

Our Planet Earth



Equatorial Diameter: 7,926.4 miles; 12,756.3 km

Polar Diameter: 7,899.8 miles; 12,713.5 km

Mass: 1.317×10^{25} pounds; 5.974×10^{24} kg

Average Density: 5.52 gm/cm^3 (water is 1.00 gm/cm^3)

Inclination of Axis to Orbit: 23.4393° with North Pole pointing roughly to the star Polaris in the constellation Ursa Minor (Little Dipper)

Precession of Axis: 50.29" a year around a 47° diameter circular arc. Total precession period is about 25,800 years.

Day: Synodic day (time used for clocks) is 86,400 seconds or 24 hours. Sidereal day (one complete rotation on its axis) is 86,164.1 seconds or 23 hours, 56 minutes, 4.1 seconds.

Year: 365.2564 days; 365 days, 6 hours, 9 minutes, 10 seconds

Distances from the Sun: **Average:** 92,955,800 miles; 149,597,870 km; 8.3 light-minutes. This distance is also known as an astronomical unit.

Closest: 91,403,000 miles; 147,099,000 km occurring on (or near) January 4th. **Farthest:** 94,508,000 miles; 152,096,000 km occurring on (or near) July 4th.

Average Orbital Speed: 18.5 miles/sec (66,600 miles/hour); 29.8 km/sec

Eccentricity of Orbit: 0.017 (from the mathematical definition of eccentricity) or 0.015% as defined in the Orbital table on page 24

Acceleration of Gravity at Sea Level: 32.2 feet/sec^2 ; $9.81 \text{ meters/sec}^2$

Escape Velocity at Equator: 6.96 miles/sec (25,000 miles/hour); 11.2 km/sec

Albedo: reflects 37% of sunlight or greater depending on cloud cover

Temperature Range: averages 59° F (15° C); highest recorded, 136° F (58° C); lowest recorded, -129° F (-89° C)

Pressure at Sea Level: 1 atmosphere (1 bar); 14.7 pounds/inch²; 760.0 mm-Hg (mercury); 101.3 kPascals

Speed of Sound at Sea Level: 1,087 feet/sec (741.5 miles/hour); 331.5 meters/sec

Elevations: Mount Everest: 29,028 feet (5.5 miles); 8,848 meters.

Marianas Trench: 36,198 feet (6.9 miles); 11,033 meters

Coordinates of Magnetic Poles: North Magnetic Pole: 76° N , 101° W ; South Magnetic Pole: 66° S , 140° E

Composition of Atmosphere: 77% Nitrogen, 21% Oxygen, 1% Water, 0.9% Argon with traces of many other gases

Thickness of Atmosphere: 75% of the atmosphere lies within 7 miles (11km) of sea level and "ends" at a height of 62 miles (100 km)

Land & Sea: 29% of the surface is land and 71% ocean

Core: The Earth has an outer liquid core with a diameter of about 4,350 miles (7,000 kilometers) containing an inner solid core having a diameter of about 1,500 miles. Both cores are predominately Iron, but contain some Nickel and other lighter elements with temperatures reaching as high as $9,000^\circ \text{ F}$.

Age: about 4.6 billion years

Facing page. Earth during the Apollo 17 Moon mission in 1972.