



What is the most common gas in the atmosphere?

Nitrogen and oxygen are by far the most common gases in our atmosphere. Dry air is composed of about 78% nitrogen ( $N_2$ ) and about 21% oxygen ( $O_2$ ). The remaining less than 1% of the atmosphere is a mixture of gases, including argon (Ar) and carbon dioxide ( $CO_2$ ). The atmosphere also contains varying amounts of water vapor, on average about 1%.

What is the abundance of elements in the Sun and outer planets?

The abundance of elements in the Sun and outer planets is similar to that in the universe. Due to solar heating, the elements of Earth and the inner rocky planets of the Solar System have undergone an additional depletion of volatile hydrogen, helium, neon, nitrogen, and carbon (which volatilizes as methane).

Which planets are called gas giants?

The planet Jupiter, Saturn, Uranus and Neptune are sometimes called the Gas Giants because so much of the mass of these planets consists of a gaseous atmosphere. These bodies generally lie far from the sun. The low-percentage objects are among the smallest bodies in the solar system.

What is the largest body in the Solar System?

With the exception of Mercury, which has a very thin atmosphere, the high-percentage objects are the largest bodies in the solar system. The planet Jupiter, Saturn, Uranus and Neptune are sometimes called the Gas Giants because so much of the mass of these planets consists of a gaseous atmosphere. These bodies generally lie far from the sun.

What are solar elemental abundances?

Solar elemental abundances, or solar system elemental abundances refer to the complement of chemical elements in the entire solar system. The sun contains more than 99-percent of the mass in the solar system and therefore the composition of the sun is a good proxy for the composition of the overall solar system.

Which planet has the greatest percentage of oxygen in its atmosphere?

Answer: From the table we see that Mercury has the greatest percentage of oxygen in its atmosphere.

Problem 4 - Which planet has the atmosphere with the greatest number of kilograms of oxygen? Answer:

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Only two planets have detectable oxygen: Earth and Mercury.



The fact that there are two distinct kinds of planets???the rocky terrestrial planets and the gas-rich jovian planets???leads us to believe that they formed under different conditions. Certainly their compositions are dominated by different elements. Throughout the outer solar system, we find abundant water (mostly in the form of ice) and



Study with Quizlet and memorize flashcards containing terms like the planets in our solar system are thought to have come from a) clumps of rocky material that exist between stars b) the same cloud of gas and dust in which the sun formed c) the sun (they were flung out from the spinning sun) d) a cloud of gas in the orion nebula, as the solar nebula collapsed, it became a disk ???



The second most abundant constituent of the earth's atmosphere. H<sub>2</sub>O water. The earth has lots. There is a lot of the frozen kind in the outer parts of the solar system. NH<sub>3</sub> ammonia. A smelly gas. Makes Neptune blue. CH<sub>4</sub> methane. An odorless gas. ``Natural gas'' used in gas stoves is mostly methane. (The gas company adds something to it so

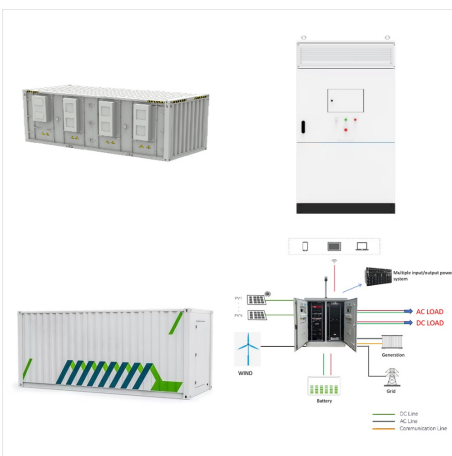
# MOST ABUNDANT GAS IN THE SOLAR SYSTEM



Throughout the outer solar system, we find abundant water (mostly in the form of ice) and reducing chemistry. The Terrestrial Planets. The terrestrial planets are quite different from the giants. In addition to being much smaller, they are composed primarily of rocks and metals.



