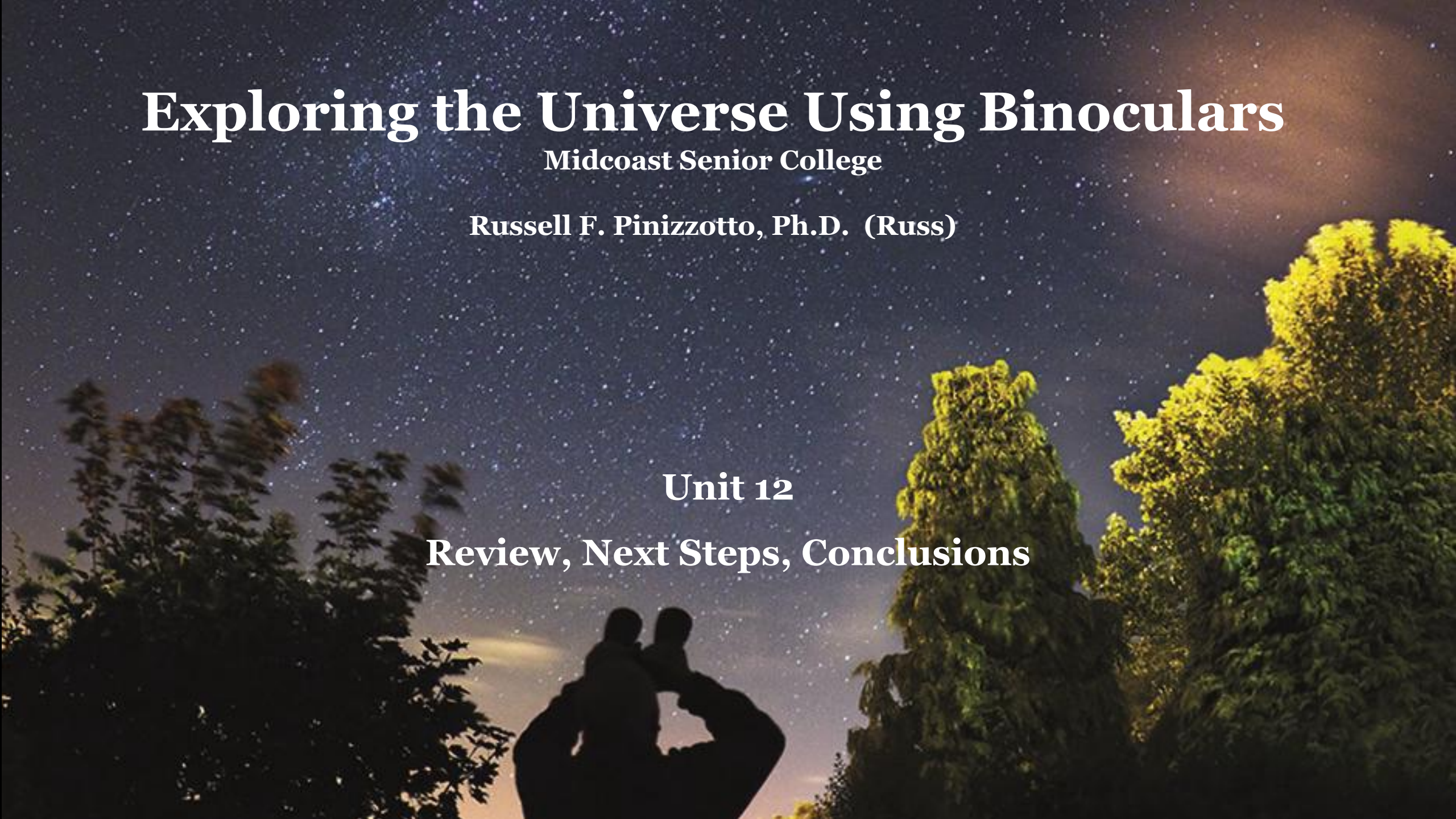
Exploring the Universe Using Binoculars

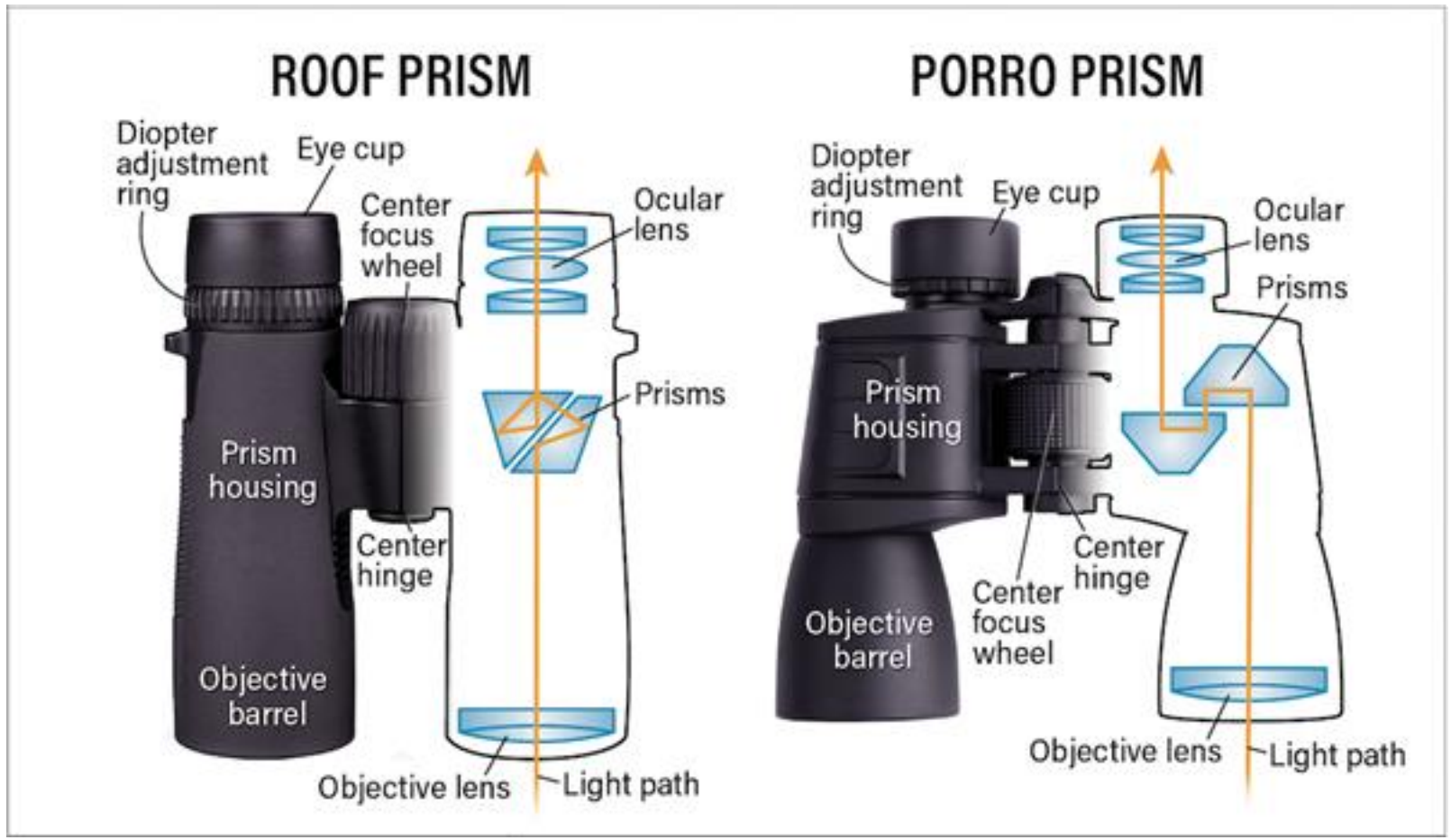
Midcoast Senior College

Russell F. Pinizzotto, Ph.D. (Russ)



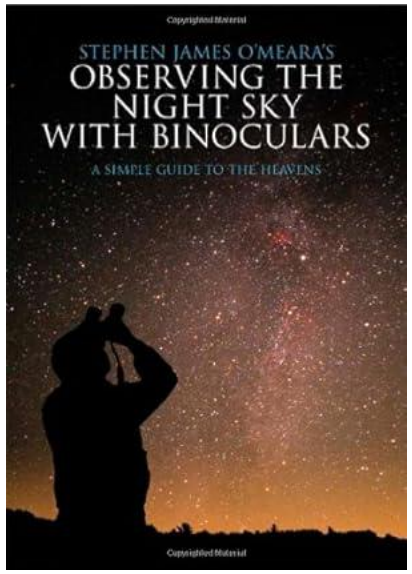
Unit 12

Review, Next Steps, Conclusions


ROOF PRISM
Diopter adjustment ring
Eye cup
Center focus wheel
Ocular lens
Prisms
Prism housing
Center hinge
Objective barrel
Objective lens
Light path
PORRO PRISM
Diopter adjustment ring
Eye cup
Ocular lens
Prisms
Prism housing
Center hinge
Center focus wheel
Objective barrel
Objective lens
Light path


stellarium
www.stellarium.org

SkySafari 7 Pro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STEPHEN JAMES O'MEARA'S
OBSERVING THE NIGHT SKY WITH BINOCULARS
