your party,
and the date you wish to attend. Mention you're
with NASA and your entire party will be
admitted FREE to any available Thursday 8:30
or Saturday 10:30 p.m. show. This offer is good
through the entire month of APRIL 2008.**

Now Playing: "Young and Fertle"

**Come see what the members of the infamous Fertle
Family from Dumpster, Texas, were like in High School**

**Radio Music Theatre...2623 Colquitt (near Richmond and
Kirby) BRING YOUR FRIENDS AND FAMILY!
No purchase required**

For more information on the show go to: www.radiomusictheatre.com

MARCH SPEAKERS

By Connie Haviland

Astronomer in Houston and surrounding area was very fortunate to have the opportunity to hear great speakers. Both HAS and JSCAS were very fortunate to have Gary Kilper speak at their meetings regarding one of the most fascinating, but ignored stars in our universe, the Sun. Gary is a 4th year graduate student studying solar astrophysics at Rice University. He received a B.S. in physics and math from the University of Chicago in 2004 and he previously worked on observational cosmology,



AGNs, and applied mathematics. The data that he presented (and there were some really mind-boggling videos) was interesting. Recent speakers have managed to get a question/answering session going, but to pull questions from members like Charlie Hudson, regarding the chemical aspect (pulling on Charlie's Chemist knowledge) was really great to see. If you missed Gary, you missed a great presentation. There are times that some speakers have information to present and forget that we are all NOT PhD's. Gary kept my attention for the entire presentation. There were videos and even a 3D video included in this presenta-



tion. I was awed by the information and made me stop and think, one of the greatest stars is right here, I just have to look up, with sunglasses on, that is. For more information regarding Gary's presentation, you can go to

Hinode movies: <http://solarb.msfc.nasa.gov/news/movies.html>

STEREO images & movies: <http://stereo.gsfc.nasa.gov/gallery/selects.shtml>

Another speaker available to all the clubs and NASA people was none other than Jack Schmidt. Dr. Jack Schmitt is currently the last human to have stepped onto the moon. As an Apollo 17 astronaut and geologist, he spent three days in December 1972 on the moon. Schmitt was trained at Caltech and at Harvard, where in 1965 he received his Ph.D. in geology. Schmitt has been involved in the space program for more than 40 years, including 10 years as an astronaut, six years as a United States senator, more than 20 years as a consultant and professor (at U Wisconsin), and now as chairman of the NAC. He shared his experiences with the Apollo 17 mission and his thoughts on the future of lunar exploration.



What a great person. It was fun to hear the stories and the information from a spectacular man. The slides and information was great and to talk to him afterwards was even better. Although all of our astronauts are heroes as far as I



am concerned and their courage to do what they do, I can't begin to thank them enough; we tend to forget they are ordinary people with extraordinary dreams and goals. Jack Schmidt was so laid back and easy to talk to. I couldn't pass up this opportunity to make sure we had a book for Dave and myself, but one for John and Caden. I want to be able to read his book to Caden and say, "This guy is no different than you or me, he just set his goals to achieve something that was not expected to happen...walk on the moon and I met him and shook hands".

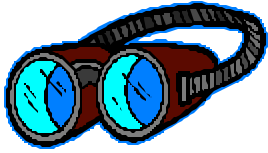
If you weren't able to make it, I strongly suggest you get the book, *Return to the Moon*. I know several people from our club were there and I want to thank them for being there. Dave, John and I were

there. John Erikson, Matt and his family, Hernan and Evelina, Charlie Hudson and Aldora and Dave Louw were all there.

Don't miss our speaker for April's meeting; **Aaron Clevenson** and his presentation is called, "**Keeping up with Kepler**".



PICTURES COURTESY OF MATT HOMMEL AND CONNIE HAVILAND



FORT (Forward Observing Recon Team)

By Ken Lester (special operations team)



Spring Fort McKavett Star Party

The staff at Fort McKavett State Historic Site is gearing up for the spring star party to be held April 3rd – April 6th.

As most of you are probably aware, our site is now part of the Texas Historical Commission. The switch over from Texas Parks and Wildlife (TPWD) was on January 1st. We are already seeing great changes here. On February 22nd, the park will be open to the public from 8 a.m. until 5 p.m. every day. We have already doubled our staff to 8 members. New trucks, computers and a tractor are on order for the site. We have installed new lighting in our offices and purchased 3 new porta-potties. We are also expecting a vigorous advertising campaign to kick off soon. All these changes are expected to bring an increase in site visitation and revenue.

