

Distinguish, differentiate, compare and explain what is the differences between transpiration and evaporation. Comparison and Difference.

## Differences Between Transpiration and Evaporation

S.No.	Transpiration	Evaporation
1	It is the physiological process	It is the physical process.
2	Transpiration is a loss of water from the free surface of cells.	Evaporation is a loss of water from the free surface of the water.
3	It is regulated the process.	It is a non-regulated process.
4	There is an important role of guard cell in the process.	On the other hand, there is no role of guard cell in the evaporation process.
5	It is a comparatively slow process.	However, it is a faster process.
6	It is influenced by the anatomy of plants.	There is no such influence in Evaporation.

### Evaporation

The process through which water transfers from the surface of the Earth to the atmosphere. Evaporation is important in all areas of water resources because it affects:

1. The capacity of the reservoir.
2. The yield of a river basin.
3. The consumptive use of water by plants.

Factors Affecting Evaporation

1. Meteorological factors.
2. The Nature of the Evaporating Surface.

### What is Transpiration?

Transpiration is the loss of water from a plant in the form of water vapor. Roots absorb the water from the soil and transport it as a liquid to the leaves via xylem. In the leaves, small pores allow water to escape as a vapor. Of all the water absorbed by plants, less than 5% remains in the plant for growth.

In actively growing plants, water is continuously evaporating from the surface of leaf cells. Indeed, this water is replaced by additional absorption of water from the soil. Liquid water extends through the plant from the soil water to the leaf cell surfaces. Here, it is converted from a liquid into a gas through the process of evaporation. The cohesive properties of water (that is hydrogen bonding between adjacent water molecules) allow the column of water to be pulled up through the plant as water molecules are evaporating at the leaf surface. This process has been termed the Cohesion Theory of Sap Ascent in plants.