



Troop 5 Meeting Skill

Astronomy



Constellations

Ursa Major

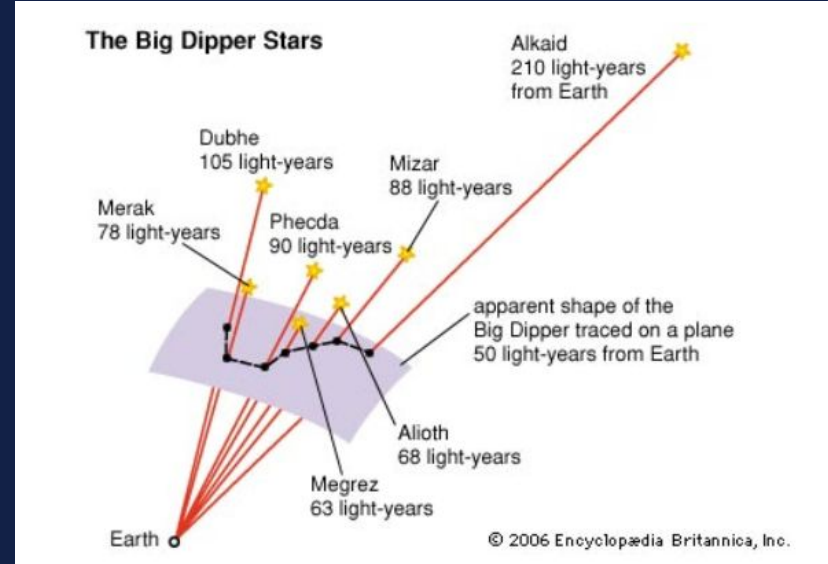
- Ursa Major, also known as the Great Bear is a constellation.
- Its brightest stars form the Big Dipper, one of the most recognizable shapes in the sky.

Interesting Fact:

- Because stars are so far away, it takes years for their light to reach us. Therefore, when you look at a star, you are actually seeing what it looked like years ago. It is entirely possible that some of the stars you see tonight do not actually exist anymore.

Light Years:

- For most space objects, we use light-years to describe their distance. A light-year is the distance light travels in one Earth year. One light-year is about 6 trillion miles (9 trillion km).
- Light travels at a speed of 186,000 miles (or 300,000 km) per second. This seems really fast, but objects in space are so far away that it takes a lot of time for their light to reach us.





Ursa Minor

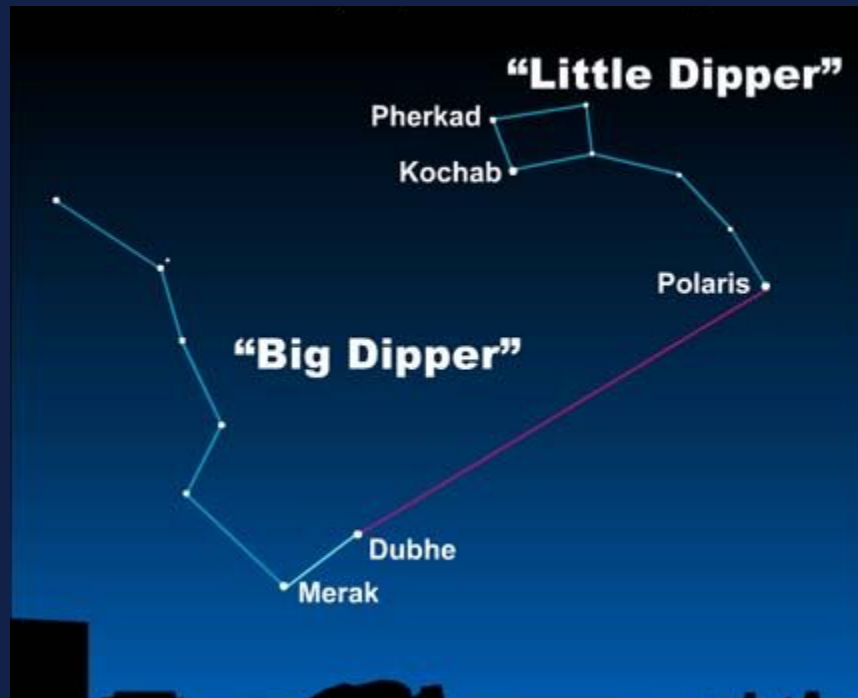
- **Ursa Minor, also known as the Little Bear, is a constellation in the Northern Sky.**
- **The constellation of Ursa Minor is home to the North Pole Star, Polaris. Polaris is the brightest star in Ursa Minor.**





