

What's Up, Doc? †

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This document tells you what objects are visible this next month for many of the Astronomical League Clubs. If you are working on one of the more advanced clubs, then I assume that you are tracking where your objects are all the time. I have concentrated on the common and starter level clubs. This information is based on 9 PM.

Naked-Eye Clubs

Meteors – any night, any time, anywhere, the darker the sky the better.

<u>Shower</u>	<u>Duration</u>	<u>Maximum</u>	<u>Type</u>
Southern Delta Aquarids	7/14 to 8/18	7/28 & 7/29	Moderate
Alpha Lyrids	7/9 to 7/20	7/14 & 7/15	minor
July Phoenicids	7/9 to 7/17	7/14 & 7/15	minor
Alpha Pisces Asutralids	7/16 to 8/13	7/30 & 7/31	minor
Sigma Capricornids	6/18 to 7/30	7/10 to 7/20	minor
Tau Capricornids	6/2? to 7/29	7/12 & 7/13	minor
Omicron Draconids	7/6 to 7/28	7/17 & 7/18	minor

Constellation Hunter, Northern Skies (and some Southern Skies) – any night, any time, anywhere, the darker the sky the better.

Last Chance this cycle: Ursa Major, Leo Minor, Leo, Crater, Corvus.

Transit: Ursa Minor, Draco, Hercules, Corona Borealis, Serpens, Ophiuchus, Libra, Scorpion, Lupus, Norma.

New arrivals: Cepheus, Lacerta, Cygnus, Vulpecula, Sagitta, Delphinus, Equuleus, Aquila, Scutum, Sagittarius, Corona Australis.

Earth Orbiting Satellites – Most requirements can be seen naked-eye. Information about all satellite passes required for this certification can be found on the website: www.heavens-above.com. Be sure to provide accurate latitude and longitude for your observing site.

Binocular Clubs

Binocular Messier – Monthly highlights include:

Easy – 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 16, 17, 18, 22, 23, 24, 25, 27, 29, 39, 52, 92.

Medium – 14, 19, 28, 40, 49, 53, 62, 63, 64, 80, 81, 82, 83, 94.

Hard – 9, 26, 51, 54, 56, 65, 66, 68, 71, 97, 101, 104, 106.

Big Binoculars – 58, 59, 60, 61, 69, 70, 84, 85, 86, 87, 88, 89, 90, 95, 96, 99, 100, 102, 105, 107, 108, 109.

Deep Sky Binocular – Monthly highlights include (by Astronomical League numbers):

5, 38, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59.

Other Clubs

Messier

In addition to those listed under Binocular Messier, check out: 21, 57, 91, 98.

Caldwell

1, 2, 3, 4, 6, 7, 9, 11, 12, 15, 16, 19, 20, 21, 26, 27, 29, 32, 33, 34, 35, 36, 37, 38, 40, 42, 45, 47, 52, 57, 60, 61, 66, 69, 75, 76, 77.

Double Star (by Astronomical League numbers):

1, 4, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 22, 25, 26, 29, 31, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 46, 48, 50, 51, 52, 54, 56, 57, 58, 59, 62, 64, 66, 67, 68, 69, 70, 71, 74, 84, 86, 87, 91, 92, 93, 94, 96, 97, 100.

Other Clubs (of the Solar System)

Solar System – These are the tasks that can be done this month:

Sun – Any clear day is a good time to get those sunspots.

Sunset is at 2020 at mid-month.

Moon:

The Maria requirement can be done any time the moon is visible. Look before 7/26 or after 7/11 for the fullest views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 7/10 or 7/11.

The Scarps requirement is best done on 7/12.

Occultations occur all the time, the bright ones can be found on the internet. Objects disappear on the East side of the moon.

Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid.

Mercury is in Cancer and sets at 2107 mid-month.

Venus is in Cancer and sets at 2108 mid-month.

Mars is in Libra and is up all evening mid-month.

Ceres is in Aquarius and rises at 2249 mid-month.

Jupiter is in Leo and sets at 2323 mid-month.

Saturn is in Ophiuchus and is up all night mid-month. All requirements can be done when Saturn is visible: markings, moons, etc.

Neptune is in Aquarius and rises at 22:55 mid-month.

Pluto is in Sagittarius and is up all night mid-month.

Lunar

Key timings are indicated below (times are Central Time):

New, 7/4 4 days, 7/8 7 days, 7/11 10 days, 7/14 14 days, 7/18

Old moon in new moons arms – before 0601 on 7/7, ~10 % illuminated. (72 hr > New)

New moon in old moons arms – after 0601 on 7/1 & after 1544 on 7/30, ~10 % illuminated. (72 hr < New)

Waxing Crescent – before 2201 on 7/5, ~4 % illuminated. (40 hr > New)

Waning Crescent – after 0601 on 7/2 & after 1544 on 7/31, ~4 % illuminated. (48 hr < New)

The Astronomical League Observing Programs:

Analemma	ARP Peculiar Galaxies	Asterisms	Asteroids
Binocular Double Star	Binocular Messier	Caldwell	Carbon Star
Comets	Constellation Hunter – North	Constellation Hunter – South	Dark Nebulae
Dark Sky Advocate	Deep Sky Binocular	Double Star	Earth Orbiting Satellite
Flat Galaxy	Galaxy Groups & Clusters	Galileo	Globular Clusters
Herschel 400	Herschel II	Local Galaxy Group & Neighborhood	
Lunar	Lunar II	Master Observer	Messier
Meteor	NEO	Open Clusters	Outreach
Planetary Nebulae	Planetary Transit	Solar System Observers	Sky Puppy
Southern Skies Binocular	Southern Skies Telescope	Sunspotters	Stellar Evolution
Universe Sampler	Urban	Variable Star	Planetary Transit

* - Although these clubs are not detailed in this “What’s Up Doc?” handout, you can get information on many of their objects by using the “What’s Up Tonight, Doc?” spreadsheet (version 4.1). To get your copy, talk to the Doc, Aaron Clevenson, by sending an email to aaron@clevenson.org. It is also available on the club website.

† - “What’s Up Doc?” is used with permission from Warner Bros. Entertainment Inc.

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