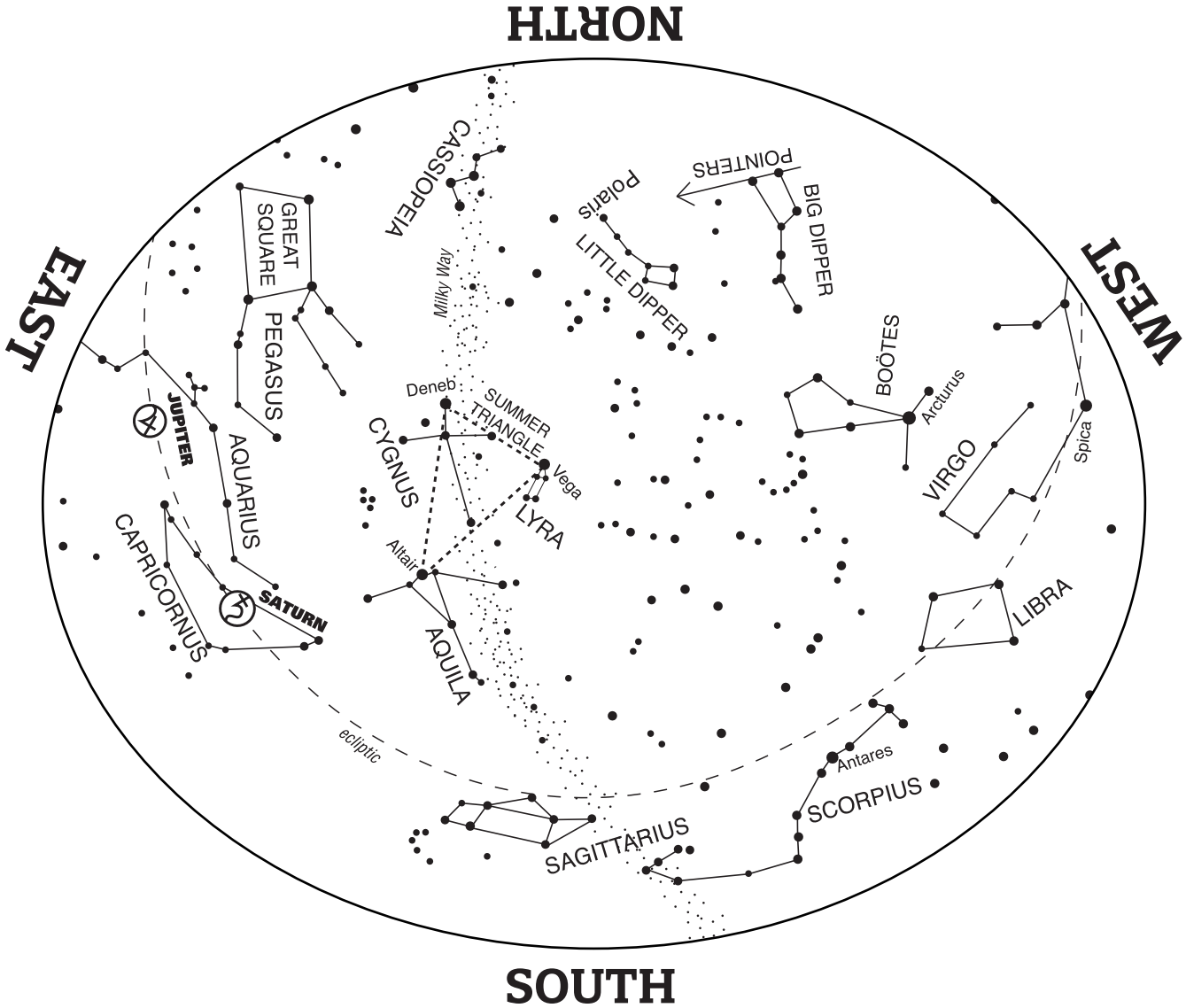


Starmap

JULY/AUGUST 2021



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TO USE MAP:

Hold the map in front of you so that the direction you are facing is on the bottom. The stars on the lower half on the map will match up with the stars in the sky. The center of the map is directly overhead in the sky. Constellation and star pattern names are all capitalized. Names of stars have only the first letter capitalized. The map is valid within an hour of:
11:30pm Mid-July EDT
9:30pm Mid-August EDT

MAGNITUDE is a measure of a star's brightness. The lower the number, the brighter the star

- 1st or brighter magnitude star
- 2nd magnitude star
- 3rd magnitude star
- 4th or fainter magnitude star










ECLIPTIC:

The imaginary path of the Sun through the year. Constellations of the Zodiac surround the Ecliptic and the Moon and planets appear along it.

