Revision Notes

Chapter – 5

Water

• The sun's heat causes evaporation of water on the earth. When the water vapour cools down, it condenses and forms clouds. From there, it may fall on the land or sea in the form of rain, snow or sleet.

• The process by which water continually changes its form and circulates between oceans, atmosphere and land to known as the water cycle.

• Our earth is like a terrarium. The same water that existed centuries ago still exists today.

• The major source of fresh water are the rivers, ponds, springs and glaciers.

• The ocean bodies and the seas contain salty water. The water of the oceans is salty or saline as it contains large amounts of dissolved salts. Most of the salt is sodium chloride or the common table salt that we eat.

• **Distribution of Water Bodies:**

(i) About three-fourth of the earth's surface is covered by water. Yet, many countries face scarcity of water, as all water is not available to us.

(ii) The following table gives the distribution of water on the earth in percentage:

Sources	**Percentage**	
Oceans	97.3	Saline Water
Ice-caps	02.0	Fresh water
Ground water	0.68	
Fresh water lakes	0.009	
Inland seas and salt lakes	0.009	
Atmosphere	0.0019	

Rivers	0.0001	

(iii) Water is absolutely essential for survival. It only can quench our thirst.

• **Movements:**

(i) Unlike the calm waters of ponds and lakes, ocean water keeps moving continuously.

(ii) The movements which occur in oceans are of three types: waves, tides and currents.

• **Waves:**

(i) When the water on the surface of the ocean rises and falls alternately, they are called waves.

(ii) During a storm, the winds blowing at very high speed form huge waves. These may cause tremendous destruction.

(iii) An earthquake, a volcanic eruption or underwater landslides can shift large amounts of ocean water. As a result a huge tidal wave called **tsunami**, that may be as high as 15m, is formed. The largest tsunami ever measured was 150m high. These waves travel at a speed of more than 700 km. per hour. The tsunami of 2004 caused wide spread damage in the coastal areas of India.

• **Tides:**

(i) The rhythmic rise and fall of ocean water twice in a day is called a tide.

(ii) It is high tide when water covers much of the shore by rising to its highest level. It is low tide when water falls to its lowest level and recedes from the shore.

(iii) Tides are are two types: **spring tides** and **neap tides**.

- The strong gravitational pull exerted by the sun and the moon on the earth's surface causes the tides.
- The water of the earth closer to the moon gets pulled under the influence of the moon's gravitational force and causes high tide.
- During the full moon and new moon days, the sun, the moon and the earth are in the

same line and the tides are highest. These tides are called spring tides.

- When the moon is in its first and last quarter, the ocean waters get drawn in diagonally opposite directions by the gravitational pull of sun and earth resulting in low tides. These tides are called neap tides.

(iv) High tides help in navigation. They raise the water level close to the shores. This helps the ships to arrive at the harbour more easily. The high tides also help in fishing. The rise and fall of water due to tides is being used to generate electricity in some places.

• Ocean Currents:

(i) Ocean currents are streams of water flowing constantly on the ocean surface in definite directions.

(ii) Ocean currents are of two types, warm and cold. Generally, the warm ocean currents originate near the equator and move towards the poles. The cold currents carry water from polar or higher latitudes to tropical or lower latitudes.

(iii) The Labrador ocean current is a cold current, while the Gulf Stream is a warm current.

(iv) The ocean currents influence the temperature conditions of the area. Warm currents bring about warm temperature over land surface.

(v) The areas where the warm and cold currents meet provide the best fishing grounds of the world. Seas around Japan and the eastern coast of North America are such examples.

(vi)The areas where a warm and cold current meet also experience foggy weather making it difficult for navigation.