What’s Up in the Sky?

The Moon is such an easy target for sky watchers, its hard not to talk about it. One interesting facet about the Moon is that its apparent size changes. No, I’m not talking about how the Moon appears to be big when it’s low on the horizon (which is actually an optical illusion), but rather that one full Moon can be actually bigger than another. The reason is that the Moon orbits around the Earth in an elliptical (or oval shaped) orbit: i.e., it is not always the same distance from the Earth.

The images to the right are two images of full Moons taken when the Moon is at perigee (closest to the Earth, on the left) and apogee (farthest from the Earth, on the right). That difference in distance is 30,000 miles causing the Moon to appear about 14% larger and 30% brighter.

This Thursday, we will get to see the biggest and brightest full Moon of the year.

What About Mars?

For a few years now, an email has made the rounds claiming that Mars will be approaching the Earth closer than it has ever been in the past few thousands of years. While it is true that, like the Moon, Mars is closer to the Earth during certain times of its orbit, it would never be close enough for the Mars to appear as large as the Moon. However, we will have a close encounter with Mars on December 18/19. Just not as close as some would have you believe. Look for Mars towards the east in the evening starting in late November. Mars will appear to be reddish and it won’t twinkle.

Mars, the Red Planet

While Mars won’t look as impressive as a full Moon, that doesn’t mean that it’s not a special object. It’s iron oxide soil gives Mars its red hue, and its dark patches convinced Percival Lowell that “Martians” had dug canals to irrigate the arid land. Gustav Holst immortalized Mars in his orchestral suite, The Planets, with the title Mars, The Bringer of War. And who could forget the 1996 classic film, Mars Attacks!!

In 1976, NASA launched two probes, Viking 1 and its twin Viking 2, that landed on Mars and sampled its atmosphere and tested its soil.

Unfortunately, none of the tests for life came back positive, nor did NASA return to Mars for another twenty years. Then, on 4 July 1997, NASA landed the Sojourner Rover and paved the way for the two current rovers, Opportunity and Spirit. These twin rovers landed in January 2004 and were designed to last some 90 days. As of 1 October 2007, the rovers have lasted 10 times longer than their design life-span.

And they are still going strong. Even though one rover has a bum leg (all right, wheel), they are still gathering a wealth of data after being on Mars for over three years. But more is yet to come.

Last August, NASA launched the Phoenix that will land at Mars’s north pole 25 May 2008 in the hopes of finding water and carbon beneath the ice sheet. However, there are many more missions planned. NASA hopes to launch the billion-dollar Mars Science Laboratory (MSL) in 2009. The size of a mini-cooper, the MSL will be mobile (unlike Phoenix) and will even pack heat: a laser powerful enough to vaporize rocks. After that, NASA is planning another orbiter for 2011, and the European Space Agency is planning another mission for 2013.