Our entrance fee structure is staying the same for now. Adults - \$3, Seniors - \$2, Children 12 and under – Free, Groups – variable. TPWD's Texas State Park Passes are being honored until August but are no longer sold here. After discussions with Park Superintendent, Buddy Garza, we will once again waive the group fees for JSCAS members from April 3rd through the 6th.

Here are some changes affecting those who wish to come early or stay late. Advanced notification is required. The phone number at the fort is 325-396-2358. Also, daily entrance fees will apply. Because the site is open to the public every day, we need to minimize the visual impact your stay will have on the public touring the grounds and buildings by restricting the housing to the middle room of the barracks or in an RV behind the long ruins until the star party officially begins. Since the star party is the week after the fort's biggest yearly event, West Texas Heritage Day, the earliest that you can arrive will be Monday afternoon, March 31st.

Now for the fun stuff.

All JSCAS members and their guests have been invited to the Flying B Ranch Friday night. The Flying B's owner and long time JSCAS friend, Susan Buchholz, is throwing us a party complete with margaritas and Mexican food. Festivities start around 7 p.m. Feel free to bring other libations should your beverage of choice not be margaritas. Maps to the Flying B will be available at the fort.

Our tradition of late has been to have a group cook out/grill your own on Friday night. This can be changed to Thursday night if someone in Houston wants to coordinate.

Like our previous star parties, the Friends of Fort McKavett will have a great 3 meat BBQ lunch on Saturday at noon with all the fixings. A suggested donation of \$10 will help cover the cost of the food.

Saturday evening around 6:30 at the School House, a group of Master Naturalists from the Menard/Junction area will arrive for an astronomy talk. Lisa and I will be hosting the talk and would appreciate any help we can get. The talk will cover astronomy basics. Everyone is welcome to attend.



I'll be available on Friday to give those who are interested in a private tour of the furnished historic buildings.

Lisa is coordinating the housing. Be sure to get with her (lisa@riverofstars.net) with your housing requests.

For those attending their first Fort McKavett star party, please pick up all trash from the observing field before you retire for the evening. Also, keep all adult beverages out of sight during the hours the park is open, including Saturday night until the public has left. It would help the fort tremendously if we can keep our presence in the buildings and on the parade ground as low keyed as possible.

If you have any questions, please contact me at ken@riverofstars.net. Look forward to seeing you all again.



The staff at Fort McKavett State Historic Site: From left: Alfredo Muñoz, assistant site manager; Ken Lester, maintenance supervisor; Russell Tipton, maintenance technician; Gennie Hough, office manager; Chris Fischer, curator/interpreter; site manager Buddy Garza; Jay Wright, maintenance assistant; and Nancy Jacoby, assistant office manager.



What's Happening at the George!!!

Cynthia Gustava

George Observatory April Events

Volunteers are needed for April 2008 George Observatory Friday and Saturday night events. To volunteer, please contact Cynthia Gustava at cynm31@comcast.net. Thanks!

Apr 4: Friday Night Group – Girl Scout Sky Search and Overnight – 7:30 p.m.

Dome and deck scope positions are open. Bring your laser pointers and help the girl scouts identify constellations and objects.

Apr 5: Saturday Night Public Viewing – Building Managers: Leonard Ferguson and Cynthia Gustava

Dome and deck scope positions are open. Viewing starts at dusk.

Apr 11: Friday Night Group – Girl Scout Sky Search and Overnight – 7:30 p.m.

Dome and deck scope positions are open. Bring your laser pointers and help the girl scouts identify constellations and objects.

Apr 12: Saturday Night Public Viewing – Building Managers: Jack McKaye and Wes Whiddon

Dome and deck scope positions are open. Viewing starts at dusk.

Apr 19: Saturday Night Public Viewing – Building Managers: Tracy Knauss and Keith Rivich

Dome and deck scope positions are open. Viewing starts at dusk.

Apr 25: Friday Night Group – Eastwood Academy – 7:30 p.m.

Dome and deck scope positions are open. Number of visitors: 30 kids, teachers and adults. Building Manager: Cynthia Gustava

Apr 26: Saturday Night Public Viewing – Building Managers: Cynthia Gustava and Mary Lockwood

Dome and deck scope positions are open. Viewing starts at dusk.

Contact Cynthia Gustava at cynm31@comcast.net to volunteer for any of these events. Thanks!