A SIMPLE GUIDE TO THE HEAVENS
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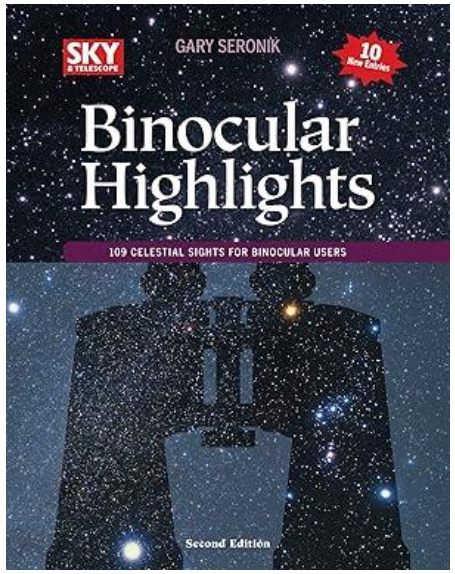
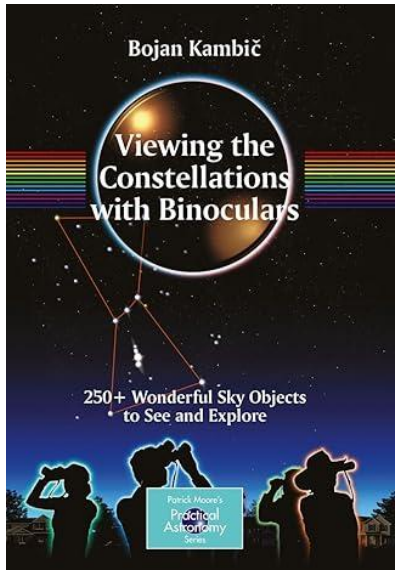
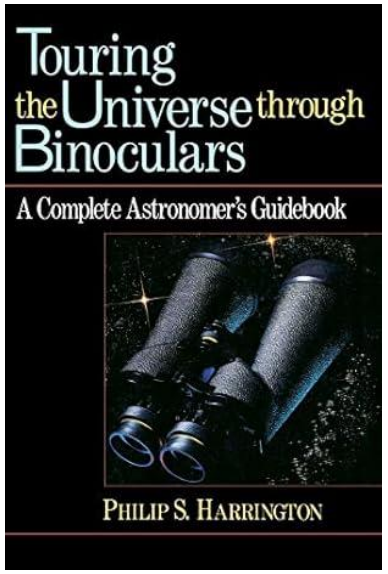
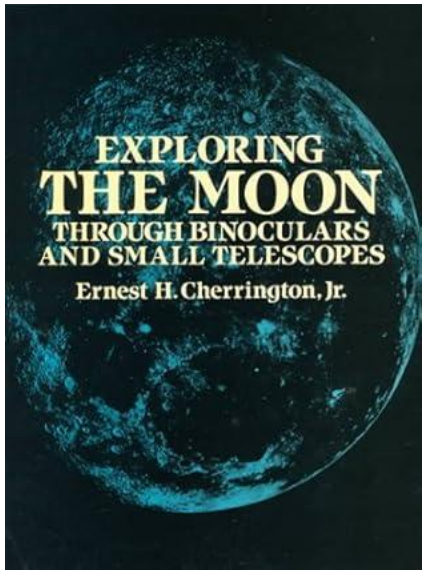

SKY & TELESCOPE
GARY SERONIK
10 New Entries
Binocular Highlights
109 CELESTIAL SIGHTS FOR BINOCULAR USERS
Second Edition


Bojan Kambič
Viewing the Constellations with Binoculars
250+ Wonderful Sky Objects to See and Explore
Patrick Moore's Practical Astronomy Series


Touring the Universe through Binoculars
A Complete Astronomer's Guidebook
PHILIP S. HARRINGTON


EXPLORING
THE MOON
THROUGH BINOCULARS AND SMALL TELESCOPES
Ernest H. Cherrington, Jr.