How to Find the North Star

- The best way to find your way to the North Star (Polaris) is to use the so-called "Pointer" stars in the bowl of the Big Dipper, Dubhe and Merak. Just draw a line between these two stars and extend it out about 5 times, and you eventually will arrive in the vicinity of Polaris.



Orion's Belt

- One of the most recognizable constellations in the sky is Orion, the Hunter. Among Orion's best-known features is the "belt," consisting of three bright stars in a line, each of which can be seen without a telescope.



Draco

- **Draco is the eighth largest constellation in the night sky.**
- **Draco's stars are not very bright. The head of the dragon consists of four stars in the shape of a trapezoid and located just north of Hercules. From there, the dragon's body winds its way through the sky, ending between the Big Dipper and Little Dipper.**



Pegasus

- Pegasus is a prominent constellation in the northern sky, named after a winged horse in Greek mythology.
- Pegasus is one of the 88 constellations officially recognized by the International Astronomical Union (IAU).

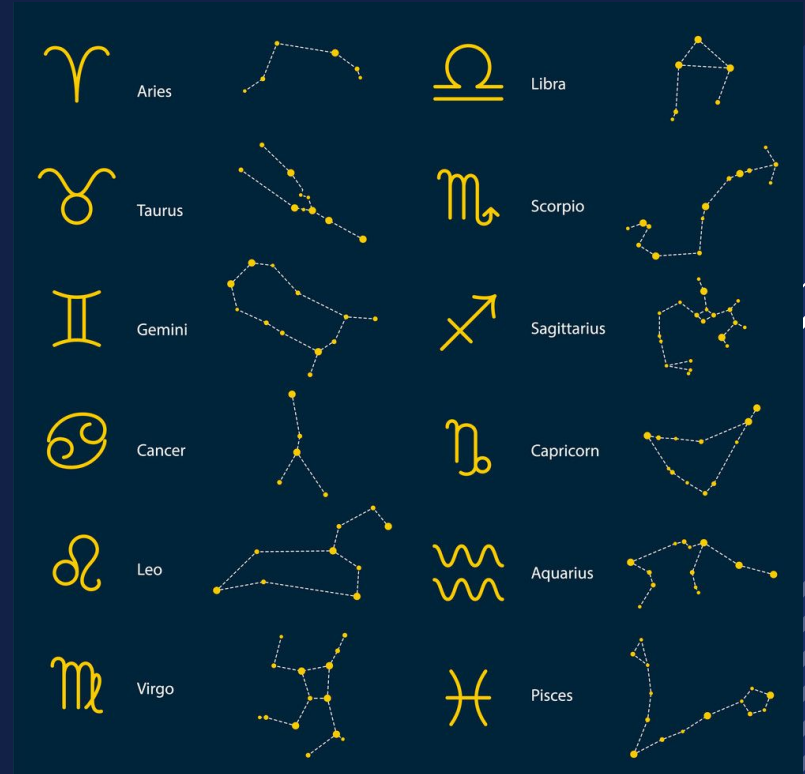




Zodiac Constellation

As Earth rotates, the planets, moon, and sun travel on a set path through the sky – this path is called the ecliptic. Zodiac constellations are constellations that lie along the plane of the ecliptic. In other words, the Sun appears to pass through these constellations over the course of a year.

The passage of the Sun through the zodiac is a cycle that was used by ancient cultures to determine the time of year.