YOU CAN ALSO GO TO:

<http://209.34.11.207:8010/cgi-bin/calcium.pl?>

[CalendarName=GeorgeObs_Event_Cal&Op=ShowIt&Amount=Month&NavType=Both&Type=Block&Date=2008/3/1](http://209.34.11.207:8010/cgi-bin/calcium.pl?CalendarName=GeorgeObs_Event_Cal&Op=ShowIt&Amount=Month&NavType=Both&Type=Block&Date=2008/3/1)

AND SEE THE CALENDAR FOR APRIL



JSCAS LIBRARY & BOOK REVIEW

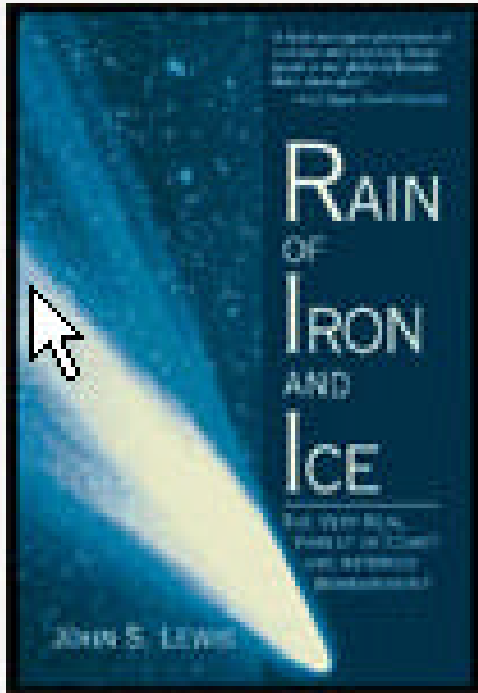
By Bob and Karen Taylor

From Publishers Weekly

This volume informally yet comprehensively surveys meteorites (which reach the surface of the earth) and meteors (which don't)-their origins, types, consequences and prospects for influencing future events. Author Lewis, codirector for science at a NASA/University of Arizona research center, is passionate and upbeat on the topic. Addressing the general reader, he recounts apt anecdotes in historical context while outlining a common-

sensical framework for understanding the scientific scope and nature of the matter that comes to earth from space. Early chapters describe legendary meteorite falls. Subsequent chapters consider, for example, new knowledge from studies of nuclear explosions, cratering on Mars and Mercury, atmospheric effects on Venus and biological signatures of impacts in earth fossil records. Very interesting are results of computer simulations based on the accumulated discoveries, which project what we can expect from future encounters. Overall, Lewis presents an impressively readable and informative digest of current knowledge on the subject.

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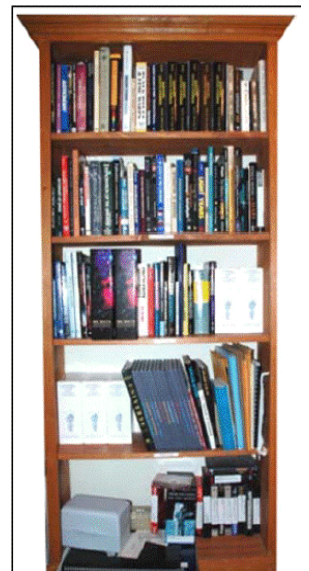
From Library Journal

News flash: After 200 years of touting the uniformity principle, scientists have discovered catastrophism. Of course, there has always been evidence of destruction coming from the heavens: The Book of Revelations, Charles Fort, medieval astrologers, Christian Millennialists, and Immanuel Velikovsky have all insisted upon it. But now, after centuries of debunking such theories, science proclaims its official dictum: cataclysm is possible, indeed probable. Rain of Iron and Ice traces the his-

tory of religious and scientific beliefs about meteorite falls, cometary eruptions, and asteroid near-misses and reviews eschatology (the literature of such catastrophes). Lewis, a noted planetary scientist and impact crater expert and author of Space Resources (LJ, 9/15/87), follows the fascinating study of bombardment on the Earth, Moon, Mercury, Venus, and Mars. He outlines the results of computer simulations and the implications for the future of life on Earth, offering suggestions as to "what we can do about it." Lewis does a fairly thorough job of reviling experts for scoffing at superstition and ignoring the vast quantities of eyewitness reports, but he stays within the bounds of establishment science (there are no footnotes to Velikovsky). Following Duncan Steel's more lay oriented Rogue Asteroids and Doomsday Comets (LJ 5/1/95), this scholarly history is suitable for academic libraries and informed science readers in public libraries? Valerie Vaughan, Hatfield P.L., Mass. Copyright 1996 Reed Business Information, Inc. --*This text refers to an out of print or unavailable edition of this title.*