A gas giant is a giant planet composed mainly of hydrogen and helium. [1] Jupiter and Saturn are the gas giants of the Solar System. The term "gas giant" was originally synonymous with "giant planet". However, in the 1990s, it became known that Uranus and Neptune are really a distinct class of giant planets, being composed mainly of heavier volatile substances (which are ???)



Why is Earth's location in the solar system ideal for the development of higher life forms? there was a cloud of gas and dust. The nebular cloud begins to contract and become a flattened, rotating cloud. Over time, planetesimals form by way of accretion and these planetesimals eventually become planets. Identify the most abundant gases

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The solar system consists of the sun, the eight planets and several other miscellaneous objects, such as comets, asteroids and dwarf planets. The most abundant elements among these objects are hydrogen and helium, primarily because the sun and the four largest planets are predominantly made up of these two elements.



Saturn and Jupiter are two of the most abundant elements in the solar system. They are both giant planets with massive cores of hydrogen and helium. Saturn's surface to atmosphere interface is rather vague, and the core of the gas giant is most likely made up of a rocky core surrounded by a liquid. Like the other gas giants, Saturn's



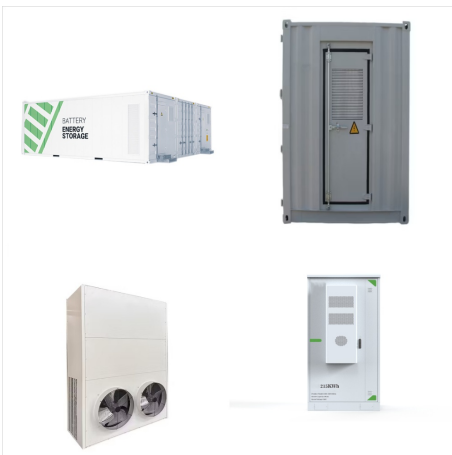
According to our present theory of solar system formation, which of the following lists the major ingredients of the solar nebula in order from the most abundant to the least abundant? hydrogen and helium gas; hydrogen compounds; rock; metal



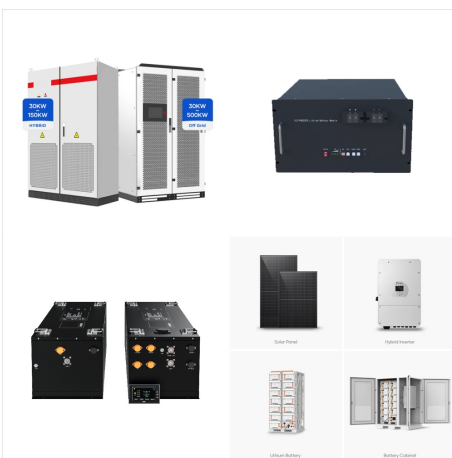
# MOST ABUNDANT GAS IN THE SOLAR SYSTEM



As most information is for the atmospheres of Jupiter (and Saturn), we focus on the largest planet in the solar system. Jupiter has a mass ( $M_J$ ) of about  $10^{-3}$  that of the Sun, or approximately 318 times that of the Earth ( $M_E$ ). Saturn is the second most massive gas giant planet with a mass of about 95  $M_E$ . Although quite massive relative to the Earth and other planets in our solar ???



In the outer solar system, gases dominate the two largest planets, Jupiter and Saturn, hence their nickname "gas giants." Uranus and Neptune are called "ice giants" because their interiors contain far more of the "ice" component than their larger cousins. The chemistry for all four giant planet atmospheres is dominated by hydrogen.



As a result, thanks to the life on its surface, Earth finds itself with a great deficiency of ( $\text{ce}\{\text{CO}_2\}$ ), with nitrogen as the most abundant gas, and the only planetary atmosphere that contains free oxygen. In the outer solar system, Titan is ???