Asterisms you should be able to recognize:

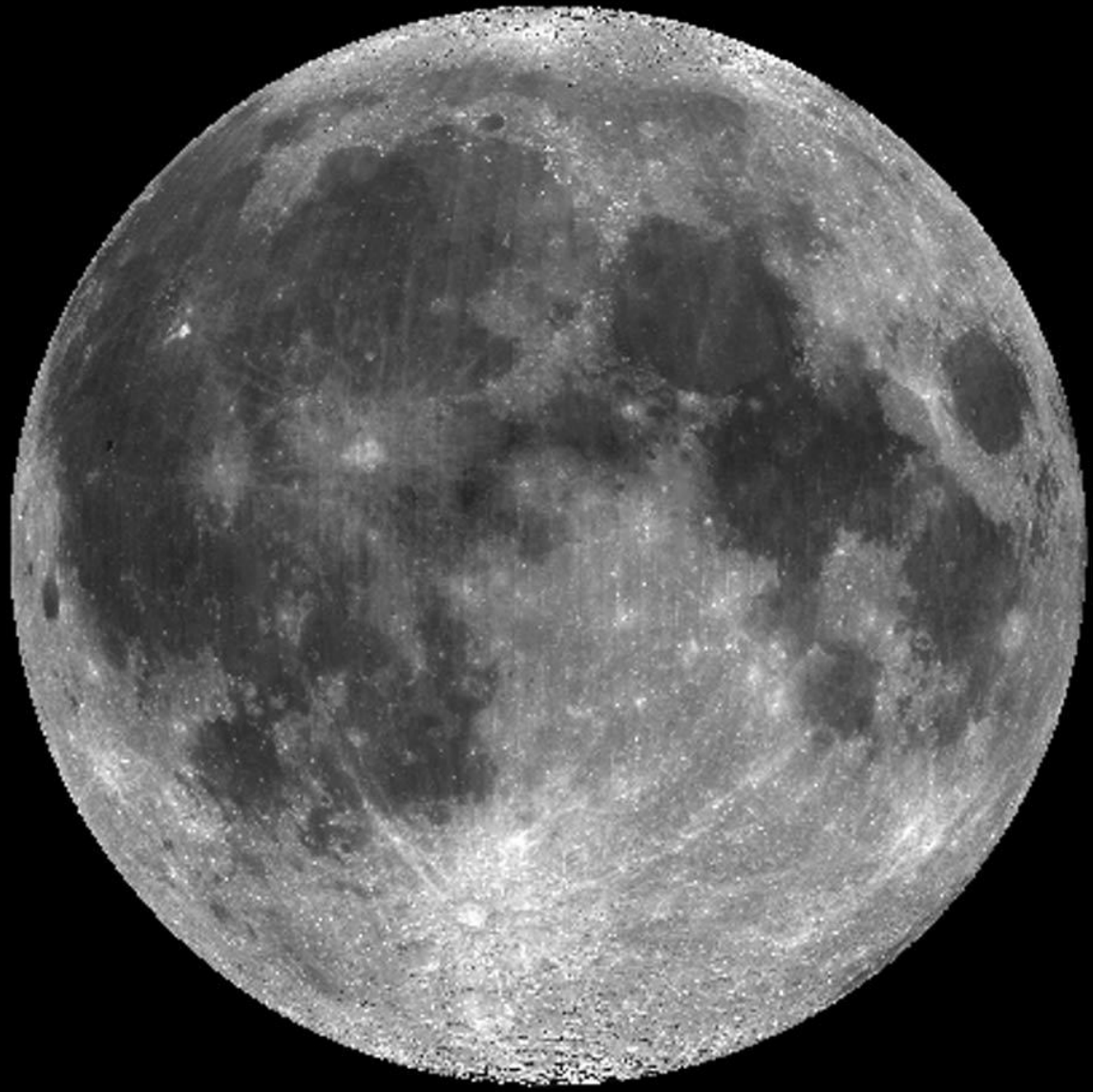
- Ursa Major (Big Dipper)
- Boötes
- Lyra
- Pegasus
- Orion
- Leo

Stars you should be able to find:

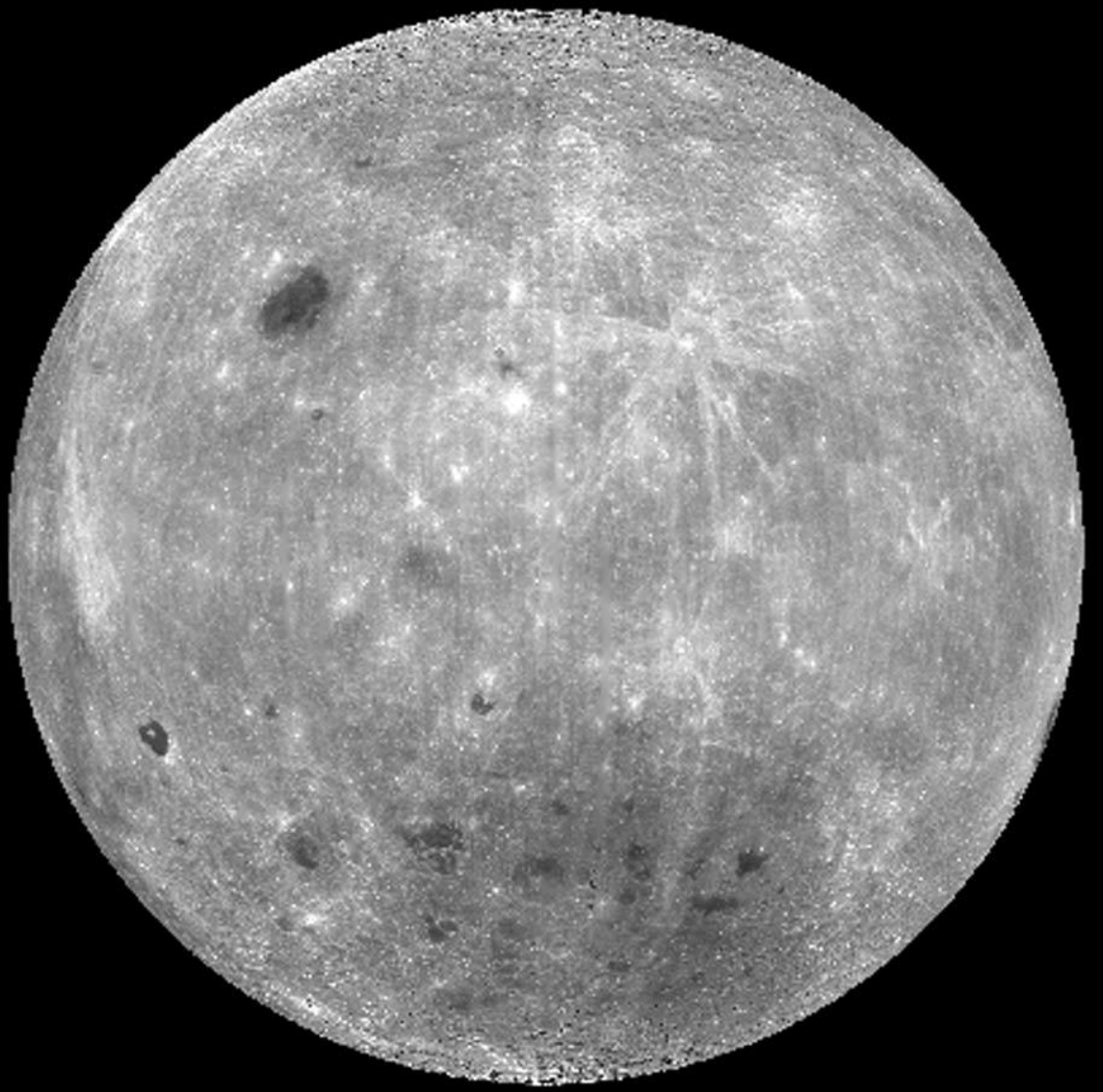
Name	Location
Polaris and the Pointers	Ursa Minor and Ursa Major
Arcturus	Boötes
Vega	Lyra
Alpheratz	Andromeda (Pegasus)
Rigel	Orion
Betelgeuse	Orion
Regulus	Leo