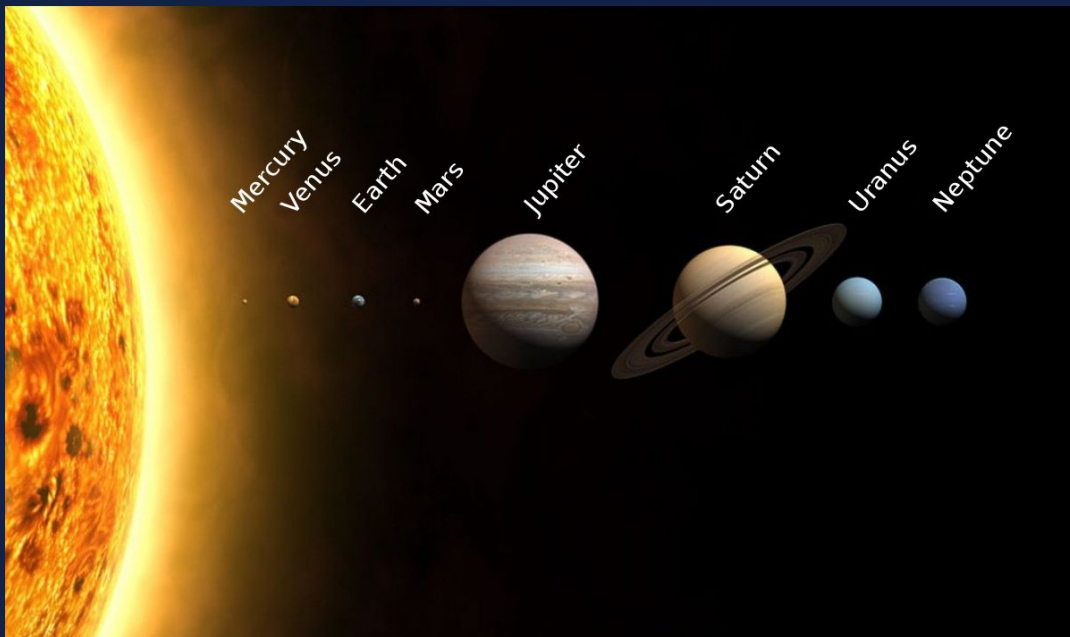




The Solar System



The Solar System



- **Our Solar System is located in an outer spiral arm of the Milky Way galaxy.**



Mercury

Size: Slightly larger than Earth's Moon

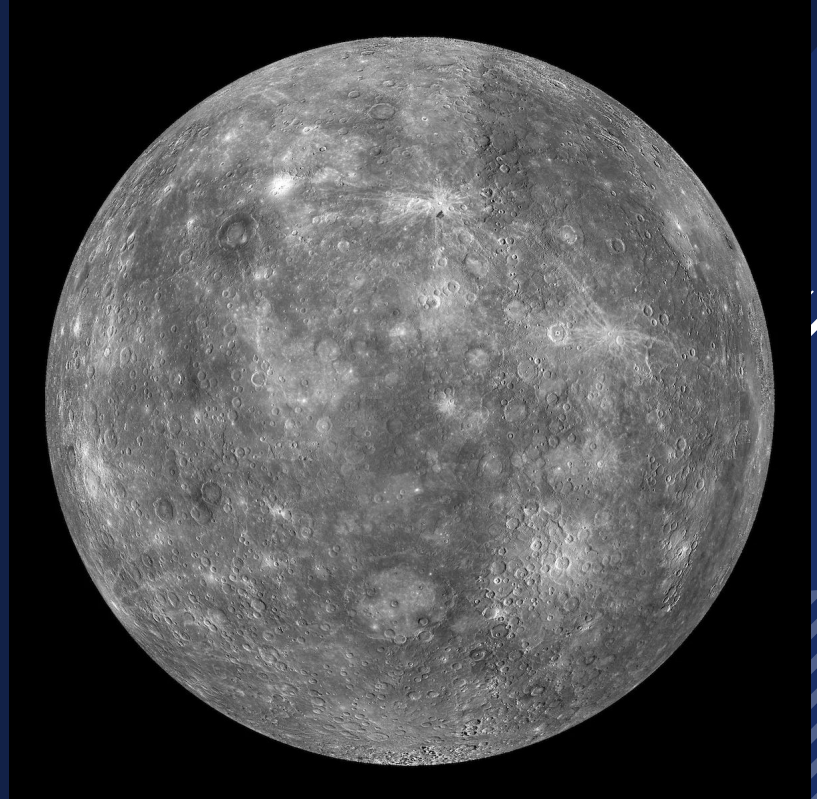
Distance from Sun: About 36 million miles

