

EARTH PASSES BETWEEN JUPITER AND THE SUN

Earth passes between Jupiter and the Sun on March 8, 2016. Jupiter completes one orbit of the Sun for every 11.86 orbits of the Earth. When we on Earth are between the sun and Jupiter, the planet appears opposite the sun in our sky. **Astronomers call this “opposition.”**

Earth is about to pass between the Sun and Jupiter, placing Jupiter opposite the sun in our sky on March 8, 2016, at 11 Universal Time. Therefore, Jupiter now rises in the east around sunset, climbs highest in the sky at midnight and sets in the west around sunrise. It shines more brightly than any star in the evening sky, and is the second-brightest planet, after Venus. But Venus only shines for a short time in the morning at present while Jupiter stays out all night long.

Jupiter’s closest approach to Earth for the year always falls on or near this planet’s opposition date. In 2016, Jupiter comes closest to Earth on its opposition date, coming to within 664 million kilometers of Earth.

And, because it’s opposite the sun around now, you can see Jupiter at any time of night. For example, you can see it in the east at nightfall and early evening. Around midnight, when the sun is below your feet, Jupiter appears high overhead. At dawn tomorrow, you’ll see Jupiter low in your western sky.

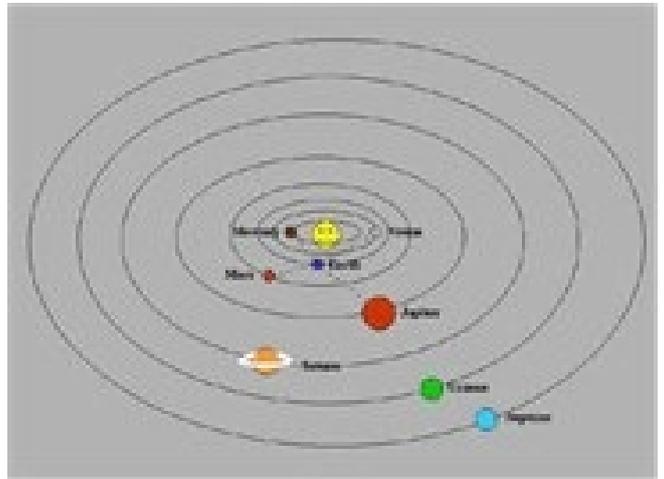
Jupiter is sometimes called a failed star. So when the sun goes down on this March night, you might — if you’re fanciful enough — imagine bright Jupiter as a tiny sun all night long. But you would need at least 80 Jupiters – rolled into a ball – to be hot enough inside for thermonuclear reactions to ignite.

In other words, even though more than one thousand Earths could fit inside the giant planet, Jupiter is not massive enough to shine as stars do.

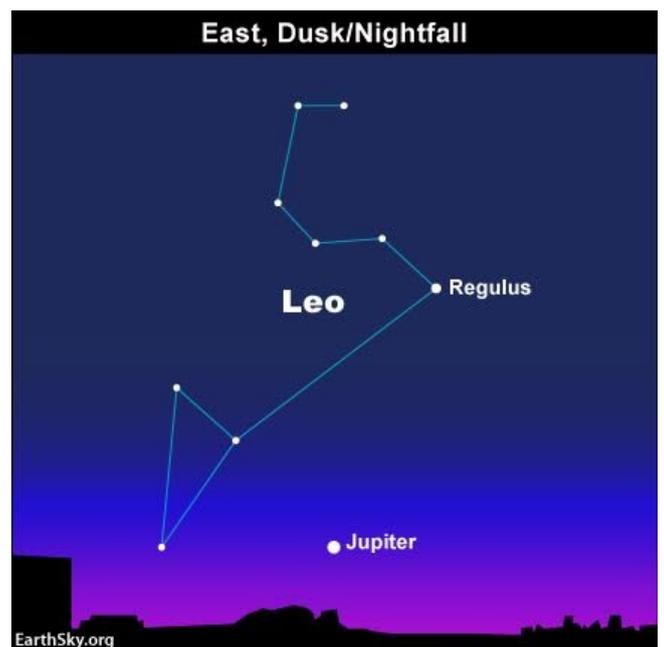
Jupiter is the fifth planet from the Sun and the largest in the Solar System. **It is a giant planet with a mass one-thousandth that of the Sun, but two and a half times that of all the other planets in the Solar System combined.** Jupiter is a gas giant, along with Saturn. (Uranus and Neptune are ice giants.) Jupiter was known to astronomers of ancient times. The Romans named it after their god Jupiter. When viewed from Earth, Jupiter can reach an apparent magnitude of -2.94, bright enough for its reflected light to cast shadows, and making it on average the third-brightest object in the night sky after the Moon and Venus.

The best known feature of Jupiter is the Great Red Spot, a persistent anticyclonic storm that is larger than Earth, located 22° south of the equator. It is known to have been in existence since at least 1831. The storm is large enough to be visible through Earth-based telescopes with an aperture of 12 cm or larger. Mathematical models suggest that the storm is stable and may be a permanent feature of the planet. The oval object rotates counterclockwise, with a period of about six days. It is large enough to contain three planets of Earth's diameter.

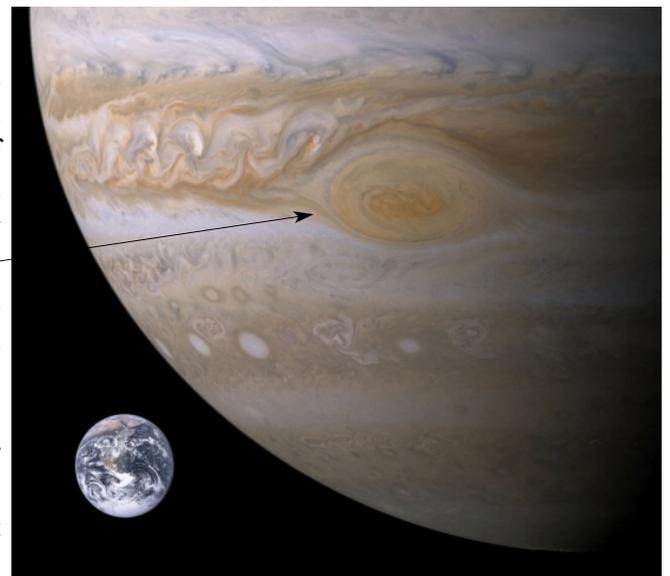
AK with Wikipedia and EarthSky Notes



Jupiter comes to opposition about every 13 months. That's how long Earth takes to travel once around the sun relative to Jupiter. In 2015 Jupiter's opposition date was February 6. Next year – in 2017 – it'll be April 7.



Jupiter blazes away in front of the constellation Leo, the Lion. The closest 1st-magnitude star to Jupiter is Regulus, the brightest star in Leo. However, dazzling Jupiter outshines this star by over 30 times.



More than one thousand Earths could fit inside the giant planet Jupiter.