25 Brightest Stars
Sorted by B-V
(without duplicates)

Sun +0.66



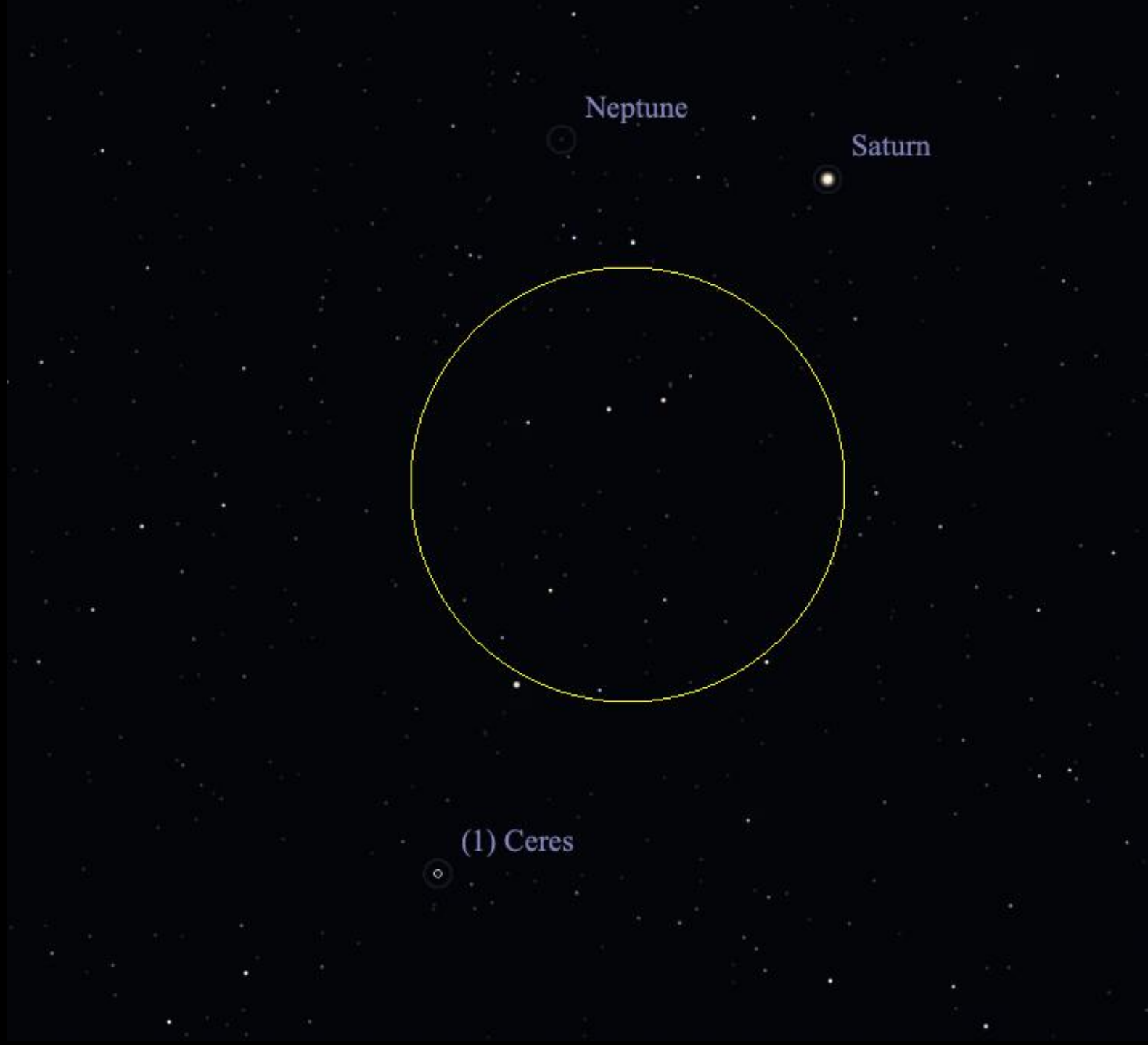
Near Side

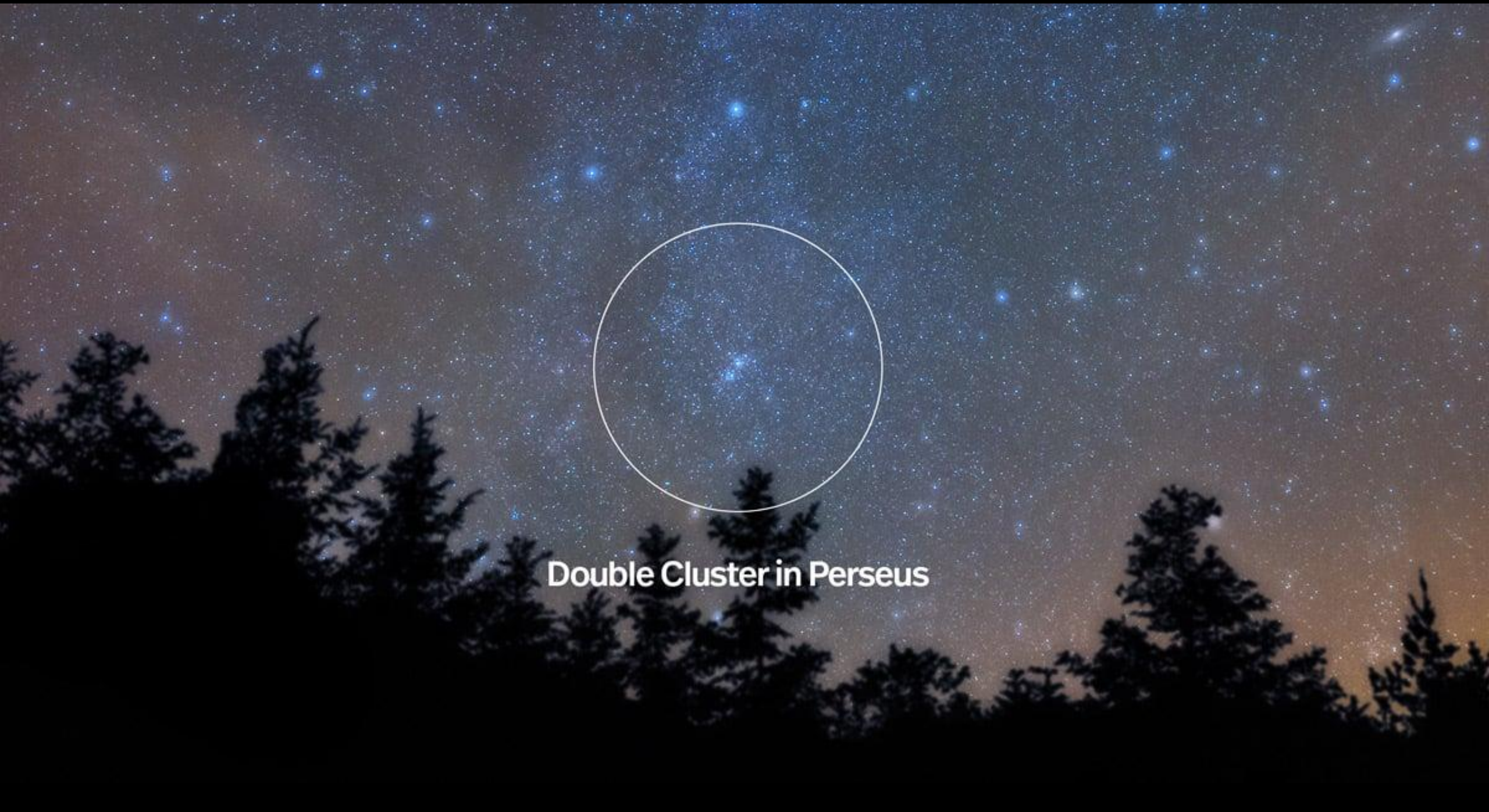


Far Side

Use Stellarium

Star Hop!

