



VCAS, P.O. Box 982, Simi Valley, CA 93062

WWW.VCAS.ORG

VCAS ALCor INFORMATION

Lunar Club / Certificate



Lunar Club Logo



Waning Moon 11/18/2005

Introduction:

Welcome to the Astronomical League's Lunar Club. The Lunar Club introduces amateur astronomers to that object in the sky that most of us take for granted, and which deep sky observers often come to loathe. This program is well suited for all observers and no special observing skills are required. It is well balanced because it develops naked eye, binocular, and telescopic observing skills. The Lunar Club is also suitable for amateurs in heavily light polluted areas.

Rules and Regulations:

To qualify for the AL's Lunar Club Certificate and pin, you need only be a member of the Astronomical League, either through VCAS or as a Member-at-Large,

and observe 100 features on the moon. These 100 features are broken down into three groups: 18 naked eye, 46 binocular, and 36 telescopic features. Any pair of binoculars and any telescope may be used for this program. If you have problems with observing the features at one level, you may go up to the next higher level. In other words, if you have trouble with any of the naked eye objects, you may jump up to binoculars. If you have trouble with any of the binocular objects, then you may move up to a telescope. But if you have trouble with any of the telescopic objects, you are on your own. You will have to arrange your own time on the Hubble Space Telescope. Before moving up to the next higher level, please try to get as many objects as you can with the instrument required at that level. Logging your observations is simple. Just list the instruments that you used, check off the features as you observe them, and then list the date and time you observed the feature. That is all there is to it.

Submit your log sheets along with your name, address, and phone number to the VCAS ALCor through VCAS or at :

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Some Suggested Resources:

Observing & Photographing the Solar System
Willmann-Bell, Inc.

Observing the Moon North

Photographic Atlas of the Moon
Chong, Lim, Ang

Moon Observers Guide Grego

Moon Map Sky Publishing

www.astroleague.org

They have a great online bookstore and information on the observing programs. You can order from Astronomical League Sales or go to www.vcas.org to receive all pertinent info on a single pdf file.

Naked Eye Objects

Instruments Used _____

OBJECT	FEATURE	DATE	TIME
<input type="checkbox"/> (Within 72 Hrs of new)	Old Moon in New Moon's Arms	_____	_____
<input type="checkbox"/> (Within 72 Hrs of new)	New Moon in Old Moon's Arms	_____	_____
<input type="checkbox"/> (Within 40 Hrs of new)	Crescent Moon, Waxing	_____	_____
<input type="checkbox"/> (Within 48 Hrs of New)	Crescent Moon, Waning	_____	_____
<input type="checkbox"/>	<u>Man in the Moon</u>	_____	_____
<input type="checkbox"/>	<u>Woman in the Moon</u>	_____	_____
<input type="checkbox"/>	<u>Rabbit in the Moon</u>	_____	_____
<input type="checkbox"/>	<u>Cow Jumping Over the Moon</u>	_____	_____
Maria			
<input type="checkbox"/>	Crisium	_____	_____
<input type="checkbox"/>	Fecunditatis	_____	_____
<input type="checkbox"/>	Serenitatis	_____	_____
<input type="checkbox"/>	Tranquillitatis	_____	_____
<input type="checkbox"/>	Nectaris	_____	_____
<input type="checkbox"/>	Imbrium	_____	_____
<input type="checkbox"/>	Frigoris	_____	_____
<input type="checkbox"/>	Nubium	_____	_____
<input type="checkbox"/>	Humorum	_____	_____
<input type="checkbox"/>	Oceanus Procellarum	_____	_____

Sketches of Naked Eye Objects



The Man in the Moon.



The Woman in the Moon.



The Rabbit in the Moon.



The Cow Jumping over the Moon.

