8. THE EARTH AND THE MOON

Let's Test Your Knowledge!

A. Choose the Correct Answer (Page No:8)

1. The Earth takes 24 hours to complete one

a) Revolution **b) Rotation** **c) Orbit** **d) Eclipse**

Key: B

Solution: The Earth spinning on its own axis is called rotation, and one full spin takes about 24 hours, which is one day.

2. The Earth takes 365 days to complete one

a) Rotation **b) Revolution** **c) Orbit** **d) Phase**

Key: B

Solution: The Earth moving all the way around the Sun is called a revolution, and it takes about 365 days, which is one year.

3. The Moon gets its light from the

a) Earth **b) Sun** **c) Stars** **d) Clouds**

Key: B

Solution: The Moon does not make its own light. We see it because it reflects the light from the Sun.

4. The path in which the Earth moves around the Sun is called

a) Orbit **b) Axis** **c) Rotation** **d) Phase**

Key: A

Solution: An orbit is the specific, curved path that an object in space follows around another object, like the Earth around the Sun.

5. The first Indian satellite was

a) INSAT **b) Aryabhata** **c) Kalpana** **d) Chandrayaan**

Key: B

Solution: Aryabhata was the first Indian satellite, launched in 1975. It was named after a famous Indian astronomer.

B. True or False (Page No:8)

1. The Earth is flat and still.

Key: False

Solution: The Earth is a round sphere (like a slightly flattened ball) and it is always moving, both rotating and revolving.

2. Rotation of the Earth causes day and night.

Key: True

Solution: As the Earth rotates, one part faces the Sun (day) and the other part faces away (night).

3. The Moon has its own light.
Key: False
Solution: The Moon reflects light from the Sun. It does not produce its own light like a star.

4. The Earth moves around the Sun in an orbit.
Key: True
Solution: Yes, the Earth follows a fixed path called an orbit as it revolves around the Sun.

5. Satellites help in weather forecasting and communication.
Key: True
Solution: Artificial satellites are very important for sending TV signals, phone calls, and taking pictures of clouds to predict the weather.

C. Answer the Following Questions (Page No:9)

1. What is the shape of the Earth?
Solution: The shape of the Earth is a sphere (round like a ball), slightly flattened at the poles.
It is not flat; it is a giant sphere.

2. What are the two main movements of the Earth?
Solution: The two main movements of the Earth are Rotation and Revolution.
Rotation is spinning on its axis. Revolution is going around the Sun.

3. What causes day and night?
Solution: The rotation of the Earth on its axis causes day and night.
When our part of the Earth faces the Sun, it is day. When it rotates away from the Sun, it becomes night.

4. Why do we see different phases of the Moon?
Solution: We see different phases because we see different parts of the Moon's sunlit side as it orbits the Earth.
The Moon orbits Earth, changing how much of the lit half we can see from Earth, creating shapes like a crescent or full moon.

5. What is the importance of artificial satellites?
Solution: Artificial satellites are important for communication (TV, GPS, phone calls), weather forecasting, and scientific research.
They help us in our daily lives by providing services like navigation, internet, and monitoring Earth's environment.

D. Picture Study (Page No:9)

1. Observe the picture of the Earth and Moon. Which one moves around the other?
Solution: The Moon moves around (orbits) the Earth.
The Moon is Earth's natural satellite, so it travels around our planet.

2. Look at the images of different phases of the Moon. Can you name each phase?
Solution: The main phases, in order, are: New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Last Quarter, and Waning Crescent.
"Waxing" means the lit part is growing bigger. "Waning" means the lit part is getting smaller.

9. WEATHER AND CLIMATE

Let's Test Your Knowledge!

A. Choose the Correct Answer (Page No:17)

1. The instrument used to measure temperature is
a) Barometer **b) Thermometer** **c) Hygrometer** **d) Rain Gauge**
Key: B
Solution: A thermometer is the specific instrument used to measure how hot or cold the air is (temperature).

2. The unit of rainfall is
a) Millibar **b) Centigrade** **c) Millimetre** **d) Kelvin**
Key: C
Solution: Rainfall is measured by the height of water collected in a rain gauge, and its standard unit is millimetres (mm).

3. Winds blow from
a) Low pressure to high pressure
b) High pressure to low pressure
c) East to West
d) None of these
Key: B
Solution: Air always moves from an area where the pressure is high to an area where the pressure is low, and this movement of air is what we call wind.

4. The instrument that measures air pressure is
a) Anemometer **b) Wind Vane** **c) Barometer** **d) Thermometer**
Key: C
Solution: A barometer is the instrument designed specifically to measure the pressure of the atmosphere, which is called air pressure.

