June 2025 Astronomy Report

- ***Moon***:
  - Phases

- ***Planets:***
  - Jupiter, Mercury and Mars visible in the evening, very limited viewing of Jupiter
  - Venus, Neptune and Saturn visible before sunrise
  - Uranus - very limited viewing at end of month before sunrise

- ***Comets/Asteroids/Meteor Showers:***
  - No meteor showers
  - Comet chasing website: “in 20 years, never seen so few comets available…at least 24” telescope required”
  - Vesta asteroid passing through Virgo constellation

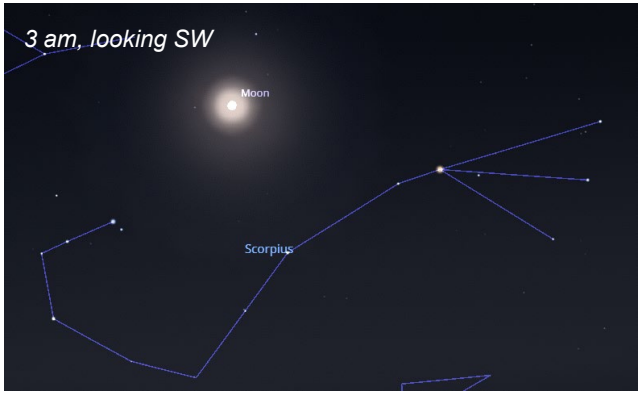
- ***Dark Sky Star Party:***
  - June asterisms, June 21st

Credits: Astronomy magazine, Stellarium (unless otherwise noted)

Moon - Phases

June 2 - First Quarter (Leo)

June 11 - Full Moon (Scorpius)



June 18 - Last Quarter (Pisces)