Book Description

Rain of Iron and Ice shows us the unmistakable evidence-from space-probe flybys of the planets to the scars on our own Earth-of cataclysmic comet and asteroid impacts. By comparing what we know about the earth's geology and paleontology with the ages of the other planets and moons in our solar system, Lewis makes the strongest case yet of the sudden, dramatic extinction's and assesses the risks to planet Earth.





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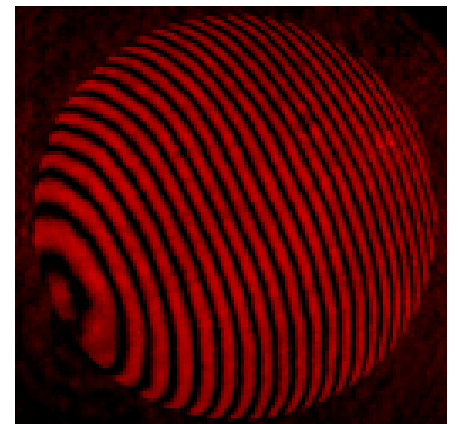
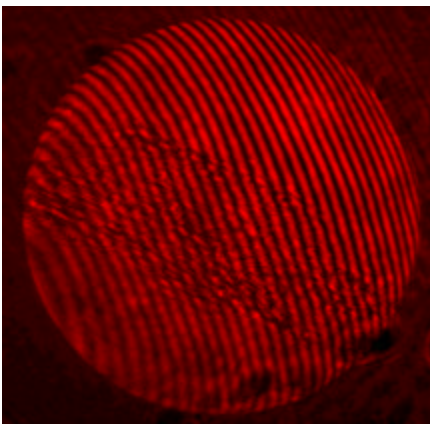


JSCAS Mirror Lab

Matt Hommel



After a bit of a Hiatus I have restarted work in my Mirror Lab. I have found an engineer who can build the parts I lack to get my mirror coater finished. I have also built a new interferometer. The Popsicle stick version worked well despite its humble construction. I did however, need the ability to make minor adjustments left and right as well as forward and back and tilt. As long as I was addressing the short comings in the mount I figured I would address the short comings of the interferometer as well. I needed better contrast, and a larger image. I switched to a right angle configuration which is known to produce better images and also has the advantage of being able to place your camera lens closer to the beam's exit point. I was able to solve all the issues with this new design. I still need to clean the optics a bit more after the build, but that's a minor issue. Things are improving, as you can see in the right picture.



MOVIE REVIEW—ACROSS THE UNIVERSE

By Matt Hommel

I rented this movie recently and found out, as I had suspected, it has nothing to do with the Universe, nor traveling across it. I knew it was a musical bordering on an Opera (in which all the lines would be sung), but I was somewhat surprised that all the songs were by the Beatles and also that there was a Beatles song called "Across The Universe", hence the name of the movie. Perhaps I should point out that I was one year old when these guys broke up.

This movie is very "Artsy". If you were a fan of "The Who" and you liked "Tommy" you will probably like this movie. The singing is excellent. As is sometimes the case, the folks in the movies actually do a better job than the original artists. In my opinion, Elton John sang "Pinball Wizard" better than the Who in Tommy. Bob Geldoff sang everything better than Pink Floyd when he starred in "The Wall", and it's little surprise to me that the nameless folks in "Across The Universe" took the Beatles music into the modern era very effectively.

There were some interesting cameos. The walrus is played by Bono from the Irish Rock Band U2, and the fantasy nurse is played by Salma Hayek. The movie is rated PG13 so don't get too excited about the fantasy nurse. There is however, a cute blond that doesn't seem to own a pair of pajamas, or a bathing suit.

I don't recommend going out and renting this movie unless you really like art movies. If you are planning a double feature night and you want something to put in around midnight that you wouldn't be able to follow anyway this film fits the bill nicely.

Cheers,
Matt.

The answer to the cover sheet question:

I am told that when the mother-ship mis-fires, it blows a smoke ring out the tailpipe. Could this be what you are seeing?

