

IN THIS CHAPTER

- Importance of water
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IMPORTANCE OF WATER

Water is one of the most essential things for the existence of life. It is composed of hydrogen and oxygen gases. It is one of the most plentiful and essential natural element. Water forms a large part of the body mass of all living organisms – 70% of human body is water.

Percentage proportion of water in living and common eatables :



Tree
(60%)



Elephant
(80%)



Tomato
(90%)



Watermelon
(95%)



(70%)

Percentage Proportion of water in living beings and common eatables

Most of the life processes in plants and animals occur in the medium of water. In addition, human beings need water for various other purposes. They need water for bathing, washing, cooking, cleaning the toilet and for other activities. Once we have used water for a certain activity, we do not use it again. We can get an idea about how much water we use by filling up the following table :

	Daily activity	Amount of water used
	Bathing Flushing of toilets Washing of clothes Cleaning the house Washing of utensils Gardening	

WHERE DO WE GET WATER FROM?

Taps, Tube wells, wells, water tanks, rivers, lakes, ponds etc. are the sources of water.

If you live in a city, have you ever thought from where does water come in your taps ? From where does water come in a reservoir in the village or cities ? How do rivers and lakes get filled in ? You will realize that all these sources get water from the rain. There are two main sources of natural water :

1. Surface water
2. Ground water

Do You Know ?

70-90% of living cells is water in humans. About 2/3 of the body is formed of water and of the 55% (20-22 lt) is present in the cells. The remaining water of the body is found in fluids like blood, lymph and tissue fluids.

1. Surface Water

Water present on the surface of the earth is called surface water. It is of many types :

Rain : The rain is the purest form of naturally occurring water. The rain drops in a cloud are almost pure water. However as the rainwater falls from the clouds, it dissolves gases like carbon dioxide, sulphur dioxide, nitrogen and oxygen from the air.

What happens if it rains heavily ?

The time, duration and the amount of rainfall varies from place to place. In some parts of the world it rains throughout the year while there are places where it rains only for a few days.

In our country, most of the rainfall occurs during the monsoon season. Rain brings relief especially after hot summer days. The sowing of many crops depend on the arrival of monsoon. However excess of rainfall may lead to many problems.

Heavy rains may lead to rise in the level of water in rivers, lakes and ponds.



Flood

The water may then spread over large areas causing floods. The crop fields, forests, villages and cities may get submerged by water. In our country floods cause extensive damage to crops, domestic animals, property and human life.

What happens if it does not rain for a long time ?

When an area receives no rainfall or less than normal rainfall for a long duration, that area is said to be under the spell of drought. In drought conditions, it is difficult to get food and fodder.

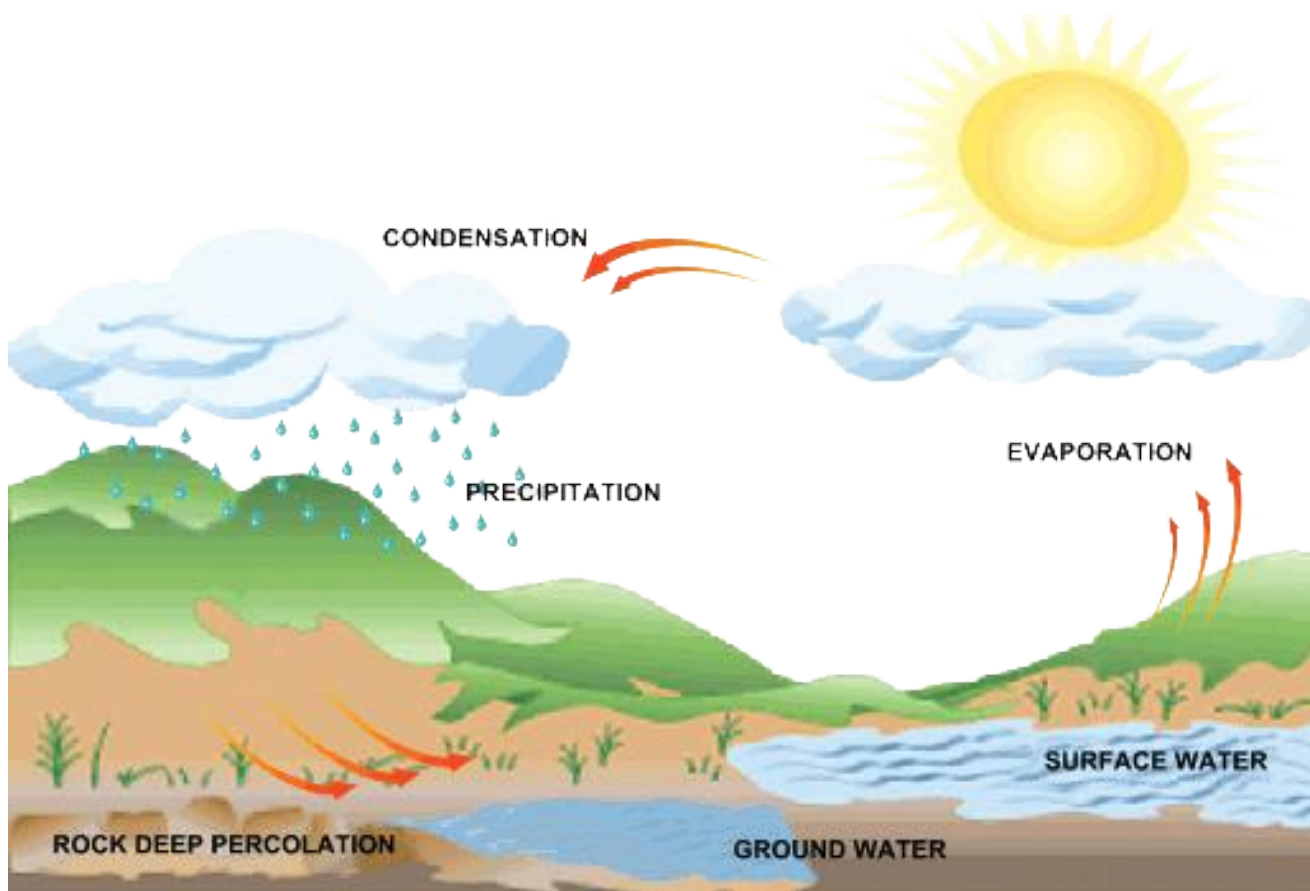
You might have heard about droughts occurring in some parts of our country or the world. Are you aware of the difficulties faced by the people living in these areas ? What happens to the animals and the vegetation in these conditions ? Try and find out about this by talking to your parents and neighbours and by reading about it from newspapers and magazines.



