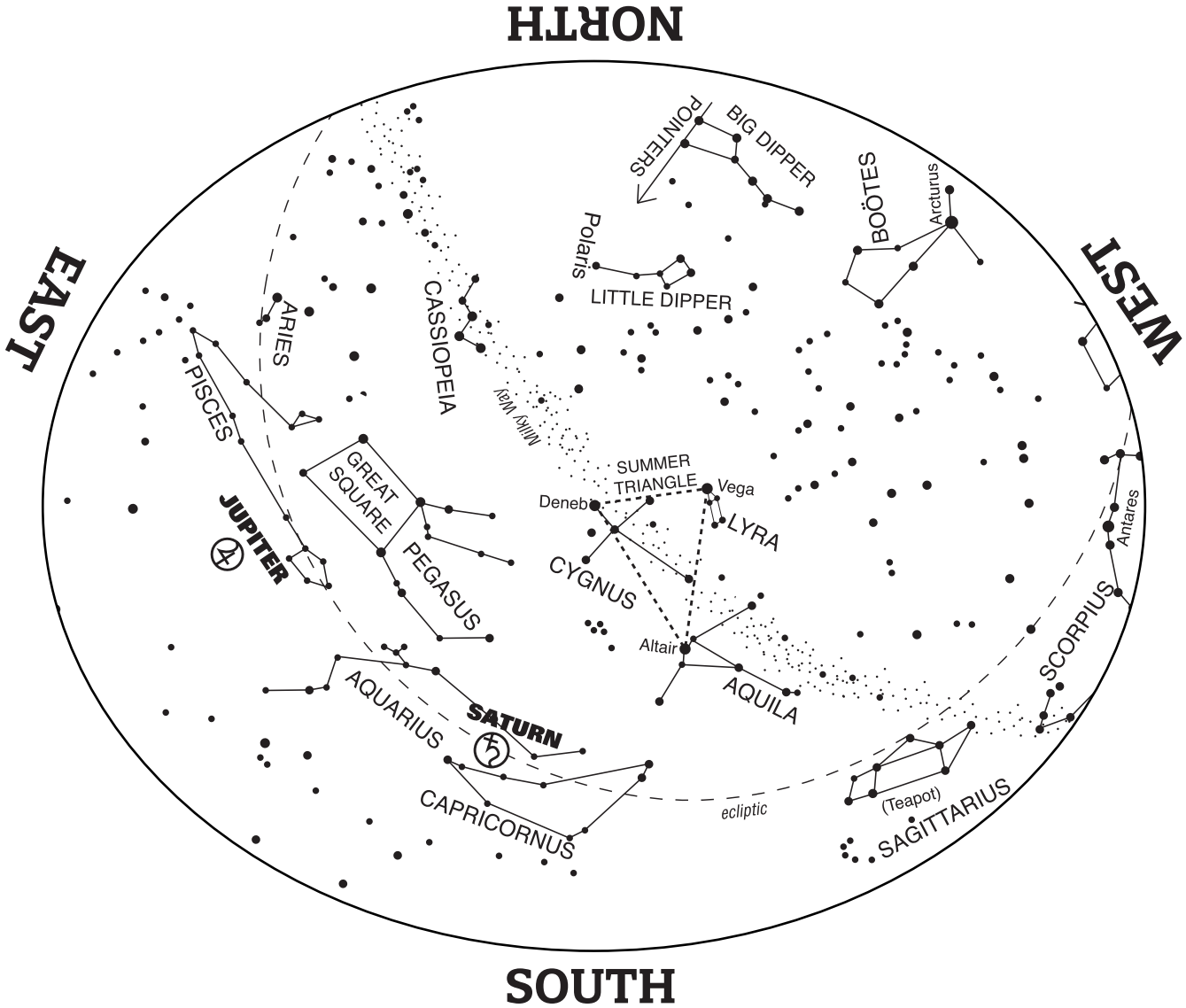


# Starmap

SEPTEMBER/OCTOBER 2022



601 Light Street • Baltimore's Inner Harbor  
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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-Sept EDT  
 7:30pm Mid-Oct. 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

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## IN THE SEPTEMBER/OCTOBER SKY

