

Gemini Application

Input:

why pluto is not the planet

Ask the question

The Response is

Pluto is no longer considered a planet because it does not meet all of the criteria established by the International Astronomical Union (IAU) in 2006. According to the IAU definition, a planet must:

1. **Orbit the Sun:** Pluto does orbit the Sun, but its orbit is highly elliptical and inclined compared to the other planets.
2. **Be spherical in shape:** Pluto is close to being spherical, but it has a flattened shape due to its rotation and the presence of its large moon, Charon.
3. **Clear its orbit of other objects:** Pluto has not cleared its orbit of other objects, as it shares its orbit with numerous other Kuiper Belt objects.

The third criterion is what ultimately led to Pluto's reclassification. Pluto's orbit is intertwined with that of other objects in the Kuiper Belt, a vast region of icy bodies beyond Neptune. This means that Pluto does not have gravitational dominance in its orbit, as required by the IAU definition of a planet.

Since its discovery in 1930, Pluto was considered to be the ninth planet. However, as astronomers discovered more objects in the Kuiper Belt, it became clear that Pluto was part of a population of similar bodies rather than a unique planet.

In 2005, the IAU proposed a new definition of a planet that would have downgraded Pluto to a "dwarf planet." After much debate, the IAU officially reclassified Pluto as a dwarf planet in 2006.

Pluto's reclassification has been controversial, with some scientists and the general public expressing disapproval. However, the IAU definition has been widely accepted by the scientific community and has helped to clarify the distinction between planets and other objects in our solar system.