Type of planet: Terrestrial Planet

Number of Moons: 0

Fun facts:

- Mercury is the smallest planet in our solar system
- Mercury is the closest planet to the Sun
- A year on Mercury is 88 Earth days
- A day on Mercury is 59 Earth days



Venus

Size: If the sun were as tall as a typical front door, the Earth and Venus would each be about the size of a nickel.

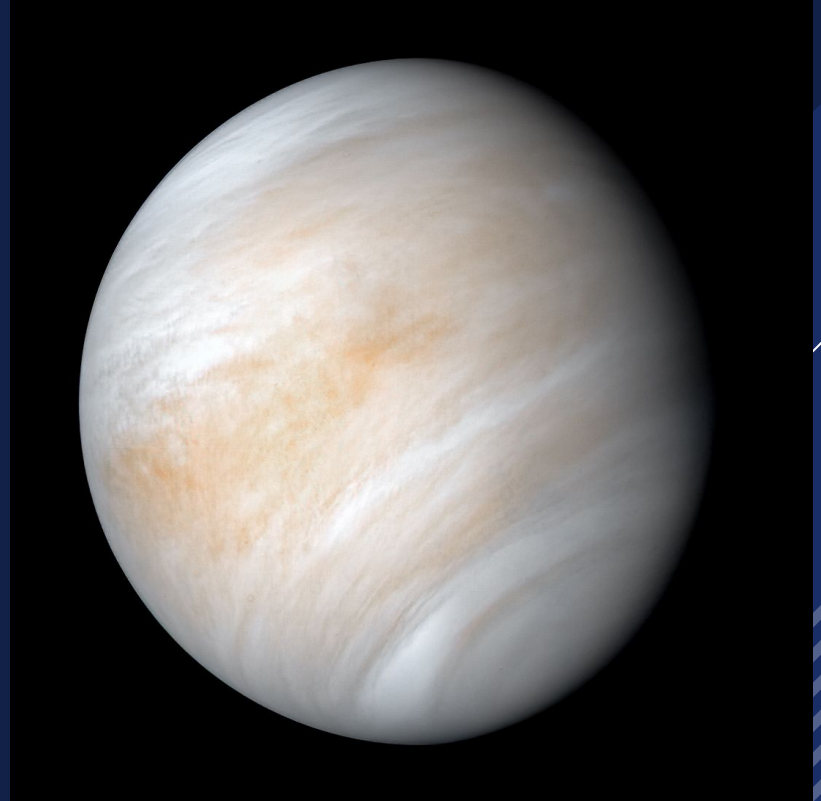
Distance from Sun: About 67 million miles

Type of planet: Terrestrial Planet

Number of Moons: 0

Fun facts:

- Venus spins backwards, with the sun rising in the west and setting in the east
- Venus is the hottest planet in our solar system



Earth

Size: If the Sun were as tall as a typical front door, Earth would be the size of a nickel.

Distance from Sun: About 93 million miles

Type of planet: Terrestrial Planet

Number of Moons: 1

Fun facts:

- Our atmosphere protects us from incoming meteoroids, most of which break up in our atmosphere before they can strike the surface.





Moon

Size: If Earth was a U.S nickel then the Moon would be a single green pea.

