

# What's Up, Doc? †

## December, 2015

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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 club, then I assume that you are also probably tracking where your objects are all the time. I concentrate on the more common and starter level clubs.

### Naked-Eye Clubs

**Meteors** – any night, any time, anywhere, the darker the sky the better. The major meteor showers are shown in **BOLD** (times are local time in Houston, TX):

<u>Shower</u>	<u>Duration</u>	<u>Maximum</u>	<u>Type</u>
<b>Geminids</b>	<b>12/7 to 12/17</b>	<b>12/13</b>	<b>Major</b>
<b>Ursids</b>	<b>12/17 to 12/26</b>	<b>12/22</b>	<b>Moderate</b>
Coma Berenicids	12/12 to 1/23	12/20	Minor
Sigma Hydrids	12/3 to 12/15	12/11	Minor
Monocerotids	11/27 to 12/17	12/8	Minor
Dec Phoenicids	11/28 to 12/9	12/6	Minor
Puppids/Velids	12/1 to 12/15	12/6	Minor

**Constellations, Northern Skies** – any night, any time, anywhere, the darker the sky the better.

Last Chance this cycle: Hercules, Scutum, Aquila, Microscopium.

Transit: Cepheus, Cassiopeia, Andromeda, Pegasus, Pisces, Aquarius, Cetus, Phoenix, Sculptor.

New arrivals: Auriga, Taurus, Orion, Eridanus, Fornax, Phoenix.

### Binocular Clubs

**Binocular Messier** – Monthly highlights include:

Easy – 2, 15, 27, 29, 31, 34, 35, 36, 37, 38, 39, 42, 45, 50, 52, 103.

Medium – 30, 33, 78, 79, 81, 82.

Hard – 1, 32, 56, 71.

Big Binoculars – 72, 77, 110.

**Deep Sky Binocular** – Monthly highlights include:

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 38, 47, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60.

### Other Clubs

#### Messier

In addition to those listed under Binocular Messier, check out: 43, 57, 74, 76.

#### Caldwell

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 27, 28, 30, 31, 33, 34, 37, 39, 41, 42, 43, 44, 46, 47, 49, 50, 51, 55, 56, 57, 62, 63, 65, 67, 70, 72.

#### Double Star

2, 3, 5, 6, 7, 8, 10, 13, 16, 19, 21, 23, 24, 27, 28, 30, 31, 33, 34, 36, 38, 42, 44, 46, 47, 48, 49, 50, 53, 55, 56, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 88, 89, 90, 95.

## Other Clubs (continued)

**Planetary** – These are the tasks that can be done this month:

Venus, Mars, and Saturn are not visible in the evening sky.

Sun – Any clear day is a good time to get those sunspots. Sunset is 17:21 by mid-month.

Moon: The Maria requirement can be done any time the moon is visible. Look after 12/18 and before 12/4 for the best views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 12/17 and 12/18.

The Scarps requirement is best done on 12/19.

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. See above to identify the bright ones this month.

Mercury is in Sagittarius and sets at 18:25 CST mid-month.

Ceres is in Aquarius and sets at 22:25 CST by mid-month.

Jupiter is in Leo and rises at 00:07 CST by mid-month.

Uranus is in Pisces and sets at 02:04 CST by mid-month.

Neptune is in Aquarius and sets at 23:03 CST by mid-month.

Pluto, the Dwarf Planet, is in Sagittarius and sets at 19:00 CST by mid-month.

## Lunar

New Moon – 12/11 at 04:29 CST.

Key timings are indicated below:

4 days, 12/15                      7 days, 12/18                      10 days, 12/21                      14 days, 12/25

Old moon in new moons arms – before 04:29 CST on 12/14, 10 % illuminated. (72 hr > New)

New moon in old moons arms – after 04:29 CST on 12/8, 10 % illuminated. (72 hr < New)

Waxing Crescent – before 20:29 CST on 12/12, 3 % illuminated. (40 hr > New)

Waning Crescent – after 04:22 CST on 12/9, 3 % illuminated. (48 hr < New)

## The Astronomical League Observing Programs:

Active Galactic Nuclei	Advanced Observer	Advanced Binocular Double Star	Analemma
ARP Peculiar Galaxies (Northern and Southern)		Asterism	Asteroid
Binocular Double Star	Binocular Messier	Binocular Variable Star	Bright Nebula
Caldwell	Carbon Star	Comets	
Constellation Hunter (North and 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 (4 levels)	Messier
Meteor	NEO	Observer	Occultation
Open Cluster	Outreach	Planetary Nebulae	Planetary Transit
Radio Astronomy	Sketching	Sky Puppy	Solar System Observers
Southern Skies Binocular	Southern Skies Telescope	Stellar Evolution	Sunspotters
Two in the Biew	Universe Sampler	Urban	Variable Star

\* - 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](mailto: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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