

Solar System

Introduction

Our solar system is filled with a wide assortment of celestial bodies - the Sun itself, our eight planets, dwarf planets, and asteroids - and on Earth, life itself! The inner solar system is occasionally visited by comets that loop in from the outer reaches of the solar system on highly elliptical orbits.

In the outer reaches of the solar system, we find the Kuiper Belt and the Oort cloud. Still farther out, we eventually reach the limits of the heliosphere, where the outer reaches of the solar system interact with interstellar space.

Our solar system is made up of the nine planets and other objects orbiting the sun. The solar system is estimated to be about five billion years old and there are many theories on how the solar system was formed.

Our Solar System

Planets

Mercury



Mercury is the closest planet to the sun at 57.9 million km. Unlike Earth, which has one orbiting satellite, Mercury does not have any known satellites. The core of Mercury is a large dense iron core. The surface is lunar like and contains craters from earlier collisions of asteroids. Mercury takes approximately 58.7 days to rotate about its axis.

Venus

Venus is the second planet from the sun at 108.2 million km. It also has no known satellites. Its atmosphere's primary gas is carbon dioxide. A thick cloud layer made mostly of sulfuric acid covers the surface. Venus takes approximately 243 days to rotate about its axis.



Earth

Earth is the third planet from the sun at 150 million km and the only known planet that contains life. It has one orbiting satellite called the moon. The inner core is believed to be solid with a liquid outer core. The surrounding atmosphere is made up mostly of oxygen and nitrogen. The Earth takes 24 hours to rotate about its axis.

Mars

Mars is the fourth planet from the sun at 227.9 million km. The surface contains many different features including volcanoes and channels many miles wide and hundreds of miles long. The atmosphere is composed mostly of carbon dioxide. Mars takes 24.6 hours to rotate about its axis.

**Jupiter**

Jupiter is the fifth planet from the sun at 778.3 million km and is the largest planet in our solar system. It has 16 known satellites. Jupiter has a rocky core about the size of Earth, which is surrounded by a liquid hydrogen ocean. It takes 9.8 hours to rotate about its axis.

Saturn

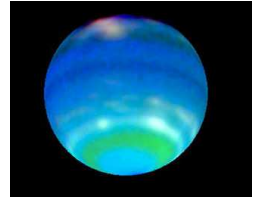
Saturn is the sixth planet from the sun at 1.427 billion km. It has at least 18 known satellites and believed to have more. Saturn is most known for its ring system orbiting the planet. The atmosphere is made up primarily of hydrogen and helium. Saturn takes 10.665 hours to rotate about its axis.

**Uranus**

Uranus is the seventh planet from the sun at 2.8696 billion km. It has 15 known satellites. It has a solid core with an atmosphere composed primarily of hydrogen, helium, methane, and ammonia. Uranus takes 17.24 hours to rotate about its axis.

Neptune

Neptune is the eighth planet from the sun at 4.4966 billion km. Triton and Nereid were the only two known satellites until a space probe discovered six smaller moons. It has a solid core with an atmosphere composed primarily of hydrogen, helium, methane, and ammonia. Neptune takes 16 hours to rotate about its axis.



Pluto



Pluto is the ninth planet from the sun at 5.9 billion km. It has one known satellite named Charon. The surface is composed primarily of frozen nitrogen. Pluto takes 6.4 days to rotate about its axis.

Objects

Meteoroids

Meteoroids are solid objects orbiting the sun. If you have seen a shooting star, you have seen a meteoroid breaking through the Earth's atmosphere.

Comets

A comet is composed of an ice core surrounded by particles and gas. As a comet gets closer to the sun, the gases and ice form a cloud around the icy core and form a tail that we can see from the Earth. Comets orbit the sun. The orbit can take a short time or a long time, and the comet sometimes crashes into the sun. One famous comet is Halley's Comet. Halley's Comet was last seen from the Earth in 1986.

Stars

The sun is the star in our solar system. At night, thousands of stars are visible. Some of these stars are brighter than others. The brightness of a star depends on its size, temperature, and distance from the Earth. A star's magnitude is the measure of its brightness. Stars can be divided into six categories based on their magnitude. At the heart of stars is nuclear energy that generates light and heat. Stars are simply gases held together by gravity. The gas is primarily hydrogen.