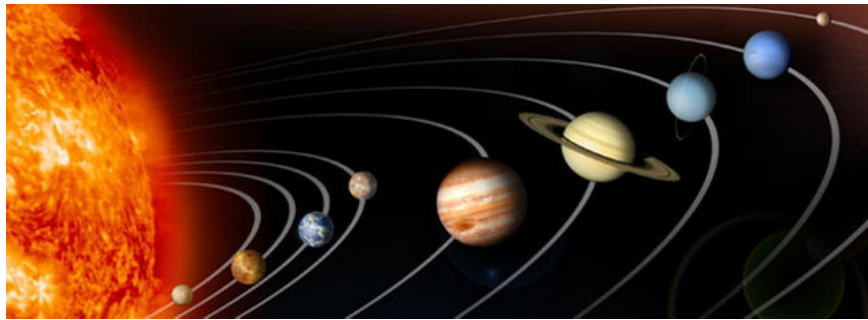


Space Science: The order of 8 (or 9) planets in the Solar System

Let's learn about the order of 8 (or 9) planets in our solar system!

Since the discovery of **Pluto** in 1930, school-age children will learn about nine planets in our solar system. Since the late 1990s, all have begun to change, astronomers argue about " *Is Pluto a planet ?*"

In a controversial decision, **the International Astronomical Union** finally made a decision in 2006, calling Pluto the " *dwarf planet* ", removing it. from the list of " *real planets* " included in our solar system. Therefore, there are only **8 planets in the solar system** .



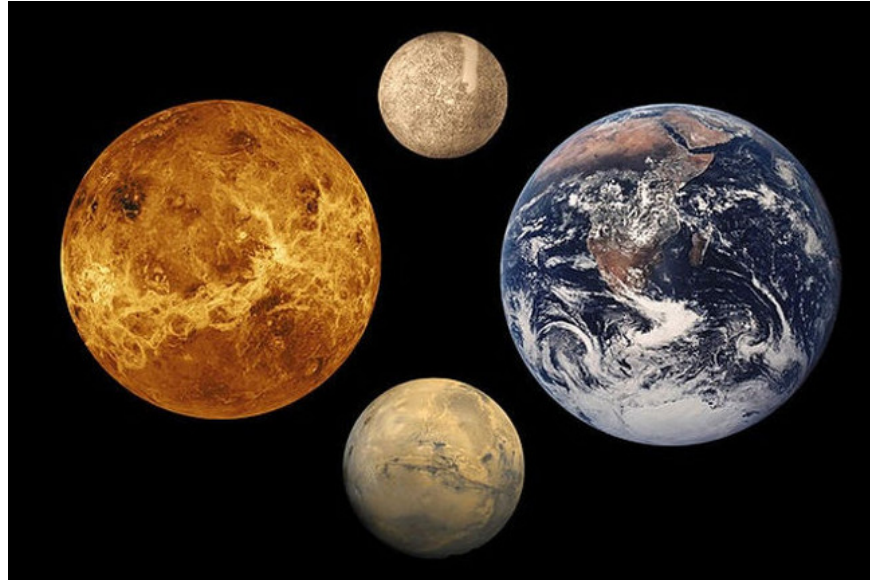
Planets in the solar system are described by an illustration on NASA computers, not showing orbit and size.(Photo source: NASA)

However, astronomers are now looking for another planet in our solar system, a " *ninth planet* ", after evidence of the planet's existence is published. on January 20, 2016. Scientists call it the " *9th Planet* ", about 10 times the mass of the Earth and 5,000 times the mass of Pluto.

Below is the order of 8 (or 9) planets, starting from the planet closest to the Sun and acting outside through the Solar System: **Mercury, Venus, Earth, Mars, Jupiter , Saturn, Uranus, Neptune** - and " **9th planet** " (*Planet Nine*).

