

# Weather and Climate

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## EXERCISE [PAGE 21]

### Exercise | Q (A)(1) | Page 21

**Who am I?**

I keep on changing

**Solution:** I keep on changing - **Weather**

### Exercise | Q (A)(2) | Page 21

**Who am I?**

I am not the same at all places.

**Solution:** I am not the same at all places. - **Climate**

### Exercise | Q (A)(3) | Page 21

**Who am I?**

I am the solid state of water droplets.

**Solution:** I am the solid state of water droplets. - **Snow particles, hail**

### Exercise | Q (A)(2) | Page 21

**Who am I?**

I am present in the atmosphere in the form of vapour.

**Solution:** I am present in the atmosphere in the form of vapour. - **Moisture**

### Exercise | Q (B)(1) | Page 21

Why is the climate of Mahabaleshwar cool?

**Solution:**

1. The height of a place above the sea-level affects its temperature.
2. The earth's surface gets heated due to the heat from the sun. The air close to the surface of earth gets heated first and later one by one the layers of air at higher elevation starts heating up.
3. Hence, as we move upwards from the sea-level, the temperature of the air starts decreasing.
4. Mahabaleshwar is a hill station located at a high altitude above the sea-level. Hence, the climate of Mahabaleshwar is cool.

### Exercise | Q (B)(2) | Page 21

Why is the climate near the sea humid?

**Solution:**

1. Sea water gets evaporated due to the heat of the sun and thus water vapours get mixed in the air.
2. Air near the sea with higher temperature holds more amount of moisture.

As a result, the climate near the sea is humid.

### Exercise | Q (B)(3) | Page 21

What is the difference between weather and climate?

**Solution:**

<b>Weather</b>	<b>Climate</b>
It is described on the basis of the conditions prevailing at the given time.	of the conditions prevailing at the given time. It is described on the basis of the conditions prevailing over a longer period of time.
It keeps on changing frequently.	Changes in the climate take place over a long period of time.
We can experience the changes in the weather easily.	We cannot perceive the change in climate easily.

### Exercise | Q (B)(4) | Page 21

What are the elements of weather?

**Solution:** The elements of weather are temperature, air pressure, winds, moisture, and precipitation.

### Exercise | Q (B)(5) | Page 21

What effects do nearness to the sea and height above mean sea level have on the climate?

**Solution: Effects of nearness to the sea on the climate:**

1. Sea water gets evaporated due to the heat of the sun and thus water vapour gets mixed in the air.

2. Thus, the air near the sea with higher temperature holds more amount of moisture.
3. As a result, the climate near the sea is humid.
4. As we move away from the sea, the moisture content in the air gradually decreases and the climate becomes dry.

**Effect of height above mean sea level on climate:**

1. Earth's surface gets heated due to the heat of the sun.
2. Thus, the air close to the surface of the earth becomes hot and the heat gets transferred vertically to the adjacent upper layers of the air.
3. Thus, as we move upward from the sea level, the temperature of air decreases.
4. Hence the temperature of the places at a higher altitude from sea-level is lower than the temperature of the places at a lower height.

**Exercise | Q (C) | Page 21**

**For the climatic conditions mentioned in the table, name the representative places known to you. (Use an atlas.)**

Hot	
Hot and humid	
Cold	
Hot and dry	
Cold and dry	

**Solution:**

<b>Climate</b>	<b>Places</b>
Hot	<b>Jaipur</b>
Hot and humid	<b>Mumbai</b>
Cold	<b>Shimla</b>
Hot and dry	<b>Nagpur</b>
Cold and dry	<b>Punjab</b>

**Exercise | Q (D) | Page 21**

Complete the following table.

<b>Weather</b>	<b>Climate</b>
Short-lived condition of atmosphere	
	Does not change quickly
Expressed with respect to a specific place	
	Elements of climate: Temperature, pressure, winds, humidity and precipitation

**Solution:**

<b>Weather</b>	<b>Climate</b>
Short-lived condition of atmosphere	<b>Long-lived condition of atmosphere.</b>
<b>Changes quickly.</b>	Does not change quickly
Expressed with respect to a specific place	<b>Expressed as 'cool and dry' or 'hot and humid' or 'hot and dry', etc.</b>
<b>Elements of weather: Temperature, air pressure, winds, moisture and precipitation.</b>	Elements of climate: Temperature, pressure, winds, humidity and precipitation