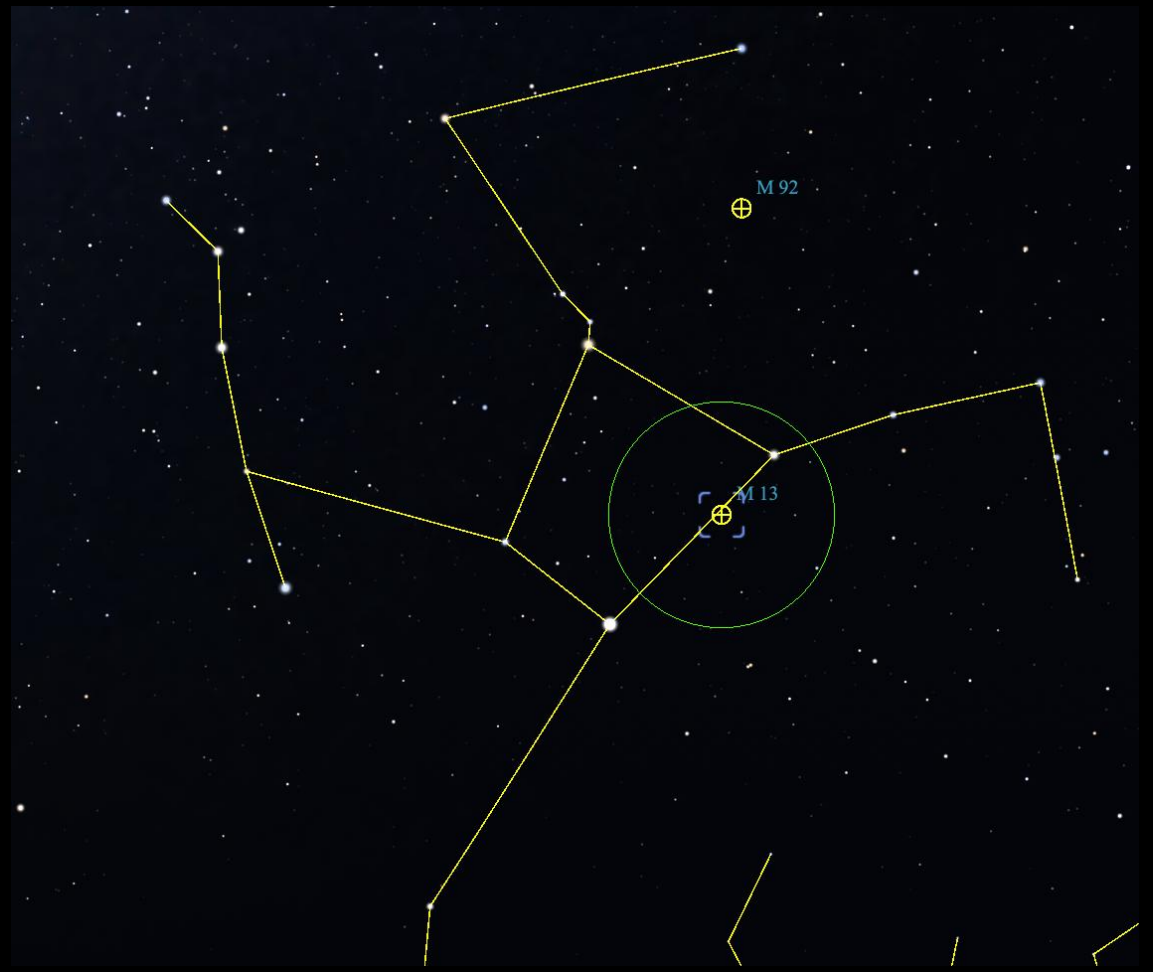


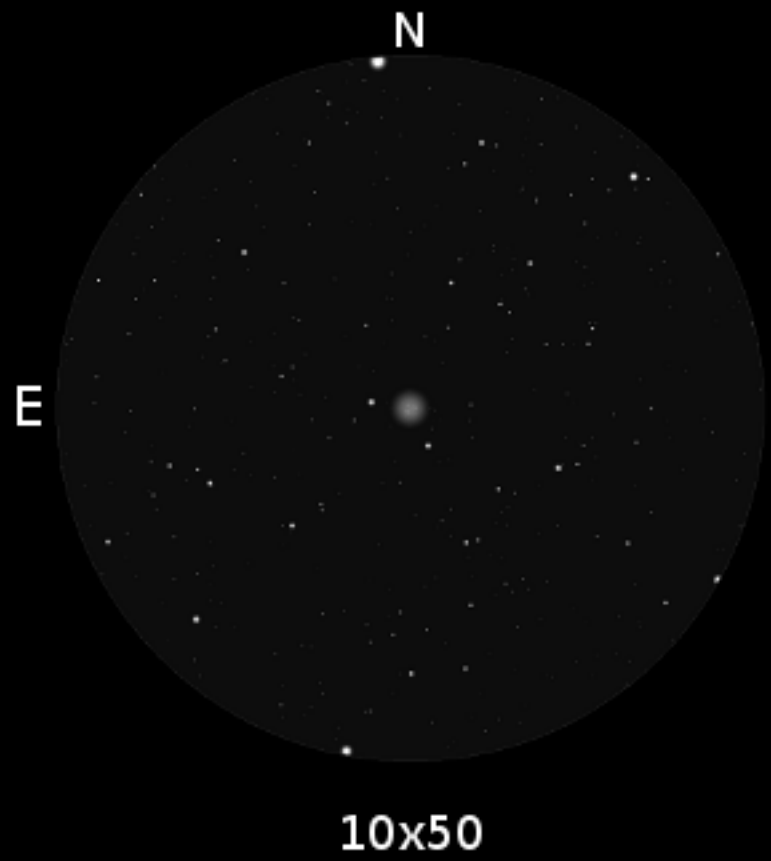

Double Cluster in Perseus

The Coathanger

https://binocularsky.com

M13 - The Great Hercules Cluster





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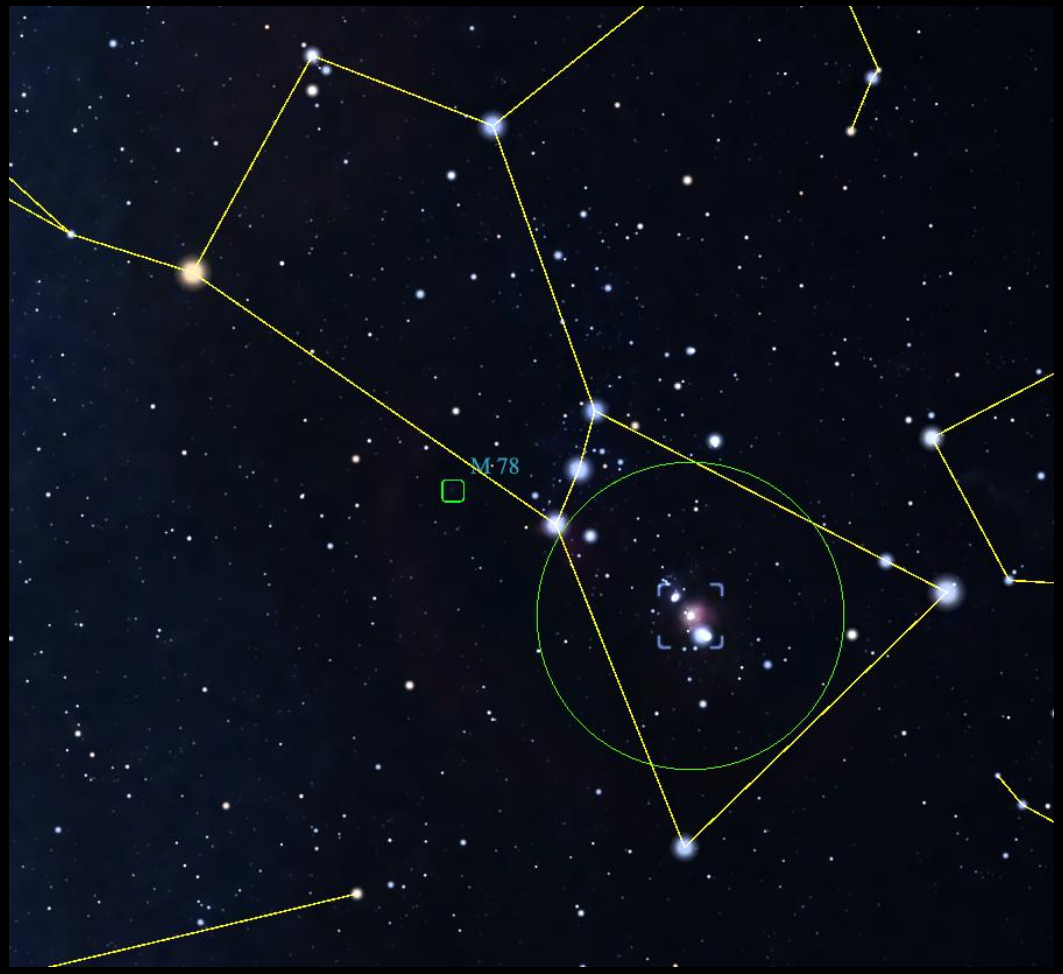
M42 – The Great Orion Nebula



