

# The Astronomical League

The Albuquerque Astronomical Society

Astronomy 101

March 4, 2023

Viola Sanchez, TAAS Astronomical League Coordinator

# Outline

- Astronomical League Objective
- Benefits for Amateur Astronomers
- Astronomical League Membership
- Observing Programs
- The Master Observer Progression
- Getting Started

# Astronomical League Objective

## Objective of the Astronomical League

The Astronomical League's objective is to promote the science of astronomy

- By fostering astronomical education;
- By providing incentives for astronomical observation and research;
- By assisting communication among amateur astronomical societies.

[Objective of the Astronomical League | The Astronomical League \(astroleague.org\)](https://astroleague.org)

# Astronomical League Objective

The Astronomical League is composed of over two hundred and forty local amateur astronomical societies from all across the United States. These organizations, along with our Members-at-Large, Patrons, and Supporting members form one of the largest amateur astronomical organizations in the world.

[Objective of the Astronomical League | The Astronomical League \(astroleague.org\)](https://astroleague.org)

[Astronomy clubs in the state of all | The Astronomical League \(astroleague.org\)](https://astroleague.org)

# Astronomical League Objective

Our basic goal is to encourage an interest in astronomy (and especially amateur astronomy) throughout America....We want people to get access to telescopes, whether it is through their local astronomical society, school, or their own instruments, and use them to view the beauty in the heavens.

[Objective of the Astronomical League | The Astronomical League \(astroleague.org\)](https://astroleague.org)

# Astronomical League Membership

The easiest way to become part of the AL is to join one of our member societies close to you. A benefit of membership in this society is membership in the Astronomical League and part of your society dues goes to pay for your Reflector subscription.

[Objective of the Astronomical League | The Astronomical League \(astroleague.org\)](#)

For TAAS, the cost is \$7.50 annually, in addition to the annual TAAS membership fee of \$30. You can pay when you join TAAS or when doing your annual membership renewal.



# Astronomical League Membership

## Member-at-Large

For those not affiliated with a member society.

Cost is \$40 for a U.S. postal address or \$50 for a non-U.S. postal address.

Youth member-at-large is \$20 for U.S. only, under 19 years old.

[What does the Astronomical League offer you, as a Member-at-Large? | The Astronomical League \(astroleague.org\)](https://astroleague.org)

# Astronomical League Membership

What does the Astronomical League offer you, as a Member-at-Large?

- Full voting privileges.
- A subscription to the Reflector, our quarterly newsletter.
- The Book Service through which you can buy astronomy-related books at a 10% discount if not already sold through League Sales.
- A choice of astronomy-oriented magazines at a discounted price.
- Eligibility for all Astronomical League awards, both national and observing.
- Participation in an organization that promote education, observing, research and communications.

[What does the Astronomical League offer you, as a Member-at-Large? | The Astronomical League \(astroleague.org\)](https://astroleague.org)



# Astronomical League Membership

When you join as a Member-at Large you get

- One of our great observing guides (choices on application);
- “Getting Started in Astronomy”, or other similar publication;
- The Astronomical League Observing Club awards overview;
- The League Sales Product Price List;
- AstroNotes for Members-at-Large (several topic-specific notes on general astronomy and League orientation);
- The current issue of the Reflector;
- A letter of welcome to the MAL program;
- Full color membership card.

[What does the Astronomical League offer you, as a Member-at-Large? | The Astronomical League \(astroleague.org\)](https://astroleague.org)

# Benefits for Amateur Astronomers

- The major benefit of belonging to this organization is receiving the quarterly newsletter, The Reflector, which keeps you in touch with amateur activities all over the country.
- If all you want is a subscription to The Reflector, the annual cost is \$10 for U.S. postal addresses, which is more than the \$7.50 full membership through TAAS.
- The chance to meet the people you read about in the Reflector occurs during our annual National Convention, or at one of the ten regional conventions that the AL sponsors.

