

Flyer written by Morris Jones and Jane Houston Jones of the Old Town Sidewalk Astronomers. www.otastro.org



A little about our most frequent targets:

The **Moon** is small, only about a quarter the size of the Earth. The Moon is 225,745 miles from earth. If you drove to the Moon at 70 mph, 24 hours per day, it would take you 135 days to get there. The Moon is actually moving away from Earth at a rate of 1.5 inches per year. The surface area of the Moon is 14,658,000 square miles or 9.4 billion acres. Only about 59 percent of the Moon's surface is ever visible from Earth. The Earth rotates at about 1,000 mph at the equator, by comparison, the Moon rotates about 10 mph.

The phases of the Moon are caused by the relative positions of the Moon and Sun in the sky. For example, New Moon occurs when the Sun and Moon are quite close together in the sky. Full Moon occurs when the Sun and Moon are at nearly opposite positions in the sky, which is why a Full Moon rises about the time of sunset, and sets about the time of sunrise. First and Last Quarters occur when the Sun and Moon are about 90 degrees apart. In fact, the two "half

Moon" phases are called First Quarter and Last Quarter because they occur when the Moon is, respectively, one- and three-quarters of the way around the sky (along its orbit) from the New Moon.

Saturn is the sixth planet from the sun, orbiting the sun between Jupiter and Uranus. Its average distance from the Sun is over 850 million miles (Earth is 93 million miles from the Sun). Saturn's orbit is nearly a circle. Its closest approach to the Sun is around 840 million miles, while its furthest distance is around 930 million miles.

The most obvious feature of Saturn is its planetary ring system. There are seven main ring sections, which consist of over 3000 individual rings of various sizes, shapes, and compositions.

Saturn is visibly flattened at the poles, due to its very fast rotation on its axis. It is also the least dense of any planet in our solar system, having the density of less than water. It's atmosphere is composed mostly of hydrogen and helium with only trace amounts of other elements. The fierce wind on the planet blows at astounding speeds, up to 900 miles per hour in some areas. This wind, blowing through the cloud features, creates the effect of faint color bands circling the planet.

Saturn has 56 known moons of which 48 are currently named, six or seven of which are visible through amateur telescopes. For an up-to-date moon count <http://www.ifa.hawaii.edu/~sheppard/satellites/satsatdata.html>

Jupiter is the largest planet in the solar system. its diameter is 88,846 miles (142,984 kilometers), more than 11 times that of Earth, and about one-tenth that of the sun. It would take more than 1,000 Earths to fill up the volume of the giant planet.

Jupiter is the fifth planet from the sun. Its mean (average) distance from the sun is about 483,600,000 miles (778,300,000 kilometers), more than five times Earth's distance. Jupiter takes 12 years to go around the sun. the great red spot is not red, rather, it is a pale oval, and is surprising difficult to see. Jupiter has 62 known moons (48 named), and the four major moons are Io, Europa, Ganymede, and Callisto. These four moons were discovered by Galileo on January 7, 1611, through a home-made telescope, and are visible through amateur telescopes. For an up-to date moon count

<http://www.ifa.hawaii.edu/~sheppard/satellites/jupsatdata.html>