Distance from Earth: About 239,000

Fun facts:

- Because the Moon's rotation rate and revolution rate is the same, we always see the same side of the Moon.
- The Moon is Earth's only natural satellite.





Mars



Size: If the Sun were as tall as a typical front door, Earth would be the size of a dime, and Mars would be about as big as an aspirin tablet.

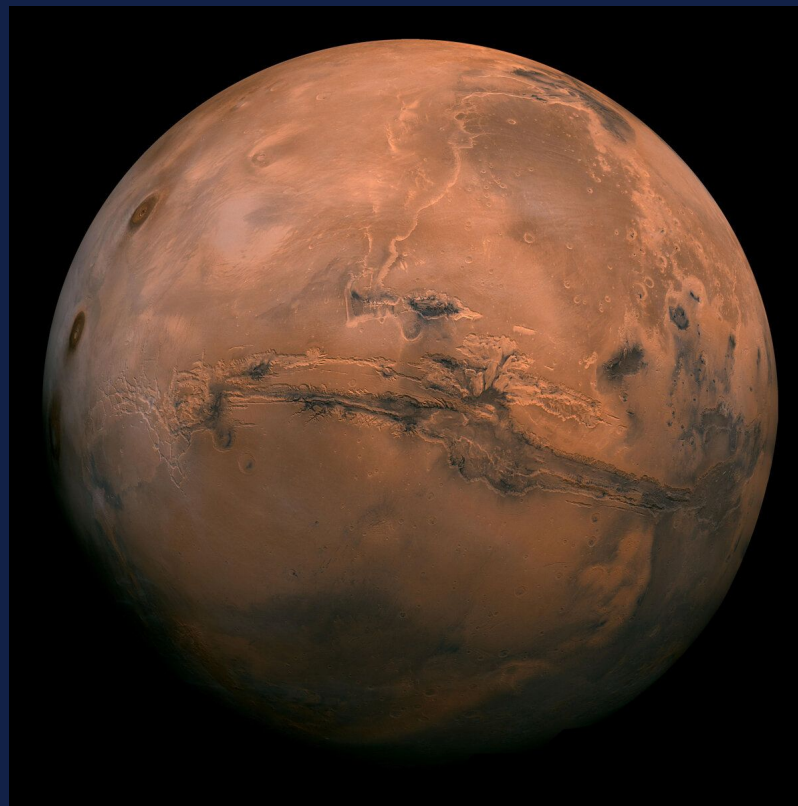
Distance from Sun: 142 million miles

Type of planet: Terrestrial Planet

Number of Moons: 2

Fun facts:

- Mars is home to the tallest mountain in the solar system
- Mars is known as the Red Planet because iron minerals in the Martian soil oxidize, or rust, causing the soil and atmosphere to look red.



Jupiter

Size: If Earth were the size of a grape, Jupiter would be the size of a basketball.

