

Sun

The glowing heart of our system

The Sun contains almost all the Solar System's mass. In its core, hydrogen fusion releases the energy that lights and warms the worlds around it.

Type	G2 V star
Diameter	1,392,700 km
Mass (Earth = 1)	332,946 Earth masses
Average distance	Centre of the Solar System
Orbital period	≈ 230 million years around the Milky Way
Rotation	≈ 25 days at the equator
Temperature	≈ 5,500 °C at the surface
Main orbiting bodies	8 planets orbit the Sun

Compare with Earth

About 109 Earths placed side by side would span its diameter.

Understanding the Sun

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Composition and interior

The Sun is about 73% hydrogen and 25% helium by mass, with small amounts of oxygen, carbon, neon and iron. In its core, temperature and pressure allow hydrogen to fuse into helium.

Atmosphere and environment

The photosphere is the visible surface. Above it lie the chromosphere and the much hotter, extensive corona. The solar wind carries charged particles and shapes the heliosphere, a bubble surrounding the planets.

Exploration

Parker Solar Probe passes through the corona to measure particles and magnetic fields close to the Sun. Solar Orbiter observes its polar regions and the origins of the solar wind.

A remarkable fact

The Sun is not solid: its plasma rotates faster at the equator, taking about 25 days, than at the poles, where a rotation takes nearly 35 days. This is called differential rotation.

Sources and limitations

NASA Science: <https://science.nasa.gov/sun/facts/>

Online fact sheet: <https://systeme-solaire-3d.fr/en/soleil>

Values are rounded. The artistic view changes sizes and distances for readability. Check dated information before reusing it.