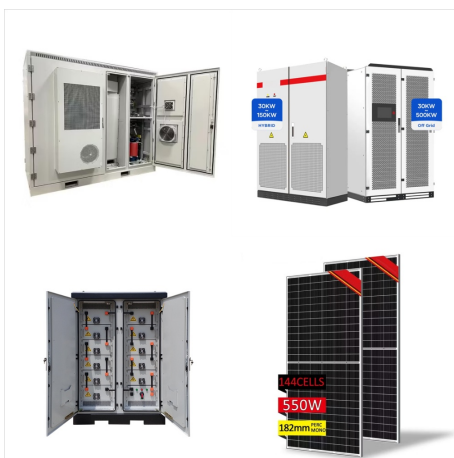
# MOST ABUNDANT GAS IN THE SOLAR SYSTEM



Water vapor is Earth's most abundant greenhouse gas. It's responsible for about half of Earth's greenhouse effect ??? the process that occurs when gases in Earth's atmosphere trap the Sun's heat. Greenhouse gases keep our planet livable. Without them, Earth's surface temperature would be about 59 degrees Fahrenheit (33 degrees Celsius) colder. Water vapor ???



In this chapter, we discuss the chemical make-up of planets using the compositional relationship between stars and their planets. In ? 2, we first describe the standard way that the abundances of elements within stars are measured. We then explain those instances where the 1-to-1 chemical relationship between a star and planet has been tested and verified.



It might mean life, it might mean unusual geologic activity; whichever it is, the presence of methane in the atmospheres of Mars and Titan is one of the most tantalizing puzzles in our solar system

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With the exception of Mercury, which has a very thin atmosphere, the high-percentage objects are the largest bodies in the solar system. The planet Jupiter, Saturn, Uranus and Neptune are sometimes called the Gas Giants because so much of the mass of these planets consists of a ???



Solar is the most abundant, fastest, and cheapest energy source on Earth, and it generates minimal greenhouse gas emissions. In fact, a coal power plant releases on average 25 times more emissions than the ones produced by a solar power system. Similarly, a natural gas power plant, despite being less polluting than coal, still generates 10



The Most Abundant Element in the Universe. Hydrogen is by far the most abundant element, accounting for about 92% of the atoms in the universe. The next-most abundant element is helium, accounting for 7.1% of the universe's atoms. In general, the universe contains more atoms of elements with lighter atomic masses than atoms of heavier elements.

# MOST ABUNDANT GAS IN THE SOLAR SYSTEM



What is the most abundant gas in the solar system?  
a. Helium b. Oxygen c. Carbon d. Iron e. Hydrogen  
Which of the following refers to the force that holds the solar system together?  
a. Fusion b. Solar wind  
c. Gravity d. Orbit e. Matter



Study with Quizlet and memorize flashcards containing terms like The most abundant elements in the universe are hydrogen and helium, but there are also small but significant amounts of heavier elements in stars and planets and in our own bodies. Where did these heavy elements originate?, The phrase "Jeans instability" refers to the tendency of, What is believed to have been the ???



The observed elemental abundances in the Solar System are given in the table at the bottom of this page as the number of atoms of the listed element divided by the number of the hydrogen atoms. While the most abundant elements are hydrogen (H) and helium (He), reflecting the equilibrium composition of the early universe, the high abundances



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The abundance of most elements in the Sun can be determined from absorption lines in the spectrum of the solar photosphere, the visible outer 300 km of the Sun. Determining solar abundances from the absorption spectra is a complicated procedure, which requires models of the solar atmosphere and the line formation process (e.g., Asplund et al



A giant planet, sometimes referred to as a jovian planet (Jove being another name for the Roman god Jupiter), is a diverse type of planet much larger than Earth. Giant planets are usually primarily composed of low-boiling point materials (), rather than rock or other solid matter, but massive solid planets can also exist. There are four such planets in the Solar System: Jupiter, Saturn, Uranus



Oxygen is the most abundant element on Earth, accounting for almost half the planet's mass. Of its three stable isotopes, oxygen 16 makes up 99.762 percent of oxygen on Earth, while heavier oxygen

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Chemical element - Cosmic Abundances, Elements, Periodic Table: The relative numbers of atoms of the various elements are usually described as the abundances of the elements. The chief sources of data from which information is gained about present-day abundances of the elements are observations of the chemical composition of stars and gas clouds in the Galaxy, ???



The solar wind pushed the majority of the gases into the outer regions of the solar system. The top three most abundant elements on Earth in terms of quantity of atoms are: oxygen, silicon, and