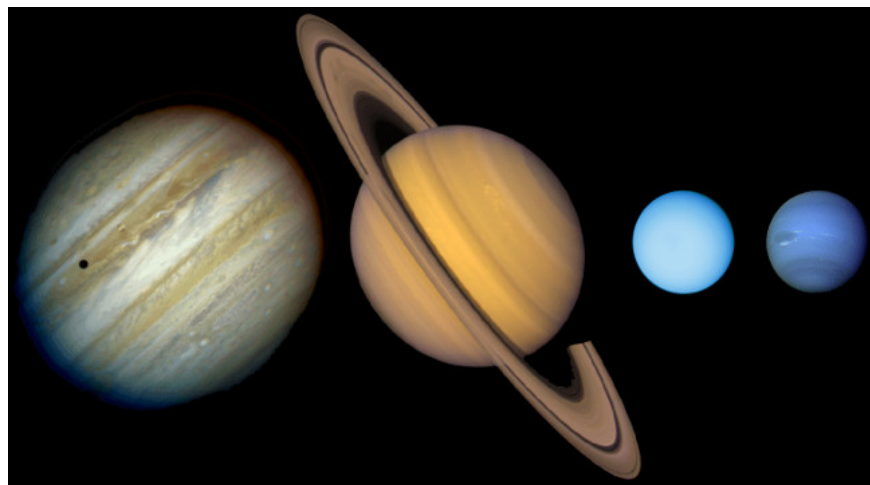
If you insist on having Pluto, that planet will be behind Neptune in the list. Pluto actually got out of this list because " *the inclination is too big* ", with elliptical orbits (*two of the reasons it was excluded from the list*). In fact, the interesting thing is that the Pluto planet used to be the eighth planet. For a better understanding, please read the information below:

Terrestrial planets



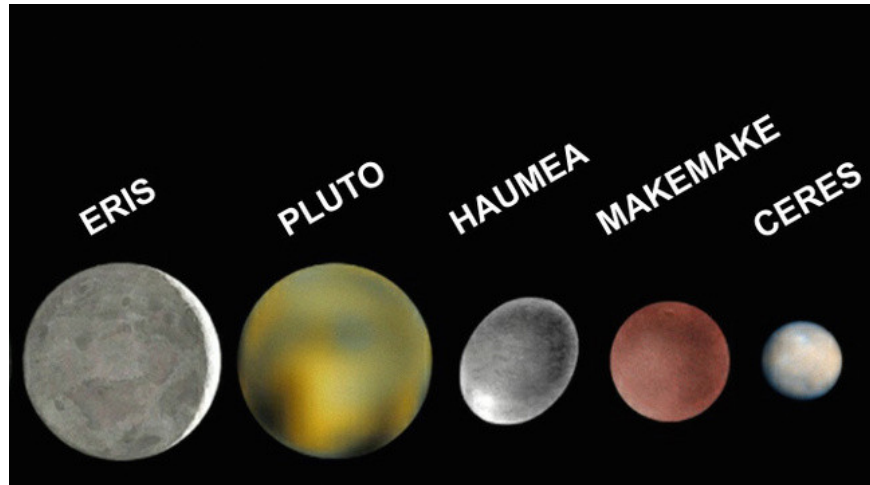
The four planets located inside are called " *earth planets* ", because like the Earth, the surface of these planets is all rock. Pluto also has a solid surface (*and this surface is very cold*) but never gets into the same group as the other four planet earths.

Jupiter-type planets (Jovian planets)



Four large planets located outside - Jupiter, Saturn, Uranus and Neptune - are known as "*Jupiter-like planets* " (*meaning "Jupiter-like" - Jupiter-like*) . Because, all of these planets are very large compared to earth planets and have natural gas, not stone surfaces ("*Although some or all of them may have solid cores*"). According to NASA, " *two of the planets lie outside the orbit of Mars - Jupiter (Saturn) and Saturn (Saturn) - called giant gas planets, further, Uranus and Neptune are called giant ice planets* ". This is because the first two planets are gas, and the last two planets are ice. All four planets contain mainly hydrogen and helium.