5. The instrument used to measure humidity is
a) Rain Gauge **b) Hygrometer** **c) Barometer** **d) Thermometer**
Key: B
Solution: Humidity is the amount of moisture or water vapor in the air, and it is measured by an instrument called a hygrometer.

B. True or False (Page No:17)

1. Weather remains the same throughout the year.
Key: False
Solution: Weather is the daily condition of the atmosphere and it changes frequently, even from day to day or hour to hour.

2. The thermometer measures the speed of wind.
Key: False
Solution: A thermometer measures temperature. The speed of wind is measured by an instrument called an anemometer.

3. Winds blow from high pressure to low pressure areas.
Key: True
Solution: This is correct. Wind is simply air moving from a high-pressure area to a low-pressure area.

4. Rainfall is measured in millimetres.
Key: True
Solution: Yes, we measure how many millimetres of rain have fallen over a specific area.

5. Hygrometer measures the amount of moisture in the air.
Key: True
Solution: Correct. A hygrometer measures humidity, which is the amount of moisture or water vapor in the air.

C. Answer the Following Questions (Page No:18)

1. What is weather?
Solution: Weather is the daily condition of the atmosphere at a place regarding elements like temperature, rainfall, wind, and humidity.
It describes if a day is sunny, hot, windy, rainy, or cold. It can change every day.

2. Name the five elements of weather.
Solution: The five main elements of weather are: Temperature, Rainfall, Wind, Air Pressure, and Humidity.
These are the five main things that meteorologists measure to describe the weather.

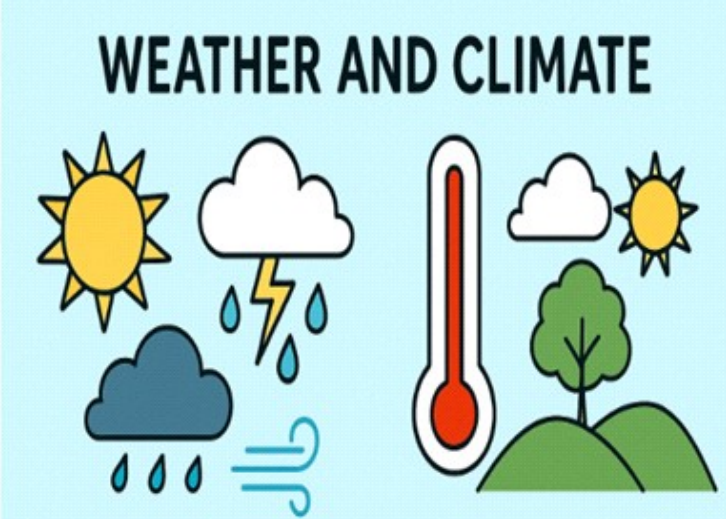
3. Which instruments are used to measure temperature and rainfall?
Solution: Temperature is measured by a Thermometer, and rainfall is measured by a Rain Gauge.
A thermometer tells us how hot or cold it is, and a rain gauge collects rain to tell us how much has fallen.

4. How are winds formed?
Solution: Winds are formed when air moves from a high-pressure area to a low-pressure area.
Differences in air pressure cause the air to move, and this moving air is what we feel as wind.

5. What is the importance of weather forecast?
Solution: Weather forecasts are important because they help us plan our daily activities, warn us about severe weather (like storms or heavy rain), and assist farmers

and pilots in their work.
It helps us decide what to wear, whether to carry an umbrella, or if it is safe to travel.

D. Picture Study (Page No:19)



1. What is the difference between weather and Climate?
Solution: Weather is the short-term atmospheric condition of a place (e.g., today is sunny). Climate is the average weather pattern of a place taken over a long period, like 25 years or more (e.g., Rajasthan has a hot and dry climate).
Think of it this way: Weather is your mood today, while Climate is your overall personality.

2. What factors influence climate?
Solution: The main factors that influence climate are: Distance from the Equator (Latitude), Height above sea level (Altitude), Distance from the sea, and Direction of prevailing winds.
For example, places near the equator are hotter, and places on mountains are cooler, even if they are near the equator.

10. CLIMATE AND CLIMATE ZONE

Let's Test Your Knowledge!

A. Choose the Correct Answer (Page No:25)

1. The atmospheric condition at a particular place and time is called
A) Climate **B) Weather** **C) Season** **D) Forecast**
Key: B
Solution: Weather is the day-to-day state of the atmosphere (e.g., sunny, rainy). Climate is the average weather over a long time.