Soil erosion by rain

WATER CYCLE

Water is a substance that is capable of existing in all the three states of matter. From one state, it changes into another rather easily.



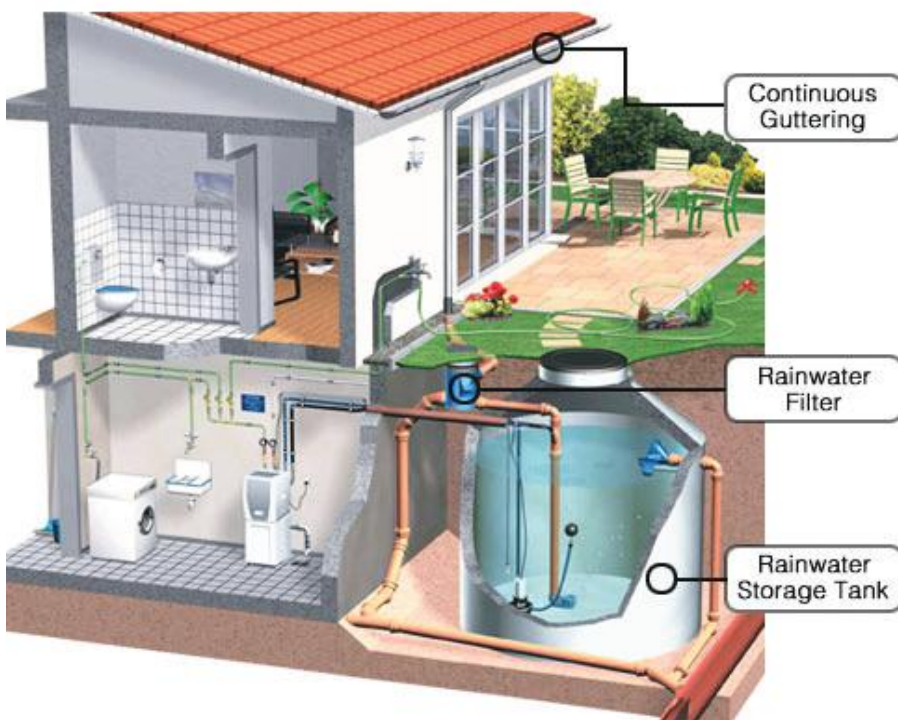
Water cycle

The change of water from one state to another in nature takes place all the time. It involves the process of evaporation, condensation and precipitation. This process of inter conversion helps in balancing the amount of water both in the atmosphere and on the earth's surface. This repeated process is known as the water cycle. This circulation of water between ocean and land is a continuous process. This maintains the supply of water in land.

RAIN WATER HARVESTING

One way of increasing the availability of water is to collect rain water and store it for later use. Collecting rain water in this way is called rain water harvesting. The basic idea behind rainwater harvesting is catch water where it falls.

What happens to the rainwater that falls in places that are mostly covered with concrete roads and buildings ? It flows into the drains, isn't it ? From there water goes to rivers and lakes. Which could be far away? A lot of effort will then be required to get this water back into our home as the water did not seep into the ground.



Discuss the two techniques of rainwater harvesting :

1. Roof top rainwater harvesting. In this system the rain water is collected from the rooftop to a storage tank, through pipes. This water may contain soil from the roof and need filtering before it is used. Instead of collecting rainwater in the tank, the pipes can go directly into a pit in the ground. This then seeps into the soil to recharge or refill the ground water.
2. Another option is to allow water to go into the ground directly from the roadside drains that collect rain water.

Know the Keywords :

Water cycle : Circulation of water from the earth's surface to the atmosphere and back to the earth.

Drought : A condition occurring due to no rainfall for a long period.

Flood : A condition occurring due to heavy rainfall continuously.

Point to Remember

- Water forms a large part of the body mass of all living organism—70% of human body is water.
- The rain is the purest form of naturally occurring water.
- Circulation of water from the earth's surface to the atmosphere and back to the earth is called water cycle.

EXERCISE TIME

A. Answer the following questions :

1. What is rainwater harvesting ?
2. How can we conserve water ?
3. When does a drought occur ?
4. Describe the water cycle.
5. Write the importance of water.

B. Fill in the blanks :

1. _____ of human body is water.
2. Water is made up of _____ and _____ gases.
3. There are _____ main sources of natural water.
4. _____ is the purest form of naturally occurring water.

C. Tick (✓) the correct option :

1. Percentage of water in the human body is :
(i) 20 % (ii) 60 % (iii) 70 %
2. The condition occurring due to no rainfall for a long time is :
(i) flood (ii) drought (iii) none of these
3. The water which comes out with pressure from an opening in the earth is :
(i) well water (ii) spring water (iii) rain water



Creative Work

- Make some slogans or cartoons on water conservation and paste them in your notebook, on the notice board, in the classroom or in your home.