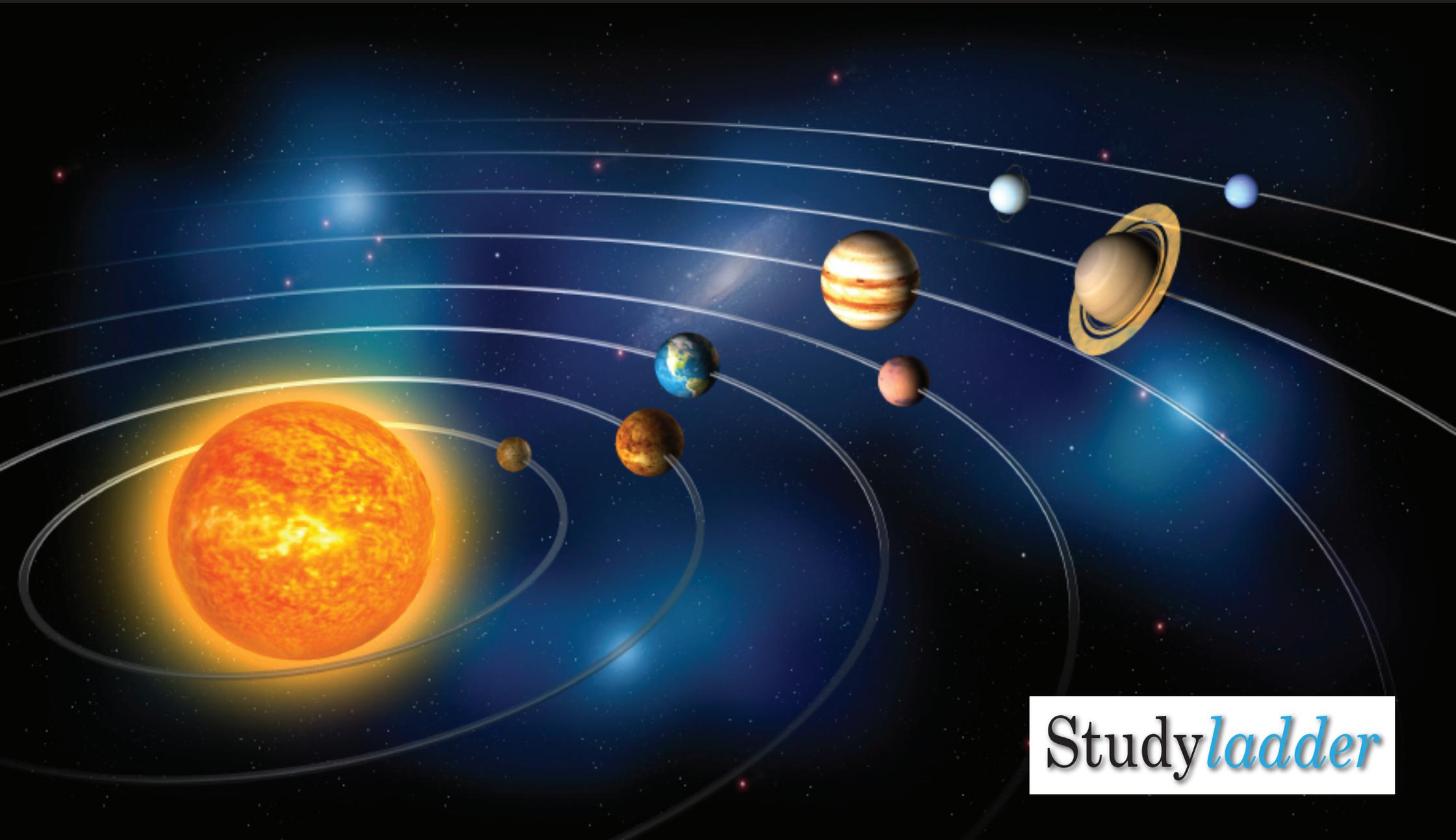


Introduction to Our Solar System

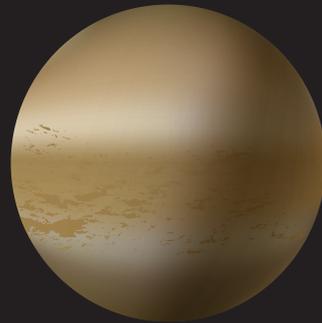


Terrestrial Planets

These planets are the four closest planets to the sun. They are classified as terrestrial because they have rocky surfaces like our Earth. The word terrestrial comes from the latin word 'terra' meaning 'earth'.



Mercury



Venus