June 20 - Summer solstice - 7:42 pm
June 25 - New Moon

Apogee (252K miles) - 7th
Perigee (226K miles) - 23th

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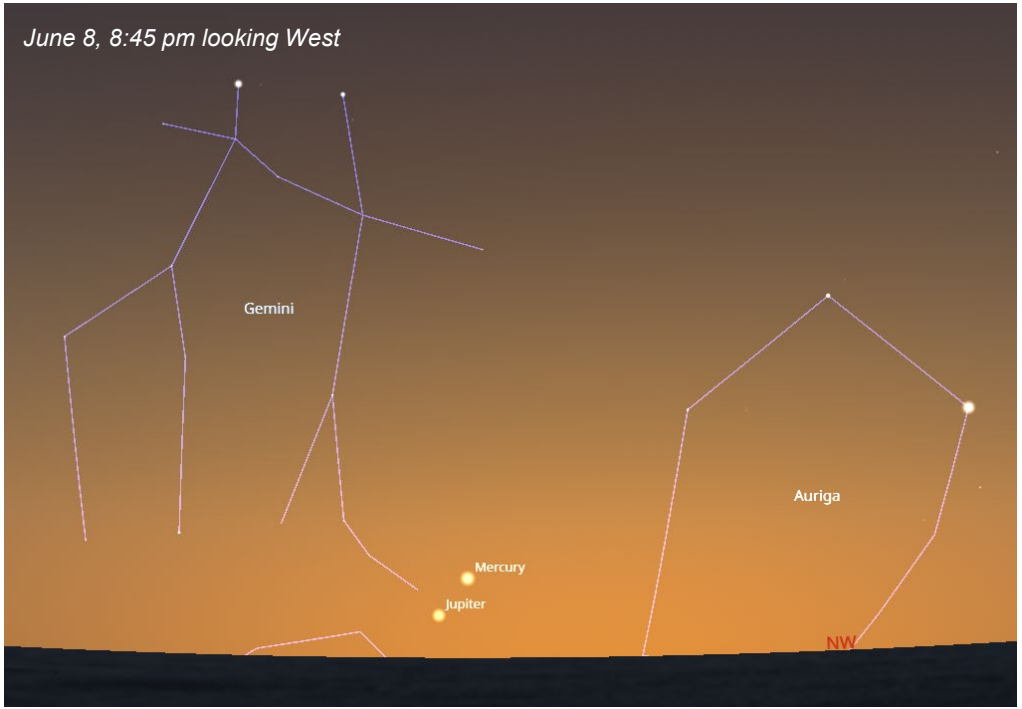
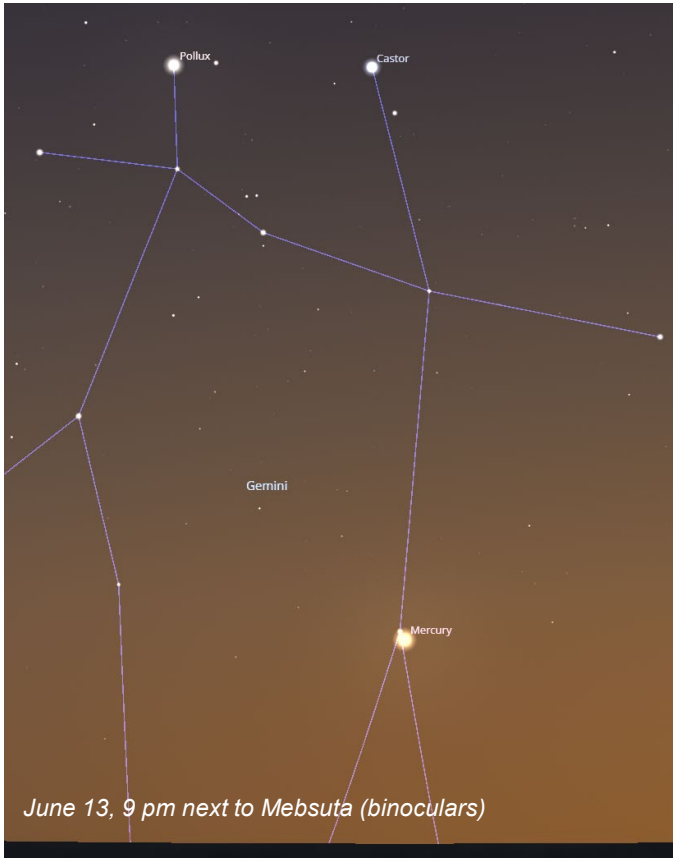
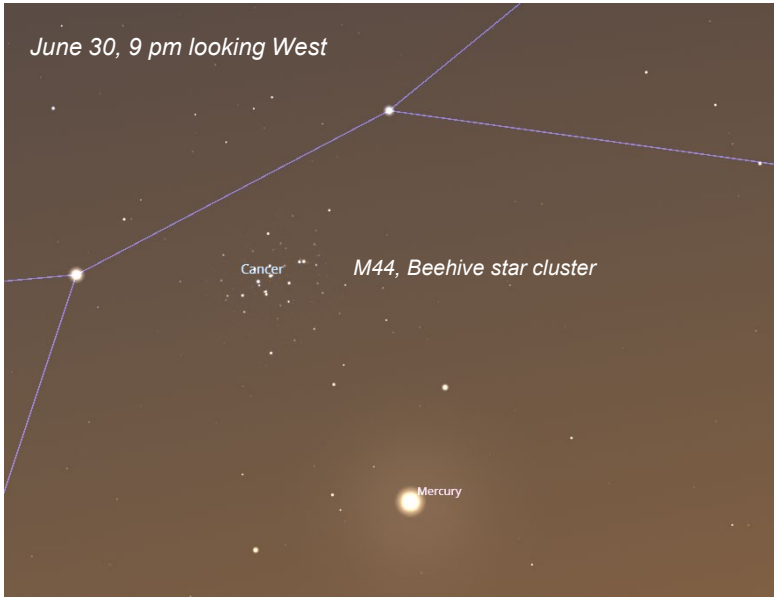
Evening Planets: Jupiter/Mercury - *(Gemini)*

Jupiter sets very low in western sky and disappears by mid-month, has its conjunction with the Sun on the 24th. Will reappear in the morning in late July. Mercury reappears on June 6th and climbs higher in the sky, although it dims as it goes.