The dwarf planet



According to the definition of the International Astronomical Society (IAU) about moving an official planet like this: A planet around the Sun that is not a satellite of another planet, big enough to be rounded by gravity alone (*but not too big when starting to undergo nuclear fusion, such as a star*) and "*cleaning up the neighborhoods*" of most other orbital objects. Yes, it's a "*piece*".

The problem with **the dwarf planet Pluto**, besides its small size and unusual trajectory, is that it shares its space with many other objects in the **Kuiper belt**, outside of Neptune. However, the "demotion" of Pluto from the list is still controversial.

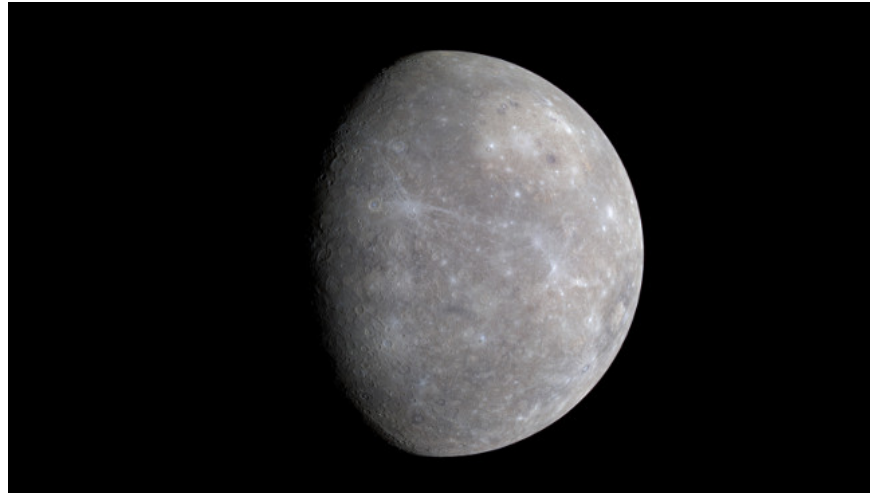
The definition given by the International Astronomical Association of IAU for other small circular planets in dwarf planets, including the Celestial Kuiper Belt objects, Eris, Haumea and Makemake (are large enough planets).

There is also another dwarf planet, **Ceres**, a circular object in the asteroid belt between Mars and Jupiter. In fact, Ceres dwarf planet is considered only one planet when it was discovered in 1801 and then it was called an asteroid. Some astronomers want to consider Ceres dwarf planet as the 10th planet (*not to be confused with planet Nibiru or planet X*), but if this is the case, it is possible that the Solar system has 13 planets, with many hidden to discover.

The planets

Here is a brief overview of the **8 main planets in our solar system**, in order from inside to outside:

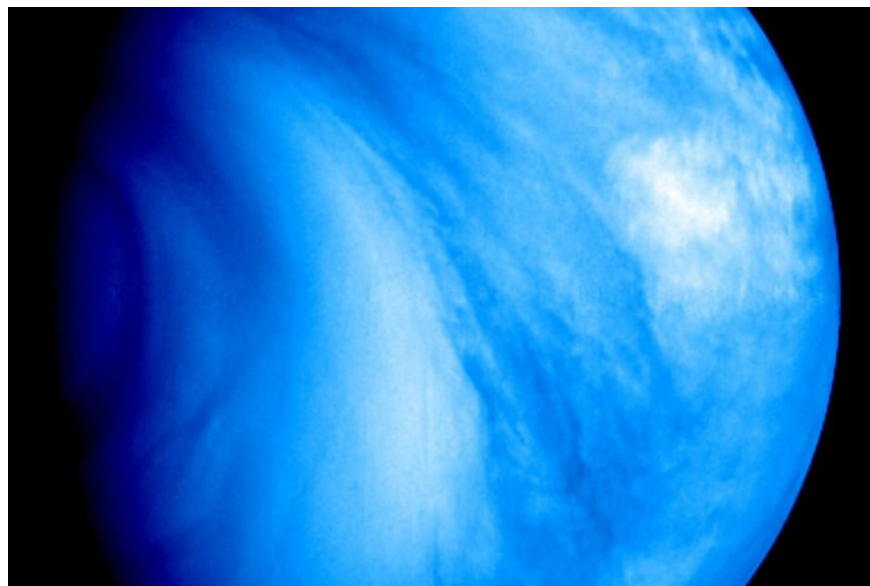
Mercury (Mercury)



