



- What is space?

Space is defined as the space between celestial bodies, and it is called the term outer space to distinguish it from the air space that resides around the globe, and space can also be defined from a physical perspective as a three-dimensional, unlimited space, in which objects take a relative position and direction.

- Distance of Outer Space from Earth
Outer space is about 100 km or more from Earth.

- The area of outer space

it is worth noting that it is not possible to accurately determine the area of outer space, due to the difficulty faced by specialized detectors, as the long distances in space are measured in light years, which means the distance that light travels in one year, and is estimated at about 9.3 trillion km.

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Space maths



Milky Way Galaxy

The size of our Milky Way Galaxy is about 1 000 000 000 000 000 000 kilometers



Our star, the Sun, weighs about 2 000 000 000 000 000 000 kilograms.

Andromeda

The nearest galaxy to the Milky Way, Andromeda, is about 24 000 000 000 000 km away from the Earth.

Light Reach To Moon

The fastest thing in the Universe is light. The light takes 1 second to get to the Moon but 100 000 years to travel across our Milky Way galaxy

SO WHAT KIND OF MATH PROBLEMS CAN CHILDREN BE WORKING ON?

sizes of space

The first problem that comes to mind is to compare the sizes of the space objects. How many Moons do you need to put one on top of the Earth so that the "Moon tower" is as tall as the Earth? How many Earths do you need to make the tower as tall as the Sun? And combining the two, how many Moons will make the "Moon tower" as tall as the Sun?

Kids will definitely enjoy figuring out how long it will take them to travel to other planets or even to the Sun riding different animals! Golden Eagle can cover 300 km in an hour. Cheetah, the fastest land runner, can cover 100 km in an hour. Maybe they fancy riding an ostrich (96 km/h)? Or a komodo dragon (20 km/h)? Or a dolphin (65 km/h)?

When the children learn the concept of volume, they can work on the same problem in 3D. How many Moons will fit inside the Earth? How many Jupiters will fill the Sun? The variation of the first problem can be called "balance the scale". It involves comparing masses of different planets and moons.

The "swap around" problems give a good idea of sizes and distances! For instance, we place Saturn to where the Earth is now, how far the Moon would be from Saturn? How far the Moon would be from Saturn's rings?



First Human

Neil Armstrong, the first astronaut to land on the Moon, took about 3 days to get there



We often refer to our expanding universe with one simple word: space. But where does space begin and, more importantly, what is it?

Space is an almost perfect vacuum, nearly void of matter and with extremely low pressure. In space, sound doesn't carry because there aren't molecules close enough together to transmit sound between them. Not quite empty; bits of gas, dust and other matter floats around "emptier" areas of the universe, while more crowded regions can host planets, stars and galaxies.

From our Earth-bound perspective, outer space is most often thought to begin about 62 miles (100 kilometers) above sea level at what is known as the Kármán line. This is an imaginary boundary at an altitude where there is no appreciable air to breathe or scatter light. Passing this altitude, blue starts to give way to black because oxygen molecules are not in enough abundance to make the sky blue.

Ghala abu mandeod

No one knows exactly how big space is. It's difficult to determine because of what we can see in our detectors. We measure long distances in space in "light-years," representing the distance it takes for light to travel in a year (roughly 5.8 trillion miles (9.3 trillion kilometers)).

From the light that is visible in our telescopes, we have charted galaxies reaching almost as far back as the Big Bang, which is thought to have started our universe about 13.8 billion years ago. This means we can "see" into space at a distance of almost 13.8 billion light-years. But the universe continues to expand, making "measuring space," even more challenging.

Additionally, astronomers are not totally sure if our universe is the only one that exists. This means that space could be a whole lot bigger than we even think.

THE UNIVERSE

And the big bang Theory

The universe is all of space and and their contents, including planets, stars, galaxies, and all other forms of matter and, energy.

The Big Bang theory is the prevailing cosmological description of the development of the universe. According to this theory, space and time emerged together 13.787 ± 0.020 billion years ago, and the universe has been expanding ever since the Big Bang.

In 1927, an astronomer named Georges Lemaître had a big idea. He said that a very long time ago, the universe started as just a single point. He said the universe stretched and expanded to get as big as it is now, and that it could keep on stretching.

The universe is a very big place, and it's been around for a very long time. Thinking about how it all started is hard to imagine

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