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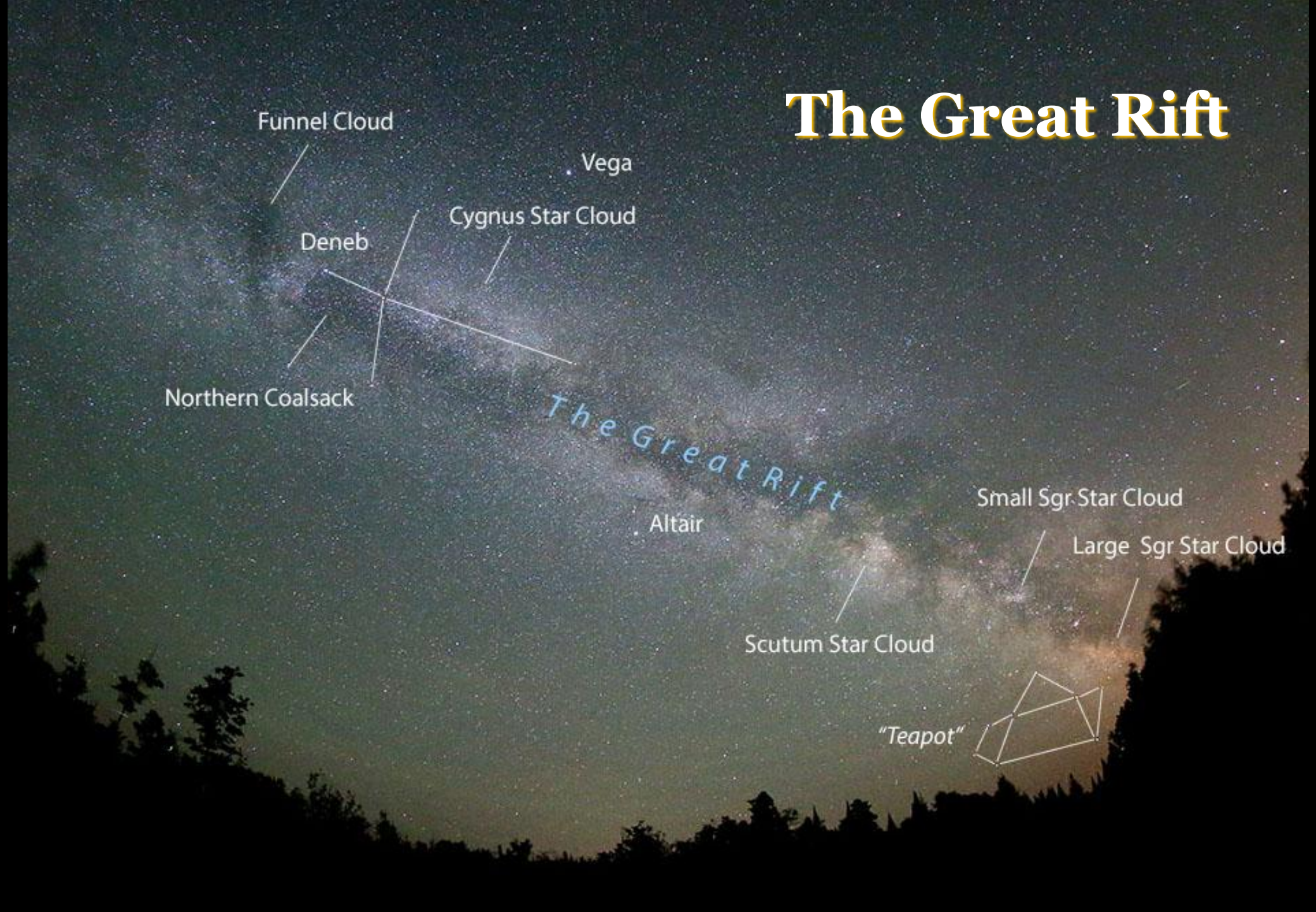
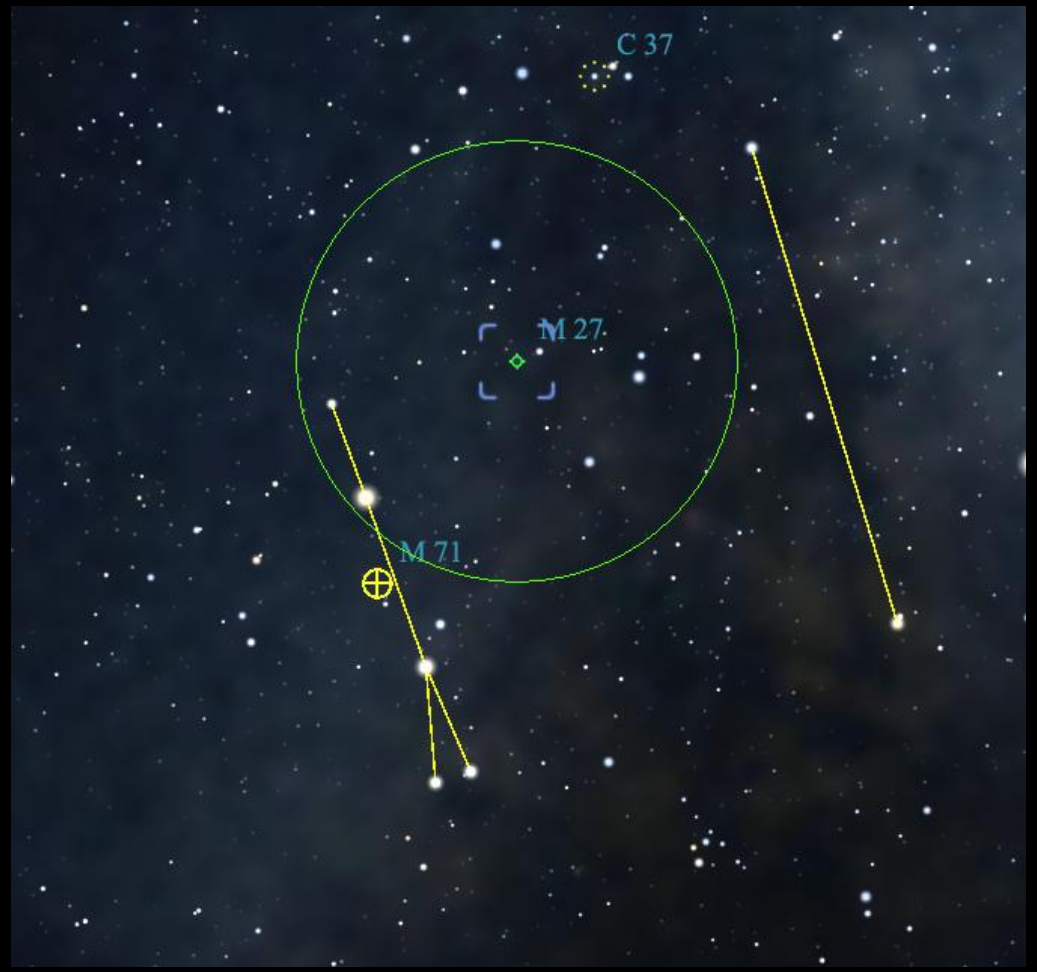
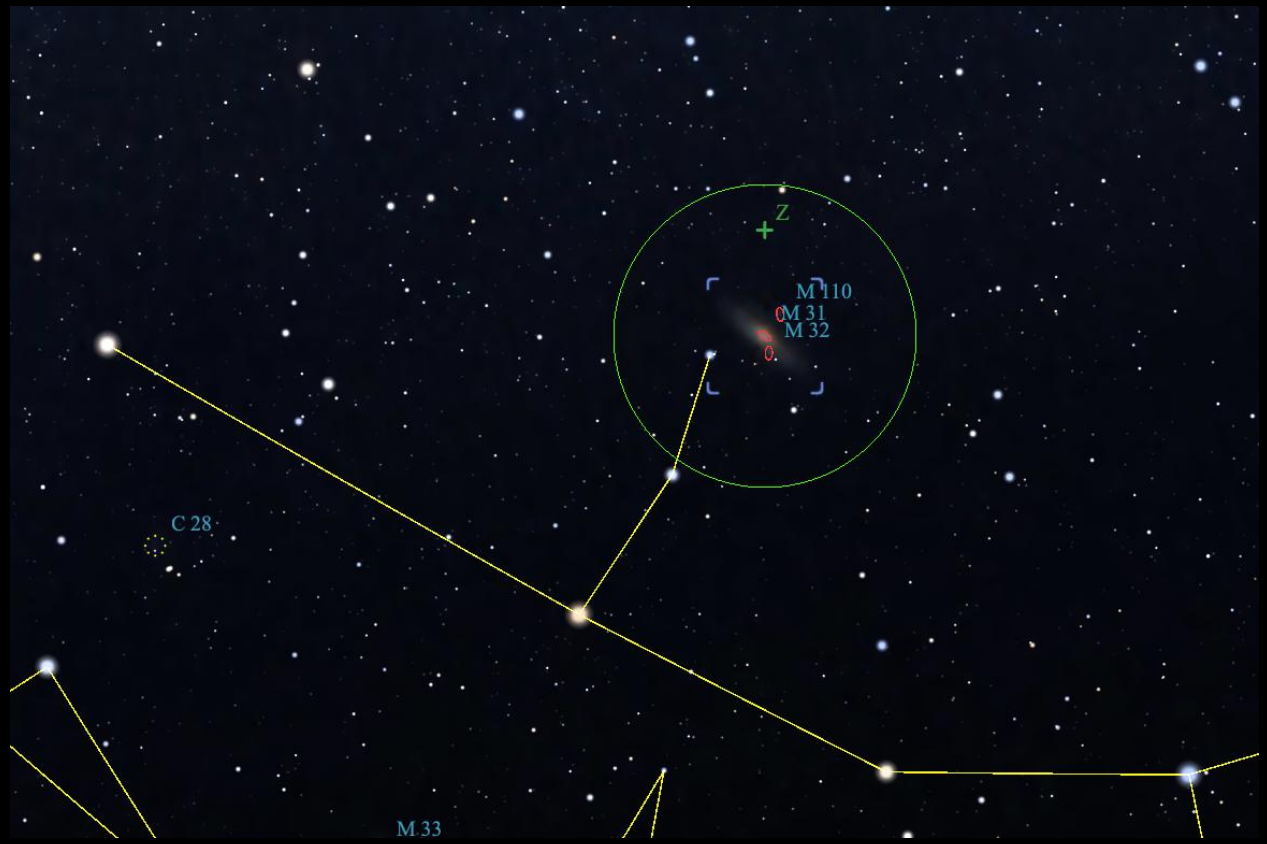

