Our Solar System Fact Sheet

Far away in outer space is a community we call our solar system. A **solar system** is defined as a star and all the things that orbit around it. Our solar system is made up of the sun, eight regular planets, 6 dwarf planets, more than 3000 comets, over 600,000 asteroids, and 173 moons. All of these objects in our solar system orbit around the sun. **Orbit** means that the objects travel around the sun in a circular path. The time it takes for the planet to orbit the sun is called a year. Each planet orbits around the sun while it **rotates**, or spins. Imagine you are playing tetherball: when you hit the ball, it spins, or orbits, around the pole much like the Earth orbits around the sun. At the same time, the ball rotates on the cord, or the axis, from the force of your hit. The eight planets in our solar system are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. Pluto was once the ninth planet, but is now called a dwarf planet.

The **sun** is actually a large star made of gas and dust.

Mercury is the closest planet to the sun. It is covered with craters from being hit by asteroids. The side of Mercury that faces the sun can get very hot: up to 800 degrees! The side of Mercury that faces away from the sun gets very cold: down to 300 degrees below zero!

Venus is almost the same size as Earth and has sand, mountains, and volcanoes. It is very hot on Venus – almost 900 degrees! The thick clouds around the planet, called the **atmosphere**, trap in the heat from the sun. A day on Venus is as long as 100 days on Earth because it rotates so slowly. It also rotates the opposite direction, so the sun rises in the west and sets in the east. On Earth the sun rises in the east and sets in the west.

Earth is our home. It is the only planet in our solar system with people, plants, and animals. More than half of the Earth is covered with water. The Earth has one moon named Luna. Humans have never visited any planet other than Earth. Our planet is much smaller than some of the other planets. In fact, Earth is small enough to fit inside one storm on Jupiter and you could fit one million Earths inside the sun!

Mars is the fourth planet from the sun. It is called “The Red Planet” because the surface is covered with red dirt and rocks. There is evidence that Mars once had oceans, rivers, and lakes. Mars has the biggest volcano of any planet in our solar system – almost three times the size of Mount Everest, the tallest mountain on Earth. Mars has two moons.

Jupiter is the biggest planet in our solar system and has 50 moons! It also has more gravity than Earth does, so you would weigh more than double your weight on Jupiter. Jupiter is a very stormy planet and you can see many storms and cloud formations in the atmosphere. The most famous storm on Jupiter is called “The Eye of Jupiter” because it is shaped like an eye. This storm is so big that the Earth could fit inside of it. Jupiter is made almost entirely of gas and has no solid surface so you wouldn’t be able to stand or float like you do on the ground and water here on Earth.

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Saturn is the second largest planet in our solar system. It has 53 moons and 7 rings. Like Jupiter, Saturn is made of gas and doesn't have a solid surface like Earth. Scientists think the rings are made of dust particles and chunks of asteroids, comets, and broken moons. Two of Saturn's moons orbit between the rings. It takes 29 Earth years for Saturn to orbit around the sun just one time.

Uranus is so far from the sun that it takes 84 Earth years to travel around it one time. It is the seventh planet from the sun. Like Venus, Uranus rotates, or spins, the opposite direction as Earth. Uranus is a blue-green color because of the kind of gas it is made of, but on Uranus, the gas is icy, so they call it an Ice Giant. They are hard to see, but Uranus also has rings like Saturn. Uranus has 27 moons.

Neptune is the eighth planet from the sun. Like Uranus, Neptune is an Ice Giant. A day on Neptune is only 16 hours, but it takes 165 Earth years to travel once around the sun. Even though it is farther away from the sun, the wind on Neptune can be nine times stronger than the wind on Earth. Scientists sometimes capture pictures of dark spots on Neptune that they believe are storms. Neptune has six rings that are made of dust but they are not as big as Saturn's rings. Neptune has 13 moons.

Other things in our solar system

Dwarf Planets: Dwarf Planets are smaller than the Earth's moon and are made of solid rock or ice. Our solar system has 6 known dwarf planets. Some dwarf planets have moons. **Pluto** was once considered the ninth planet, but in 2006 scientists began calling it a dwarf planet because it did not match the definition of the word "planet". Pluto is the most popular dwarf planet, the others are Ceres, Eris, Makemake, Haumea, and one has not yet been named.

Asteroids: Asteroids are rocky objects that orbit the sun. They are not planets and are much smaller than our moon. Many of our solar system's asteroids are orbiting in the space between Mars and Jupiter – an area called the **Asteroid Belt**. Dwarf planet Ceres is the largest object in the asteroid belt. Most asteroids are not round; they are oddly shaped and very different from each other. Imagine picking up a handful of rocks that are all different shapes and sizes. That is a lot like what you would see in the asteroid belt.

Comets: Comets look like brightly burning stars with tails flying through space but they are really like snowballs made of frozen gas, dust, and rock that heat up as they get closer to the sun. Like the other objects in our solar system, they orbit the sun and most comets are found in the Kuiper Belt or the Oort Cloud far out in the solar system, beyond Neptune.

The Kuiper Belt and the Oort Cloud: The Kuiper Belt and the Oort cloud are similar to the Asteroid belt. They are located beyond Neptune far out in space. Both the Kuiper Belt and Oort Cloud are ring-shaped, and full of dwarf planets, icy objects, and comets that orbit the sun. Scientists believe the gravitational effect from the sun is very weak in the Oort Cloud.