



***This is the International Year of Astronomy and this event is part of that celebration! We're glad you could join us.***

A little about the objects we'll be observing...

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**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.

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**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>

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The **Sun** is a yellow dwarf star at the center of our Solar System. The Earth and other matter (including other planets, asteroids, meteoroids, comets, and dust) orbit the Sun, which by itself accounts for about 98.6% of the Solar System's mass. The mean distance of the Sun from the Earth is approximately 149,600,000 kilometers, or 92,960,000 miles, and its light travels this distance in 8 minutes and 19 seconds. Energy from the Sun, in the form of sunlight, supports almost all life on Earth via photosynthesis, and drives the Earth's climate and weather.

The surface of the Sun consists of hydrogen, helium, and trace quantities of iron, nickel, oxygen, silicon, sulfur, magnesium, carbon, neon, calcium, and chromium. The surface temperature is approximately 5,780 K (5,500 °C) giving it a white color that often, because of atmospheric scattering, appears yellow when seen from the surface of the Earth. Once regarded as a small and relatively insignificant star, the Sun is now known to be brighter than 85% of the stars in the galaxy, most of which are red dwarfs.

The Sun orbits the center of the Milky Way galaxy at a distance of approximately 24,000 to 26,000 light years from the galactic center, moving generally in the direction of Cygnus and completing one revolution in about 225–250 million years (one Galactic year).



### SIDEWALK ASTRONOMERS

The Sidewalk Astronomers was founded by John Dobson in San Francisco in 1968 and we now have members all over the world. Our primary work is: 1)giving the people of this planet a chance to see, with their own eyes, celestial objects through good-sized telescopes, and 2) providing them with information about what they are seeing. In order that more people may own and use telescopes for this purpose, we also teach classes and offer assistance in low-cost telescope making.

We set up our telescopes in places where people are likely to be passing by - busy street corners, shopping malls, movie theaters, fairs, etc. We call it "urban guerilla astronomy". [www.sidewalkastronomers.us](http://www.sidewalkastronomers.us)

The Sidewalk Astronomers are available to do school, library, and other public events. We have members on the street in the San Gabriel and San Fernando Valleys, on the West Side and also Central Los Angeles. Please visit our website to learn more about us and to find contact information for members and activities in your area.



### INTERNATIONAL SIDEWALK ASTRONOMY NIGHT (ISAN)

In the late 1950's, John Dobson looked through a telescope at the Moon and immediately said, "everyone's got to see this!" and began making large telescopes and wheeling them down the streets of San Francisco. "We aren't born in San Francisco, we aren't born in California, we aren't born in the United States, we aren't even born on Earth – we're born into this UNIVERSE, and we need to know about it!" Since that time "sidewalk astronomy" has spread around the globe. On one night each year, amateur astronomers come together and offer the public a glimpse into the Universe. We take our telescopes to public places where people gather and introduce them to their interest in astronomy.

ISAN is a yearly activity organized by the Sidewalk Astronomers. This year, it is part of the International Year of Astronomy and a key part of the project, 100 Hours of Astronomy.



**The 100 Hours of Astronomy IYA2009 Cornerstone Project** is a four-day event designed to bring astronomy to the public around the world. Whether it's a few hours on one day or a 100-hour marathon event, how groups choose to participate is up to them. Thousands of Local Events are being planned by science facilities and astronomy enthusiasts around the world, including telescope observing sessions, lectures, exhibitions, special shows and more. While groups worldwide will be planning their own events, 100 Hours of Astronomy has its own global events that organizations worldwide will take part : **Opening Event, Live Science Centers Webcast, 24-hour Research Observatory Webcasts, 24-hour Global Star Party, Sun Day, 100 Hours of Remote Astronomy, and 100HA Junior:**

[www.100hoursofastronomy.org](http://www.100hoursofastronomy.org)



### INTERNATIONAL YEAR OF ASTRONOMY

The International Year of Astronomy 2009 is a global effort initiated by the International Astronomical Union (IAU) and UNESCO to help the citizens of the world rediscover their place in the Universe through the day- and night-time sky, and thereby engage a personal sense of wonder and discovery. The International Year of Astronomy 2009 (IYA2009) is a global celebration of astronomy and its contributions to society and culture and marks the 400th anniversary of the first use of an astronomical telescope by Galileo Galilei. The aim of the Year is to stimulate worldwide interest, especially among young people, in astronomy and science under the central theme "The Universe, Yours to Discover". IYA2009 events and activities will promote a greater appreciation of the inspirational aspects of astronomy that embody an invaluable shared resource for all nations. [www.astronomy2009.org](http://www.astronomy2009.org)



### SOLAR PHYSICS TASK GROUP—SUN DAY

The goal of this Task Group is to help the International Year of Astronomy 2009 with solar matters. It aims to communicate the link between the Sun and the rest of the Universe, and so the place of solar science in astronomy. For the 100 Hours of Astronomy Project, Sunday, April 5 has been designated "Sun Day" with hundreds of solar activities being planned. <http://solarastronomy2009.org/>