

Q.1 What is a mirage? Describe in detail the creation of mirage?

Definition:

Mirage is a deceptive appearance of a distant object, caused by the bending of light rays (refraction) in layers of air of varying density.

Creation of Mirage:

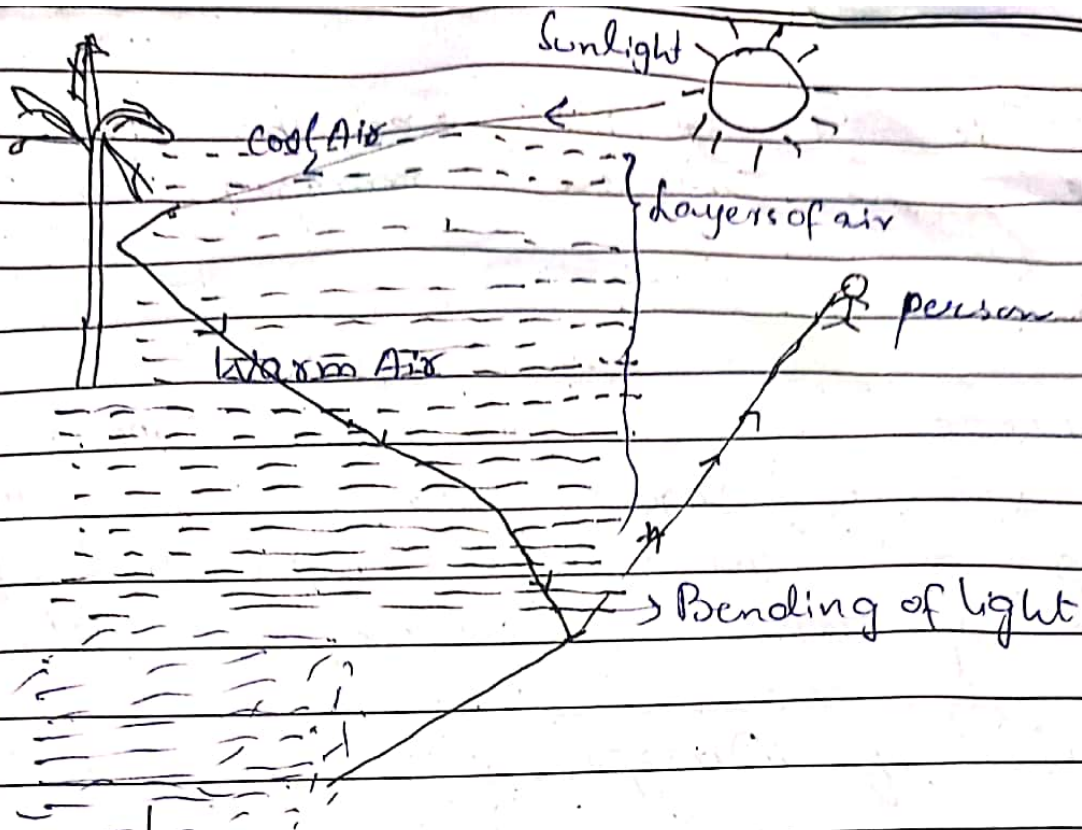
Mirage is created as following:

⇒ Light rays from sunlight reaches an object.

⇒ The object reflect those rays into cold and dense layer of air.

⇒ Bending of light rays (refraction) occurs when reflected light rays reach near to earth's surface in rarer medium of air.

⇒ A direct image of the object can be seen on the surface of the earth by a nearby person.



Direct image of object.

Diagram of Creation of Mirage.

⇒ When and Where mirage is formed?

Mirage is formed in desert and on long roads in summer.

Q.1 Differentiate between longitude and latitude.

b)

Ans Longitude

Latitude

• It is an imaginary vertical line on the earth's surface

• It is an imaginary horizontal line on the earth's surface.

• Its direction is from North to South

• Its direction is from east to west.

• It represents the distance of any point with respect to the ~~equator~~ Prime Meridian.

• It represents the distance of any point with respect to the equator.

Q.1 Briefly explain what effects are produced due to Rotation and Revolution of Earth?

c)

Ans Revolution and Rotation of the Earth produces following effects:

1. Formation of Seasons.

The seasons occur because the axis on which earth turns is tilted with respect to the earth's orbit.

around the sun.

Earth's tilt causes the North pole to be tilted toward the sun for half of the year, and the South pole for the other half of the year.

The hemisphere which is tilted towards the sun experiences summer season and the other hemisphere experiences winter season. This continues every year in an alternate way.

Formation of days and night

The Earth is spherical in its shape. When it rotates on its own axis; its one side faces sunlight and experiences day. While the other side faces away into space and sees dark night.

The Coriolis Effect

This effect is produced on ocean's surface, due to the rotation of earth.

As the Earth rotates faster at the Equator than it does at the poles. Thus, ocean currents in the Northern Hemisphere bend to the right. The Coriolis effect behaves the opposite way in the Southern Hemisphere, where

Currents appear to be bend to the left.

Lunar Eclipse

During revolution around the Sun, the Earth comes in between the Sun and the Moon.

Resultantly, the Moon appears to be dark due to shadow of the Earth.

Thus, formation of seasons, day and night and lunar eclipse are important effects produced by rotation and revolution of the Earth.