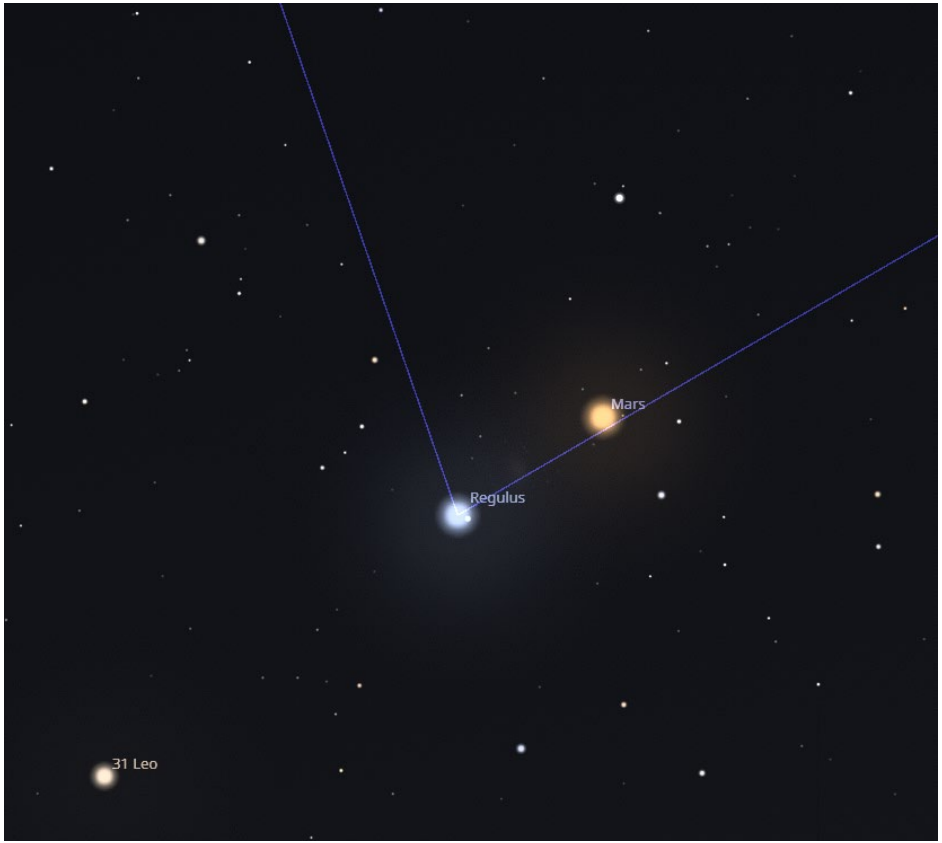
Evening Planets: Mercury - *(Gemini)*



Will need binoculars, along with a clear western horizon and good air clarity to see M44

