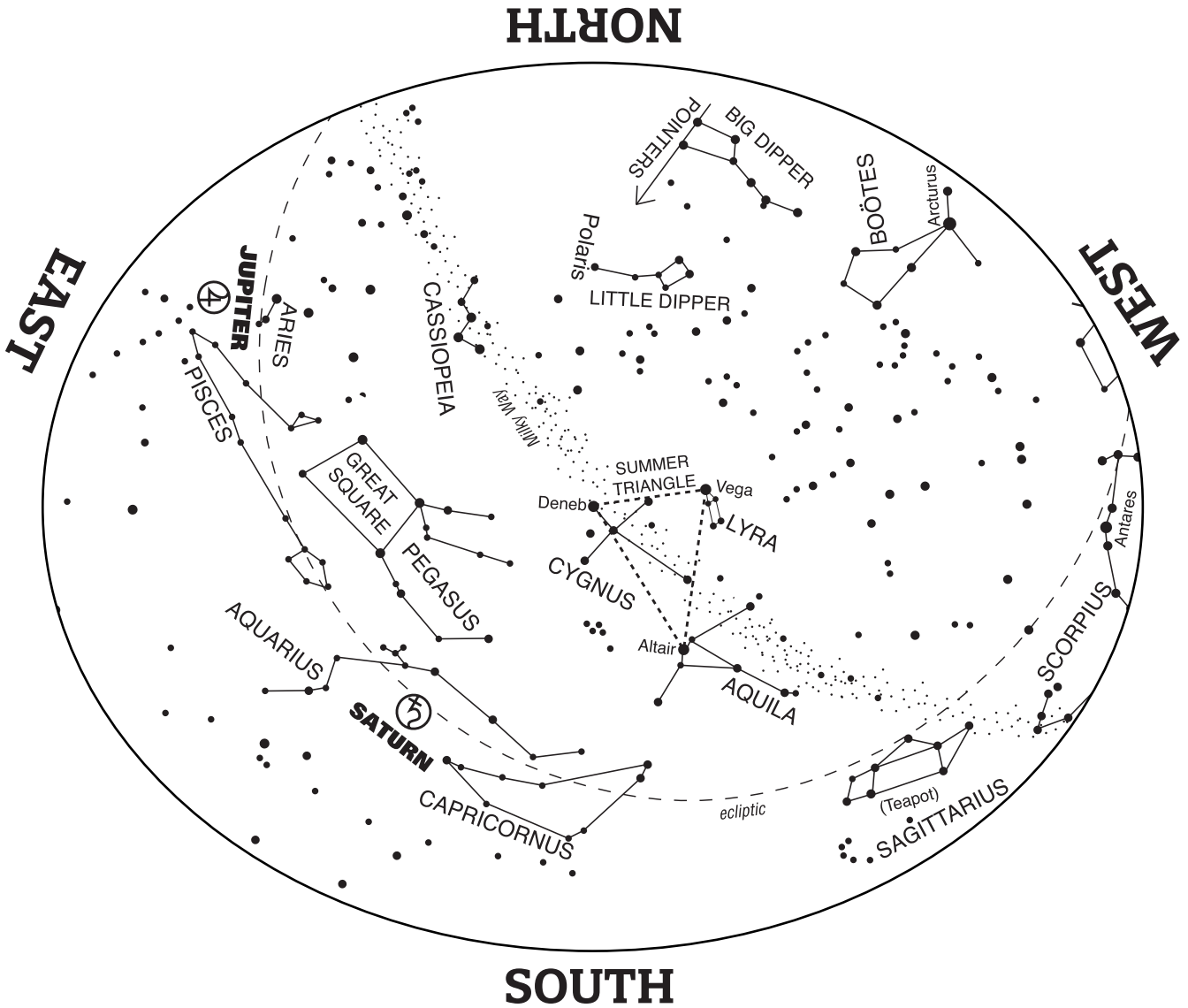


Starmap

SEPTEMBER/OCTOBER 2023



601 Light Street • Baltimore's Inner Harbor
410.685.5225 • www.marylandsciencecenter.org



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:
9:30pm Mid-Sept EDT
7:30pm Mid-Oct. 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

SEPTEMBER/OCTOBER 2023

IN THE SEPTEMBER/OCTOBER SKY

Sept. 3/4

Moon near Jupiter

Sept. 6

Moon near Pleiades and Aldebaran (morning)

**Sept. 6**Last Quarter Moon
Mercury in conjunction with Sun*(See Celestial Highlights)***Sept. 10**

Moon near Pollux (morning)

