

Mercury

Mercury Is the innermost planet in our solar system, and it is not the easiest of planets to observe from earth as it is small (diameter = 4878 km / 3030 miles).

It is always in the same position as the sun and it never comes nearer than 80 million km (50 million miles). The German scientist Johannes Hevelius (1611 - 1687) was one of the first people to observe a transit of the planet Mercury and he also discovered the phases of Mercury.

Most of our information has be collected by the "Mariner 10" space probe sent, Nov 3 1973, past the moon onto Venus, 5 Feb 1974 where it used Venus's Gravity field to approach Mercury. The probe made three successful passes of Mercury before it lost contact with earth (29 March 1974, 21 September 1974, and 16 March 1975). It is the fastest moving planet in our solar system with an average orbital velocity of 47.87 km/sec.

Mercury hasn't much of an atmosphere or rather, none at all as it has a low escape velocity. According to the Mariner 10 space probe its surface pressure is 0.000000001 of a millibar. This barely existent atmosphere consists of trace amounts of hydrogen and helium from the solar wind. In 1991, it was discovered using very powerful radio telescopes that the Mercurian poles contained large sheets of Ice, areas that were unseen by the Mariner 10 space probe. Mercury is the densest planet in our Solar system apart from Earth, because of its iron core 3600 km in diameter. Mercury's weight consists of 70% iron and the other 30% of rock. It has a molten core, a mantle 600-km thick and the Planets crust is made of silicates. The largest known surface feature on Mercury is the Caloris Basin, 1350 km in diameter. The Mariner 10 probe also detected the Mercurian magnetosphere with a surface value of 1% that of Earth's. The magnetic field is inclined at 110%/1iso8859-15 to its rotational axis and has the same polarity as Earth. This magnetic field is just enough to protect the planet from the full force of the solar wind. Mercury has an albedo of 0.06 and this is because the surface consists of a dark coloured, rough, porous rock that does not reflect much light. Mercurian climate indicates that there is little chance of life forms developing on the planet.

Due to the small difference between Mercury's orbital period and its rotational period, the interval between night and day to an observer on the planet, would be 88 Earth days. There are a few peculiarities with the planet. Due to the orbital eccentricity the temperature received at perihelion is 2.5 times that of the heat received at the aphelion. To an observer situated on the planets hot pole at aphelion when the sun is rising it will approach the zenith getting larger as it does so, but because the orbital angular velocity is for a time, greater than the constant spin angular velocity, the sun will appears to stop, retreat backward for 8 Earth days, stop again and then resume its original course.

Planet Data

Diameter 4878 km (3030 miles)

Sidereal Period 87.969 days

Axis Rotation (days, hours, minutes) 58.6461 days

Surface temperature 350°C (Day) ; -170°C (night)

Albedo 0.06

Tilt 0

Visual Magnitude -1.9