[Objective of the Astronomical League | The Astronomical League \(astroleague.org\)](#)

[Subscription Form for The Reflector | The Astronomical League \(astroleague.org\)](#)

# Benefits for Amateur Astronomers

- Astronomical League members can order astronomy-related books at a 10% discount through the Book Service if not already sold through League Sales.
- Books and other material published by the Astronomical League as well as clothing and jewelry can be purchased from the A.L. Sales Office.
- The Observing Clubs offer encouragement and certificates of accomplishment for demonstrating observing skills with a variety of instruments and objects. These include the Messier Club; Binocular Messier Club and the Herschel 400 Club.

# Benefits for Amateur Astronomers

- Access to MO-Net (Master Observers Network)
- Ask questions of the Astroleague's Master Observers

[Create Question or comment | The Astronomical League \(astroleague.org\)](#)

# Astroleague Benefits for Amateur Astronomers

- Observing Programs
  - Learn the night sky
  - A logical progression for learning about and doing astronomy
  - Sharpen observing skills
  - Provide a foundation for future study
  - Access to experienced observers for questions and advice
    - Within TAAS
    - MO-Net
  - Receive recognition: certificates, pins, levels of accomplishment
- Development of Outreach Skills
- Submitting for Awards
  - Email the TAAS Astronomical League Coordinator
  - Submit directly to the observing program owner

# TAAS Membership Benefits

- Lectures
- Free loan program for telescopes, binoculars, eyepieces, filters, other equipment
- Amateur Telescope Making (ATM) Group
  - Telescope and equipment repair
  - Telescope and equipment instruction
  - Observing advice
- GNT0 dark sky site
- TAAS\_Talk
- Outreach

# NM Astronomy Clubs

## [Astronomy clubs in the state of NM | The Astronomical League \(astroleague.org\)](#)

<u>Society Name</u>	<u>Address</u>	<u>City</u>	<u>State</u>	<u>URL</u>
<u><a href="#">Alamogordo Astronomy Club</a></u>	P.O. Box 4151	Alamogordo	NM	<u><a href="http://www.zianet.com/aacwp">http://www.zianet.com/aacwp</a></u>
<u><a href="#">Albuquerque Astronomical Society</a></u>	P.O. Box 50581	Albuquerque	NM	<u><a href="http://www.taas.org">http://www.taas.org</a></u>
<u><a href="#">Astronomical Society of Las Cruces</a></u>	P.O. Box 921	Las Cruces	NM	<u><a href="http://aslc-nm.org/">http://aslc-nm.org/</a></u>
<u><a href="#">Clovis Astronomy Club</a></u>	1610 SR 209	Clovis	NM	
<u><a href="#">Rio Rancho Astronomical Society</a></u>	609 Valley Meadows Dr.	Rio Rancho	NM	<u><a href="http://www.rraastro.org">http://www.rraastro.org</a></u>
<u><a href="#">Roswell Astronomy Club</a></u>	Robert H. Goddard Planetarium	Roswell	NM	



# Observing Programs

[Alphabetical Listing - Offerings from the Observing Program Division of the AL | The Astronomical League \(astroleague.org\)](#)

# Observing Programs

- Requirements
- Manual, device-aided, visual, imaging
- Many programs require manual and visual
- Some programs have more than one level

# Observing Programs

- Classifications

- Beginner
- Constellations
- Moon
- Sun
- Solar System
- Stars
- Star Clusters
- Nebulas

- Galaxies
- Variety
- Radio Astronomy
- Binocular
- Imaging
- Special Celestial Events
- History
- Education
- Master Observer Progression

# Observing Programs

- Program Descriptions
  - E/B/T refers to eyes/binoculars/telescope.
    - Some programs require adherence to one or the other E/B/T.
    - Most programs allow the observer to use whichever
  - Manual (M) vs. Device Aided (DA)
    - Manual means you physically push the scope and use your knowledge of constellations and star hopping to find your target.
    - Device Aided means the use of electronics to guide your telescope to your target, such as go-to, digital setting circles, etc.
  - Visual (V) vs. Imaging (I)
    - Visual means looking at a target with your eyes.
    - Imaging means using astrophotography to take a picture of your target

