

In 2006, the International Astronomical Union (IAU) stripped Pluto of its planet-hood in a controversial meeting, demoting it to dwarf planet status. The debate has raged on ever since: should Pluto be a planet?

## **Ruling By The IAU**

The discovery of "trans-Neptunian" objects led some scientists to push for a ruling by the IAU to more strictly define what a planet truly is. In response the IAU designated a set of properties that all objects must possess in order to be classified as a planet.

- A body that circles the sun without being some other object's satellite (meaning it is not a Moon of some other planet).
- Is large enough to be rounded by its own gravity.
- But not so big that it ignites [nuclear fusion](#) (like a star).
- And has cleared its orbital path of other orbiting bodies.

## **The Reasons Pluto Should Not Be a Planet**

Simply looking at the IAU definition, it is the last point that is a problem for Pluto.

Because of its low mass and slow orbital speed around the Sun it has not been able to clear its path of [asteroids,comets](#) and the like.

However, the main reason is deeper than that. Namely there are other objects similar to Pluto that populate the [outer reaches of the solar system](#). If Pluto is allowed to remain in the ranks of the planets, then there is a strong argument for the inclusion of many others.

And these other worlds, including Pluto, are considerably smaller than the smallest Terrestrial planet: Mercury.

## **The Reasons Pluto Should Be a Planet**

Perhaps the strongest reason for Pluto's inclusion as a planet is that the arguments against it are so weak. Addressing the final point of the IAU definition, noted planetary astronomy Alan Stern notes that such a requirement does little more than place caps on distance from a host star.

Specifically, he notes that if we placed Earth out at Pluto's orbit, that it would not be able to sweep its orbit clear of debris either. And obviously no one is debating the validity of Earth's inclusion in that coveted class. Since orbital speed decreases quadratically with distance, objects at Pluto's radius are at a great disadvantage.

Even more convincing is the fact that the stumbling point for Pluto is very vague. The clearing of an object's path is not a well defined astronomical concept. And if it is

meant to imply that the orbit must be swept clear of *all* objects, than virtually every [planet in the solar system](#) would be disqualified.

Lastly, proponents of the IAU view on planetary definition argue that without it the number of planets in the solar system could balloon into the dozens as more and more are discovered out in the [Kuiper belt](#). But so what? Why is that a reason to not call them planets?

## **Does It Even Matter?**

The whole debate has been said to have been raised when the Hayden Planetarium in New York decided to change their solar system exhibit to include only [eight planets](#). The point was not to alienate Pluto, but rather to group the planets together by likeness in order to better express the nature of the objects.

While this move was met with great criticism, it raised the critical issue behind the whole debate. The classification of "planet" is about more than a name. Obviously classification is important, but the methodology employed should be irrelevant as long as it efficiently and effectively groups like objects together and separates those that are dissimilar. Or, another way to think of it is that we classify things to help us understand them.

For example, further subdividing the planets into terrestrial, jovian and dwarf allows us to further group the objects together into more logical groups. They're all still planets that way.

With [the latest discoveries at Pluto by the New Horizons mission](#), our understanding of Pluto has changed a LOT. It seems like a good time to admit that and readmit it to the ranks of planets, and further refine our definition of "planet" to be more inclusive of all the ways planets can exist.

Ultimately it does not matter to Pluto — only to the humans who study it and try to understand it. The way we classify objects has no influence on the physical nature of objects in [the universe](#), it only dictates what terminology we learn in textbooks. As long as the classification is clear and concise the particulars are unimportant. And it is to that end that the debate should be motivated.

*Edited and updated by [Carolyn Collins Petersen](#).*