

What's Happening In the Universe Today?



Astrophysicist Kevin Manning, a former consultant with NASA, looks into a modern understanding of matter and energy and how it is distributed throughout the cosmos. Should we be concerned about December 21, 2012? What are the kinds of extraordinary events that occur in the universe and how can they affect us? Answers to these and other questions regarding dark matter and dark energy shall be explored using outstanding photos and video segments.

Points to Ponder:

- Are the events we are detecting today happening now or in the past?
- Is there water in the universe and where is it found?
- How has NASA's flagship X-ray telescope, the Chandra X-ray Observatory, as part of NASA's fleet of "Great Observatories" and specially designed to detect X-ray emission from very hot regions of the universe, helped us understand the structure and evolution of the universe, from planets and black holes to dark energy, and the distribution of matter since the Big Bang?
- Can a doomsday event occur and what can we do to prepare for it if it does?

For more information about these kinds of programs please visit the web site at www.lookuptothestars.com

Daily Observation Log

Observer: _____ **Date:** _____

Time: _____ am
_____ pm **Duration:** _____ min

Sky: 0 1 2 3 4 5 (circle one) **Seeing:** 0 1 2 3 4 5 (circle one)

Constellation(s): _____

Star(s): _____

Planet(s): _____

Object(s): _____

Phenomena: _____

Observational Method: unaided eye paper tube binoculars telescope (circle one)

Drawing:



Instructions for Completing Daily Observation Log

Observer: Please print your full name

Date: Record current month/day/year (i.e. 01/08/2009)

Time: Record the time you began the observation and circle AM or PM

Duration: Record the total number of minutes you actually made your observation

Sky: Circle one number that best represents the sky from clear to completely overcast. 0 = clear; 1 = a few small clouds; 2 = partly cloudy; 3 = sky 50% cloud-covered; 4 = few breaks in clouds; 5 = completely overcast

Seeing: Circle one number that best represents the seeing conditions from excellent to poor. "Seeing" is a term used by astronomers to describe the steadiness of the atmosphere. One method of determining how steady or unsteady the atmosphere is, due to air currents and temperature changes, is by studying the brighter stars. Bright stars that appear to "twinkle" indicate turbulence in the layers of air in the atmosphere. Rate the seeing conditions on a scale of 0 for perfectly steady to 5 for stars that appear to "dance" in the sky.

Constellation(s): List any constellation you are able to identify in the night sky.

Star(s): Write the name of each brightest star you are able to identify by consulting a star chart or atlas.

Planet(s): Write the name of any planet you identify by referring to current data available giving its location.

Object(s): Record the number and types of objects seen in the sky. Examples include meteors ("falling or shooting stars"), satellites, comets, asteroids, etc.

Phenomena: Any form of sky glow, such as aurora or the Milky Way, may be recorded

Observational Method: Circle the method of observation used. More than one per observation period can be utilized.

Drawing: Draw the moon phase (amount of sunlit portion) if visible. Also draw in anything recorded for that day's observation. You should draw in boundary lines separating different parts of the sky and include the direction abbreviated (i.e. SW) for each segment.