# Observing Programs

## Beginner

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Beyond Polaris Observing Program</a>	E	M	V
<a href="#">Sky Puppy Observing Program</a> 10 years old and younger	E/B	M	V
<a href="#">Universe Sampler Observing Program</a>	E/B/T	M	V
<a href="#">Youth Astronomer Observing Program</a> 17 years old and younger	E	M	V

# Observing Programs

## Constellations

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Alternate Constellations Observing Program</a>	E/B	M	V
<a href="#">Asterism Observing Program</a>	E	M	V/I
<a href="#">Constellation Hunter Observing Programs - Northern and Southern Skies</a> *	E	M	V

\*Good for beginners

# Observing Programs

## Moon

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#"><u>Lunar and Binocular Lunar Observing Programs</u></a> *	E/B/T	M	V/I
<a href="#"><u>Lunar II Observing Program</u></a>	T	M	V/I
<a href="#"><u>Lunar Evolution Observing Program</u></a>	T	M	V/I

\*Good for beginners



# Observing Programs

## Sun

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Analemma Observing Program</a>	E	M	V
<a href="#">Hydrogen Alpha Solar Observing Program</a> * Hydrogen–alpha solar filter, eyepiece, or telescope required	T	M/D	V/I
<a href="#">Sunspotters Observing Program</a> ** Solar filter required	T	M/D	V/I

**\*WARNING** Only use H-alpha filters and telescopes from reputable sources and always check your filter for damage before each use. As Richard Hill states in *Observe and Understand the Sun*: "Observing the sun is the only inherently dangerous observing an amateur astronomer can do. Be aware of this at all times and take all necessary precautions. If you do not know a filter or procedure is safe then do not use it! Always err on the side of safety. An eye once damaged is forever damaged. Filters that let too much INFRARED light through can burn an eye if used visually. There is NO PAIN when this happens. Burned retinas can not be repaired. Excessive ULTRAVIOLET light has been shown to cause cataracts. So be very careful." Remember to cap or remove your finder scope before observing and never use a "solar filter" that screws into an eyepiece.

\*\*Before you start any solar observing program, make absolutely certain that you have safe filters and a safe set-up. Only use filters from reputable sources, and never use a "solar filter" that screws into an eyepiece. As Richard Hill states in *Observe and Understand the Sun*: "Observing the sun is the only inherently dangerous observing an amateur astronomer can do. Be aware of this at all times and take all necessary precautions. If you do not know a filter or procedure is safe then do not use it! Always err on the side of safety. An eye once damaged is forever damaged. Filters that let too much INFRARED light through can burn an eye if used visually. There is NO PAIN when this happens. Burned retinas can not be repaired. Excessive ULTRAVIOLET light has been shown to cause cataracts. So be very careful."

# Observing Programs

## Solar System

Observing Program	E/B/T	Manual/ Device Aided	Visua/ Imaging
<a href="#">Asteroid Observing Program</a>	T	M/DA	V/I
<a href="#">Comet Observing Program</a>	E/B/T	M/DA	V/I
<a href="#">Earth Orbiting Satellite Observing Program</a>	E/B/T	M/DA	V/I
<a href="#">Galileo and Galileo Binocular Observing Programs</a>	B/T	M	V
<a href="#">Galileo's TOES Observing Certificate</a>	T	M/DA	V/I
<a href="#">Galileo's TOES - Phase 2, Observing Certificates</a>	T	M/DA	V/I
<a href="#">Jupiter Observing Program</a>	T	M/DA	V/I
<a href="#">Mars Observing Program</a>	T	M/DA	V/I
<a href="#">Meteor Observing Program</a>	E	M	V
<a href="#">Occultation Observing Program</a>	T	M/DA	V/I
<a href="#">Solar System and Binocular Solar System Observing Programs</a>	B/T	M/DA	V/I

