



THE ASTRONOMICAL LEAGUE'S LUNAR CLUB



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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 have come to loathe. But even though deep sky observers search for dark skies (when the moon is down), this program gives them something to do when the moon is up. In other words, it gives us something to observe the rest of the month, and we all know that the sky is always clear when the moon is up.

The Lunar Club also allows amateurs in heavily light polluted areas to participate in an observing program of their own. This program is well suited for the young, inexperienced observer as well as the older observer just getting into our hobby since no special observing skills are required. It is well balanced because it develops naked eye, binocular, and telescopic observing skills. Finally, the Lunar Club was created as a project that can easily be done by schools and school children, especially those in the inner city.

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 an affiliated club 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. As a matter of fact, to prove that the Lunar Club could be done with small apertures, we used 7x35 binoculars and a 60MM refractor. So, as you can see, this program does not require expensive equipment. Also, 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 use binoculars for those naked eye objects. 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'll 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. Finally, when using binoculars, we recommend that you tripod mount them for stability.

We have made it as simple as possible to log your observations. Just

list the instruments that you used at the top of pages 2 and 3 of this flyer, check off the features as you observe them in the "CHK" column, and then list the date and time you observed the feature in the columns on the right-hand side of pages 2 and 3. That is all there is to it.

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.

If you would like a good recommendation for a lunar map to use with this program, we suggest, for those of you on a budget, "Moon Map" (S0003) by Sky Publishing Corp. for \$2.95. Sky Publishing Corp. can be reached at (800) 253-0245. For a more advanced moon atlas, we recommend Antonin Rukl's "Atlas of the Moon" (#18539) by Kalmbach Publishing Co. for \$29.95. Kalmbach Publishing Co. can be reached at (800) 533-6644.

If you need to become a member of the Astronomical League as a Member-at-Large, contact Linda Sensenig, M.A.L. Chairperson, 345 Douglass St., Wyomissing, Pa. 19610, (215) 375-9062.

To receive your Lunar Club Certificate and pin, simply send your observations along with your name, address, phone number, and club affiliation, either to your club's Awards Co-ordinator for verification, or to: S.A. Nathan, A.L. Lunar Club Co-ordinator, 45 Brewster Rd., West Springfield, Ma. 01089, (413) 967-9435. Upon verification of your observations, your certificate and pin will be forwarded either to you or your club's Awards Co-ordinator, whomever you choose.

The List

The 100 features to be observed for the Lunar Club are listed on pages 2 and 3. At the top of each page is a space to list the instruments used in the program. After that are five columns: CHK, Object, Feature, Date and Time. The "CHK" column should be used to check off the feature as you observe it. The "Object" column lists the features in Naked Eye, Binocular, and Telescopic order, and tells you what you are observing and when the best time is to observe it. The "Feature" column lists the 100 features to be observed. Finally, the "Date" and "Time" columns allow you to log when you observed the objects. On page 4, we have listed the 10 optional activities, and broken them down as to naked eye, binocular, and telescopic. Also on page 4, we have included four illustrations to help with observing four of the naked eye features.

We certainly hope that you find the Lunar Club useful in helping you become more familiar with earth's nearest neighbor. If after completing this program you would like to do more work in this area, you may contact: Julius L. Benton Jr., ALPO Lunar Recorder, % Associates in Astronomy, 305 Surrey Rd., Savannah, Ga. 31410, (912) 897-0951. E-mail: 74007.3446@compuserve.com. Until then, good luck, clear skies, and good observing.

Lunar Club Program

Instruments Used _____

CHK	OBJECT	FEATURE	DATE	TIME
<u>Naked Eye Observations</u>				
[]	(Within 72 Hrs of new)	Old Moon in New Moon's Arms	_____	_____
[]	(Within 72 Hrs of new)	New Moon in Old Moon's Arms	_____	_____
[]	(Within 40 Hrs of new)	Crescent Moon, Waxing	_____	_____
[]	(Within 48 Hrs of New)	Crescent Moon, Waning	_____	_____
[]		Man in the Moon	_____	_____
[]		Woman in the Moon	_____	_____
[]		Rabbit in the Moon	_____	_____
[]		Cow Jumping Over the Moon	_____	_____
<u>Maria</u>				
[]		Crisium	_____	_____
[]		Fecunditatis	_____	_____
[]		Serenitatis	_____	_____
[]		Tranquillitatis	_____	_____
[]		Nectaris *	_____	_____
[]		Imbrium	_____	_____
[]		Frigoris	_____	_____
[]		Nubium	_____	_____
[]		Humorum	_____	_____
[]		Oceanus Procellarum	_____	_____
<u>Binocular Objects</u>				
[]		Lunar Rays	_____	_____
[]		Sinus Iridum	_____	_____
[]		Sinus Medii	_____	_____
[]		Sinus Roris	_____	_____
[]		Palus Somnii	_____	_____
[]		Palus Epidemiarum	_____	_____
[]		Mare Vaporum	_____	_____
<u>Craters</u>				
[]	~4 Days	Langrenus	_____	_____
[]		Vendelinus	_____	_____
[]		Petavius	_____	_____
[]		Cleomedes	_____	_____
[]		Atlas	_____	_____
[]		Hercules	_____	_____
[]		Endymion	_____	_____
[]		Macrobius	_____	_____
[]	~7 Days	Piccolomini	_____	_____
[]		Theophilus	_____	_____
[]		Cyrillus	_____	_____
[]		Catharina	_____	_____
[]		Posidonius	_____	_____
[]		Fracastorius	_____	_____
[]		Aristoteles	_____	_____
[]		Eudoxus	_____	_____
[]		Cassini	_____	_____
[]		Hipparchus	_____	_____
[]		Albategnius	_____	_____
[]		Aristillus	_____	_____
[]		Autolycus	_____	_____
[]		Maurolycus	_____	_____
[]	~10 Days	Plato	_____	_____
[]		Archimedes	_____	_____
[]		Ptolemaeus	_____	_____

