

LEARNING OBJECTIVES

1. Weather Predictions
2. Difference in time of sunrise, sunset
3. Climate and factors determining weather
4. Climates in India

Weather Prediction -

The prediction of weather is done by scientists, called meteorologist, who study the changes in the weather. The weather is predicted by studying the patterns of weather and factors affecting them.

The science which deals with the study of weather is called meteorology. In India, the weather reports are prepared by the Meteorological Department of Government.

This department collects the data of temperature, wind, etc., and predicts whether on television or radio or newspaper. The weather report is recorded everyday in the form of graph and published in a table form showing readings of different elements of weather.

Difference in Time of Sunrise and Sunset -

There is the difference in the time of sunrise during summer and winter. In summer the sun rises earlier in the morning and the sun sets late in the evening during the month of June, while sun rises late and sets early in the month of December.

Therefore, days are longer and night shorter in summers while day is shorter and night is longer during winter.

Climate -

‘The average weather pattern taken over a long time, is called the climate of that place.’ Different places in the world have different types of climate. The annual record of long term average temperature and rainfall at a particular place is called climate chart.

It gives an idea about the climate at a particular place during a specific period of the year. The major factor which determines the climate of a place is called latitude (imaginary lines on earth).

Factors that Determine the Climate -

The several factors that determine the climate at a place are

- **Distance from the sea -**

Climate of a place varies according to the closeness of the sea. The places that are near the sea, are moderate (not too hot nor too cold), e.g. Mumbai, Chennai.

While the places that are away from the sea have extreme climate, having very hot summer or too cold winter, e.g. Delhi.

- **Altitude or height above sea level - Climate also varies according to the altitude. The higher altitudes are cooler, e.g. Himalaya.**
- **Humidity - It also determines the climate of a place. Kolkata and Kerala have high humidity, while Rajasthan and Haryana have low humidity.**

Climates in India -

The climate of India varies in different regions. These can be described as below:

- **The northern region of Himalayas has cold and moderately wet climate (e.g. Kashmir).**
- **Plains have a moderately hot and wet climate (e.g. Uttar Pradesh).**

- **South has very hot and wet climate (e.g. Kerala).**
- **The western region has hot and dry climate (e.g. Rajasthan).**
- **North-Eastern India has wet climate (e.g. Assam) and receives rain for a major part of the year.**

PLENARY -

Q. Name the primary source of energy which cause changes in the weather.

A. The sun is the primary source of energy that causes change in the weather.

Q. When sun rays fall on the earth, what does it provide?

A. Sun provides light as well as heat on the earth.

Q. Give the difference between weather and climate.

Weather	Climate
It is a day to day condition of atmosphere at a place.	It is the average weather pattern taken over a long period of time (say 25 years).

It varies over a very short period of time (like hour to hour).

It does not vary in a short period of time.

It cannot affect the adaptation of an organism.

Climate affects the adaptations of an organism.

ASSESSMENT / EVALUATION -

Q. Write the factors which affect the climate of a particular place.

A. The factors that affect the climate of a place are

- **Temperature zone or latitude, i.e. amount of sunshine it receives or distance from equator.**
- **Distance from sea.**
- **Altitude or height above the sea level.**
- **Humidity or the presence of moisture in air.**
- **Amount of precipitation received or rainfall.**