# Observing Programs

## Stars

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Advanced Binocular Double Star Observing Program</a>	B	M	V
<a href="#">Binocular Double Star Observing Program</a>	E/B	M	V
<a href="#">Binocular Variable Star Observing Program</a>	B	M	V
<a href="#">Carbon Star Observing Program</a>	T	M/DA	V/I
<a href="#">Double Star Observing Program</a>	T	M/DA	V/I
<a href="#">Multiple Star Observing Program</a>	T	M/DA	V/I
<a href="#">Nova Observing Program</a>	T	M/DA	V/I
<a href="#">Occultation Observing Program</a>	T	M/DA	V/I
<a href="#">Spectroscopy Observing Program</a>	T	M/DA	I
<a href="#">Stellar Evolution Observing Program</a>	E/B/T	M/DA	V/I
<a href="#">Variable Star Observing Program</a>	T	M/DA	V/I

# Observing Programs

## Star Clusters

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Globular Cluster Observing Program</a>	T	M/DA	I
<a href="#">Open Cluster Observing Program</a>	T	M/DA	I

# Observing Programs

## Nebulas

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#"><u>Bright Nebula Observing Program</u></a>	B/T	M/DA	V/I
<a href="#"><u>Dark Nebulae Observing Program</u></a>	E/B/T	M/DA	V/I
<a href="#"><u>Planetary Nebula Observing Program</u></a>	T	M/DA	V/I

# Observing Programs

## Galaxies

Observing Program	Teles-cope	Manual/Device Aided	Visual/Imaging
<a href="#"><u>Active Galactic Nuclei Observing Program</u></a>	T	M/DA	V/I
<a href="#"><u>Arp Peculiar Galaxies Northern Observing Program</u></a>	T	M/DA	V/I
<a href="#"><u>Arp Peculiar Galaxies Southern Observing Program</u></a>	T	M/DA	V/I
<a href="#"><u>Flat Galaxy Observing Program</u></a>	T	M/DA	V/I
<a href="#"><u>Galaxy Groups and Clusters Observing Program</u></a>	T	M/DA	V/I
<a href="#"><u>Local Galaxy Group and Neighborhood Observing Program</u></a>	T	M/DA	V/I

# Observing Programs

## Variety

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Bennett Observing Program</a>	T	M	V/I
<a href="#">Binocular Messier Observing Program</a>	B	M	V
<a href="#">Caldwell Observing Program</a>	T	M	V
<a href="#">Herschel 400 Observing Program</a>	T	M/DA	V/I
<a href="#">Herschel II Observing Program</a>	T	M/DA	V/I
<a href="#">Messier Observing Program</a>	T	M	V
<a href="#">Sketching Observing Program</a>	E/B/T	M/DA	V
<a href="#">Southern Skies Binocular Observing Program</a>	B	M	V
<a href="#">Southern Sky Telescopic Observing Program</a>	T	M/DA	V
<a href="#">Two in the View Observing Program</a>	T	M/DA	V/I
<a href="#">Urban Observing Program</a>	B/T	M/DA	V



# Observing Programs

## Radio Astronomy

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Radio Astronomy Observing Program</a>	Radio T	M/DA	--

# Observing Programs

## Binocular

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#"><u>Binocular Master Observer Award</u></a> —8 of 10 below	E/B	M	V
<a href="#"><u>Advanced Binocular Double Star Observing Program</u></a>	B	M	V
<a href="#"><u>Binocular Double Star Observing Program</u></a>	E/B	M	V
<a href="#"><u>Binocular Messier Observing Program</u></a>	B	M	V
<a href="#"><u>Binocular Variable Star Observing Program</u></a>	B	M	V
<a href="#"><u>Deep Sky Binocular Observing Program</u></a>	B	M	V
<a href="#"><u>Galileo and Galileo Binocular Observing Programs</u></a>	B	M	V
<a href="#"><u>Lunar and Binocular Lunar Observing Programs</u></a>	E/B	M	V
<a href="#"><u>Solar Neighborhood Observing Program (Binocular Portion)</u></a>	E/B	M	V
<a href="#"><u>Solar System and Binocular Solar System Observing Programs</u></a>	B	M	V
<a href="#"><u>Southern Skies Binocular Observing Program</u></a>	B	M	V

# Observing Programs

## Imaging

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Master Imager Award</a>	T		
<a href="#">Spectroscopy Observing Program</a>	T	M/DA	I
<a href="#">Target NEO Observing Program</a>	T	M/DA	I
Any other observing program that allows imaging			