Mercury is the planet closest to the Sun, only slightly larger than the Earth's Moon. Its daytime face is heated by the sun, which can reach 450 degrees C (840 degrees F), but at night, the temperature drops to hundreds of degrees, below freezing. Mercury has almost no air to absorb the effects of meteorites, so its surface is "pitted" with many large holes, like the moon. Over the four-year mission, NASA's **MESSENGER** spacecraft revealed the scene of the planets that challenged astronomers' expectations.

1. **Discovery** : Known by ancient Romans and Greeks and can be observed with the naked eye.
2. **Named after** : Messenger of Roman gods
3. **Diameter** : 4,878 km
4. **Orbit** : 88 Earth days
5. **Date** : 58.6 Earth days

Venus (Venus)



Southern hemisphere of Venus, observed in the ultraviolet region. Image source: ESA

The second planet from the Sun, **Venus** is an extremely hot planet, even hotter than Mercury. The atmosphere of this planet is very toxic. Pressure on the surface of Mercury will crush and kill you.

Scientists describe Venus's position as a *runaway greenhouse effect* . The size and structure of Venus are similar to those of Earth, the dense, toxic atmosphere holds heat in the out-of-control "greenhouse effect." But strangely, Venus turns slowly in the opposite direction to most other planets.

The Greeks assumed that Venus had two different objects - one in the morning and one in the evening. Because it is usually brighter than any other object in the sky - except for the sun and moon - Venus has caused numerous reports of *unidentified flying objects (UFOs)* .

1. **Discovery** : Known by ancient Romans and Greeks and can be observed with the naked eye.
2. **Named after** : Roman goddess of love and beauty
3. **Diameter** : 12,104 km
4. **Orbit** : 225 Earth days
5. **Date** : 241 Earth days

Earth



Earth image taken from Russia's weather forecast satellite Elektro-L No.1. Photo source: NTsOMZ

The third planet from the Sun, **Earth** is a water planet (*Waterworld*), with two-thirds of the planet covered by the ocean and the only known planet to exist. The Earth's atmosphere is rich in nitrogen and oxygen to sustain life. The Earth's surface rotates around its axis at 467 meters per second - about 1,000 mph (1,600 kph) - at the equator. The planet rotates around the Sun at 29 km per second.

1. **Diameter** : 12,760 km
2. **Orbit** : 365.24 days
3. **Date** : 23 hours, 56 minutes

Mars (Mars)



