

SCIENCE TOPIC: WATER IS LIFE

Tulkinov Davron Khurshidovich
Student of the Specialized School Named After
Abu Ali ibn Sina

Abstract

Water is a vital resource for all organisms on Earth. It plays a key role in many biological processes such as nutrition, respiration, thermoregulation and waste elimination. Without water, living organisms cannot exist, which is why it is often called liquid gold. Water is also an essential component for maintaining ecosystems and biodiversity on the planet. However, threats of pollution and water resource depletion threaten life on Earth, so it is important to take good care of this valuable resource.

Introduction

Abu Ali ibn Sino, a great scientist and thinker, emphasizes that water is a source of healing the sick and maintaining the health of society.

Water (hydrogen oxide, hydrogen hydroxide, chemical formula - H_2O) is a binary inorganic compound, the molecule of which consists of two hydrogen atoms and one oxygen atom, which are connected by a covalent bond. Under normal conditions, it is a transparent liquid that has no color (with a small layer thickness), odor or taste. In the solid state it is called ice (ice crystals can form snow or frost), and in the gaseous state it is called water vapor. Water can also exist in the form of liquid crystals (on hydrophilic surfaces).

According to the condition they are distinguished:

"solid" - ice

"liquid" - water

"gaseous" - water vapor.



At normal atmospheric pressure (760 mmHg, 101,325 Pa), water becomes a solid at 0°C and boils (turns into water vapor) at 100°C (the values of 0°C and 100°C were chosen as corresponding to the temperatures of ice melting and water boiling when creating the "Celsius" temperature scale). As pressure decreases, the melting temperature of ice slowly increases, and

the boiling point of water decreases. At a pressure of 611.73 Pa (about 0.006 atm), the boiling and melting points coincide and become equal to 0.01°C. This pressure and temperature is called the triple point of water. At lower pressures, water cannot be liquid and ice turns directly into steam. The sublimation temperature of ice drops with decreasing pressure. At high pressure, there are modifications of ice with melting temperatures above room temperature.

Facts:

- Pure water is a dielectric. It conducts current only due to impurities.
- A person dies with the loss of only 12% of water in the body. And with a loss of 10%, he experiences hallucinations.
- On Earth, only 1.1% of the total water supply is suitable for drinking. Most of the fresh water is contained in glaciers
- Water absorbs and scatters light. This is why the ocean appears blue.
- Hot water cools and freezes faster in the cold than cold water. This phenomenon is called the Mpemba effect.
- Scientists distinguish not 3 states of water (solid, liquid and gaseous), but more than 20. Under certain conditions, this substance can become glassy, super-viscous, and viscous.
- More than 70% of all water that humans use on Earth is used in the agricultural sector. 22% comes from industrial consumption.
- There is no common chemical compound with the formula H₂O in nature. Water always contains salts and other substances.
- The most expensive drinking water sells for \$90 per liter in the USA. The liquid from the ornate bottles is said to have the perfect acidity.
- Water is the only substance that we can easily find in three states of aggregation under natural conditions. Everyone has seen it in solid, liquid and gaseous form.
- WHO has recognized that up to 80% of all known diseases may be due to consumption of poor quality water. In the century before last, Louis Pasteur came to similar conclusions.
- With age, a person literally “shrinks out.” An embryo contains 94% fluid, a child contains 80%, and an elderly person contains about 60%.
- In prosperous countries, one person uses more than 100 liters of water per day. In the Middle Ages, a European resident got by with 5 liters a day.
- Some researchers claim that water has memory. Even if you cleanse it of all kinds of impurities, it will “remember” its past. This explains the effect of homeopathic remedies in minimal concentration. However, official science has not yet recognized such an amazing property of water.
- Lack of fluid in the body is often masked by hunger. If you feel like you're not getting enough, think about the last time you drank plain water.

Why do you need to drink water?

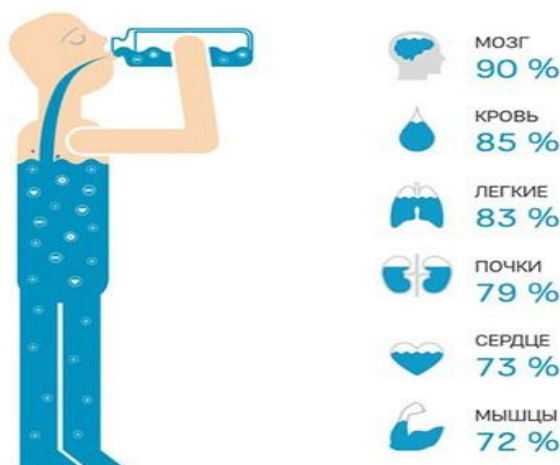
1. supply of nutrients to all organs;
2. providing oxygen to the lungs;
3. maintaining heart function;
4. release of processed substances;



5. ensuring the stability of the internal environment;
6. maintaining temperature within normal limits;
7. maintaining an immune system capable of resisting disease.