Chuck Shaw

++++++

This was taken an hour after a shuttle launch in Florida. Of course the trail is changing altitudes constantly. Now, for the jet contrail to have experienced the different levels of winds, I am going to suggest that the one



contrail that you saw do a loop was a contrail of a jet that was perhaps changing altitudes while conning. I say that because I have chased

contrails that curve and change direction, but they change quicker when exposed to different altitudes where the wind can be as in these examples, 180 degrees out of phase with other altitudes. The wind doesn't really have to change direction either, it only has to change speed. Remember to think of the air mass as a river of fluid, and just as in a river when a piece of wood might flow past another piece in the same river, and then double back around in a loop, the air acts the same way. So, what you are seeing is common. We don't usually see a lot of this stuff I guess because the jet stream usually completely erases the contrails before they are "stirred" into loops. I hope this all made sense and helped. Although, I really think Chuck's answer is correct, this is all that was left for me to add.

.....Triple Nickel

Members' Gallery—April 2008
Taken by Becky Ramotowski Along with the cover picture



A Leap Day international space station pass. The Moon, a glowing Milky Way, a handful of Messiers, a planet, and a space station. That's what I call a Big Breakfast.

Sagittarius is front row center at the lower part of the frame.

D70 on Tripod

5:21 a.m.

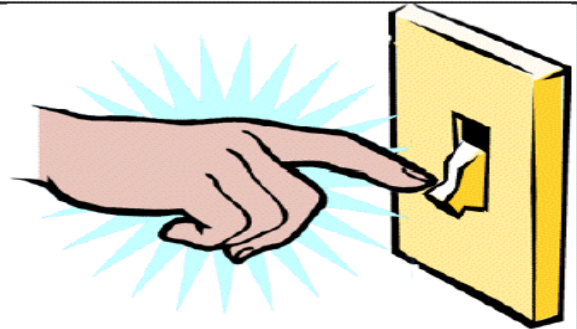
28 degrees

Cover shot: Nikon D70 on tripod
ISO 400
F/4

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

Houston

Area

Astronomy

Clubs

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 – John Erickson
Librarian – Bob and Karen Taylor
Historian – Susan De Chellis
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 – Chris Randall

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

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

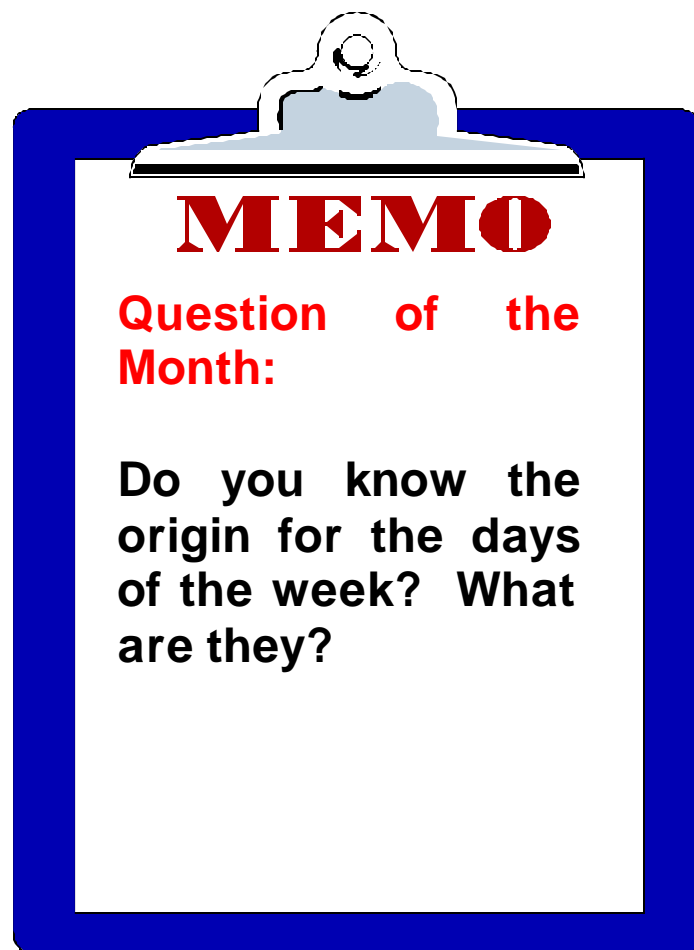
FOR OUR NEW ASTRONOMERS AND SOME OF US “NOT SO NEW”....DOES THIS SOUND FAMILIAR????