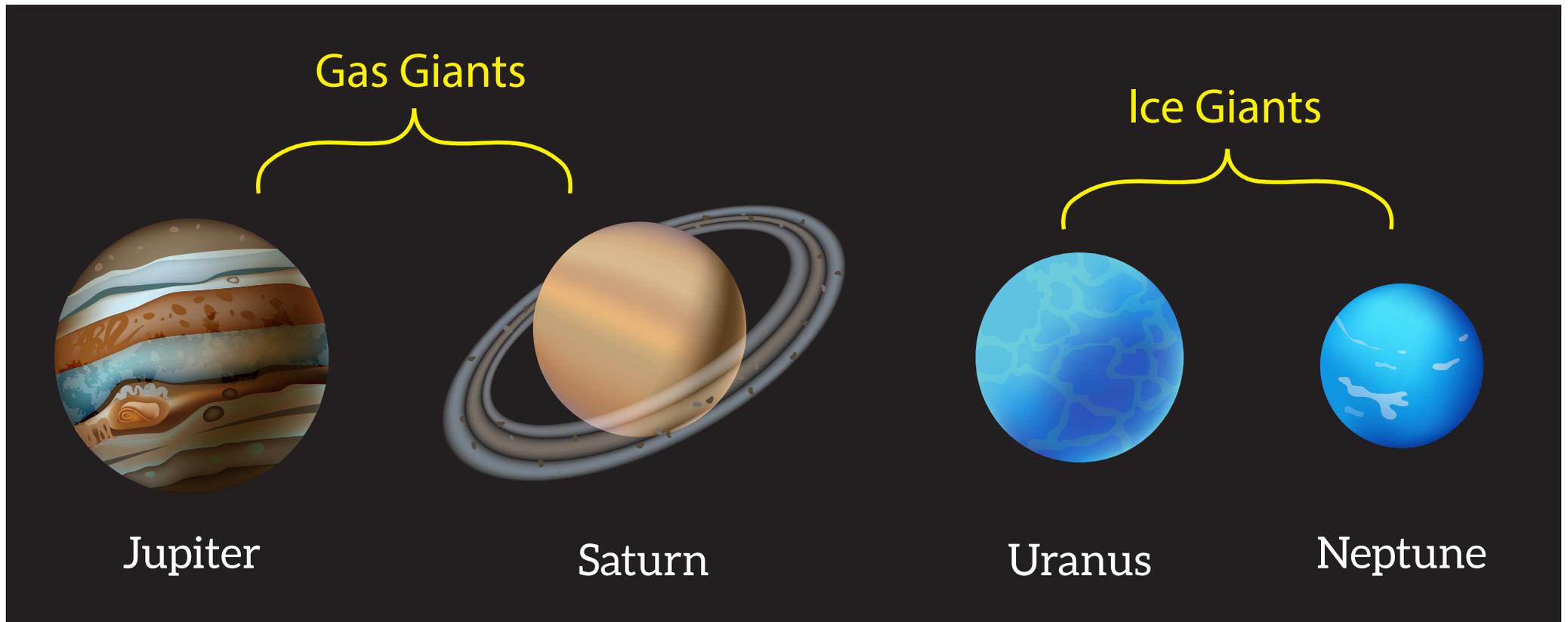
Earth



Mars

Jovian Planets

The Jovian Planets are 'Jupiter-like' in that they are giants when compared to the inner planets. There are four giants. Two are classed as 'Gas Giants' and two are 'Ice Giants'. All have rings made of pieces of ice and rock that orbit the planets. However, the rings of Saturn are the only ones that are visible from Earth.



