

What is Water?



Like air, water is essential for life. Without water we cannot survive for more than a few days. Human beings, trees, plants and animals all need water for their survival. Perhaps, that is why nature has covered more than seventy percent of the earth's surface with water. About 97% of water on earth is in the oceans.

Water is a compound of hydrogen and oxygen. It contains two parts of hydrogen and one part of oxygen by volume. Pure water is colorless, odorless and tasteless. We get water from rivers, lakes, fountains, wells, rains, oceans etc. Water exists in three states—solid, liquid and gaseous. Normally it is found in liquid state, but when it is cooled to zero degree centigrade, it freezes into ice. When it is heated to 100°C , it is converted into steam.

Water obtained from nature is not pure, but contains many salts and minerals dissolved in it. Due to these impurities, water develops some taste. Some of the impurities make water hard. Hard water does not form lather with soap. The hardness of water is of two types—temporary and permanent. Temporary hardness is due to the presence of bicarbonates of calcium and magnesium. It is removed by boiling the water. Permanent hardness is caused by the presence of chlorides and sulphates of calcium and magnesium. This hardness is removed by mixing sodium carbonate in water.

Water has many fascinating properties. For example, ice is lighter than water. That is why ice and big icebergs float on water. Water has the highest density at 4°C . Due to this property, during winter, only the upper surface of water in lakes and ponds freezes but the lower portions do not freeze. Hence marine life can survive in such lakes and ponds easily. The structure of water is such that most substances dissolve in it. Water is regarded as a universal solvent. Sea-water is saline because many minerals remain dissolved in it. Air dissolves itself in water enabling aquatic animals to breathe inside water. Water is a liquid which is not easily evaporated. That is why soil retains moisture for a longer period and trees and plants are, therefore, benefited by this.

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Water content in different living organisms varies. Trees and plants have 60% to 80% water, fresh fruits 85% to 95% and plants living in water, contain 98% water. Human body contains 65% water.

A civilized man on an average uses 35 gallons of water every day for drinking, bathing and washing. One should be careful about ones drinking water. Often water contains germs of dangerous diseases like typhoid, cholera, diarrhea, dysentery etc. Boiled water is, therefore, hygienic. Water can be made free from germs by filtering, boiling and mixing potassium permanganate or bleaching powder in it.

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