Binocular Objects

Instruments Used _____

	OBJECT	FEATURE	DATE	TIME
<input type="checkbox"/>		Lunar Rays	_____	_____
<input type="checkbox"/>		Sinus Iridum	_____	_____
<input type="checkbox"/>		Sinus Medii	_____	_____
<input type="checkbox"/>		Sinus Roris	_____	_____
<input type="checkbox"/>		Palus Somnii	_____	_____
<input type="checkbox"/>		Palus Epidemiarum	_____	_____
<input type="checkbox"/>		Mare Vaporum	_____	_____
	Craters			
<input type="checkbox"/>	~4 Days old	Langrenus	_____	_____
<input type="checkbox"/>		Vendelinus	_____	_____
<input type="checkbox"/>		Petavius	_____	_____
<input type="checkbox"/>		Cleomedes	_____	_____
<input type="checkbox"/>		Atlas	_____	_____
<input type="checkbox"/>		Hercules	_____	_____
<input type="checkbox"/>		Endymion	_____	_____
<input type="checkbox"/>		Macrobius	_____	_____
<input type="checkbox"/>	~7 Days old	Piccolomini	_____	_____
<input type="checkbox"/>		Theophilus	_____	_____
<input type="checkbox"/>		Cyrillus	_____	_____
<input type="checkbox"/>		Catharina	_____	_____
<input type="checkbox"/>		Posidonius	_____	_____
<input type="checkbox"/>		Fracastorius	_____	_____
<input type="checkbox"/>		Aristoteles	_____	_____
<input type="checkbox"/>		Eudoxus	_____	_____
<input type="checkbox"/>		Cassini	_____	_____
<input type="checkbox"/>		Hipparchus	_____	_____
<input type="checkbox"/>		Albategnius	_____	_____
<input type="checkbox"/>		Aristillus	_____	_____
<input type="checkbox"/>		Autolycus	_____	_____
<input type="checkbox"/>		Maurolycus	_____	_____
<input type="checkbox"/>	~10 Days old	Plato	_____	_____
<input type="checkbox"/>		Archimedes	_____	_____
<input type="checkbox"/>		Ptolemaeus	_____	_____
<input type="checkbox"/>		Alphonsus	_____	_____
<input type="checkbox"/>		Arzachel	_____	_____
<input type="checkbox"/>		Walter	_____	_____
<input type="checkbox"/>		Maginus	_____	_____
<input type="checkbox"/>		Tycho	_____	_____
<input type="checkbox"/>		Clavius	_____	_____
<input type="checkbox"/>		Eratosthenes	_____	_____
<input type="checkbox"/>		Longomontanus	_____	_____
<input type="checkbox"/>		Copernicus	_____	_____
<input type="checkbox"/>		Bullialdus	_____	_____
<input type="checkbox"/>		Aristarchus	_____	_____
<input type="checkbox"/>		Gassendi	_____	_____
<input type="checkbox"/>	~14 Days old	Kepler	_____	_____
<input type="checkbox"/>		Grimaldi	_____	_____

Telescopic Objects

Instruments Used _____

OBJECT	FEATURE	DATE	TIME
[]	Sinus Aestuum	_____	_____
[]	Lacus Mortis	_____	_____
[]	Palus Putredinis	_____	_____
[]	Promontorium Laplace	_____	_____
[]	Promontorium Heraclides	_____	_____
[]	Promontorium Agarum	_____	_____
[]	Montes Alpes	_____	_____
[]	Montes Apenninus	_____	_____
[]	Mons Hadley	_____	_____
[]	Mons Piton	_____	_____
[]	Mons Pico	_____	_____
[]	Rupes Altai	_____	_____
[]	Rima Hyginus	_____	_____
[]	Vallis Schroteri	_____	_____
[]	Vallis Alpes	_____	_____
[]	Rupes Recta (straight wall)	_____	_____
Craters			
[]	~4 Days old	Picard	_____
[]		Furnerius	_____
[]		Petavius Wall	_____
[]		Messier/Messier A	_____
[]		Proclus	_____
[]		Fabricius	_____
[]	~7 Days old	Plinius	_____
[]		Mitchell	_____
[]		Cassini A	_____
[]		Manilius	_____
[]		Gemma Frisius	_____
[]	~10 Days old	Davy	_____
[]		Pitatus	_____
[]		Billy	_____
[]		Fra Mauro	_____
[]		Clavius craterlets	_____
[]		Hippalus	_____
[]		Herschel, J.	_____
[]	~14 Days old	Schickard	_____
[]		Reiner Gamma	_____

Optional Activities

Optional Activities:

For those of you that still may have some trouble observing the 100 original features of the program, we have included 10 optional activities on page 4. Each one activity counts as two of the observations on pages 2 and 3, and may be substituted for those observations.

Naked Eye:

1. Estimate first quarter phase within eight hours.
2. Estimate third quarter phase within eight hours.
3. Estimate full moon within thirty-six hours.
4. Plot moon's position against the stars for three consecutive days.
5. Compare the size of the full moon on the horizon with the full moon on the meridian using a dime held at arm's length.

Find the thinnest phase by which you can read newsprint.

Binocular:

1. Sketch libration - use Mare Crisium or Grimaldi for examples.
- Sketch a lunar map - use any scale for binoculars only.

Telescopic:

Plot the moon's hourly motion against the stars for two hours or more.

Measure the height of a lunar mountain - need to calculate the sun's elevation at the mountain and estimate the shadow length - try Mt. Piton.