

# PLUTO and the SOLAR SYSTEM UPDATE

In the summer of 2008, the International Astronomical Union (IAU) met and established new guidelines that downsize the solar system from nine planets to eight planets as well as adding two new categories of objects called dwarf planets and plutoids.

**Planets** are now defined as celestial bodies having:

1. an orbit around the sun.
2. sufficient mass for self-gravity to overcome rigid body forces so that it assumes a nearly round shape.
3. cleared the neighborhood around its orbit.

There are now **eight** major planets in our solar system: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.

**Dwarf planets** are defined as celestial bodies that:

1. orbit around the sun.
2. are round.
3. have not “cleared the neighborhood around its orbit” .
4. are not satellites (moons).

**Ceres**, formerly classified as an asteroid in the asteroid belt between Mars and Jupiter, is still classified as a dwarf planet.

**Plutoids** are defined as celestial bodies that are:

1. dwarf planets.
2. located beyond Neptune.

Pluto is no longer considered a planet or should be called a dwarf planet. Pluto is now classified as a plutoid. There may be as many 2,000 plutoids in the area of space called the Kuiper Belt. There are now four plutoids. In order from the sun, they are **Pluto, Haumea, Makemake, and Eris**. Eris is larger than Pluto. It is expected that more plutoids will be named as science progresses and new discoveries are made.



Size Comparisons of the 4 Plutoids

The change made by the astronomers will affect science textbooks and science instruction on all grade levels. BCPS science teachers should incorporate this latest information in their teaching of astronomy for the upcoming school year. Teachers should note that future scientific discoveries will undoubtedly cause further changes in BCPS curriculum. Teachers will be notified of any necessary curriculum changes by the Office of Science PreK-12.