



Dwarf Planets in Our Solar System

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ABOUT THE STUDY

A dwarf planet is a small planetary-mass object that is in direct orbit of the Sun. The prototypical dwarf planet is Pluto. The term dwarf planet was coined by planetary scientist Alan Stern as a part of a three-way categorization of planetary-mass objects in the Solar System: classical planets, dwarf planets, and satellite planets. Thus, different planetary geologists consider dwarf planets to be planets, however considering that in 2006 the IAU and possibly the majority of astronomers have excluded them from the roster of planets.

As their name suggests, the primary difference between a dwarf planet and a planet is size. Because they're smaller, dwarf planets lack the gravitational forces needed to drag in and acquire all the material located in their orbits. Each recognized dwarf planet in our solar system is absolutely smaller than Earth's Moon. As the authority at the naming and classification of celestial objects, the International Astronomical Union formally acknowledges 5 dwarf planets in the solar system: Pluto, Eris, Ceres, Makemake, and Haumea. Scientists estimate that hundreds or even thousands of dwarf planets may exist in the solar system.

When Pluto was found in 1930, it was referred to as the 9th planet in our solar system, but its status as a fully-fledged planet came into question in the 1990s. Pluto became officially reclassified as a dwarf planet in 2006. The best-recognized dwarf planet, Pluto is also the biggest in size and the second biggest in mass. Pluto has 5 moons. The biggest, Charon, is over half the size of its host. Pluto's orbit is not circular like those of the other planets and it

clearly crosses Neptune's orbit. It takes Pluto almost 250 years to finish one trip around the Sun. Not much was known about Pluto before NASA's New Horizons mission. This spacecraft took almost 9 years to reach its target. The mission discovered that Pluto's surface features plains and mountains made from nitrogen ice and water ice.

Located beyond the orbit of Neptune, Eris completes one journey across the Sun every 557 years. The discovery of this denser dwarf planet in 2005 might also additionally be the turning factor that forced astronomers to reconsider Pluto's category as a planet. Since Eris is so far away, no surface information can be seen with present-day instruments, however, astronomers have detected the presence of methane ice and believe Eris's surface is much like that of Pluto. Ceres is the most important object in the asteroid belt between the orbits of Mars and Jupiter.

Makemake was discovered in 2005, only a few months after Eris was discovered, and by the same group of astronomers. Astronomers say that Makemake is probably reddish in color, just like Pluto. In 2015, a moon nicknamed MK2 was found orbiting the dwarf planet. Makemake takes over three hundred years to finish a trip around the Sun. Haumea was found in 2004 in the Kuiper Belt beyond the orbit of Neptune. Although it takes the dwarf planet 285 Earth years to finish a trip around the Sun, Haumea spins on itself in under 4 hours. Astronomers believe that this rapid rotation has deformed Haumea into an ellipsoid (egg-shaped). It may also be the only Kuiper Belt object to have its own ring.

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