

Introduction

- If you have water, you can think of the future.
- World water day is celebrated on 22 March.
- Water is very precious natural resource.
- On an average 50L water is used by per person for their daily activities like drinking, bathing, washing clothes and for maintaining proper hygiene.
- Demand of water is increasing day by day as population is increasing. Many of the people from some areas don not get enough water for their day-to-day activities.
- Conservation of water is very important because though we have large amount of water on earth but usable water is very limited.

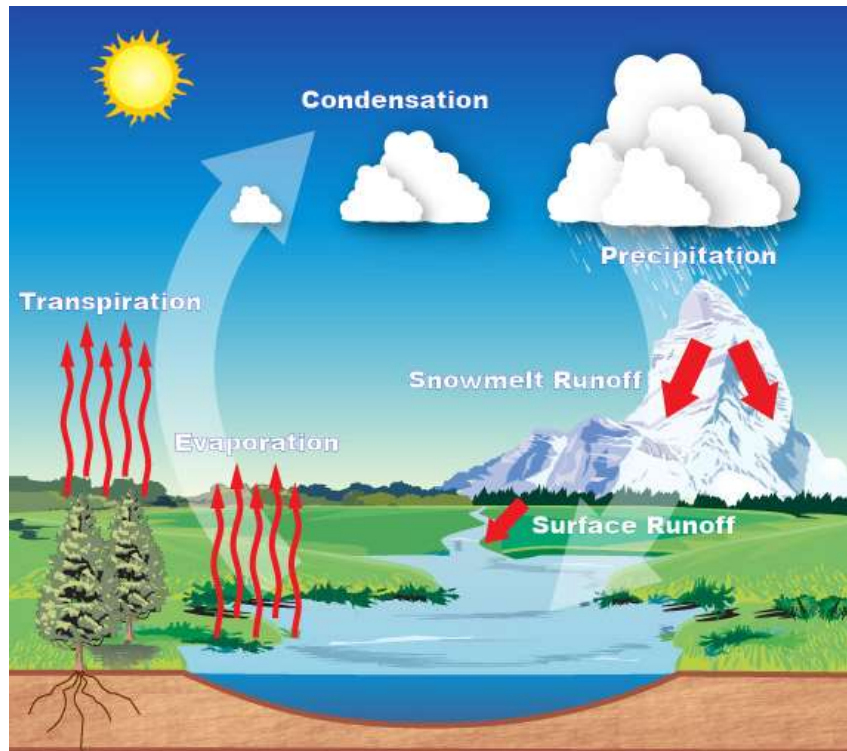
How much water is available?

- Earth has around 71% water that is why it is known as the blue planet. However, most of the quantity is not for fit for the consumption.
- There are many sources of water like rivers, ponds, lakes, springs etc.
- There are many different ways of getting water supply in our home like through pipe lines through taps but ultimately, they get water from the rivers, ponds, lakes well etc.
- Ocean covers about two-third part of the earth yet this water is of no use for domestic and agriculture purpose because the water of oceans and seas is very salty.
- The water of oceans and seas is saline but plays an important role in supplying water to rivers, ponds, lakes etc.

Forms of water

- Water cycle maintain the amount of water for our consumption.
- Water cycle is the process which involves evaporation condensation and precipitation.
- Water from all water bodies gets heated by sunlight and evaporates.
- When the water vapours mixed in air reach to some height then it cools down and condense.
- Condensation means the water vapours is converted into water droplets. These water droplets then form the cloud.
- Heavy water droplets from the cloud precipitate in the form of rain and fall again on ground. Through this cycle saline water is also converted into freshwater.
- Now instead of rain in some places snow falls because in some special circumstances.
- the snow is the solid form of water.
- Water present in our oceans, lakes, seas and in underground are liquid form of water.

- The water vapours that present in air is the gaseous form of water.
- Hence water cycle maintains the amount of water for our continuous use in these three forms.
- Many villages do not have proper water supply there they have to walk miles and miles to fetch water.
- A large number of people depend on ground water. They draw water from tube wells or handpumps.



Ground water as an important source of water

- Water table is the upper layer of water below which groundwater is available.
- The water table is different for different places.
- In some places the water table may be just below the ground and in some places the water table may be several metres below.
- Seeping water from rainwater and from various water resources by soil to fill all the space and cracks below the ground is called infiltration.
- Infiltration recharges the groundwater.
- the groundwater that is stored between the layer of hard rocks below the water table is known as Aquifer.
- Usually, tube wells or handpumps are used to draw water from aquifers.
- Water table will be affected if we keep drawing underground water.

Depletion of water table

- By the seepage of rainwater, the underground water gets recharge.
- Continuous use water does not affect the water table unless the underground water gets restored by the natural process.
- But if the water does not get restored then the water table may go down.
- There are many reasons for the depletion of water table.
- Increasing population, industrial and agriculture activities and scanty rain are some of the factors that affect the water table.

Increasing population

- Increasing population is a great concern for the decline of the water table.
- This increase in population demands high constructions of houses, shops, offices, roads and pavements. Hence the open areas are decreasing.
- The open areas are important for seepage of rainwater and hence the increment in construction directly affects the groundwater.
- Seepage of water is decreasing and the demand of water is increasing and because of this water table is declining.

Increasing industries

- In each and every type of industries water is used in high quantity.
- The number of industries is increasing rapidly so the consumption of groundwater is also increasing.
- This increment of the consumption of water by several industries results in depletion of water table.

➤ **Activity 1**

1. Make a list of industries familiar to you.
2. List out the products that manufactured in those industries.
3. Now discuss with your family and teacher how these industries affect the water table.

Agriculture activities

- Water is used in large scale for agriculture. Farmers depend on rain for agriculture.
- Scanty rainfall forces farmer to use groundwater.
- The population pressure on agriculture is increasing day by day this results in depletion of water table.

➤ **Activity 2**

1. Look at the rainfall map of India which shows the annual amount of rainfall in different regions of our country.
 2. Mark the place on the map where you live.
 3. Is there sufficient rainfall and water available where you live throughout the year.
- Sometime we notice that some places receive enough amount of rainfall still there are shortage of water.
 - This happens because of the mismanagement of water.

Water management

- Civic authorities supply water with well-planned pipe system.
- some of the time water gushes out of the pipes because of leakage. This result in wastage of water.
- We also waste water through our daily activities like in brushing, bathing, bathing and many more.
- We also notice that the rainwater also gets wasted and flows away. Rainwater is very precious to recharge the groundwater.
- One of the ways to conserve the rainwater is rainwater harvesting.
- Rain water harvesting means to collect and store rain water and use it for later use.
- Through rain water harvesting we can increase the availability of water.
- Techniques of rainwater harvesting
 1. You can collect rain water on your rooftop and then connect it to a tank through a pipe this water may need filtration before use.
 2. You can connect a pipeline directly to the ground to refill the ground water.
 3. There is another way of harvesting rain water. The rain water can be directly send to the ground from the roadside drains.
- In agriculture also we can use drip irrigation.
- Watering the plant directly at the base of plant is called drip irrigation. This technique saves a lot of water.

What role you can play?

- We can save water and minimize the wastage of water like we can turn off the tap while brushing, we can keep a check on the water pipelines of our house to avoid any leakage of water, instead of washing the floor we can mop the floor.

Effects of water scarcity on plant

- Plant needs water for their food preparation. If a plant does not get enough water it dies before time.

- If the water availability for plant gets down the number of plants will also get down because plants directly depend on the water.
- This depletion in number of plants will adversely affect the human life because we depend on plants for oxygen, food and rain.