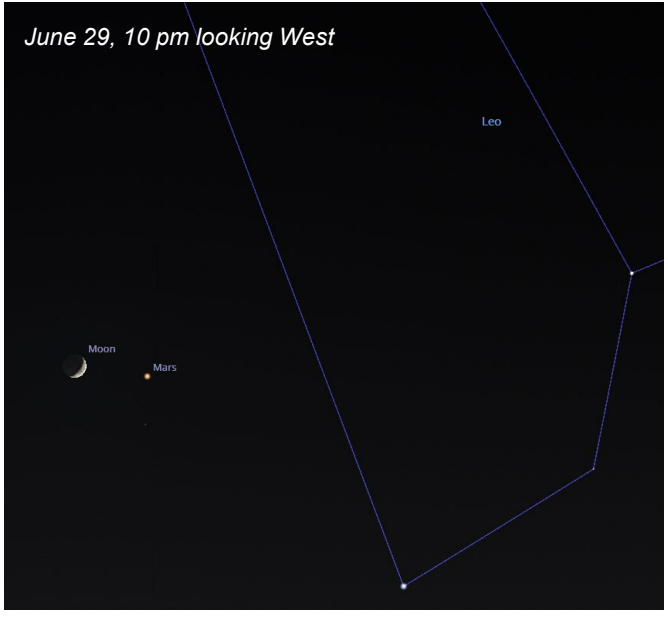
Evening Planets: Mars - *(Leo)*

Mars has a conjunction with Regulus (Leo's brightest star) on the 16th. Note the color contrast between the orange glow of Mars and the bluish-white hue of Regulus.



Evening Planets: Mars - *(Leo)*

Mars continues across southern Leo in the latter half of June and the Moon comes along on the 29th. Once the Moon is out of the way on the 30th, look for the galaxy pairing of M95 and M96, standing a couple degrees to the northeast.



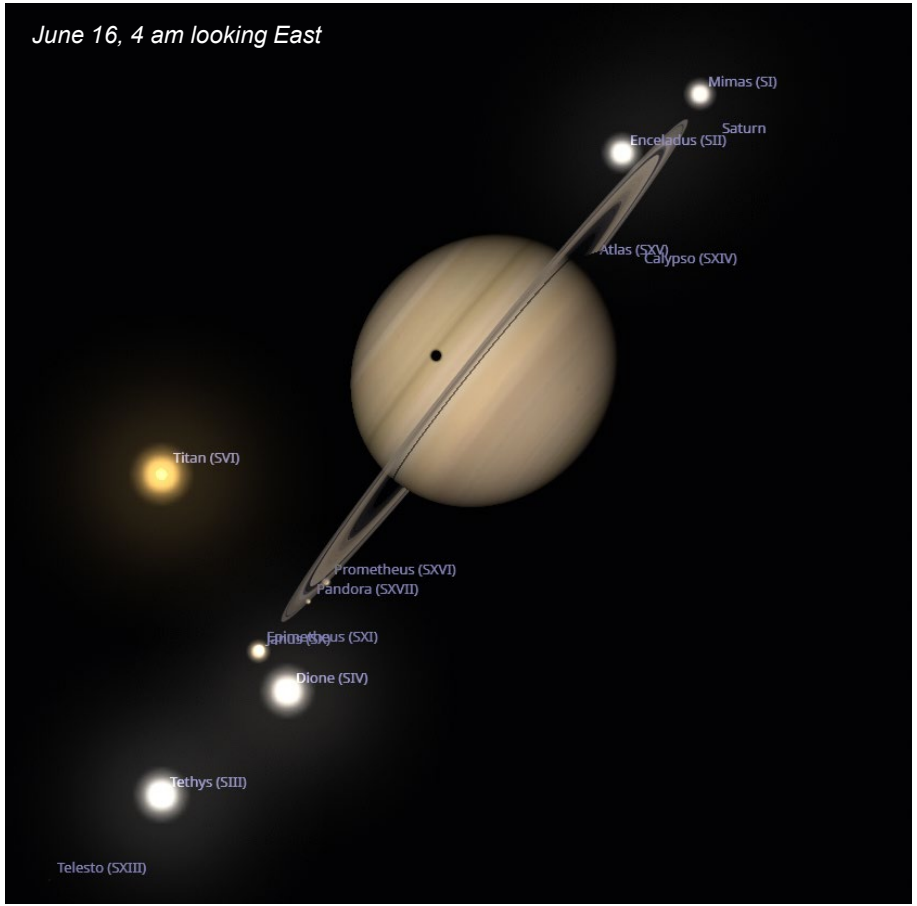
Morning Planets: Venus/Saturn/Neptune - *(Cetus/Pisces)*

Venus, Saturn, and Neptune appear in the morning sky. At the beginning of June, Venus is located in Pisces, traverses between Aries and Cetus and ends the month entering Taurus. Saturn climbs higher in the eastern sky and remains in Pisces. Now - and for the next 13 years, the southern face of Saturn's rings are on view.

