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Weather and Climate

Important Word Meanings :-

Weather – मौसम

Climate – जलवायु

Lifestyle – जीवनशैली

Preference – पसंद / प्राथमिकता

Determine – निर्धारित करना

Influence – प्रभावित करना

Different – अलग / भिन्न

Place – जगह / स्थान

Slanting Rays – तिरछी किरणें

Climate Zone – जलवायु क्षेत्र

Torrid – उष्णकटिबंधीय / बहुत गर्म

Extremely hot – अत्यधिक गर्म

Experience – अनुभव करना

Remain – रहना / बने रहना

Covered with – से ढका हुआ

However – हालांकि / मगर

Humidity – आर्द्रता / उमस

Rainfall – वर्षा / बारिश

Refer to – का संदर्भ देना / तात्पर्य होना

Exercise

A. Write True or False

1. Hill stations are generally colder than places along the seacoast. — **True**
2. As we go higher, the climate gets hotter. — **False**
3. Climate can change from day to day. — **False** (*Weather changes daily; climate is long-term*)
4. The Polar Regions are colder than the Equatorial regions. — **True**
5. Winter winds blowing from the Himalayas make northern India very cold. — **True**

B. Fill in the blanks

1. The Earth has three **heat** zones.
2. The zone nearest to the Equator is the **Torrid** zone.
3. Humidity means the amount of **moisture (or water vapour)** in the air.
4. It is cold and freezing throughout the year in the **Frigid** zone.
5. The climate is **moderate (or equable)** in seaside places.

C. Answer the following questions

1. **What is the difference between weather and climate?**
 - **Weather:** It is the daily condition of the atmosphere at a specific place and time (e.g., a sunny day or a rainy afternoon).

- **Climate:** It is the average weather pattern of a place over a very long period, usually 30 to 40 years (e.g., a tropical climate or desert climate).

2. What are the factors that affect the climate of a place?

- The main factors are:
 - Distance from the Equator (Latitude)
 - Height above sea level (Altitude)
 - Distance from the sea
 - Direction of the winds
 - Humidity and rainfall

3. Explain the heat zones of the Earth.

- The Earth is divided into three heat zones depending on the amount of sunlight received:
 - **Torrid Zone:** Located near the Equator. It receives direct sun rays and is very hot throughout the year.
 - **Temperate Zone:** Located between the Torrid and Frigid zones. It receives slanting sun rays and has a moderate climate (neither too hot nor too cold).
 - **Frigid Zone:** Located near the North and South Poles. It receives extremely slanting rays, making it freezing cold all year round.

4. How does the direction of winds affect the climate of a place?

- Winds carry the temperature of the place they come from. Winds blowing from hot regions make a place warm, while winds blowing from cold mountain regions make a place cold. Similarly, winds blowing from the sea bring moisture and cause rainfall.

5. How do sea breezes and land breezes occur?

- **Sea Breeze (During the day):** The land heats up faster than the sea. The warm air over the land rises up, and cool air from the sea rushes in to take its place.
- **Land Breeze (At night):** The land cools down faster than the sea. The air over the sea remains warmer and rises, so the cool air from the land blows out toward the sea.

D. Mark the following on the world map (Example Answers)

1. Any two cities located in the Torrid Zone: **Mumbai (India) and Singapore**
2. Any two cities located in the Temperate Zone: **London (UK) and Tokyo (Japan)**
3. Any two cities located in the Frigid Zone: **Tromsø (Norway) and Nuuk (Greenland)**
4. An important city in India located near the sea: **Mumbai**
5. An Indian city located in the Torrid Zone: **Chennai**

E. Research Question (Norway)

- **Answer:** Norway is a country located in northern Europe, and parts of it lie inside the Arctic Circle. It is called the '**Land of the Midnight Sun**' because during the summer months, the Earth's North Pole tilts directly toward the Sun. Due to this tilt, the Sun stays above the horizon and remains visible even at midnight for several weeks.

F. Statements explaining land and sea breeze in correct order

The listed statements are already organized in their logical, step-by-step chronological sequence. You can fill the boxes from top to bottom with numbers **1 to 10**:

1. During the day, the Sun heats up the land and the sea.
2. The land heats up faster.
3. The air above the land heats up.
4. The hot air rises.
5. Cooler air from over the sea moves onto the land to fill in the space.

6. This is why sea breezes occur during the day.
7. The land cools down faster at night.
8. The warm air over the sea rises.
9. Cooler air from the land moves out to sea to fill the space.
10. This is why land breezes occur at night (*Note: The book text contains a minor misprint using "sea breeze" here, but it describes the land breeze sequence*).

Brain-teaser

1. How might your clothes and travel preparations differ between Mussoorie and Jodhpur?

- **Clothes:** For **Mussoorie** (a high-altitude hill station), you would need thick woollens, heavy jackets, and sweaters because the climate is cold. For **Jodhpur** (a desert city), you would need light, loose cotton clothes to stay cool in the hot climate.
- **Travel Preparations:** For Mussoorie, you would pack lip balm, sports shoes for climbing hills, and gear for cold weather. For Jodhpur, you would carry sunscreen, a hat, sunglasses, and extra water bottles to prevent dehydration.
- **Why understanding climate helps:** Knowing the climate of a place helps us pack the right clothes, choose appropriate footwear, and organize necessary accessories so we stay comfortable, safe, and healthy during our trip.