Starmap

JULY/AUGUST 2021

IN THE JULY/AUGUST SKY

- | | |
|--|---|
| <p> July 1
Last quarter Moon</p> <p>July 2
Venus near Beehive Cluster</p> <p>July 4
Mercury at greatest elongation (morning)</p> <p>July 5
Earth at aphelion
(See Celestial Highlights)</p> <p>July 8
Moon near Mercury
(morning)</p> <p> July 9
New Moon</p> <p>July 11
Moon near
Venus and Mars
(See Celestial Highlight)</p> <p>July 13
Venus near Mars</p> <p> July 17
First quarter Moon</p> <p> July 23
Full Moon</p> <p>July 24
Moon near Saturn
(See Celestial Highlight)</p> <p>July 25
Moon near Jupiter</p> <p> July 31
Last quarter Moon</p> | <p>August 1
Superior conjunction of
Mercury</p> <p>August 2
Saturn in opposition
(See Celestial Highlight)</p> <p> August 8
New Moon</p> <p>August 9
Moon near Mars</p> <p>August 10
Moon near Venus</p> <p>August 12
Annual Perseid meteor
shower
(See Celestial Highlight)</p> <p> August 15
First quarter Moon</p> <p>August 16
Moon near Antares</p> <p>August 19
Mercury near Mars
Jupiter in opposition
(See Celestial Highlight)</p> <p>August 20
Moon near Saturn</p> <p> August 21
Full Moon near Jupiter
(See Celestial Highlight)</p> <p> August 30
Last quarter Moon near
Alderbaran (morning)</p> |
|--|---|

**MERCURY**

When:
Morning Sky, July 1-22
Not Visible- August

Where:
East-Northeast

Constellation:
Taurus, Gemini

**VENUS**

When:
Evening Sky

Where:
Low in West

Constellation:
Cancer, Leo, Virgo

**MARS**

When:
Evening sky, July
Not visible, August

Where:
Very low in west

Constellation:
Cancer, Leo

**JUPITER**

When:
After midnight, July
All night, August

Where:
Southeast to southwest

Constellation: Aquarius

**SATURN**

When:
Late night to dawn, July
All night, August

Where:
Southeast to southwest

Constellation:
Capricornus

CELESTIAL HIGHLIGHTS

Earth at Aphelion, July 5 - Aphelion is a planet's farthest point from the Sun in its annual elliptical orbit. This year, Earth reaches aphelion on July 5, with a distance of 94,508,169 miles, making it about 3,000,000 miles farther from the Sun than perihelion, when we are at our closest distance, in January. Despite the variable distance between the Earth and the Sun, changing temperatures and seasons are caused by the tilt of the Earth

Planet Oppositions and Conjunctions with Sun - The astronomical term opposition describes when an object appears opposite the sun in the sky as seen from Earth. Planets at opposition are visible all night. Saturn goes into opposition August 2 and Jupiter goes into opposition August 19. In contrast, conjunction means that two objects appear in the same place in the sky as seen from Earth. Planets in conjunction with the sun are not visible. Mercury is in conjunction with the sun on August 1.

Perseids Meteor Shower peaks August 12 - While the peak occurs on August 12, some meteors may be visible July 17 - August 24. Look to the north-eastern sky after dark to watch for Perseid meteors.

Planet and Moon Pairings - The word "planet" means wanderer in Greek, because throughout the year you can see the planets and the Moon move across the background of stars each night. As the planets and the Moon wander in the sky they sometimes look to be close to each other from our perspective on Earth. On July 11 and 12, the Moon will be close to Venus and Mars, Venus will be the brighter of the two planets. These two planets will also be at their closest to each other on July 13. You can watch that planet pair approach each other from night to night from the beginning of the month, Venus below Mars. Then they switch places and move apart from July 13 onward. Late at night on July 24, the Moon will be between and below Jupiter and Saturn. Less than a month later, August 20, the Moon will be below Saturn and the next night below Jupiter.

The bi-monthly STARMAP is available on the web at <https://www.mdsci.org/learn/resources/starmaps/>