UNA Planetarium Newsletter

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As everyone scrambles around to get everything prepared for the holidays one of the key decisions is what to get for gifts. You have a budget and want to get something great and thoughtful. A common gift request among those interested in astronomy is for a telescope. This can be something that launches a lifelong love of science or it can extinguish it forever! This is because pointing a telescope at an object can be tough, even for objects the books say are "easy". A novice can get frustrated and think science is too hard for them.

You can avoid this. Even expensive computer controlled telescopes require some knowledge of the sky. So make sure the following steps are followed before a telescope purchase. First, make sure that the person you are buying the telescope for knows the sky and the brightest stars. *If they don't, get them a star chart. If they* do know the sky, then consider a pair of binoculars and a guidebook. Binoculars are easier to point and can be used for other hobbies as well. Many objects, like the Pleiades star cluster and the Andromeda Galaxy look better in binoculars anyway. Finally, if the person you are buying for has done these first two steps, only then get them a telescope. Spend a lot of time looking at models and you don't need to spend a lot. A few hundred dollars can get a decent beginner telescope that can be used for years.

If your loved one wants to look through a telescope, you can bring them to the planetarium or they can join the Shoals astronomy club. Good luck with the holiday gifts!

Mel Blake.

UNA Planetarium and Observatory, is operated by the Dept. of Physics and Earth Science

Image of the Month



This Hubble Space Telescope (HST) image shows the debris of an asteroidasteroid impact. The strange X-shape is still not understood. The object was discovered in January and has been observed by the HST ever since. The asteroid that was struck is the small bright dot at the left. Material ejected from the asteroid is spreading out slowly behind the asteroid. Astronomers studying the impact are puzzled by how slowly the material is spreading out. By calculating backwards they found that the collision probably took place in February or March 2009, almost a year before the object was fund. Calculations suggest such impacts could happen at the rate of one a year. Future all-sky monitoring of the asteroid belt might provide important information about these processes if events can be found in their early stages.

Image courtesy NASA.

Astro Quote: "This dead of midnight is the noon of thought, And Wisdom mounts her zenith with the stars."

'A Summer's Evening Meditation.', Anna Barbauld.

Planetarium tours start at 7:00PM. Tours include a planetarium star show, a video presentation and observing through a telescope if weather allows. \$3/person, UNA students free. No reservations are required.

Observing Highlights

The Geminid meteors peak on Dec 13/14 near midnight. These meteors generally produce about 50 - 100 meteors per hour. It is easy to observe all evening on the night of Dec 13th because Gemini is visible all night.

Dec 21st will see a total lunar eclipse, visible in its entirety from Florence.



