

Our Solar System

Around 4.6 billion years ago, our solar system formed in the universe from a gigantic cloud of gas and dust.

The sun lies at the center of our solar system. That's why it's known as the central star. It has a very powerful gravitational pull, which is why the planets and other celestial bodies circle it.

Venus is the brightest planet we can see in our sky, because its thick cover of clouds reflects almost 80 percent of the sun's light. Only the moon is brighter.

Mercury is the planet closest to the sun. During the day, the temperature on the surface can rise to over 800 degrees Fahrenheit (427 degrees Celsius). The highest temperature ever recorded on Earth is much lower—around 134 degrees Fahrenheit (57 degrees Celsius).

Comets are large chunks of ice, frozen gases, and particles of dust. When they get close to the sun, the heat makes them change, creating a shiny tail that we can sometimes see from Earth. The tails can be millions of miles long.

The largest planet in our solar system is Jupiter. It's orbited by about 95 moons, one of which is called Ganymede. It's even bigger than the planet Mercury.

The diameter (length across) of Saturn is around nine times that of the Earth. Around the planet, different-sized pieces of ice and rocks swirl—some are as large as a car and others are as small as a grain of sand. They are all drawn in by Saturn's gravitational pull, forming distinctive rings as they orbit the planet.

The distances between the sun and the planets change. This is because their orbits around the sun are not circular, but oval-shaped—like a chicken's egg. So the distances between the Earth and the other planets also change.

The surface of Mars contains a lot of iron oxide, which gives it a reddish color. The planet is covered with craters, volcanoes, desert landscapes, and icy polar regions of frozen water and frozen carbon dioxide.

Earth and the planets Mercury, Venus, and Mars have one thing in common—they're all composed of rock and metal. The planets Jupiter, Saturn, Uranus, and Neptune are made mainly of gas.

The Earth is still the only planet that we know supports life.



Size of the planets compared to the sun



The telescope

For many centuries, people believed that the Earth was the center of the universe and all the other celestial bodies, including the sun, moved around it. Galileo Galilei changed our view of the universe forever. In 1610, the great astronomer used a new instrument—the telescope. He wanted to observe Jupiter, and he saw four moons circling the planet. This proved to him that other celestial bodies did not move around the Earth.



The planet Uranus is surrounded by methane, a gas that reflects blue light. This gives it its bluish hue.

Neptune is the outermost planet in our solar system. While the Earth orbits the sun in 365 days, it takes Neptune 165 years.

There is a saying to memorize the order of the the planets from closest to farthest from the sun—My Very Excellent Mother Just Served Us Noodles. The first letter of each word stands for one of the planets!