

Lesson at a Glance

- **Water** is very important for our survival. It continuously changes its form and circulates between oceans and atmosphere.
- We get **fresh water** from the rivers, ponds, springs and glaciers.
- The ocean bodies and the seas contain **salty water**.
- Three-fourth of the earth surface is covered by water. But all the water on earth is not available to us. 97.3% water is saline or salty found in oceans and seas. Only 3% is fresh water. Its 3% is available to us, which we use in our daily life.
- Many countries are facing water scarcity due to this fact. What is available is also not fit for drinking because it is polluted badly due to variety of reasons.
- Ponds and lakes have calm water whereas ocean water keeps moving continuously. The movements that occur in oceans can be categorized as **waves, tides and currents**.
- When the water on the surface of the ocean rises and falls alternately, they known as **waves**.
- During stormy weather, huge waves are formed. These waves are very strong and cause heavy destruction.
- **Tsunami**, a huge tidal wave, is very strong. The tsunami of 2004 caused wide spread damage in the coastal areas of India.
- **Tides** are the rhythmic rise and fall of ocean water which occur twice in a day. 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.
- 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**.
- High tides help in navigation.
- **Ocean currents** are streams of water flowing constantly on the ocean surface in definite directions.

- Ocean currents may be warm or cold. The Labrador Ocean current is cold current while the Gulf Stream is a warm current.
- The areas where the warm and cold currents meet provide the best fishing grounds of the world.

■ TEXTBOOK QUESTIONS SOLVED ■

Q. 1. Answer the following questions briefly.

- What is precipitation?
- What is water cycle?
- What are the factors affecting the height of the waves?
- Which factors affect the movement of ocean water?
- What are tides and how are they caused?
- What are ocean currents?

Ans. (a) Falling of moisture in the form of rainfall, snow, fog, sleet and hailstone is termed as precipitation.

(b) The water cycle is the process by which water continually changes its form and circulates between oceans, atmosphere and land.

(c) Winds, earthquakes, volcanic eruption or under water landslides are the factors affecting the height of the waves. The stronger the wind blows, the bigger the wave becomes.

(d) Temperature, winds, gravitational pull of the sun, the earth and the moon; warm and cold currents are the factors that affect the movement of ocean water.

(e) Tides are the rhythmic rise and fall of ocean water that occur twice in a day.

The strong gravitational pull exerted by the sun and the moon on the earth's surface causes the tides.

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

Q. 2. Give reasons:

- Ocean water is salty.
- The quality of water is deteriorating.

Ans. (a) The water of the oceans is salty as it contains large amount of dissolved salts.

(b) Water is being used injudiciously. Whatever potable water is available, its quality is not good. It is because industrial effluents and untreated water of industries

get mixed into streams and rivers. Sewerage water also gets mixed into these water bodies. As a result, the quality of water is deteriorating day by day.

Q. 3. Tick the correct answer.

(a) The process by which water continually changes its form and circulates between oceans, atmosphere and land

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|-----------------------|------------|
| (i) Water cycle | (ii) Tides |
| (iii) Ocean currents. | |

(b) Generally the warm ocean currents originate near

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|----------------------|--------------|
| (i) Poles | (ii) Equator |
| (iii) None of these. | |

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

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|-------------|--------------------|
| (i) Tide | (ii) Ocean current |
| (iii) Wave. | |

Ans. (a)—(i), (b)—(ii), (c)—(i).

Q. 4. Match the following.

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|---------------------|--|
| (i) Caspian Sea | (a) Largest lake |
| (ii) Tide | (b) Periodic rise and fall of water |
| (iii) Tsunami | (c) Strong seismic waves |
| (iv) Ocean currents | (d) Streams of water moving along definite paths |
| | (e) Water cycle |

Ans. (i)—(a), (ii)—(b), (iii)—(c), (iv)—(d).

Q. 5. For Fun

Be a Detective

1. The name of one river is hidden in each of the sentences below. Spot it.

Example: Mandira, Vijayalakshmi and Surinder are my best friends

Ans. Ravi

(a) The snake charmer's bustee, stables where horses are housed, and the piles of wood, all caught fire accidentally. (Hint: Another name for River Brahmaputra)

(b) The conference manager put pad, material for reading and a pencil for each participant. (Hint: A distributary on the Ganga-Brahmaputra delta)

- (c) Either jealousy or anger cause a person's fall (Hint: Name of a juicy fruit!)
- (d) Bhavani germinated the seeds in a pot (Hint: Look for her in West Africa)
- (e) "I am a zonal champion now" declared the excited athlete. (Hint: The river that has the biggest basin in the world)
- (f) The tiffin box rolled down and all the food fell in dusty potholes. (Hint: Rises in India and journeys through Pakistan)
- (g) Malini leaned against the pole when she felt that she was going to faint. (Hint: Her delta in Egypt is famous)
- (h) Samantha mesmerised everybody with her magic tricks. (Hint: London is situated on her estuary)
- (i) "In this neighbourhood, please don't yell! Owners of these houses like to have peace. Warned my father when we moved into our new flat". (Hint: colour!)
- (j) 'Write the following words', Marc! "On", "go", "in" said the teacher to the little boy in KG Class. (Hint: Rhymes with 'bongo')

Now make some more on your own and ask your classmates to spot the hidden name. You can do this with any name: that of a lake, mountains, trees, fruits, school items etc.

- Ans.** (a) Teesta, (b) Padma, (c) Orange, (d) Niger, (e) Amazon, (f) Indus, (g) Nile, (h) Thames, (i) yellow, (j) Congo.

Carry on Detective

2. With the help of an atlas, draw each river which you discovered in For fun (i), on an outline map of the world.

- Ans.** Do yourself.