\lambda Calendar for December. 2010 ٨

Dec 13/14 Geminid Meteors Peak

Dec 14 Planetarium Public Night





Dec 18 Star of Bethlehem Program

Dec 19 Star of Bethlehem Program

Dec 20 Star of Bethlehem Program

Dec 22 Star of Bethlehem Program

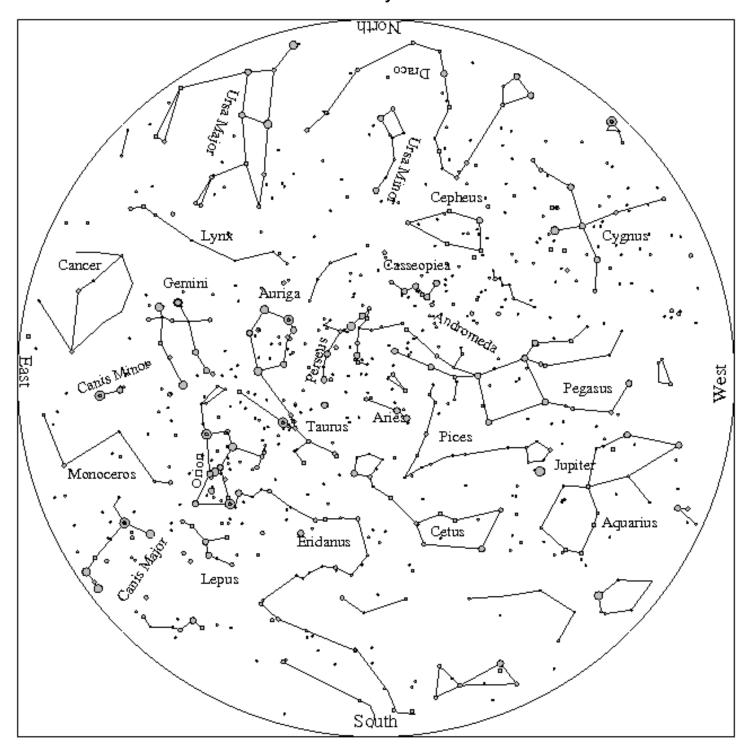
Dec 23 Star of Bethlehem Program





Dec 21st Lunar Eclipse Tour

The December 2010 Sky for North Alabama



How to use this Chart: The sky is shown for 8:00PM, December 15th for Florence, Alabama. It will appear this way one hour earlier for each week difference in time. The stars brightness's are represented by different sized dots. The faintest stars you can see are the small dots; the brightest ones are large dots. Hold the chart with the direction you are facing down. So if you are facing north, hold the chart with north down. The circle represents the horizon and the center of the chart the point directly over your head. So an object half-way between the center and edge of the chart is half-way up in the sky. This chart was prepared using the SkyNow software of R. M. Blake. This chart may be reproduced for non-commercial purposes with the following acknowledgement included: Courtesy UNA Planetarium and Observatory. http://www.una.edu/planetarium/.

2010 Geminid Meteors

The UNA planetarium and observatory would like to notify the public about the upcoming Geminid meteor shower on the night of December 13/14. Meteor showers are named after the constellation that they appear to emanate from. If you trace back the path of the meteors in a meteor shower, they all point back to a certain spot on the sky. The constellation where the spot is located gives the meteor shower its name. A meteor is just a dust particle burning up in the atmosphere. They all appear to come from the same direction due to an optical illusion similar to the way railroad tracks that are running next to one another appear to meet in the distance.

The Geminid meteors result when the Earth passes through the debris of an asteroid that may have been struck by another object. This is unusual since most meteors showers occur when the Earth passes through the debris of a comet. The Geminids were first noticed in 1862, and seem to be increasing in number each year. The peak of the shower is very short and last only a few days. The particles themselves have had orbital studies performed, confirming their unusual origin from an asteroid rather than a comet. Earth and Jupiter seem to be slowly modifying the particle's orbits. The parent object was discovered using the Infrared Astronomical Survey (IRAS) and is now named 3200 Phaethon. Likely the asteroid was struck by another object, producing the meteors.

From a dark location you can normally see about two or three random meteors per hour. During the peak of the Geminid meteors the shower will produce about 50 - 100 meteors per hour, peaking about 7AM, December. This year the shower takes place during first quarter moon, which will set at about midnight. So the best time to watch the shower is in the morning hours, although meteors will be visible all night. However, the Geminid meteors are noted for many brighter meteors. If one of your friends says "Look!" it is already too late! Sometimes meteors can be seen for about a day before and a day after the peak, so keep an eye on the sky for meteors on December 6th through to the 18th.

Star of Bethlehem Shows

The UNA Planetarium and Observatory will present a series of shows about the possible scientific origins of the Star of Bethlehem. We will discuss the descriptions given for the Star and try to pin down the year that the star would have been seen. This will lead into a discussion of the astrological beliefs and who the wise men might have been. The various transient objects that might explain the Star of Bethlehem will then be presented. The shows will be followed by a discussion of the December constellations. The shows will take place at the following times:

December 18th at 2PM

December 19th at 2PM

December 20, at 7PM

December 22nd at 7PM

December 23rd at 7PM

Shows are \$3/person.



Scholarship Fundraiser

Over the years the planetarium chairs have taken a lot of abuse. In addition, the chairs in the planetarium have little neck and head support. Some of the chairs are broken, but are hard to replace now that better seating is available. The most common comment we get is that people enjoy the programs, "... but those chairs!" They need to be replaced with modern seating. In addition, we need scholarships for the students in Physics and Earth Science to encourage more students to take these majors. There is a severe shortage of graduates in these fields and the US faces a shortage of qualified physicists to continue the nations' lead in research. To address these problems we would like to announce our Physics and Earth Science Department Scholarship Fundraiser. Donors will be asked to donate the cost of a chair replacement plus a similar amount to establish a scholarship fund for students studying Physics and Earth Science at UNA. Donors at the Galaxy level will have a name plate attached to the chair when it is installed in recognition of their contribution. Donors may also donate smaller amounts towards the cost of the project if they wish. All donors will have their names posted prominently in the planetarium lobby along with their level of support. So help out the planetarium and the students in the Physics and Earth Science Department! I am including below a handy form to fill in for your convenience. We appreciate any support you can give us!

Donation	to	the	UNA	Planetarium	Scholarship	Fundraiser

Please find enclosed a check or money order for the amount of \$700 to contribute to the full amount for a chair replacement and scholarship donation.

Donors Name:			

I would like to donate at the following level:

Planetary Level	\$1 - \$199	Amount:
Stellar Level	\$200 - \$499	Amount:
Nebular Level	\$500 - \$999	Amount:
Galaxy Level	\$1000 and higher	Amount:

Please mail the form with your check or money order made tout to University of North Alabama to

UNA Foundation, University of North Alabama, Florence, Alabama, 35630.