Mercury 2 Essay, Research Paper

Mercury

Mercury is the eighth largest planet in our solar system, equaling roughly one-third of Earth s size. It is also the planet closest to the sun, and is often visible with binoculars, or even the naked eye. It s difficult to see in the twilight sky. One of Mercury s most distinguishable features is its rugged surface, which is similar to the surface of the Earth s moon.

In Roman mythology, Mercury is the god of commerce and thievery. He is considered the Roman counterpart of the Greek god Hermes, the messenger of the Olympian gods. The planet probably received this name because it moves so quickly across the sky. Mercury has been known since at least the time of the Sumerians. The Greeks gave Mercury two names: Apollo for its apparition as a morning star, and Hermes as an evening star. Greek astronomers knew, however, that the two names referred to the same body.

Since Mercury is a smaller planet, extremely close to the sun, and has no substantial atmosphere, it has the greatest temperature range of any planet or natural satellite in our solar system. The surface temperature on the side of Mercury closest to the Sun reaches 427 degrees Celsius, a temperature hot enough to melt tin. On the side facing away from the Sun, or the night side, the temperature drops to -183 degrees Celsius. Scientists have detected a magnetic field surrounding Mercury, though it is not as strong as the field around the Earth. Scientists theorize that Mercury’s field is due to an iron-bearing core or possibly to the solar winds. Mercury’s atmosphere is very thin and is composed of helium and sodium. The surface of Mercury has been shaped by three processes: impact cratering where large objects struck the surface resulting in crater formation, volcanism where lava flooded the surface, and tectonic activity where the planet’s crust moved in order to adjust to the planetary cooling and contracting. Mercury does not have any naturally occurring satellites.

Due to Mercury’s rotation and highly elliptical orbit, the Sun appears to rise briefly, set, and rise again before it travels westward across the sky. At sunset, the Sun appears to set, rise again briefly, and then set again.

Mariner 10, after passing Venus and making the first ultraviolet images of its clouds and being the first to conduct a gravity assist to another planet, traveled to Mercury and made three fly-bys of it in 1974 and 1975, before its attitude fuel was exhausted. Mariner 10 showed that Mercury was heavily cratered, and that it looked just like the Moon. Mariner 10 also showed that Mercury’s mass was much larger than it was previously thought to be. This seemed to indicate that Mercury’s core is composed primarily of iron, and that it makes up about seventy-five per cent of the planet. Further support for this lies in the fact that Mercury was discovered to generate a magnetic field. Earth’s magnetic field is formed by its liquid iron core, so scientists believe that this may generate Mercury’s, too. Mariner 10 only photographed part of Mercury, but scientists believe that there is no reason to think that the remainder is any different.