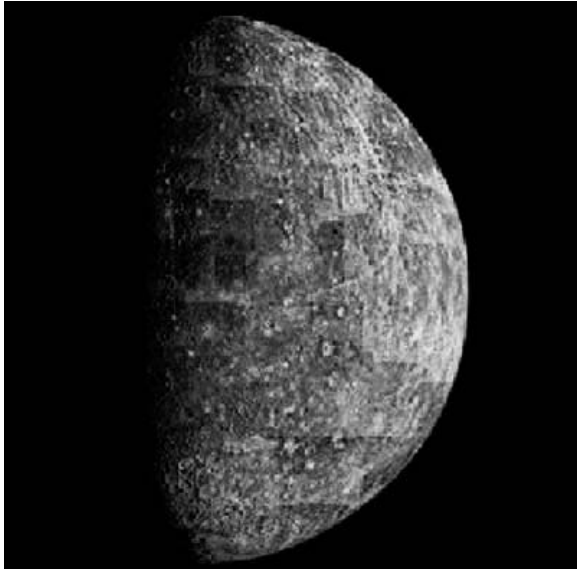


MERCURY - THE ELUSIVE PLANET



Mercury is the closest planet to the Sun. Since it never strays far in the sky from the Sun's glare, early astronomers had a difficult time viewing it, and considered it a "wandering star" appearing just before sunrise or just after sunset.

Mercury travels around the Sun faster than any other planet. During one year on Earth, Mercury makes over four orbits around the Sun. On the other hand, Mercury rotates slowly around its axis—almost 60 times more slowly than Earth. The amazing outcome is that a single day (e.g., sunrise to sunrise) on Mercury takes two of Mercury's years.

Mercury's orbit around the Sun is much more oval-shaped ("eccentric") than Earth's. This means that unlike the Earth, whose distance from the Sun does not vary much during the year, Mercury's distance from the Sun varies by about 40% during its year. As a result, the size of the Sun seen from Mercury's surface changes by about 40%—and it is always more than twice as big as we see it from Earth!

Mercury is the second smallest planet in the Solar System, larger only than Pluto and not much bigger than our Moon. The surface of Mercury is very Moon-like, covered with ancient craters, while its interior is like Earth's, with a large core of iron. Mercury has a thin atmosphere, and no moons of its own. It is a world of extreme temperatures in which the surface can heat to over 450°C (850°F) during the day and cool to -180°C (-300°F) at night. The huge daily temperature changes take place because Mercury's atmosphere is so tenuous that it is virtually a vacuum and cannot moderate the temperatures like Earth's atmosphere does. For the same reason, even though much of the atmosphere on Mercury is made of oxygen, you would not be able to breathe there—there just is not enough oxygen to fill your lungs. One breath on Mercury would give you less than one hundred trillionth of the mass of the air you breathe in at sea level on Earth!

Some basic facts about Mercury

<u>Characteristic</u>	<u>Actual value</u>	<u>Compared to Earth</u>
Diameter	4900 km	38% of Earth's diameter
Mass	3.3×10^{23} kg	6% of Earth's mass
Mean density	5400 kg/m ³	About the same as Earth's
Moons	None	One (The Moon)
Orbital period	88 Earth days	1/4 of Earth's
Rotation period (around its axis)	59 Earth days	59 times longer than Earth's
Length of one day (sunrise to sunrise)	176 Earth days	176 times longer than Earth's
Average distance from the Sun	58 million km	0.39 AU (Sun-Earth distance)
Magnetic field	Yes	Weaker than Earth's
Atmosphere	Extremely tenuous	Virtually a vacuum in comparison
Average surface temperature	170°C (330°F)	150°C (270°F) hotter than Earth's

