

Beyond Polaris Observing Certificate

Beyond Polaris Certificate Coordinator:

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OVERVIEW:

Beyond Polaris is an observing program that was designed for anyone who enjoys looking at the sky but has no astronomy background. Their main interest is to better understand the constellations, their stories, name a few stars and then to share this information with your family and friends. All the observations are accomplished with the unaided eye.

The program starts with some instructional information done inside at your kitchen table even on a cloudy night. Basic information on Star Party Etiquette, what supplies to take to your own Star Party, background review of the solar system, constellations, and the beginning of your astronomy vocabulary. (It is easy to get overwhelmed and lost within minutes of being around a few amateur astronomers when they start speaking words that a beginner has no idea of what it all means.) So we begin under electric light to begin with astronomy understanding and vocabulary, which will grow as you continue on your amazing voyage to learn about our sky.

Beyond Polaris will then take you outside to teach you how to find the North Star in a couple of ways. From there with the use of your planisphere you will star hop around to a variety of constellations, stars, and asterisms, while seeing an occasional Meteor shoot across the sky. It is not only the dark nights full of stars; but also the bright light of the moon that you will learn about. In learning about the phases of the moon, you will learn what nights are best to see constellations and deep space objects. The moon will be amazing to you, your friends, grandkids, and friends.

If we don't all pull together to reduce Light Pollution we won't be able to enjoy any of the above information. So there is a section on protecting our Dark Skies and how each of us can make a difference.

BACKGROUND:

The Beyond Polaris Observing Certification was designed by Bridget Langdale, Suzanne Bjork, Wendy Hastings. They are with the Mason Star Gazers (MSG) located in Mason, Texas. The following is their story.

Beyond Polaris – Sky Observing 101 for New Amateur Astronomers

We are three women who were excited about the sky but had no previous knowledge or childhood references about astronomy. Books, conversations with other amateur astronomers found us 'lost' very quickly since we were at the very beginning of learning in this field of astronomy. We were over the age limit of 11, too old to work the Sky Puppy Program, so we decided to create our own Program. No special equipment such as binoculars or telescopes was required. We outlined Star Party Etiquette and what to bring such as red flashlights.

After almost a year, we came up with this program and accomplished everything listed.

" Beyond Polaris has given me the confidence and focus on what I'm seeing in and around the Milky Way, which I can see in my backyard. It's a program around storytelling. Knowledge to be shared with my B&B guests, friends, who sit in my star gazing tubs, seeing stars/Milky Way sometimes for the first time and ask what's that over there?" – Bridget Langdale

"The benefit of this program has given me clarity in a way that is not intimidating and sparks interest in further study. Good first steps in the immense world of astronomy. The way it is designed it encourages solo and group study." – Suzanne Bjork

"A good program to start with...now we are ready for more!" – Wendy Hastings

SUBMISSION:

You must be a member of the Astronomical League either through your astronomy club or as a member-at-large. You do not need to submit your log book. Use the checklist to note when you complete each activity. This checklist should be submitted to the Coordinator, An electronic copy in an email is encouraged. This information must also be provided:

- Your name
- Your mailing address
- Your email address
- Your telephone number
- Whether you want the certificate mailed to you or your club's Award Coordinator and the name and address of that coordinator

REQUIREMENTS:

A. Basic Background Information

1. Keep a log including notes of each requirement (observations and new knowledge).
 - Acquire a notebook to keep your notes. This will not be submitted. Only a checklist is required to be submitted.
 - Each entry should include: the Date.
 - Observations should include the Time and Location as well.
2. Understand Star Party Etiquette & create your own Sky Kit (things to take to a star party):
 - Write down a few items of Star Party Etiquette.
 - List the items you included in your Sky Kit.
3. Tell 2 mythical constellation stories.
 - Include the dates you told the stories, audience information, and what constellations were used.
4. Research the Milky Way Galaxy, and what it should look like in the night sky.
 - Document this in your log.
5. Draw a sketch of the solar system identifying the planets:
 - Include the sketch and label all objects.
6. Learn a unique characteristic about each planet:
 - List each planet and its unique feature.
7. Explain the difference between an asterism and a constellation:
 - Include the Date, Time, and the audience information.
 - Include the definitions.
8. Explain Binary Stars and Star Clusters (open and globular):
 - Include the Date, Time, and the audience information.
 - Include all three definitions in your log.
9. What is the meaning of circumpolar?

- Include the definition in your log
- 10. What is the Messier Catalog? Who was Messier and how many objects are in the list?
 - Include the information in your log.
- 11. What is a Nebula? (Emission and Reflection)
 - Include both definitions in your log.

B. Looking at Stars & Constellations

1. Draw by freehand 15 Constellations:
 - Sketch the constellations and include their name as well as the names of any bright stars.
2. Locate and identify three constellations (Ursa Major, Ursa Minor, Cassiopeia, Leo, Orion, The Southern Cross, Cygnus, or others):
 - Document those constellations in your log.
3. Locate and identify the North Star/Polaris using other constellations (Ursa Major, Cassiopeia, The Summer Triangle, or Orion):
 - Include a sketch and indicate how you located it.
4. Locate two planets in the night sky.
 - Document those planets in your log.
5. Demonstrate use of a Planisphere.
 - Include the audience in your log.
6. Identify Major Stars and Objects in 15 constellations.
 - Include the constellations identified in your log.
7. Observe 1 deep space objects with the naked eye (M45 – the Pleiades, The Hyades in Taurus, M42 – the Orion Nebula, M44 – the Beehive in Cancer, M41 in Canis Major).
 - Include the object and the name of its constellation in your log.

C. The Moon

1. Sketch the seven phases of the moon.
 - Include sketches and label them in your log.
2. Identify three Moon Maria (seas).
 - Include the maria in your log.
3. Sketch the Man, the Rabbit, and the Woman in the Moon.
 - Include the sketches in your log.
4. Explain Lunar and Solar Eclipses and draw a diagram.
 - Include the sketches in your log.
 - Also include the audience information.
5. What is definition of the Terminator (on the Moon)?

D. Meteor Showers, Shooting Stars, Falling Stars, Zingers

1. Understand the definitions and the difference between Meteoroids, Meteors, and Meteorites.
 - Include the definitions in your log.
2. Identify 3 major Meteor Showers and the dates when they occur.
 - Include this information in your log.
 - Include the source you used to get this information in your log.

E. Protecting our Dark Skies

1. Evaluate your personal property related to reducing Light Pollution.
 - Document your findings in your log.
2. Learn about Watts, Lumens and Kelvin (color) of light bulbs.
 - Include the definitions in your log.

3. Educate others on the importance of proper and appropriate outdoor lighting. Include the value of Dark Skies and proper lighting to cost savings, wildlife, human health and enjoyment of the sky.
 - Document this in your log.
 - Include the audience information.

F. Future Planning:

1. Document in your log information about the next star party which you plan to attend.
2. Review the Astronomical League Observing Programs.
 - Identify the programs that you think would make good started programs for you to pursue.
 - Document in your log information about your choice as an Observing Program to pursue

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