What happened to Pluto?

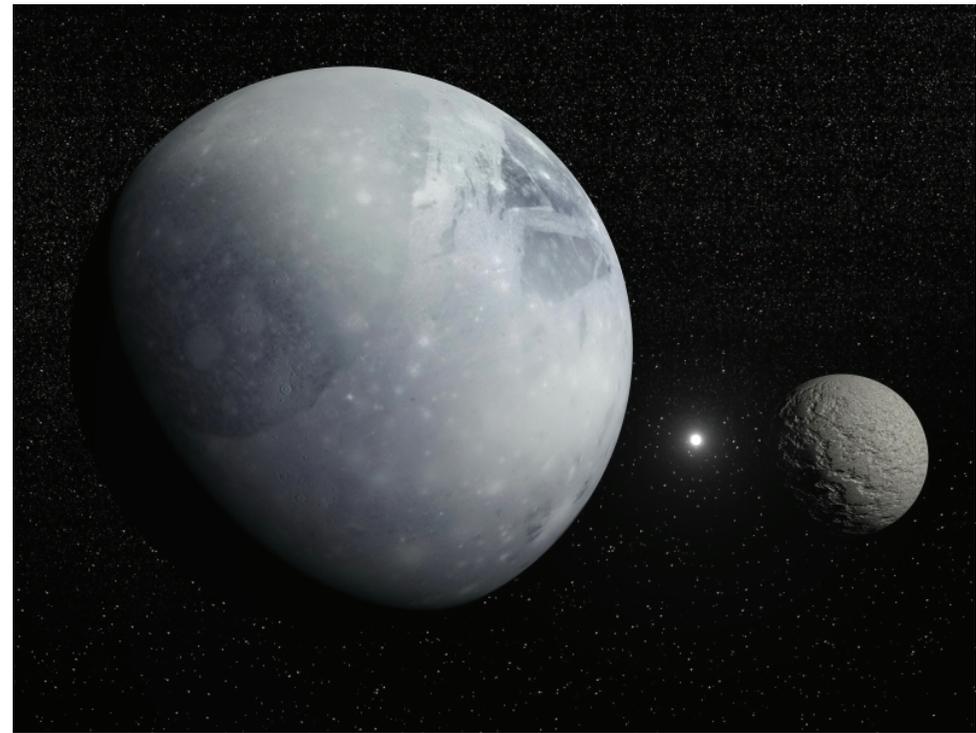
Pluto was discovered in 1930 by Clyde Tombaugh. It was named after the Roman God of the underworld.

At half the size of Mercury and two thirds the size of our own moon, it was considered the smallest planet of our solar system. However, in 2006, the International Astronomical Union changed the criteria for the classification of planets. The the status of Pluto was changed to dwarf planet. A dwarf planet is one that revolves around the sun but is small. It may cross the path of other orbiting bodies. To be a planet, in its own right, it needs to have a clear orbital path.

The main reasons why Pluto is no longer considered a planet:

- Its size is very small.
- Its orbit does not have a clear path around the Sun. (It crosses Neptune's orbit.)

Four other dwarf planets have been discovered in our solar system: Ceres (1801), Haumea (2004), Eris (2005) and Makemake (2005.)



Pluto has a moon, called Charon, that is almost half the size of Pluto itself. Scientists sometimes refer to Pluto and Charon as a binary system, as they are of such a similar size and so close to each other.

In 2006 NASA launched the New Horizons space probe to explore Pluto. It reached Pluto in 2015 giving scientists their first look at the chaotic orbit of Pluto's moons. There are many answers yet to be discovered about the celestial bodies in the outer-most reaches of our solar system!