Lunar Club Program

Instruments Used _____

CHK	OBJECT	FEATURE	DATE	TIME
<hr style="border-top: 1px dashed black;"/>				
<u>Binocular Objects</u>				
<u>Craters</u>				
[]	~10 Days	Alphonsus	_____	_____
[]		Arzachel	_____	_____
[]		Walter	_____	_____
[]		Maginus	_____	_____
[]		Tycho	_____	_____
[]		Clavius	_____	_____
[]		Eratosthenes	_____	_____
[]		Longomontanus	_____	_____
[]		Copernicus	_____	_____
[]		Bullialdus	_____	_____
[]		Aristarchus	_____	_____
[]		Gassendi	_____	_____
[]	~14 Days	Kepler	_____	_____
[]		Grimaldi	_____	_____
<u>Telescopic Objects</u>				
[]		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)	_____	_____
<u>Craters</u>				
[]	~4 Days	Picard	_____	_____
[]		Furnerius	_____	_____
[]		Petavius Wall	_____	_____
[]		Messier/Messier A	_____	_____
[]		Proclus	_____	_____
[]		Fabricius	_____	_____
[]	~7 Days	Plinius	_____	_____
[]		Mitchell	_____	_____
[]		Cassini A	_____	_____
[]		Manilius	_____	_____
[]		Gemma Frisius	_____	_____
[]	~10 Days	Davy	_____	_____
[]		Pitatus	_____	_____
[]		Billy	_____	_____
[]		Fra Mauro	_____	_____
[]		Clavius craterlets	_____	_____
[]		Hippalus	_____	_____
[]		Herschel, J.	_____	_____
[]	~14 Days	Schickard	_____	_____
[]		Reiner Gamma	_____	_____

Lunar Club Program

Optional Activities:

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.
6. Find the thinnest phase by which you can read newsprint.

Binocular:

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

Telescopic:

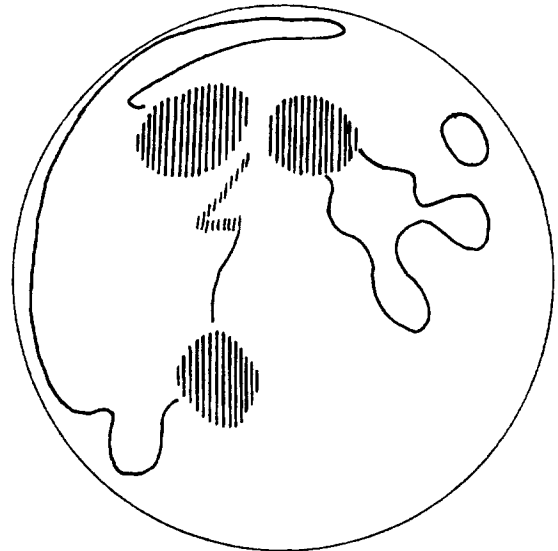
9. Plot the moon's hourly motion against the stars for two hours or more.
10. Measure the height of a lunar mountain - need to calculate the sun's elevation at the mountain and estimate the shadow length - try Mt. Piton.

WOMAN IN THE MOON

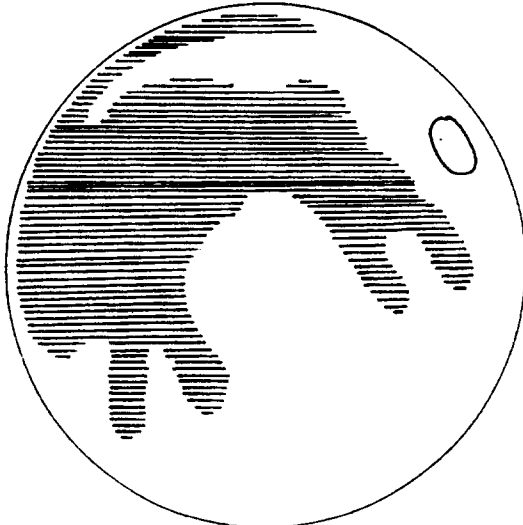


Illustrations

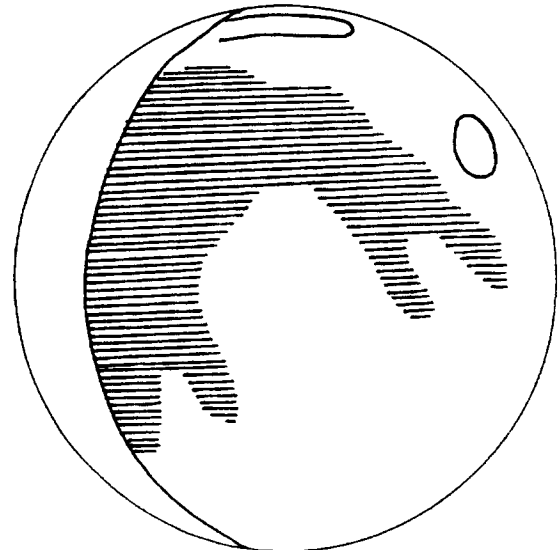
MAN IN THE MOON



RABBIT IN THE MOON



COW JUMPING OVER THE MOON



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