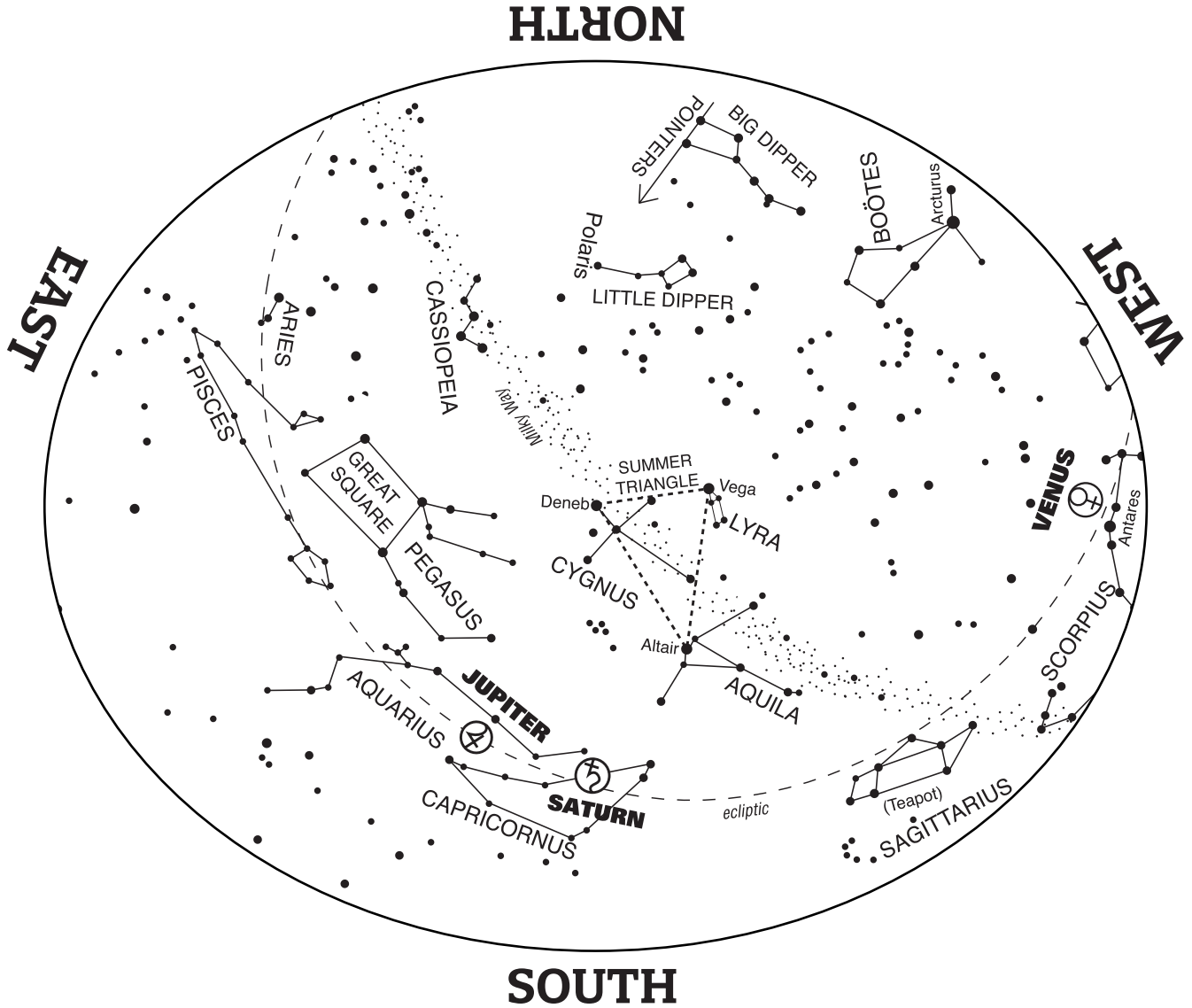


# Starmap

SEPTEMBER/OCTOBER 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:

9:30pm Mid-September EDT  
7:30pm Mid-October EDT

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

- 1<sup>st</sup> or brighter magnitude star
- 2<sup>nd</sup> magnitude star
- 3<sup>rd</sup> magnitude star
- 4<sup>th</sup> 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 2021

## IN THE SEPTEMBER/OCTOBER SKY

- **Sept 6**  
New Moon
- **Sept 8**  
Moon near Mercury
- **Sept 9**  
Moon near Venus and Spica
- **Sept 12**  
Moon near Antares
- **Sept 13**  
First Quarter Moon  
Mercury greatest elongation (very low)
- **Sept 14**  
Neptune Opposition
- **Sept 16**  
Moon near Saturn
- **Sept 17**  
Moon near Jupiter
- **Sept 20**  
Full Moon
- **Sept 22**  
Autumn Equinox  
(See *Celestial Highlight*)
- **Sept 26**  
Moon near Aldebaran
- **Sept 28**  
Last Quarter Moon
- **Oct 6**  
New Moon
- **Oct 7**  
Mars in conjunction with Sun  
(See *Celestial Highlight*)
- **Oct 9**  
Mercury in conjunction with Sun  
(See *Celestial Highlight*)  
Moon near Venus and Antares
- **Oct 12**  
First Quarter Moon
- **Oct 13/14**  
Moon near Saturn
- **Oct 14/15**  
Moon near Jupiter
- **Oct 16**  
International Observe the Moon Night  
(See *Celestial Highlight*)
- **Oct 20**  
Full Moon
- **Oct 23**  
Moon near Aldebaran
- **Oct 24**  
Mercury greatest elongation (morning)  
(See *Celestial Highlight*)
- **Oct 28**  
Last Quarter Moon
- **Oct 29**  
Venus greatest elongation  
(See *Celestial Highlight*)

## 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 14. In contrast, conjunction means that two objects appear in the same place in the sky as seen from Earth. Mars is in conjunction with the Sun on October 7. Mercury is in conjunction with the Sun on October 9. Planets in conjunction with the Sun are not visible.

**Greatest Elongation of Mercury and Venus** - Since both Mercury and Venus have orbits inside of Earth's orbit they don't go through opposition where they are opposite from the Sun with Earth in the middle. Instead, they have something called greatest elongation, which means it is the farthest separation from the Sun from our perspective. Mercury's greatest elongation happens on the morning of October 24 before sunrise looking eastward. Venus' is on October 29 looking toward the south-westerly direction.

**Autumnal Equinox, Tuesday, September 22, 3:14 pm 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 16** - Each year the International Observe the Moon Night brings people together to learn and observe the Moon. Since we can't all be together this year, we still want to encourage everyone to go out and take a look at our nearest neighbor, the Moon. Rising at 5pm the Moon can be seen in the southern sky until around 1am. Have binoculars or a telescope? Take a look along the terminator line, the edge of light and dark, to see craters up close.

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



### MERCURY

**When:**

After sunset, September 8 to September 17

Before sunrise, starting October 15

**Where:**

Very low in West, September  
East, October

**Constellation:**

Virgo

### VENUS

**When:**

Evening Sky

**Where:**

West to Southwest

**Constellation:**

Virgo, Libra, Scorpius,  
Ophiuchus

### MARS

Not Visible

### JUPITER

**When:**

Evening sky

**Where:**

South to Southwest

**Constellation:**

Capricornus

### SATURN

**When:**

Evening sky

**Where:**

South to Southwest

**Constellation:**

Capricornus