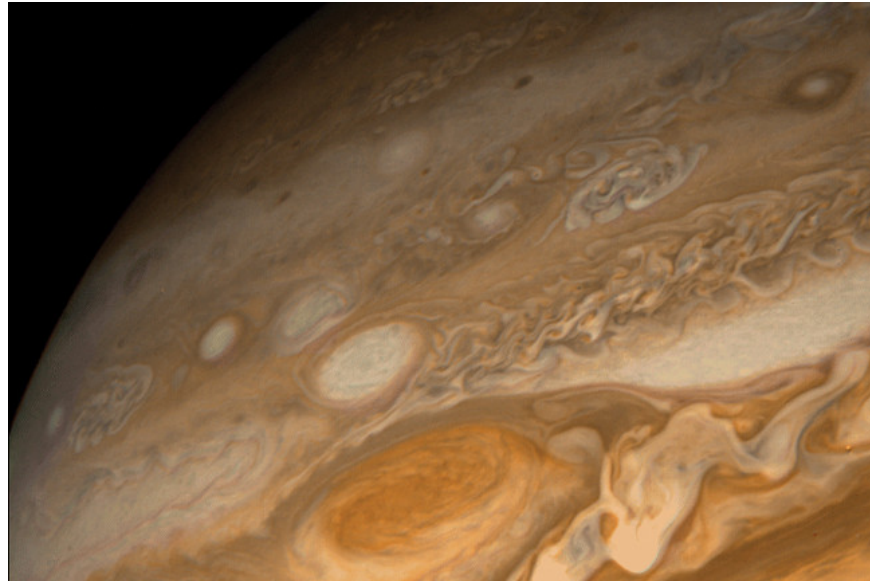
Mars researchers are focusing on two sensors on Earth and the planet orbiting the planet to better understand methane sources on the Red planet. Photo source: Space telescope.

The fourth planet from the Sun, **Mars** is a cold and rocky planet. Dirt is an iron oxide, present on the planet's surface a lot, making its surface appear red. The planet Mars has similarities with the Earth: the surface of the rock, the mountains and the valley, and the storm system that stretches from the location of **cyclone** storms - like the whirlwind carrying dust - to the bouts Dust storm engulfs the planet. **Dust** covered the surface of Mars and the planet Mars filled with frozen water. Scientists believe that the planet Mars will be flooded with liquid water as soon as the temperature heats up, although it is now a cold and desert-like planet.

Mars's atmosphere is too thin for liquid water to exist on the planet's surface at any time. Scientists believe that the ancient planet of Mars had conditions of life and hoped that the signs of past life - even in the current biology - could exist in **Onions. Red crystal** .

1. **Discovery** : Known by ancient Romans and Greeks and can be observed with the naked eye.
2. **Named after** : Roman god of war.
3. **Diameter** : 6,787 km.
4. **Orbit** : 687 Earth days.
5. **Date** : Just over one Earth day (24 hours, 37 minutes).

Jupiter (Jupiter)

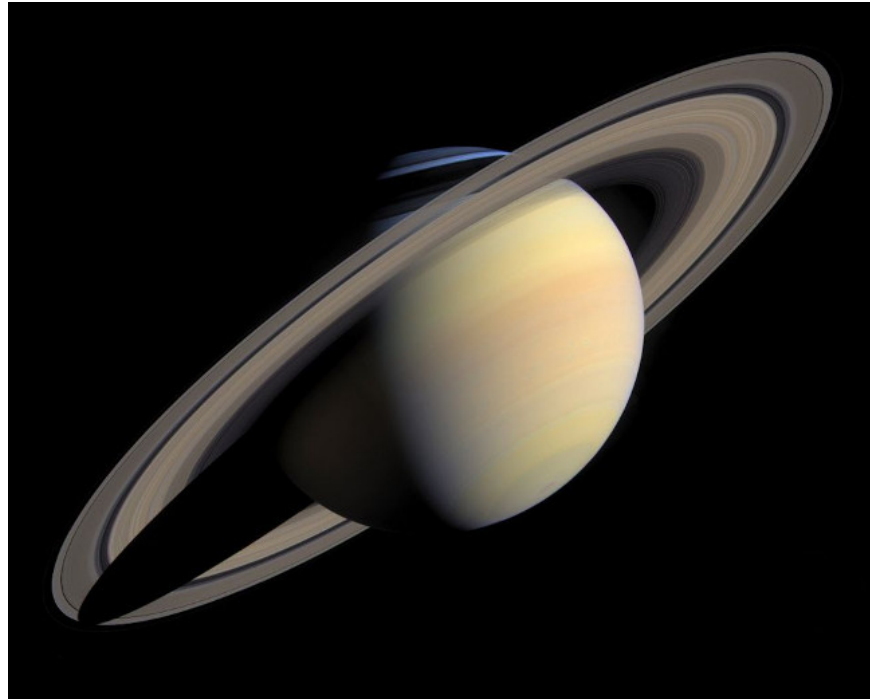


A close-up shot of Jupiter's "Big Red - Great Red Spot" with the Voyager spacecraft. Photo source: NASA / JPL-Caltech

