

HEAVENLY NEWS

“Our Solar System”

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We live in a beautifully designed solar neighborhood consisting of planets, asteroids and comets. Our home planet Earth, along with the other planets and heavenly bodies, are in motion around a single star called the Sun. The Sun is our local star. It is a ball of incandescent gas of average size, temperature, and brightness compared with other stars. The Sun dominates the Solar System. It is the source of heat and light for all the planets, and its great mass exerts a gravitational pull that keeps them in orbit around it.

The first four planets from the Sun (Mercury, Venus, Earth and Mars) are called Terrestrial planets or “Earth-like”. These four are relatively small and dense, with rocky surfaces and an abundance of metals deep in its interiors. They have few moons, if any, and none have rings. The next four planets (Jupiter, Saturn, Uranus, and Neptune) are called Jovian planets or “Jupiter-like”. They are much larger in size and lower in average density than the terrestrial planets, and they have rings and many moons. They lack solid surfaces and are made mostly of hydrogen, helium and hydrogen- compounds.

Notice that Pluto was not mentioned. It’s been known for awhile that Pluto is very different in character from the first eight planets. It is much smaller and less massive, and its orbit is much more eccentric and inclined to the ecliptic plane. Its composition of ice and rock is also quite different from the other planets, although it is virtually identical to that of many known comets. Since the early 1990s, astronomers have discovered more than 1,000 objects of similar composition orbiting in Pluto’s general neighborhood called the Kuiper belt. In August 2006, the International Astronomical Union (IAU) voted to classify Pluto, and others like Pluto, as dwarf planets.

Asteroids (small bodies of iron and rock) are leftovers from the formation of the Solar System. Most orbit the Sun in a belt between Mars and Jupiter, but some stray from this group to cross the paths of the inner planets. Meteorites are small fragments, usually from asteroids, that have entered the Earth’s atmosphere and fallen to the surface. Every day about 10 meteorites fall to Earth, although most land in remote areas or the oceans and go unnoticed.

Comets (frozen gas and dust) exist in a swarm at the edge of the Solar System. Sometimes they approach the Sun on highly elongated orbits, warming up and releasing gas and dust before receding back into the darkness. Throughout much of February, true early birds can catch a comet. Comet Lulin — formally C/2007 N3 (Lulin) — is gracing the skies in the early hours of the morning. Its closest approach will be on Feb. 24th. On this special morning around 3am, Lulin will lie near Saturn in the constellation Leo. Saturn will be visible to the unaided eye, and Lulin could be as well. If this doesn't draw you out of bed, nothing will! And catch it while you can. It won't be back for a million years. For more information about this comet or if you have any other celestial questions, please visit the Community Observatory and ask any of the knowledgeable docents. www.Communityobservatory.com