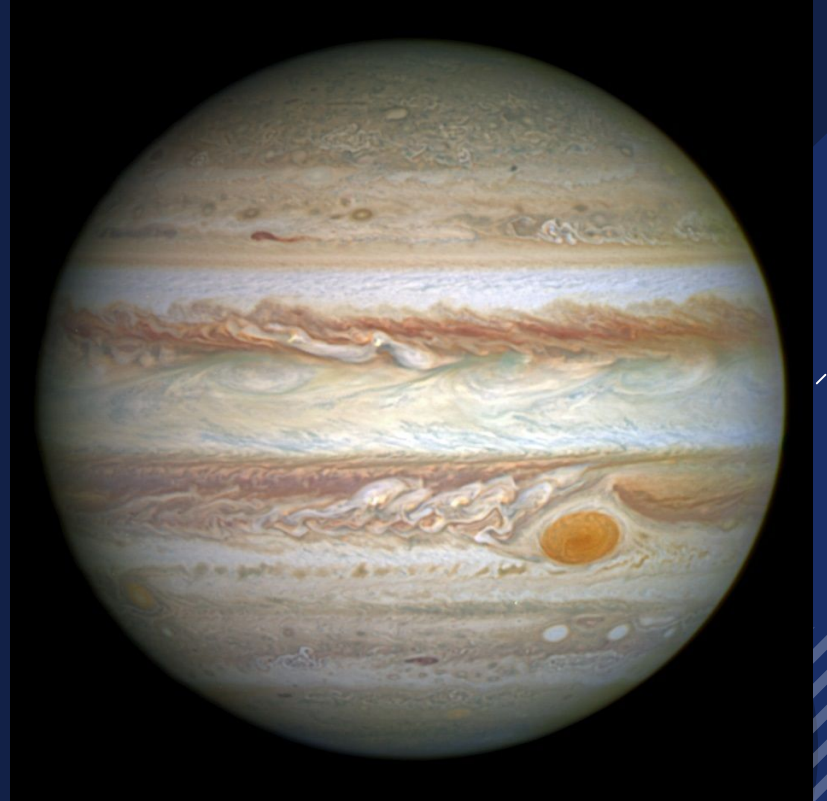
Distance from Sun: 484 million miles

Type of planet: Gas Giant

Number of Moons: More than 75 Moons

Fun facts:

- Jupiter's Great Red Spot is a gigantic storm that's about twice the size of Earth and has raged for over a century.
- A day on Jupiter is around 10 Earth hours.
- A year on Jupiter is around 12 Earth years.



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Saturn

Size: Nine Earths side by side would almost span Saturn's diameter.

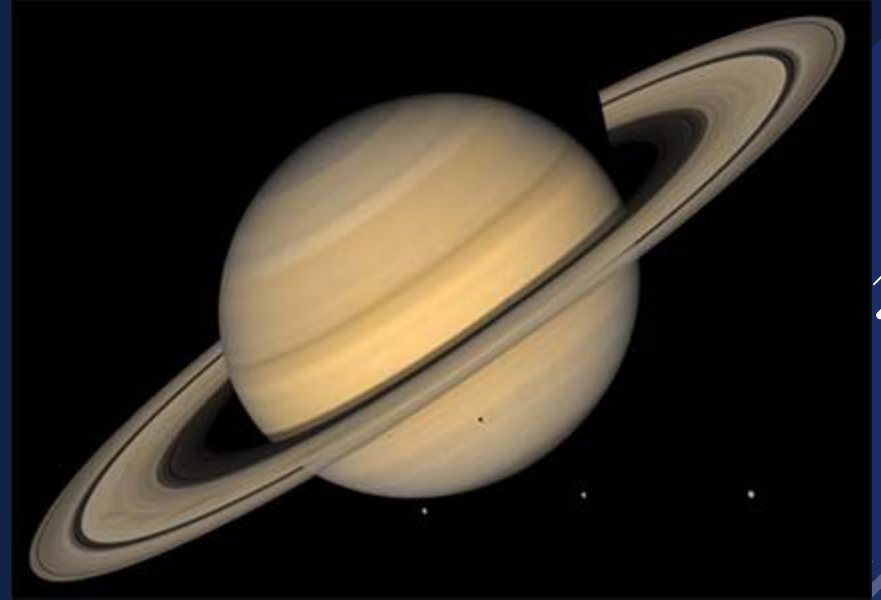
Distance from Sun: 886 million miles

Type of planet: Gas Giant

Number of Moons: 82 (53 known moons, 29 moons awaiting confirmation of their discovery)

Fun facts:

- **A year on Saturn is about 29 Earth years.**
- **A day on Saturn is about 10.7 hours.**
- **Saturn's rings are made of ice and rock.**



Uranus

Size: If Earth were a large apple, Uranus would be the size of a basketball.

