

SCALE MODEL + WALKING TOUR OF OUR SOLAR SYSTEM

THE MILLENNIUM PROJECT OF NORTH GEORGIA ASTRONOMERS & THE GOOD CITIZENS OF GAINESVILLE + HALL COUNTY + GEORGIA + USA + EARTH

SCALE OF MODEL 1 : 2,000,000,000

SUN
Sponsored by Lakeview Academy

Have you hugged your Sun today? Try it!

Caution: The Sun may be hot!
Can you get your arms all the way around the Sun?
Compare the Sun's size with the Earth's size on the opposite corner of The Square. The Sun contains more than 99.8% of the total mass of Our Solar System.
The Sun is a 4.5 billion year old nuclear fusion reactor which each second converts 700,000,000 tons of hydrogen into 695,000,000 tons of helium and 5,000,000 tons of energy. There are over 100 billion other Suns in Our Milky Way Galaxy.
Our Sun appears yellow to us because of our atmosphere. Above the atmosphere, astronauts say the Sun is white.

VENUS
Sponsored by Brenau Academy

Venus has an orbit close to a circle, so it is always at this distance from the Sun. Venus was the Roman goddess of love and beauty. The Romans named her day of the week *Venus' Day*, in Spanish: *viernes*.
Woden's wife, the goddess of married love, was Frigg. So we have *Frigg's day*, or *Friday*. When Venus is in the sky as either the Morning or Evening Star, it is the brightest "star" in the sky.

EARTH
Sponsored by Year 2000 Citizens
Helping to Navigate Our Earth into the Third Millennium.

Earth is placed at its average distance from the Sun. Our Earth has a slightly eccentric orbit, so in the scale model we are 4' closer on January 1 and 4' farther away on July 1.

MOON
Our Moon has a very complicated orbit, as it orbits the Earth and Sun at the same time. The Moon's perigee is about a half inch closer to our Earth. The Moon's day, or in Spanish *Lunes*, follows the Sun's day.

SATURN
Sponsored by Year 2000 Partners in Education of the Hall County Middle Schools

Saturn is located at the distance it was from the Sun at the turn of the Millennium. Saturn's perihelion is 6' closer to the Sun and its aphelion is 260' farther away. Saturn is twice as far from our Sun as Jupiter. Saturn is temporarily located on the sidewalk across from Ivey Terrace Park, while that part of the park undergoes renovation. In the Roman world of gods, Saturn was the father of Jupiter. The Roman day of the week honoring Saturn was *Saturn's Day*, and became the English *Saturday*. Raise your hand if you knew before now that Saturday was named after Saturn.

JUPITER
Sponsored by the Year 2000 Partners in Education of the Hall County Elementary Schools.

Jupiter is located at the distance it was from the Sun at the turn of the Millennium, January 1, 2001. Jupiter's perihelion is 20' closer to the Sun and its aphelion is 100' farther away. Jupiter is 4 times farther from our Sun than Mars. Jupiter also known as Jove, was the Roman god of the heavens and the weather. The Roman fourth day of the week was *Jove's Day*, in Spanish *jueves*. When the Germanic people adopted the Roman week system, the fourth day was named after their god of thunder, Thor. So their *Thor's day* has become our *Thursday*.

MARS
Sponsored by Riverside Military Academy

Mars is placed near its closest approach to our Earth, which will next occur in August 2003. Mars' average distance from the Sun is 30' farther away and the aphelion of Mars' orbit is almost 70' farther away. The Roman god of war was Mars. Their *Mars' Day* became the Spanish *martes*. The Germanic god of war was Tiu. Thus their *Tiu's day* became our *Tuesday*. This will be the last vantage point on the Scale Model from which you can view the Sun. Notice how Venus appears to be halfway back to the Sun and how Mercury is halfway between the Sun and Venus.

MERCURY
Sponsored by Etahchee Nature Science Center.

