

Our Moon



Diameter: 2,160 miles; 3,476 km which is 27.3% of Earth's diameter

Volume: 2.03% of Earth's volume

Mass: 1.62×10^{23} pounds; 7.35×10^{22} kg (1.23% of Earth's mass)

Surface Area: 7.4% of Earth's surface area

Average Density: 3.34 gm/cm³ (water is 1.00 gm/cm³)

Gravity: 0.165 times the gravity of Earth

Escape Velocity: 1.5 miles/sec (5,369 miles/hour); 2.4 km/sec

Average Distance from Earth (measured from the centers of both bodies):
238,856 miles; 384,401 km; 1.3 light-seconds

Closest Distance to Earth: 221,457 miles; 356,400 km

Farthest Distance from Earth: 252,711 miles; 406,700 km

Eccentricity of Orbit: 0.055 or 0.16% as defined on page 24.

Sidereal Revolution Period (One Complete Orbit): 27.322 days

Synodic Revolution (New Moon to New Moon Period):

29 days, 12 hours, 44 minutes, 3 seconds

Average Orbital Velocity: 2,287 miles/hr; 3,681 km/hr

Arc Degrees of Movement in Sky: 0.51° per hour; 12.2° per day

Inclination of Orbit to Earth's Orbit: 5.1°

Rotation Period of Nodes: 18.61 years. The nodes represent the "line" created by the "intersection" of the Moon's orbit to Earth's. Its rotation plays a major role in the frequency of eclipses.

Rotation Period on Axis: The rotational period is the same as the Synodic Revolution, thus the same side of the Moon always faces Earth.

Inclination of Axis: 6.7° to its orbital plane

Albedo: reflects 11% of sunlight

Magnitude at Full Moon: -12.6

Temperature Range: -300° F (-184° C) to 266° F (130° C);

Poles remain at a constant -140° F (-96° C);

One meter under the surface remains at a constant -31° F (-35° C)

Surface Elevation Range: 11 miles; 17.7 km (lowest to highest points).

Both points are located on the far side. The coordinates for the lowest and highest points are not known precisely but one set is as follows:
lowest [70° S, 171° E], highest [3.4° N, 160° E].

Surface Soil (Regolith) Composition: Oxygen 42%, Silicon 21%, Iron 13%, Calcium 8%, Aluminum 7%, Magnesium 6% and Other 3%.
The Moon's surface has slightly more Iron, Calcium and Magnesium than on Earth's surface.

Age: a little less than 4.6 billion years

Facing page. An image of the Moon from the Galileo spacecraft on its journey to Jupiter in 1992.