

How do you measure distances in the universe?



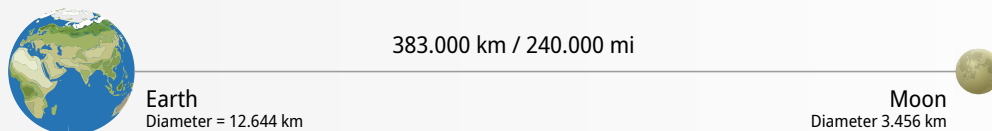
Space is HUGE! We can't even begin to imagine how far far is in space! But what we can do is learn about the units of measurement we use for distances in space. Luna has written you a quick overview!

Measurable in kilometres (km): The distance between the Earth and the Moon is approximately the distance covered by a good car over its lifetime, on average 383,000 km.

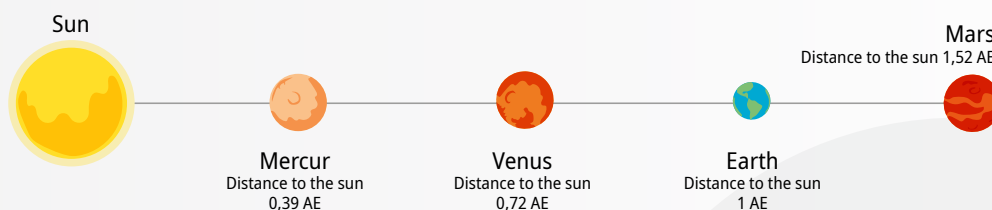
Measurable in astronomical units (AU): The distance of the Earth from the Sun is one AU, an „astronomical unit“. That is 149 million km. The AU is primarily used as a unit of measurement for distances within the solar system.

Measurable in light years (LJ): A light year is the distance (length) that light travels in one year in the vacuum of space. That is $9.46 \times 10^{15} \text{ m} = 9,460,000,000,000 \text{ (9.46 trillion) km}$. Or 63,490 AU.

The distance between the Earth and the Moon

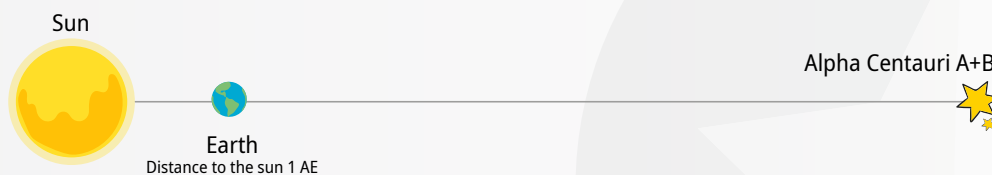


The distance between the Earth and the Sun is 149 million kilometers or 1 astronomical unit (AU)



The distance between stars

The distance between the Sun and the nearest star is about 4.3 light years, or about 40 billion km.



The distance between the galaxies