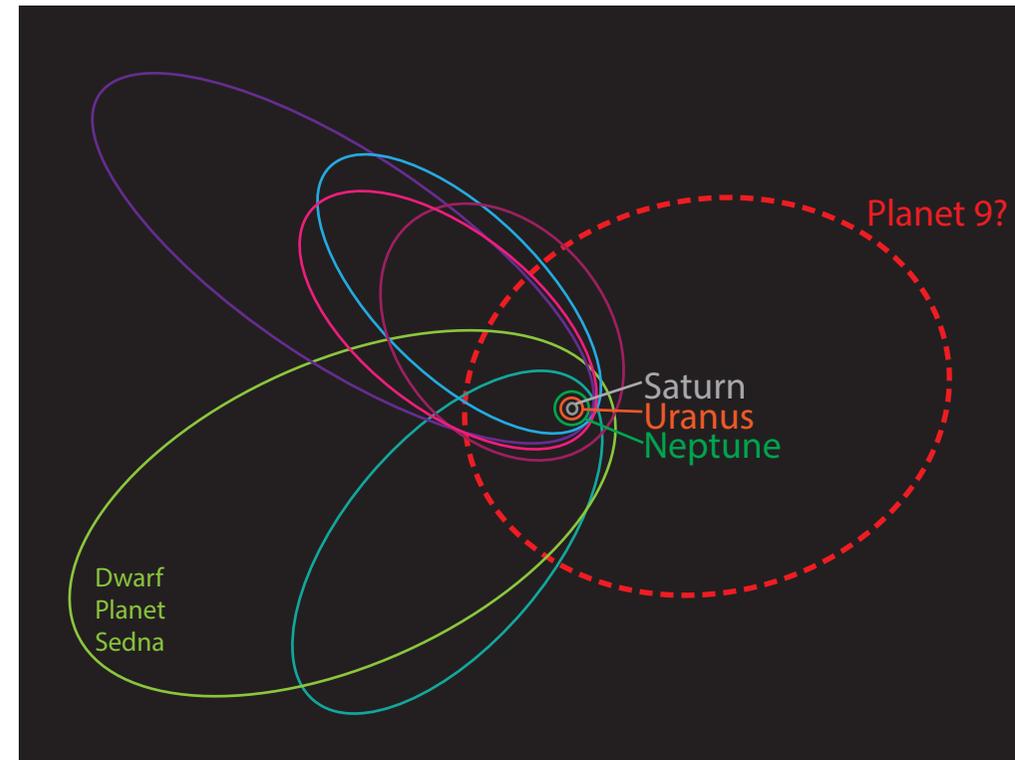
Are Scientists looking for new planets?

Objects in space have an effect on one another. The gravitational pull of large objects can affect the orbit of smaller objects.

In 1845, astronomers noticed variations in the orbit of Uranus, and used mathematics to predict the existence of an eighth planet. This planet was found the following year using these calculations and named Neptune.

Recently, researchers noticed patterns in the movement of dwarf planet Eris (discovered 2005) and five other celestial bodies in the Kuiper Belt. The Kuiper Belt is a region beyond Neptune where there are hundreds of thousands of icy bodies including asteroids, comets and dwarf planets such as Pluto.

In January 2016 it was announced that a ninth planet, about 10 times the mass of the Earth might exist far beyond the Kuiper Belt. The hypothesised ninth planet is yet to be found. Its likely orbital path is elongated and could take 10 000 to 20 000 years to complete. Its expected location is far beyond that of Neptune at about 600 times the distance from the Sun to the Earth.



The three small circles at the centre of this diagram represent the orbits of the gas giants Saturn, Uranus and Neptune. Neptune is 4.5 billion km away from the Sun. It is difficult to imagine just how far away the hypothesised 'planet nine' could be!