# Observing Programs

## Special Celestial Events

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">AL Observing Challenge Certificates</a>	T	M/DA	V
<a href="#">NASA Observation Challenge Certificates</a>	Varies	M/DA	V/I
<a href="#">Planetary Transit Special Observing Award</a> Venus 2004, Venus 2012, Mercury 2016 No current certificates available	T	M/DA	V/I
<a href="#">Solar Eclipse 2017 - Special Observing Award</a> No longer available			

# Observing Programs

## History

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#">Alternate Constellations Observing Program</a>	E/B	M	V
<a href="#">Astronomy Before the Telescope Observing</a>	E	M	V
<a href="#">Galileo and Galileo Binocular Observing Programs</a>	B/T	M	V
<a href="#">Galileo's TOES Observing Certificate</a>	T	M/DA	V
<a href="#">Galileo's TOES - Phase 2, Observing Certificates</a>	T	M/DA	V

# Observing Programs

## Education

Observing Program	E/B/T	Manual/ Device Aided	Visual/ Imaging
<a href="#"><u>Dark Sky Advocate Observing Award</u></a>	E/T	M/DA	--
<a href="#"><u>Library Telescope Award</u></a>	--	--	--
<a href="#"><u>Mentor Award</u></a>	--	--	--
<a href="#"><u>Outreach Observing Award</u></a>	--	--	--

# Observing Programs

- Special Programs

Astronomical League Herschel Society

Master Observer Progression

Outreach Recognition

Citizen Science

# Observing Programs

Objects Which Can Be Seen From Light Polluted Areas	Objects Which Likely Can't Be Seen From Light Polluted Areas
Sun	Bright Nebulas
Moon	Planetary Nebulas
Planets	Galaxies
Stars	
Open Clusters	
Globular Clusters	
Dark Nebulas	
Binocular	
Brighter objects	
Urban Observing Program	
Programs which don't require observing	