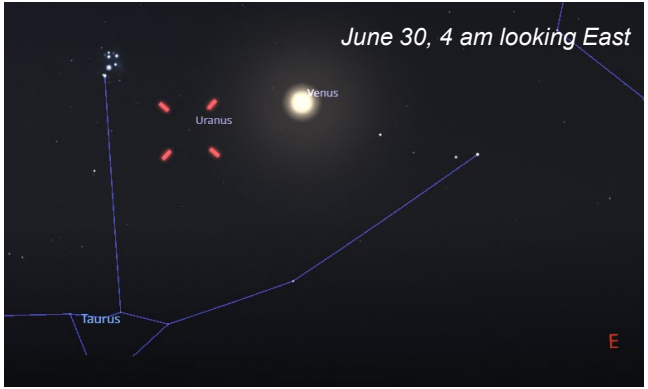
Neptune lies 20 AU (around 1.9 billion miles) beyond Saturn. If you could view the Sun from Neptune, it would appear 30 times smaller than it does from Earth, yet it would still attain a brilliance 500 times that of the full Moon.

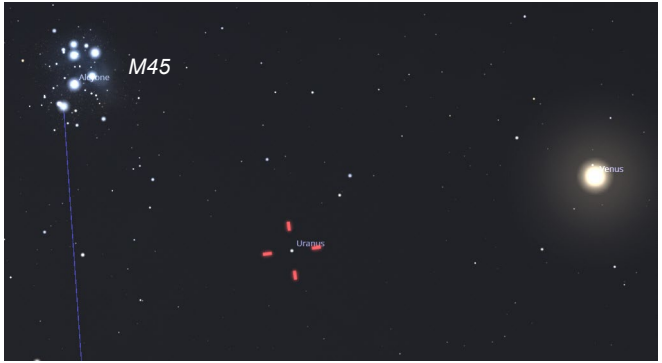
Morning Planets: Saturn/Uranus - *(Pisces/Taurus)*

Titan's shadow transit starts when Saturn rises around 1:30 am and continues until after the Sun rises.



Best time to observe Uranus is on June 30 before twilight.
Only 10 degrees above horizon, visibility improves in July.





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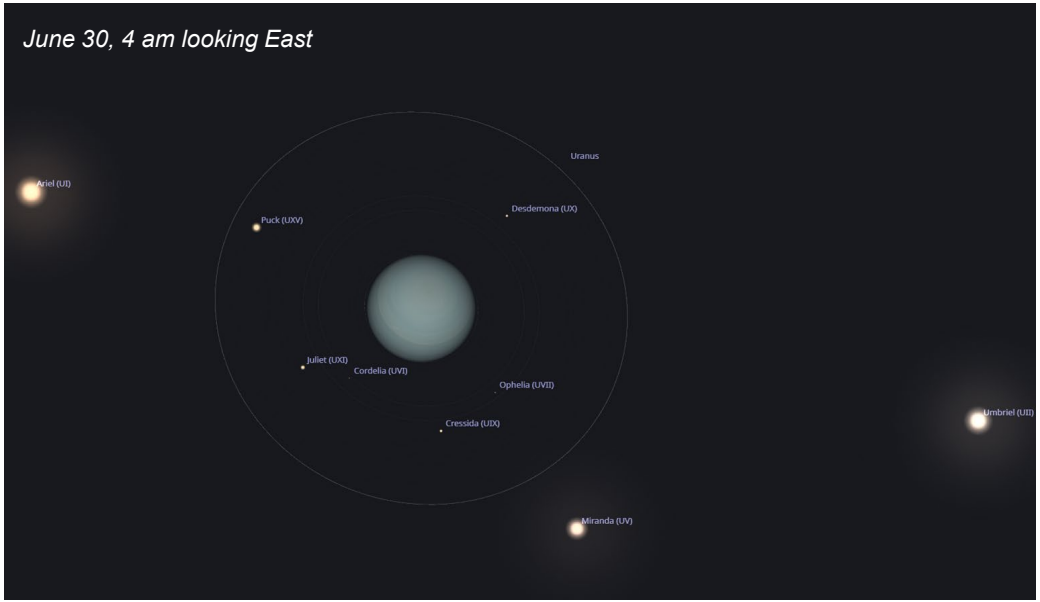