The fifth planet from the Sun, **Jupiter** (*Jupiter*) is a huge, largest planet in our solar system. Jupiter is a **giant planetary gas**, containing mainly hydrogen and helium gas. The outer atmosphere appears with many cloud bands at different heights, as a result of aerodynamic turbulence and interaction with storms at the boundary. A striking feature is the *Great Red Spot*, a giant storm known to exist at least hundreds of years ago. Jupiter has a strong magnetic field, with dozens of moons around it, it looks like a miniature Solar system.

1. **Discovery** : Known by ancient Romans and Greeks and can be observed with the naked eye.
2. **Named** : Greek & Roman Mythology.
3. **Diameter** : 139,822 km.
4. **Orbit** : 11.9 years of Earth.
5. **Date** : 9.8 hours Earth.

Saturn (Saturn)



Actual color image of Saturn. Photo source: NASA / JPL / Space Science Institute

Saturn is the sixth planet in the average distance from the Sun, best known as its belt. When **Galileo Galilei** first studied Saturn, in the early 1600s, he thought that Saturn was a three-part object. Without knowing Galileo Galilei had seen a planet with a belt, astronomers were confused when looking at miniature drawings - the planet had a large satellite and two small satellites - in Galileo Galilei's note , as a noun in the sentence used to describe discovery.

More than 40 years later, **Christiaan Huygens** used telescopes with greater magnification, he discovered that this is a belt, not a satellite like Galileo once thought. The belts are made of stone and ice. Scientists are still not sure how Saturn is formed. This gas giant contains mainly hydrogen and helium. In addition, Saturn has many moons.

1. **Discovery** : Known by ancient Romans and Greeks and can be observed with the naked eye.
2. **Named after** : Roman agricultural god.
3. **Diameter** : 120,500 km.
4. **Orbit** : 29.5 years of Earth.
5. **Date** : About 10.5 hours Earth.

Uranus (Uranus)

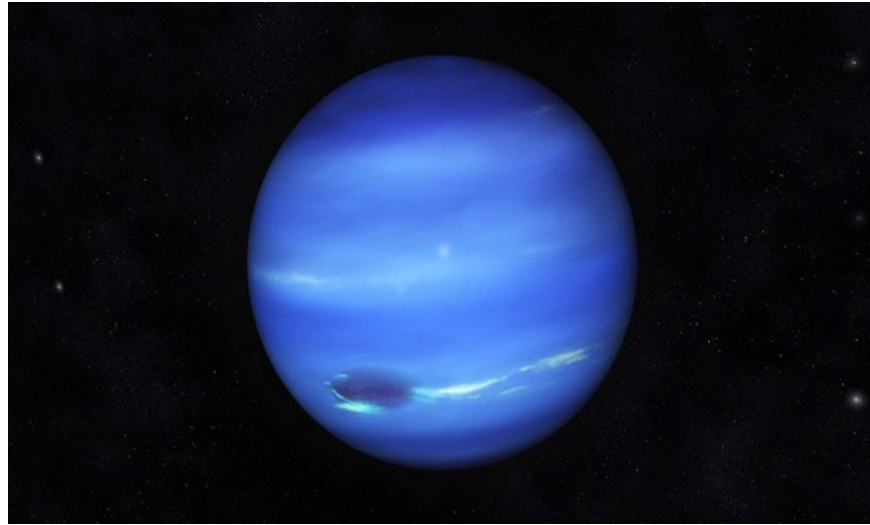


Uranus shows up in the same color as Voyager 2 in 1986. Uranus's color reflects the presence of elevated hydrocarbon-fuzzy chemical dust, above the methane clouds. Cyan color is due to the absorption of methane. Photo source: Lawrence Sromovsky, (University of Wisconsin-Madison.), Keck Observatory