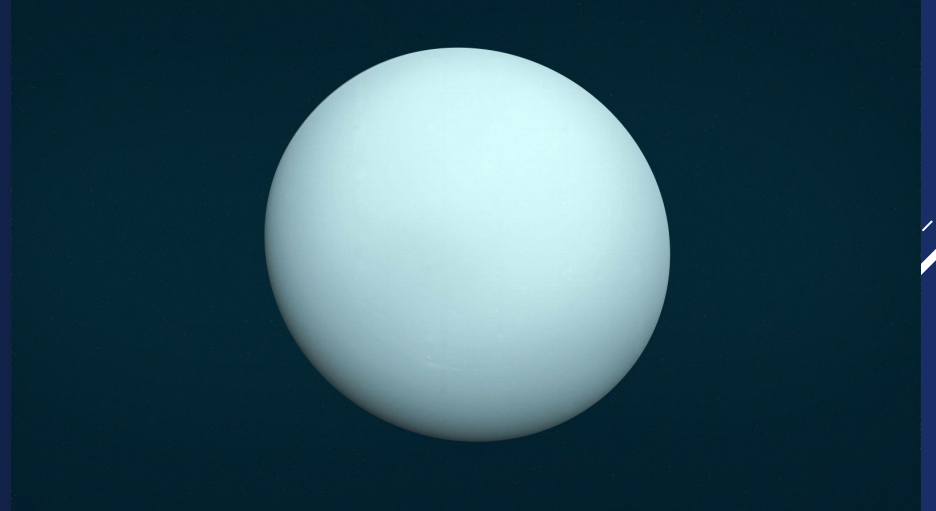
Distance from Sun: About 1.8 billion miles

Type of planet: Ice Giant

Number of Moons: 27

Fun facts:

- A day on Uranus is about 17 Earth hours
- A year on Uranus takes about 84 Earth years
- Uranus is known as the “sideways planet” because it rotates on its side.



Neptune

Size: If Earth were a large apple, Neptune would be the size of a basketball.

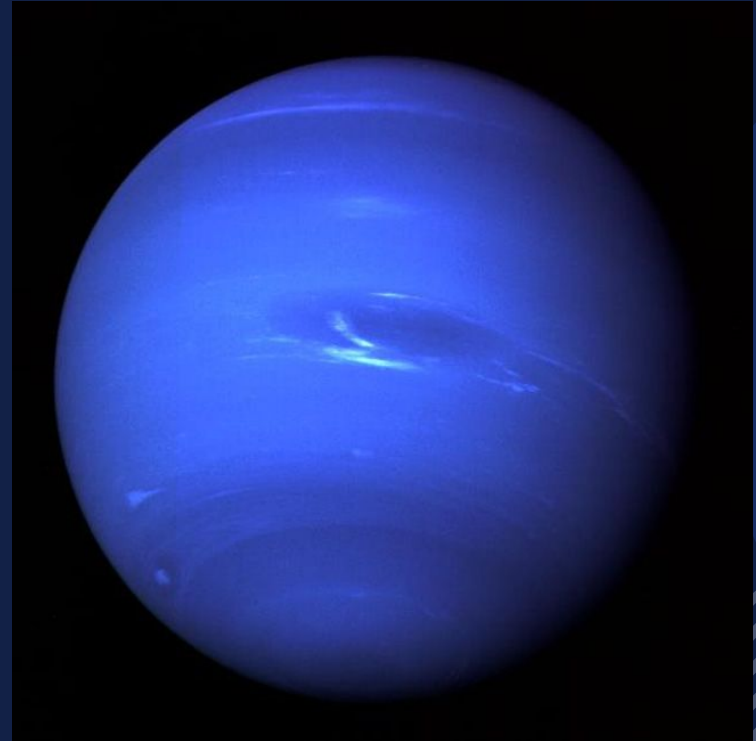
Distance from Sun: 2.8 billion miles

Type of planet: Ice Giant

Number of Moons: 14

Fun facts:

- A day on Neptune takes around 16 hours.
- A year on Neptune takes around 165 years.
- Because of Pluto's elliptical orbit, Pluto is sometimes closer to the Sun than Neptune is.





Questions?