- |   |   |
|---|---|
| <p> <b>Sept. 3</b><br/>First Quarter Moon near Antares</p> <p><b>Sept. 6</b><br/>Mars near Aldebaran<br/>(See <i>Celestial Highlight</i>)</p> <p><b>Sept. 7/8</b><br/>Moon near Saturn</p> <p> <b>Sept. 10</b><br/>Full Moon</p> <p><b>Sept. 10/11</b><br/>Moon near Jupiter</p> <p><b>Sept. 15</b><br/>Moon near Pleiades</p> <p><b>Sept. 16</b><br/>Neptune Opposition<br/>(See <i>Celestial Highlight</i>)<br/>Moon near Mars</p> <p> <b>Sept. 17</b><br/>Last Quarter Moon</p> <p><b>Sept. 22</b><br/>Autumn Equinox<br/>(See <i>Celestial Highlight</i>)</p> <p><b>Sept. 23</b><br/>Mercury in conjunction with Sun<br/>(See <i>Celestial Highlight</i>)</p> <p> <b>Sept. 25</b><br/>New Moon</p> <p><b>Sept. 26</b><br/>Jupiter Opposition<br/>(See <i>Celestial Highlight</i>)</p> | <p><b>Oct. 1</b><br/>International Observe the Moon Night<br/>(See <i>Celestial Highlight</i>)</p> <p> <b>Oct. 2</b><br/>First Quarter Moon</p> <p><b>Oct. 5</b><br/>Moon near Saturn</p> <p><b>Oct. 8</b><br/>Moon near Jupiter<br/>Mercury greatest elongation (morning)<br/>(See <i>Celestial Highlight</i>)</p> <p> <b>Oct. 9</b><br/>Full Moon</p> <p><b>Oct. 12</b><br/>Moon near Pleiades</p> <p><b>Oct. 13</b><br/>Moon near Aldebaran</p> <p><b>Oct. 14</b><br/>Moon near Mars</p> <p> <b>Oct. 17</b><br/>Last Quarter Moon</p> <p><b>Oct. 22</b><br/>Venus in conjunction with Sun<br/>(See <i>Celestial Highlight</i>)</p> <p> <b>Oct. 25</b><br/>New Moon</p> |
|---|---|

## CELESTIAL HIGHLIGHTS

**Mars near Aldebaran, September 6** – Late in the evening, after 11:45pm on September 6 two red dots rise above the northeast horizon. The higher one is the planet Mars and the one below is Aldebaran, red star of Taurus the bull. Mars is a little brighter than Aldebaran and would look like a solid dot in the sky, while the star will twinkle. September 6 is when they are at their closest, and they begin to separate each night after.

**Moon Pairings** – Moon is near Saturn on September 7 and 8 and October 5. The Moon is near Jupiter on September 10 and 11 and October 8. The Moon passes under the Pleiades star cluster on September 15 and October 12. On September 16, the Moon, Mars and Aldebaran are seen together in a line with Mars in the middle as they rise in the northeastern sky. The trio are seen again together on October 13, this time with the Moon near Aldebaran and the Moon seen nearest Mars on October 14.

**Planet Oppositions and Conjunctions with Sun** – 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 16. Jupiter is in opposition September 26. 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 September 23. Venus is in conjunction with the Sun on October 22.

**Greatest Elongation of Mercury** – Since Mercury has an orbit inside of Earth's orbit it doesn't go through opposition. Instead, goes through a period called greatest elongation, the period where it is the farthest separation from the Sun from our perspective. Mercury's greatest elongation occurs in the morning of October 8 before sunrise.

**Autumnal Equinox, Thursday, September 22, 8:58 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 1** - Each year the International Observe the Moon Night brings people together to learn about and observe the Moon. Since we can't all gather this year, we still encourage everyone to go out and look at our nearest neighbor, the Moon. Moon is visible due South around 6pm until it sets after 10pm in the southwestern sky. Have binoculars or a telescope? 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, until September 17  
Before sunrise, starting September 30

**Where:**  
Very low in West, September  
Very low in East, October

**Constellation:**  
Virgo

**VENUS**

**When:**  
Morning sky, until September 14  
Not visible, October

**Where:**  
Low in East  
Not visible, October

**Constellation:**  
Leo

**MARS**

**When:**  
Late night to dawn

**Where:**  
Northeast to South

**Constellation:**  
Taurus

**JUPITER**

**When:**  
Late night to dawn, September  
All night, October

**Where:**  
East to West

**Constellation:**  
Pisces

**SATURN**

**When:**  
Evening sky

**Where:**  
Southeast to Southwest

**Constellation:**  
Capricornus