



# SHENANDOAH ASTRONOMICAL SOCIETY

January 2010

---

## Blue Moon 2009

The old year went out and the new one came in under a blue moon on Thursday night. Perhaps you noticed there was a full moon on December 2 and again on the last day. The second full moon in the same month is called a blue moon.

Actually, after some volcanic eruptions and extreme forest fires, the Moon has appeared bluish due to particles in the atmosphere. This phenomenon occurred due to the scattering of the longer wavelengths of light more than the blue. So I am supposing that since this rarely happened, the old saying "once in a blue moon" was born.

A few decades ago the definition of a blue moon came to be the second full moon in the same month. This happens once in about two and a half years on the average. Of course, there cannot be a blue moon in February since the phase cycle is over 29 days. More of this history of the blue moon can be found on [Astromart.com](http://Astromart.com) under News.

---

## Program Monday January 11 LFCC at 7:00 PM

**Notice we are meeting on the second Monday of the month as we voted on in a recent meeting. I do not know the meeting room yet but I am sure they will give us a place to meet and the information will be available at the front desk. President Alan will be bringing a talk on astronomy by a professional.**

## Jupiter Still Available

Jupiter is the largest planet in our Solar System. In fact, Jupiter is so large and massive that it contains more material than all the rest of the planets, moons, and asteroids. Someone looking at the Solar System from far enough away would only see the Sun and Jupiter. If there are astronomers in some star system out there looking for life elsewhere as some of our scientists are doing, they may discover Jupiter orbiting the Sun and wonder if there are more planets around our Star.

The diameter of Jupiter is 86,000 miles which is about 11 times the diameter of Earth. So the volume of Jupiter is large enough to contain nearly 1300 earths. However, it is only about 318 times as massive as Earth since it consists mostly of gases with only a small amount of heavier elements probably forming a core at the center. Surrounding the small rocky core are hydrogen and helium in liquid form due to the tremendous pressure generated by gravity. Around all this is gaseous hydrogen and helium without any solid surface. The four big outer planets, Jupiter, Saturn, Uranus, and Neptune are all very similar in material and structure.

Jupiter is over five times as far from the Sun as the Earth and its year is almost 12 times our year. That is, it takes Jupiter nearly 12 years to make one orbit around the Sun. When it is at opposition, Jupiter can be as close to us as about 365 million miles and at the farthest it is nearly 600 million miles away. And yet it is the brightest object in our night sky after the Moon and Venus, shining brighter than any star. Being on the average 480 million miles from the Sun, the amount of solar energy reaching Jupiter is very small so visiting Jupiter would be a cold journey. Jupiter can still be seen in the south shortly after dark.

---