2. Which of the following factors makes coastal areas have moderate climate?
A) Altitude **B) Distance from the Equator**
C) Distance from the Sea **D) Mountain Ranges**
Key: C
Solution: Being near the sea (Distance from the Sea) moderates the temperature, making summers cooler and winters warmer than inland areas.

3. The Himalayas protect India from
A) Monsoon Winds
B) Hot Winds from Africa
C) Cold Winds from Central Asia
D) Sea Breezes from the Arabian Sea
Key: C
Solution: The Himalayas act as a giant barrier, blocking the very cold and dry winds blowing from Central Asia.

4. Which of the following zones receives direct sunlight and remains hot throughout the year?
A) Temperate Zone **B) Frigid Zone** **C) Torrid Zone** **D) Arctic Zone**
Key: C
Solution: The Torrid Zone (or Tropical Zone) near the Equator receives direct rays of the sun all year round, making it perpetually hot.

5. Predicting weather conditions for the coming days is known as
A) Climate Study **B) Meteorology**
C) Weather Forecast **D) Atmospheric Pressure**
Key: C
Solution: A Weather Forecast is a prediction of what the weather will be like in the near future, helping us plan our activities.

B. True or False (Page No:25)

1. Weather refers to the atmospheric conditions over a long period of time.
Key: False

Solution: This is the definition of Climate. Weather refers to the short-term atmospheric conditions.

2. The areas near the Equator receive direct sunlight and are therefore hotter.
Key: True
Solution: The sun's rays hit the Equator directly, concentrating the solar energy and making these areas the hottest.

3. Mountains are usually warmer than plains because they are at a higher altitude.
Key: False
Solution: The opposite is true. As altitude increases, temperature decreases. So, mountains are colder than plains.

4. Coastal cities like Mumbai and Chennai have a moderate climate because of sea and land breezes.
Key: True
Solution: The sea influences the land, preventing extreme temperatures. This leads to a moderate climate in coastal cities.

5. The Himalayas allow cold winds from Central Asia to enter India, making it very cold.
Key: False
Solution: The Himalayas block the cold winds from Central Asia, protecting India from severe cold.

C. Answer the Following Questions (Page No:26)

1. What is the difference between weather and climate?
Solution: Weather is the daily condition of the atmosphere (e.g., today is hot). Climate is the average weather pattern of a place over a long period (e.g., Rajasthan has a hot climate).
Weather is your mood today; Climate is your overall personality.

2. How does distance from the Equator affect the climate of a place?
Solution: Places closer to the Equator are hotter as they receive direct sunlight. Places farther away from the Equator are cooler as sunlight reaches them at a slant. The closer to the Equator, the hotter it is.

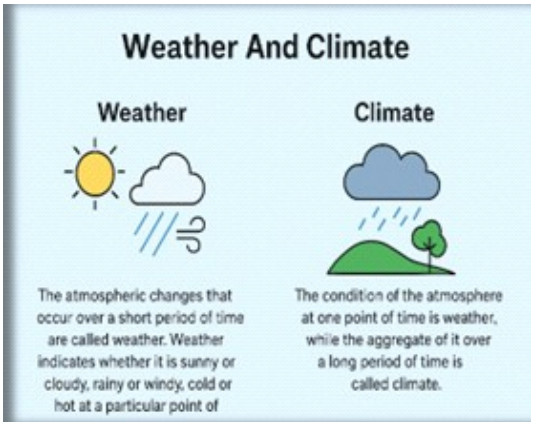
3. Why do coastal areas have moderate climate?
Solution: The sea heats up and cools down slower than land. This moderates the temperature of coastal areas, making summers cooler and winters warmer.
The sea acts like a temperature buffer, preventing extremes.

4. How do the Himalayas influence the climate of India?
Solution: The Himalayas trap the monsoon winds, causing rainfall, and act as a barrier blocking cold winds from the north.

They are crucial for India's rains and protect it from harsh cold.

5. What are the three main climatic zones of the world?
Solution: The three main climatic zones are: 1. Torrid Zone (Tropical - Hot), 2. Temperate Zone (Moderate), and 3. Frigid Zone (Polar - Cold).
These zones are based on how much direct sunlight they receive from the sun.

D. Picture Study (Page No:27)



1. Observe the picture. What is the main difference between the two sides of the image — one showing a sunny beach and the other showing snowy mountains?
Solution: The main difference is the climate and temperature. The sunny beach represents a hot/warm climate, while the snowy mountains represent a cold climate. One side is hot, and the other side is cold.

2. Based on the picture, which factor influences the difference in climate between the two regions shown?
Solution: The main factor is Altitude. The beach is at a low altitude (sea level), which is warmer, while the mountains are at a high altitude, which is colder.
Height from the sea level (Altitude) causes this difference.