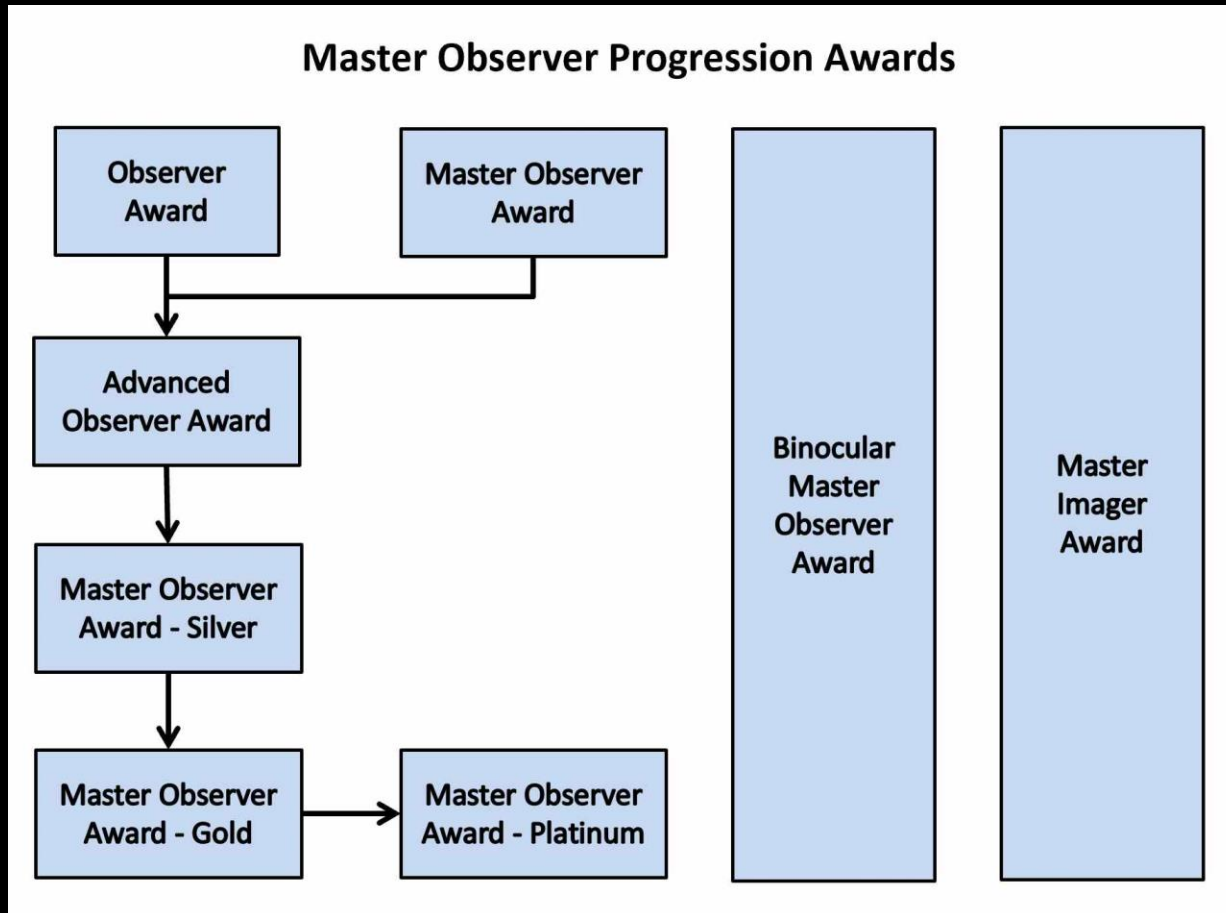


# Observing Programs

## Master Observer Progression

Observing Program
<a href="#"><u>Advanced Observer Award</u></a>
<a href="#"><u>Binocular Master Observer Award</u></a>
<a href="#"><u>Master Imager Award</u></a>
<a href="#"><u>Master Observer Award</u></a>
<a href="#"><u>Master Observer - Silver Award</u></a>
<a href="#"><u>Master Observer - Gold Award</u></a>
<a href="#"><u>Master Observer - Platinum Award</u></a>
<a href="#"><u>Observer Award</u></a>

# The Master Observer Progression



# The Master Observer Progression

- **The Master Observer Progression is the:**
  - Observer Award
  - Master Observer Award
  - Advanced Observer Award
  - Master Observer Silver Award
  - Master Observer Gold Award
  - Master Observer Platinum Award
- **The Observer Award is not a pre-requisite for the Master Observer Award**
  - Programs may be shared for credit in both the Observer and Master Observer award.

# The Master Observer Progression

- Both the Observer and Master Observer, plus registration in MO-Net must be completed for the Advanced Observer Award.
- The Binocular Master Observer and Imager Master Observer are separate from the Master Observer Progression.
  - Programs completed for the Binocular Master Observer and Imager Master Observer may be used for credit for the Master Observer Progression.

# The Master Observer Progression

- Within the Master Observer Progression, you can't repeat any programs except between Observer and Master Observer.
- The Outreach Observing Program can only be counted once.
- Requirements for the Master Observer Progression, as well as individual Observing Programs, have changed over the years. Check in with the ALCOR (Astronomical League coordinator for TAAS) with any questions you might have.
- This presentation does not contain all possibilities or instructions for the Master Observer Progression. Please consult the Astroleague website and the TAAS ALCOR

# Observer Award—5 Observing Programs

The observer must complete these four Observing Programs:

- (1) Either the Constellation Hunter – Northern Skies Observing Program or the Constellation Hunter – Southern Skies Observing Program.
- 2) Either the Messier Observing Program (Honorary), the Binocular Messier Observing Program, or the Bennett Observing Program.
- 3) The Lunar Observing Program.
- 4) The Solar System Observing Program.

The observer must also choose and complete any one of these Observing Programs:

- The Galileo Observing Program.
- The Sketching Observing Award.
- The Sky Puppy Observing Program
- The Youth Astronomer Program Observing Program
- The Beyond Polaris Observing Program.
- The Two in the View Observing Program.
- The Universe Sampler Observing Program.
- The Urban Observing Program.