Mercury is placed at its average distance from the Sun. Its eccentric orbit carries Mercury up to 20' closer and farther away in the scale model each orbit. Mercury was the Roman god who served as the speedy messenger for the other gods. Mercury was also the god of science. The Romans called the middle day of the week *Mercury's Day*, in Spanish: *miercoles*. The Germanic people equated Mercury with their god Woden, so we have *Woden's day*, or *Wednesday*. Mercury can appear in our sky either in the east just before sunrise, or in the west just after sunset.

FOLLOW THE COMETS

ASTEROID BELT
Sponsored by The Hall County Library Board of Trustees and Friends of Hall County Library.

The center of the Asteroid Belt is twice the distance from the Sun as Mars. Was there a planet here at one time? Can you see Ceres? It's there! You can feel it. Ceres is the smallest member of our solar system displayed in the Scale Model. Ceres is smaller than Pluto's moon, Charon. Small as it is, Ceres accounts for 25% of the total mass of all the asteroids.

NEPTUNE
Sponsored by Year 2000 Partners in Education of the City of Gainesville Schools.

Neptune is located at the distance it was from the Sun at the turn of the Millennium. Neptune's perihelion is 80' closer to the Sun and its aphelion is 80' farther away. Neptune was the Roman god of the sea. Neptune was the second modern planet to be discovered (1846).

TRITON
Triton was the son of Neptune. Triton's retrograde orbit is thought to indicate that it was formed elsewhere and later captured by Neptune. Triton is one of 4 volcanically active bodies in our solar system, the others being Venus, Earth and Io.

URANUS
Sponsored by Year 2000 Partners in Education of the Hall County High Schools.

Lots of Space between Saturn and Uranus! Uranus is twice the distance from the Sun as Saturn. Uranus is located at the distance it was from the Sun at the turn of the Millennium. Uranus' perihelion is 400' closer to the Sun and its aphelion is 30' farther away. Uranus was the father of Saturn, who was the father of Jupiter. Uranus was the first modern planet to be discovered (1781). Uranus is pronounced: you-RAY-nus. The Scale Model shows what we knew at the turn of the Millennium, but it is already out of date. Please add one more moon for a total of 21 moons.

PLUTO
Sponsored by the Gainesville Association of Insurance and Financial Advisors.

Pluto is located at its average distance from the Sun. For 20 years of Pluto's orbit, it is actually closer to the Sun than Neptune, as it was from 1979 through February 1999. At the turn of the Millennium, Pluto was only 60' beyond Neptune on the Scale Model. Pluto was the Roman god of the dark underworld and also, at the time of the planet's discovery in 1930, the name of the then very popular animated character Mickey Mouse's dog. Pluto is smaller than 7 of the moons in our solar system. Tiny Charon, half the diameter of Pluto, is the largest moon relative to its planet. Pluto and Charon are orbiting close together very far from the Sun. You'll have to look close to see the models.

TIME MACHINE

After you finish exploring Space on the Walking Tour of Our Solar System help us all explore Time at our Online Time-line by adding a photo of you or your group seated on the bench between the Pluto and Alpha Centauri markers. If your camera has a timer you can place it on the shelf of the barbecue across the sidewalk.

Send your photo, your names, date you took the Tour and any thoughts you would like to share to:

scalemodel@northgeorgiaastronomers.org or North Georgia Astronomers P. O. Box 5103 Gainesville, GA 30504

As you add to the Timeline with successive trips through the Solar System you and your children will be able to travel back in time, to your preschool, elementary, middle, high school and college years. As generations are added to the Timeline you will be able to visit the future also.

TO ALPHA CENTAURI
Sponsored by Gainesville College.

On your tour of the Scale Model Solar System there were trees and cars and all manner of things to distract you from the fact that there is really nothing, except empty space, between the planets. Now after almost 2 miles, from this point on the Scale Model you would have to travel 12,500 miles, to the exact opposite point on our globe before you would encounter the next anything at all. Where is the exact opposite point on the globe from ourselves?