The Great Rift
Funnel Cloud
Vega
Cygnus Star Cloud
Deneb
Northern Coalsack
The Great Rift
Altair
Small Sgr Star Cloud
Large Sgr Star Cloud
Scutum Star Cloud
"Teapot"

M27 – Dumbbell Nebula



https://binocularsky.com

M31 – Andromeda Galaxy



https://binocularsky.com

Astronomical League
Binocular Observing Programs

Advanced Binocular Double Star
Asterism
Binocular Double Star
Binocular Messier
Binocular Variable Star
Deep Sky Binocular
Earth Orbiting Satellite
Galileo – Binocular
Lunar – Binocular
Solar Neighborhood – Binocular
Solar System – Binocular
Southern Skies Binocular

Binocular Master Observer
Completion of at least 8

Planning an observing session – Tsula's Big Adventures

https://www.youtube.com/watch?v=7RLyzQU9xkY

1. Check the weather and the phase of Moon
2. Prepare an observing list – maybe 10 objects
3. Organize everything you need – see next 2 slides
4. Don't forget your binoculars!!!
5. Record your observations
    1. Take your time with each object
    2. Detailed notes and sketches
6. Have fun!

Cosmic Connections:
An Introduction to Astronomy and Maine's Magnificent Night Skies

Discover the science behind Maine's Magnificent Night Skies in this relaxed, friendly Zoom-based tour of the Universe. We will explore why stars shine with different colors, why the Moon changes shape, how gravity sculpts planetary orbits, and how modern astronomy reveals details of our galaxy and the Universe beyond. Easily recognizable seasonal sky features will be used as examples. The emphasis is on clear explanations, evidence-based reasoning, and building understanding of how the cosmos works. No math, special equipment, or prior astronomy background is needed. Just bring your curiosity, your questions and your sense of wonder.