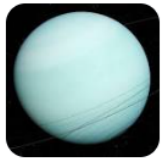

Uranus is the seventh planet from the Sun and is classified as an ice giant, along with Neptune. It's known for its distinctive blue-green color, caused by methane in its atmosphere. Uranus has a very large axial tilt, making it appear to rotate on its side.

Here are some key characteristics of Uranus:

- **Ice Giant:** Primarily composed of water, ammonia, and methane in a supercritical phase, making it an ice giant.
- **Blue-Green Color:** Methane in the atmosphere absorbs red light, giving Uranus its distinctive blue-green hue.
- **Extreme Tilt:** Its axis is tilted at an angle of about 98 degrees, making it appear to spin on its side.
- **Moons and Rings:** Uranus has at least 28 known moons and a faint ring system.
- **Cold and Windy:** Uranus has the lowest minimum temperature in the solar system, and its atmosphere is very windy.
- **Unique Rotation:** Like Venus, Uranus rotates in a retrograde (clockwise) direction, unlike most other planets.
- **Size:** Uranus is about four times wider than Earth.
- **Distance from the Sun:** About 1.78 billion miles (2.87 billion kilometers) from the Sun.

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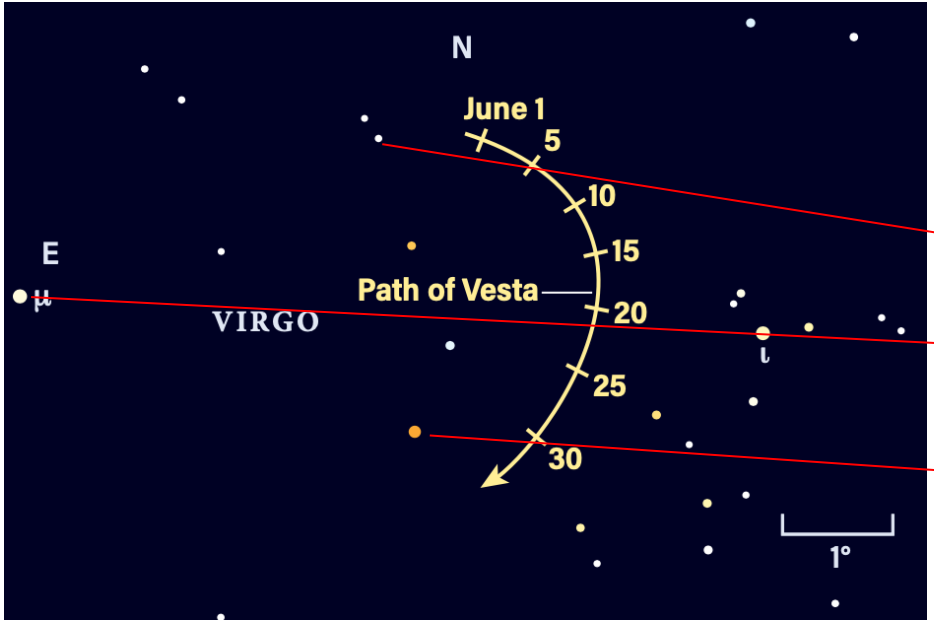
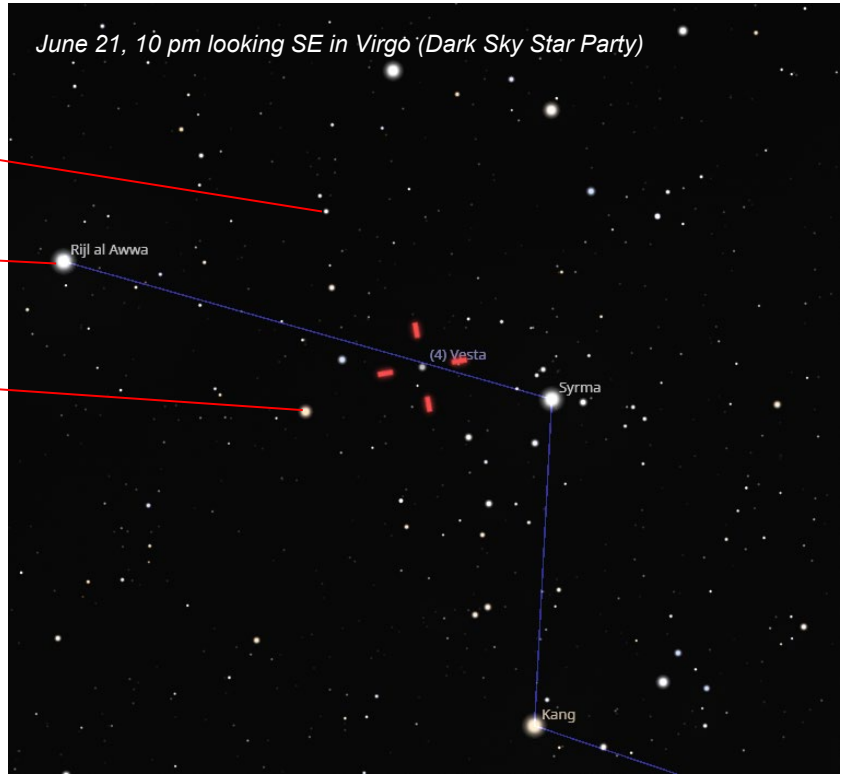
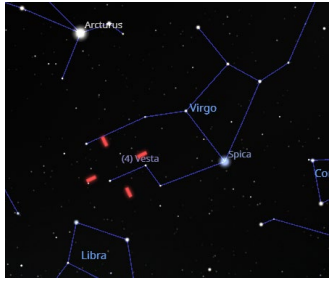
Asteroid - Vesta - *(Virgo)*

