8 planets and their characteristics

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Our solar system has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. With the exception of Uranus and Neptune, each of these planets can be seen unaided. All eight planets can be see through the use of an inexpensive amateur telescope or binoculars.

Mercury is the closest planet to the sun. It rotates slowly -- about twice for every three orbits it completes. Its cratered surface can experience temperatures upwards of 800 degrees Fahrenheit (426.7 degrees Celsius) because of its proximity to the sun. However, temperatures on the side facing away from the sun are cold -- about -279 F (-173 C). Slightly larger than Earth"s moon, it is the smallest planet in the solar system. It has no moons, no rings, and an atmosphere so thin that scientists classify it as an exosphere.

Earth, the third planet from the sun and the largest terrestrial planet, is the only planet known to host living beings and the only one known to have liquid water on its surface. The atmosphere, made of mostly nitrogen, oxygen and carbon dioxide, is crucial to Earth"s ability to support life. Although the surface of the earth is mostly water, the planet also has large landmasses which harbor a stunning variety of ecosystems.

Further from the sun, past a ring of asteroids, lies the largest planet in our solar system -- Jupiter -- the first of the gas giant planets. Its characteristic colored cloud patterns are caused by enormous, swirling storms in its atmosphere, which consists of primarily of hydrogen, helium, methane ammonia and water ice. The largest and most distinctive of the storms, the Great Red Spot, is larger than Earth. Jupiter has 63 moons and a faint ring system.

Saturn, the sixth planet from the sun, is also a gas giant, and it"s most impressive feature as seen from afar is an extensive and complex ring system. The rings orbit the planet in a thin band about a mile thick. The radius of Saturn is about 9.5 times that of Earth, and instead of one paltry moon, it boasts 62. The interior of Saturn, like Jupiter, is made of mostly hydrogen and helium. Nearing the core, the intense pressure turns the gases into liquids and ultimately into a metallic form that conducts electricity.

While most planets spin on their axis with a slight tilt, the ice giant Uranus spins on an axis parallel to its orbit. With a diameter of 31,518 miles (50,723 kilometers), this cold planet is four times the size of Earth and is made of a large atmosphere of methane with a dense core of frozen methane. Uranus has a faint ring system and 27 moons in its orbit.

The blue planet Neptune is the farthest one from the sun and, like Uranus, is a very cold place. Its surface temperature is a chilly -353 F (-214 C). Because of its distance from the sun and its large orbit, one year on Neptune is 165 Earth years. The atmosphere is mostly methane, which gives the planet its blue color. The cold interior of the planet is mainly methane ice. Like all the outer planets, Neptune, like Uranus, has a diameter roughly four times that of Earth. Thirteen moons and a faint ring system orbit the planet.

The answer to this question is a highly controversial one. This has not always been the case, though. In fact, before 1978 the definition of a "planet" was not really necessary. Until that time a planet simply meant a body in orbit around the Sun, that reflected sunlight, and was not a planetary moon, asteroid, or comet.

When Pluto"s moon Charon was discovered in 1978, scientists were able to calculate Pluto"s mass much more accurately than ever before. They soon realized that it was much smaller than they had previously believed.

At a tiny fraction of the mass of Mercury, Pluto was clearly a body much smaller than any other planet. This discovery led some to question whether Pluto was actually a planet or some other type of object.

In response to this uncertainty, the International Astronomical Union (IAU), the official governing body for matters concerning naming astronomical objects, came to a definition of the term "planet." According to the IAU, a planet is a celestial body that meets the following criteria:

Planets are dwarf planets are two different classifications of astronomical bodies. With the word "dwarf" we are already given the idea that dwarf planets are smaller objects. The other difference lies in their orbits.