The seventh planet from the Sun, **Uranus** is a unique planet. It is the only giant planet with an equator perpendicular to its orbit and almost parallel to the planet's orbit. Astronomers believe that the planet collided with some other objects of the same size as the previous planet, which caused tilt. The inclination causes severe seasons that last more than 20 years and the orbital cycle of Uranus with 84 years of Earth. Uranus has the same size as Hai Vuong Tinh. The **methane** in the atmosphere makes Uranus green - blue and has many moons, fuzzy belts.

1. **Discovery** : William Herschel in 1781 (Herschel once thought it was a star).
2. **Named after** : The ancient god of the Greeks.
3. **Diameter** : 51,120 km.
4. **Orbit** : 84 years of Earth.
5. **Day** : 18 hours Earth.

Neptune (Neptune)



Neptune's wind speed reaches more than 1,500 mph and the fastest planetary winds in the solar system. Photo source: NASA / JPL

The eighth planet from the Sun, **Neptune** is known for its strongest winds - sometimes even faster than the speed of sound. Neptune is located far and cold. This planet is 30 times farther away from the Earth from the Sun. Neptune is the first planet to predict existence using math, before it was discovered. The abnormality in Neptune's orbit led to **Alexis** Astronomer **Alexis Bouvard** 's suggestion to some other astronomers that might be an attractive attraction. German astronomer - **Johann Galle** uses calculations to assist in determining Hai Vuong Tinh by telescope. Neptune is about 17 times larger than Earth.

1. **Discovery** : in 1846.
2. **Named after** : Roman god of water.
3. **Diameter** : 49,530 km.
4. **Orbit** : 165 years of Earth.
5. **Day** : 19 hours Earth.

Pluto (Dwarf Planet - Dwarf Planet)



Pluto and its moons orbit the sun near the edge of the solar system. Photo source: SPACE.com/Karl Tate.

Pluto is the 9th planet from the Sun, it is unlike other planets in many characteristics. Pluto is smaller than the planet's moon. Pluto's orbit is in Neptune's orbit and then, separated from that orbit. From 1979 to the beginning of 1999, Pluto was officially the 8th planet from the Sun. But then, on February 11, 1999, she followed the path of Neptune and returned to the farthest planet in the solar system - until it was "*dropped*" as a dwarf planet.

Pluto dwarf planet is 228 years from Hai Vuong Tinh. Pluto's orbit is tilted relative to the main plane of the solar system - where other planets orbit - about 17.1 degrees. It is a cold, rocky planet with a very fleeting atmosphere. NASA's New Horizons mission carried out the first historical supernova train on Pluto on July 14, 2015.

1. **Discovery** : Clyde Tombaugh in 1930.
2. **Named after** : Hell's God of Rome, Hades.
3. **Diameter** : 2,301 km.
4. **Orbit** : 248 years of Earth.
5. **Date** : 6.4 Earth days.

Planet 9 (Planet Nine)



The 9th planet orbits the Sun with a distance of 20 times longer than Neptune's orbit. In particular, Neptune's orbit is 49,530 km from the sun to the nearest point. The planet's orbit is about 600 times more exotic than the Sun's orbit from the star.

Scientists cannot observe the ninth planet directly. The existence of the ninth planet is observed by its gravitational effect on other planets in the **Kuiper belt**, a region that is far from the system. The sun - where frozen objects remain from the birth of the sun and planets.

Scientist **Mike Brown** and **Konstantin Batygin** at the California Institute of Technology in Pasadena describe evidence of planet 9 in a study published in the Journal of Astronomy. This study is based on mathematical models and computer simulations based on observations in six other Kuiper Belt belt bodies that are smaller than the appropriate orbit in a similar problem.

Additional collaborator **Nola Taylor Redd's report** on Space.com.

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