- *2nd largest asteroid in Main belt; brightest asteroid visible without a telescope, 325 miles in diameter, discovered in 1807*
- *Visible with binoculars and fades out of view after this month for a year as faster-orbiting Earth leaves it behind*







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  - Eta Aquariid meteor shower peaks in the first week of May
  - Challenging comet viewing - 29P/Schwassmann-Wachmann
  - Vesta asteroid passing through Virgo constellation

- ***Dark Sky Star Party:***
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In astronomy, **a constellation is an officially recognized, bounded region of the celestial sphere, while an asterism is a recognized pattern of stars, often a part of or spanning multiple constellations**. Think of constellations as the official "states" of the sky, and asterisms as familiar landmarks within those "states".

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Dark Sky Viewing - June asterisms June 21

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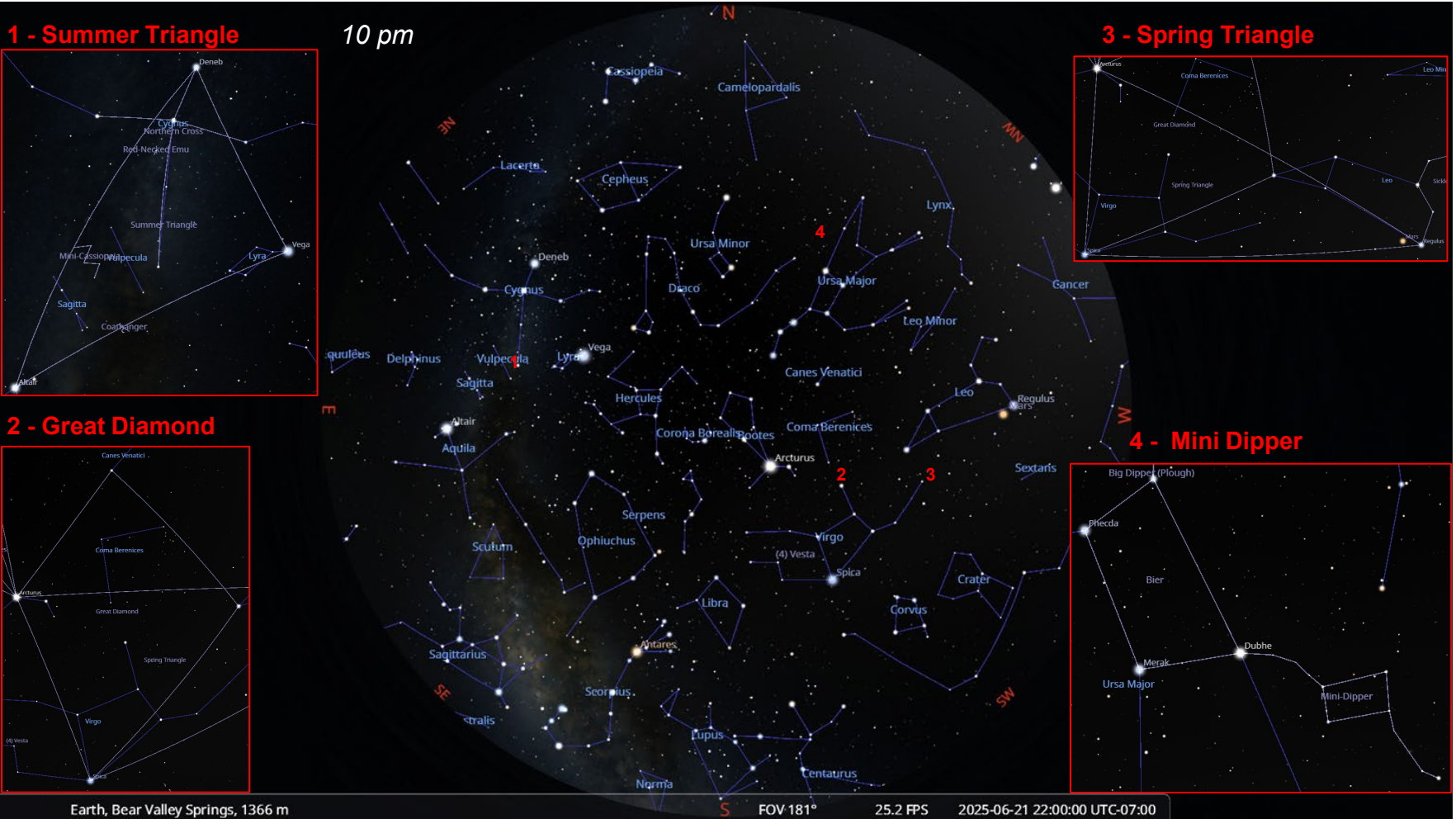

June 2025 Viewing Chronology

- 2 - 1st Qtr moon *(10 pm)*
- 8 - Mercury/Jupiter *(8:45 pm)*
- 11 - Full Moon *(3 am)*
- 13 - Mercury *(9 pm)*
- 16 - Saturn/Titan *(4 am);* Mars/Regulus *(10 pm)*
- 18 - Last Qtr Moon *(4 am)*
- 20 - Summer Solstice *(7:42 pm)*
- 21 - Dark Sky Star Party - Vesta/asterisms
- 22 - Venus/Saturn/Neptune/Moon *(4 am)*
- 25 - New Moon
- 26 - Mercury/crescent Moon *(9 pm)*
- 29 - Mars/crescent Moon *(10 pm)*
- 30 - Uranus/Venus/M45 *(4 am);* Mercury/M44 *(9 pm);* Mars/M95/M96 *(10 pm)*

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