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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



WORD SEARCH SOLUTION

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W

E

S

(Over,Down,Direction)

COSMOLOGY	(21, 21, SE)
DENSITY	(30, 9, NW)
EARTHSHINE	(19, 22, W)
ECOSPHERE	(10, 13, S)
ELECTRON	(16, 4, W)
EQUINOX	(17, 9, N)
EXOSPHERE	(12, 2, SW)
GALAXY	(6, 9, E)
GEOCENTRIC	(27, 14, NW)
GEOPHYSICS	(13, 26, N)
IONOSPHERE	(1, 10, NE)
LIMB	(15, 4, N)
MASS	(14, 19, NE)
NADIR	(20, 5, NW)
NEBULA	(23, 25, SE)
OCCULTATION	(27, 7, SW)
ORBIT	(5, 22, W)
PARSEC	(23, 17, S)
PERIGEE	(1, 7, NE)
PERIHELION	(2, 27, E)
QUASAR	(23, 1, SW)

How to Make a Sundial

Instructions

Difficulty: Moderately Easy

Things You'll Need:

- Protractor And Drafting Compasses
- Maps
- Laser Printers
- Local Newspapers
- Internet Access
- Pencils
- [Felt-tip Pens](#)
- Pens
- Common Nails
- Disk Of Wood Or Cardboard
- Hammers

Step 1:

Use a disk made from wood or heavy cardboard for the base of your sundial. Mark its center with a pen or pencil.

Step 2:

Choose an item for the gnomon, or hand, of your sundial. This is the part of the sundial that casts a shadow onto the dial. A pencil, pen or nail (for a wood disk) can each work well.

Step 3:

Determine your latitude. This number can be found on either a map or on one of many Internet sites that will calculate your latitude for you.

Step 4:

Insert the end of the gnomon into the disk at its center. The angle of the gnomon relative to the face of the disk should equal your latitude angle. Use a protractor to verify that the gnomon is at the correct angle to the disk.

Step 5:

Find an Internet site that will allow you to input your latitude information and will then produce a horizontal sundial face diagram that is specific to your latitude (try physics.uwyo.edu/~rberring/sundial.html)

Step 6:

Print out the dial face diagram. The diagram will consist of a horizontal line with lines radiating upward from its center.

Step 7:

Place your disk onto the diagram so that the gnomon lines up with the radiating vertical line. The center point of the disk should rest where the horizontal and vertical lines meet.

Step 8:

Use a felt-tip pen to transfer the lines from the diagram onto the disk. The lines should radiate from the center of the disk outward. Label the lines on your disk to indicate the hour that each represents. Use the diagram as a guide.

Step 9:

Take your sundial outside and point the gnomon of your dial due north. The resulting shadow should fall along the appropriate hour line.

Tips & Warnings

- 💡 Use a gnomon whose length is approximately $\frac{1}{2}$ to $\frac{3}{4}$ the diameter of the disk.
- 💡 Use these instructions for any location in the Northern Hemisphere.
- 💡 Find true north (which differs from magnetic north) by placing a long stick straight into the ground at true midday. The shadow cast at exactly this time will point in the direction of true north. Determine true midday by first converting the sunrise and sunset times into military time (i.e., 6 PM = 1800). Add these two times together and divide by 2 to get the true midday time.
- 💡 Find the sunrise and sunset times in your local newspaper.

CROSSWORD PUZZLE

R	X	H	D	F	O	X	V	H	W	T	Z	X	R	U	R	M	B	U	V	Z	Q	T	X	Y	Q	R	S	E	I
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APOLLO
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 ASTRONAUTICAL
 CATASTROPHISM
 COLLIMATION
 CONFIGURATION
 COSMIC

ETA CARINAE
 FOSSIL
 GEOLOGY
 INTERFEROMETER
 KEYHOLE NEBULA
 KILMER
 METEORITES

MOODY GARDENS
 OBSERVATOR
 PALEONTOLOGY
 SATURN
 SCHMIDT
 STARPARTY
 YURI GAGARIN

ANSWER TO LAST MONTH'S "QUESTION OF THE MONTH"

Question: What is opposition, occultation and eclipse?

Opposition: When a planet is exactly opposite the sun, so that the Earth is between them

Occultation: The covering up of one celestial body by another.

Eclipse: When our view of one object in the sky is blocked by either another object, or the Earth's shadow.



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

