

Water

Class 6 Science

Complete Study Notes

Learning Objectives

In this chapter, students will understand the importance of water and its role in sustaining life on Earth. They will learn about the various sources of water, the water cycle, evaporation, condensation, precipitation, groundwater, floods, droughts, and methods of water conservation. Students will also understand the importance of rainwater harvesting and develop awareness about using water responsibly.

Introduction to Water

Water is one of the most essential natural resources on Earth. Every living organism, including humans, animals, and plants, depends on water for survival. It is used for drinking, cooking, bathing, cleaning, farming, industries, and many other daily activities.

Although nearly two-thirds of the Earth's surface is covered with water, most of it is found in oceans and seas, making it unsuitable for drinking because it contains salt. Only a small amount of freshwater is available for human use, making water conservation extremely important.

Sources of Water

Water is obtained from various natural and man-made sources. Natural sources include rivers, lakes, ponds, springs, glaciers, and rain. Groundwater is another important source that is obtained through wells, hand pumps, and tube wells.

Rain is the primary source of freshwater on Earth. It fills rivers, lakes, ponds, and underground water reserves, ensuring a continuous supply of water for people, agriculture, and wildlife. Understanding different water sources helps students appreciate the importance of protecting and conserving them.

The Water Cycle

Water continuously moves through nature in a process called the Water Cycle. Heat from the Sun causes water from rivers, lakes, ponds, and oceans to evaporate into water vapour. Plants also release water vapour through a process called transpiration.

As water vapour rises into the atmosphere, it cools and changes into tiny water droplets through condensation, forming clouds. When these droplets become large and heavy, they fall back to the Earth as precipitation, which may occur in the form of rain, snow, or hail. The water cycle ensures that water is constantly recycled and made available to all living organisms.

Rainfall, Floods, and Droughts

Rainfall is essential for maintaining water supplies and supporting agriculture. However, excessive rainfall may cause floods, leading to damage to crops, homes, roads, and other property. On the

other hand, insufficient rainfall causes droughts, resulting in water shortages, poor crop production, and difficulties for people and animals. Understanding these natural events helps students recognize the importance of proper water management and conservation.

Water Conservation and Rainwater Harvesting

Since freshwater is limited, conserving water is everyone's responsibility. Simple habits such as turning off taps, repairing leaking pipes, and avoiding unnecessary wastage can save significant amounts of water.

One of the most effective methods of conserving water is Rainwater Harvesting. In this process, rainwater falling on rooftops is collected through pipes and stored in tanks or directed into the ground to recharge groundwater. Water conservation ensures that future generations will also have access to clean and safe water.

Practice Questions

1. Why is water essential for living organisms?
2. Explain the water cycle with the help of its main stages.
3. Differentiate between floods and droughts.
4. What is rainwater harvesting? Why is it important?
5. Mention any three ways to conserve water.

Answer Key

- **ANSWER 1:** Water is essential because it is needed for drinking, cooking, farming, cleaning, and supporting all living organisms.
- **ANSWER 2:** The water cycle includes evaporation, transpiration, condensation, and precipitation. Water evaporates due to the Sun's heat, forms clouds through condensation, and returns to the Earth as rain, snow, or hail.
- **ANSWER 3:** Floods occur due to excessive rainfall and cause damage to life and property, whereas droughts occur because of insufficient rainfall and result in severe water shortages.
- **ANSWER 4:** Rainwater harvesting is the process of collecting and storing rainwater for future use or groundwater recharge. It helps conserve water and increases groundwater availability.
- **ANSWER 5:** Water can be conserved by repairing leaking taps, avoiding unnecessary wastage, and collecting rainwater through rainwater harvesting.