# Master Observer Award—10 Observing Programs

There is a core requirement of the following five observing programs which must be completed by all:

1. Messier Observing Program (Honorary, 110 objects) or the Bennett Observing Program (107 objects)
2. Binocular Messier Observing Program or the Southern Skies Binocular Observing Program
3. Lunar Observing Program
4. Double Star Observing Program
5. Herschel 400 Observing Program

These are currently five of the most popular programs in the League and represent a well-rounded observing program. The member will then be allowed to choose any five of the remaining AL Observing Programs to complete the requirements for the Master Observer Award.

- Some exceptions apply—see [Astroleague website](#)

# Advanced Observer Award

Master Observer + Observer + Sign up for MO-Net +

## Five additional observing programs on this list (including 2<sup>nd</sup> page):

- Asterism Observing Program
- Asteroid (Gold) Observing Program
- Bright Nebula (Advanced) Observing Program
- Carbon Star Observing Program
- Comet (Gold) Observing Program
- Dark Nebula Observing Program
- Earth Orbiting Satellite Observing Program.
- Globular Cluster Observing Program.
- Meteor Observing Program - 36-hour level.
- Open Cluster (Advanced) Observing Program
- Either The Binocular Variable Star Observing Program or the Variable Star Observing Program
- Either The Hydrogen-Alpha Solar Observing Program or the Sunspotter Observing Program
- Either The Planetary Nebulae (Advanced) Observing Program or The Southern Planetary Nebulae (Advanced) Observing Program

See next slide for 6 more programs →



# Advanced Observer Award— Continued

## **Any one, but only one of these galaxy-based Observing Programs:**

- Active Galactic Nuclei Observing Program.
- ARP Peculiar Galaxy Observing Program.
- Flat Galaxies (Honorary) Observing Program.
- Galaxy Groups and Clusters Observing Program.
- Local Galaxy Group Observing Program.
- Southern ARP Observing Program.

# Master Observer Silver Award

- **The observer must complete these four additional Observing Programs:**
  - The Lunar II Observing Program.
  - The Outreach Observing Award - Any level.
  - The Sketching Observing Award.
  - The Sunspotters Observing Program.
- **The observer must also complete other Observing Programs to reach a total of 20.**

# Master Observer Gold Award

- Earn the Master Observer - Silver Award
- The observer must complete these five additional Observing Programs:
  - The Outreach Observing Award (at least Stellar Level).
  - The Herschel II Observing Program.
  - The Hydrogen Alpha Solar Observing Program.
  - The Stellar Evolution Observing Program.
  - The Variable Star Observing Program or the Binocular Variable Star Observing Program.
- The observer must also complete other Observing Programs to reach a total of 30. (Outreach Observing Awards may only be counted once, regardless of the number of levels earned.)

# Master Observer Platinum Award

- Earn the Master Observer - Gold Award
- The observer must complete these additional Observing Programs:
  - The Outreach (Master Level) Observing Award.
  - The Dark Sky Advocate Observing Award.
  - The Target NEO (Advanced) Observing Program.
  - The Radio Astronomy (Gold) Observing Program.
  - Either the Asteroid (Gold) Observing Program or the Comet (Gold) Observing Program.
- The observer must also complete other observing programs to reach a total of 40. (Outreach Observing Awards may only be counted once, regardless of the number of levels earned.)

# Where to Start

- Only do what's fun and what matches your interest.
- Don't feel forced into completing observing programs or participating in the Master Observer Progression if you don't want to or can't.
- Borrow from the TAAS loaner program before you invest in equipment.
- What can and can't be accomplished depends on your equipment, your vision, sky quality, and your interests.
- Start with the beginner programs and Observer Award programs. If the beginner programs are too simple for you, move on to other programs.
- You can work multiple programs at once.
- Be aware of the reporting requirements, i.e., sketching, date and time of observation, sky conditions, magnification, notes, etc.
- Some observing programs require purchase of a booklet from the Astroleague. Some merely recommend it.
- Be safe, especially with observing the Sun, and be careful with your choice of observing site.

# Photo Credits

- Title Slide. [Aurora australis – or southern lights – on January 19, 2013](#) as captured by Colin Legg | Bioluminescence, Aurora, Aurora boreal ([pinterest.com](#))

# Questions?