The role of water in the body.

Since the 20th century, the problem of shortage of fresh drinking water has been considered as a global problem of our time. The world's population is growing rapidly and at the same time the need for clean drinking water is increasing.



VANGON

Drinking water shortages are associated with the effects of climate change, human activities leading to the reduction of water resources through pollution of freshwater ecosystems, as well as the effects of urbanization and land use changes.

About 1/5 of the world's population lives in areas with serious shortages of clean drinking water. In addition, 1/4 of the population lives in developing countries that experience water shortages due to the lack of infrastructure necessary to extract it from aquifers and rivers.

One of the main problems is fresh water pollution, which significantly reduces its reserves. This pollution is contributed by industrial emissions and runoff, fertilizer runoff from fields, and the intrusion of salt water in coastal areas into aquifers due to groundwater pumping. Lack of clean water forces people to drink water from unsafe sources, which carries an increased risk of health damage. Consumption of contaminated fresh water leads to deterioration of living conditions and the development of serious diseases, including death.

Conclusion:

Water is truly the most important resource for life on Earth. It must be protected and used effectively to ensure the vital functions of all organisms and preserve the planet's ecosystems. Proper water use, purification and sustainable water management are key to maintaining the health of the planet and ensuring the well-being of future generations. Water is a valuable resource that must be preserved and protected!



References

1. <https://vencon.ua/articles/zachem-nuzhno-pit-vodu-osnovnye-vazhnye-prichiny>
2. <https://4kapli.ru/blog/obshchie-stati/15-interesnykh-faktov-o-vode/>
3. [https://ru.wikipedia.org/wiki/%D0%92%D0%BE%D0%B4%D0%B0#:~:text=%D0%92%D0%BE%D0%B4%D0%B0%CC%81%20\(%D0%BE%D0%BA%D1%81%D0%B8%D0%B4%20%D0%B2%D0%BE%D0%B4%D0%BE%D1%80%D0%BE%D0%B4%D0%B0%2C%20%D0%B3%D0%B8%D0%B4%D1%80%D0%BE%D0%BA%D1%81%D0%B8%D0%B4%20%D0%B2%D0%BE%D0%B4%D0%BE%D1%80%D0%BE%D0%B4%D0%B0,%D1%81%D0%BE%D0%B5%D0%B4%D0%B8%D0%BD%D0%B5%D0%BD%D1%8B%20%D0%BC%D0%B5%D0%B6%D0%B4%D1%83%20%D1%81%D0%BE%D0%B1%D0%BE%D0%B9%20%D0%BA%D0%BE%D0%B2%D0%B0%D0%BB%D0%B5%D0%BD%D1%82%D0%BD%D0%BE%D0%B9%20%D1%81%D0%B2%D1%8F%D0%B7%D1%8C%D1%8E](https://ru.wikipedia.org/wiki/%D0%92%D0%BE%D0%B4%D0%B0#:~:text=%D0%92%D0%BE%D0%B4%D0%B0%CC%81%20(%D0%BE%D0%BA%D1%81%D0%B8%D0%B4%20%D0%B2%D0%BE%D0%B4%D0%BE%D1%80%D0%BE%D0%B4%D0%B0%2C%20%D0%B3%D0%B8%D0%B4%D1%80%D0%BE%D0%BA%D1%81%D0%B8%D0%B4%20%D0%B2%D0%BE%D0%B4%D0%BE%D1%80%D0%BE%D0%B4%D0%B0,%D1%81%D0%BE%D0%B5%D0%B4%D0%B8%D0%BD%D0%B5%D0%BD%D1%8B%20%D0%BC%D0%B5%D0%B6%D0%B4%D1%83%20%D1%81%D0%BE%D0%B1%D0%BE%D0%B9%20%D0%BA%D0%BE%D0%B2%D0%B0%D0%BB%D0%B5%D0%BD%D1%82%D0%BD%D0%BE%D0%B9%20%D1%81%D0%B2%D1%8F%D0%B7%D1%8C%D1%8E).
4. <https://ru.wikipedia.org/wiki/%D0%92%D0%BE%D0%B4%D0%B0>
5. <https://infourok.ru/prezentaciya-na-temu-vodaeto-zhizn-2780298.html>