Sept. 11

Moon near Venus (morning)

**Sept. 14**

New Moon

Sept. 19

Neptune at opposition

*(See Celestial Highlights)***Sept. 20**

Moon near Antares

**Sept. 22**First Quarter Moon
Mercury at greatest elongation (morning)*(See Celestial Highlights)***Sept. 23**

Autumn Equinox

*(See Celestial Highlights)***Sept. 26**

Moon near Saturn

**Sept. 29**

Full Moon

Oct. 1

Moon near Jupiter

Oct. 2

Moon near Pleiades

Oct. 3

Moon near Aldebaran

**Oct. 6**

Last Quarter Moon

Oct. 7

Moon near Pollux (morning)

Oct. 9

Venus near Regulus (morning)

Oct. 10

Moon near Venus and Regulus (morning)

**Oct. 14**

New Moon

Annular Solar Eclipse

*(See Celestial Highlights)***Oct. 17/18**

Moon near Antares

Oct. 20

Mercury in conjunction with Sun

(See Celestial Highlights)**Oct. 21**First Quarter Moon
International Observe the Moon Night*(See Celestial Highlights)***Oct. 23**

Venus at greatest elongation (morning)

*(See Celestial Highlights)***Oct. 23/24**

Moon near Saturn

**Oct. 28**

Full Moon near Jupiter

Oct. 30

Moon near Pleiades and Aldebaran

CELESTIAL HIGHLIGHTS

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 in opposition are visible all night. Neptune is in opposition on September 19. Try looking for Neptune in the southeast sky with a telescope. In contrast, conjunction means that two objects appear in the same place in the sky as seen from Earth. Mercury is in conjunction with the Sun on September 6 and October 20. Planets in conjunction with the Sun are not visible.

Greatest Elongations of Mercury and Venus – Since Mercury and Venus have orbits inside of Earth's orbit they don't go through opposition. Instead, they go through a period called greatest elongation, the period when Mercury or Venus is its farthest separation from the Sun from our perspective. Mercury's greatest elongation occurs in the morning of September 22 before sunrise. The greatest elongation for Venus occurs on the morning of October 23.

Annular Solar Eclipse, October 14 – For a solar eclipse, the Earth, Sun and Moon have to align exactly and that doesn't happen at every New Moon. Even when they align exactly, sometimes the Moon is too far from the Earth and it doesn't appear big enough to cover the Sun. This is an annular solar eclipse and the smaller Moon allows a "ring of fire" (annulus) of Sun to be visible. From Baltimore, MD the Moon only takes a small bite of the Sun, partially eclipsing it. See our Science at Home page on our website for how to make a cereal box solar viewer for a safe way to view this partial eclipse.

Autumnal Equinox, Saturday, September 23, 2:50 am EDT – The Autumnal Equinox marks the first day of Fall. The Equinoxes are the only two days each year when the Sun rises due east and sets due west every place on Earth! If you happen to be standing at the Earth's equator at noon during the Equinox, you would see the Sun pass directly overhead.

International Observe the Moon Night, October 21 - Each year the International Observe the Moon Night brings people together to learn about and observe the Moon. Since we can't all be together this year, we still want to encourage everyone to go out and look at our nearest neighbor, the Moon. Rising at 3 pm the Moon can be seen in the southern sky until around 11 pm. Have binoculars or a telescope? Look along the terminator line, the edge of light and dark, to see craters up close.

Moon Pairings – The Moon is near Jupiter on September 3 and 4 and October 1 and October 28. The Moon is near Saturn on September 26 and October 23 and 24. The Moon passes near the Pleiades star cluster and the star Aldebaran on September 6. The Moon passes near the Pleiades on October 2 and then Aldebaran on October 3. The Moon also passes near the Pleiades and Aldebaran on October 30. Venus is near the star Regulus on the morning of October 9 and the Moon joins them on October 10.

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



MERCURY

When:

Morning sky, last half of September and first week of October

Where:

Low in East, last half of September and first week of October

Constellation:

Leo, Sextans, Leo, Virgo, Libra



VENUS

When:

Morning sky

Where:

East

Constellation:

Cancer, Leo



MARS

When:

Not visible

Where:

Not visible

Constellation:

Not visible



JUPITER

When:

Late night to dawn, September

Evening sky to dawn, October

Where:

East to Southwest, September

East to West, October

Constellation:

Aries



SATURN

When:

Dusk to pre-dawn

Where:

Southeast to West

Constellation:

Aquarius