

# What is the Water Cycle?

## Worksheet

The water cycle is the continuous natural movement of water through evaporation, transpiration, condensation, precipitation, and collection/runoff between Earth's oceans, atmosphere, and land.

## Questions

1. Which process turns liquid water into vapor using solar energy?
  - A) Precipitation
  - B) Evaporation
  - C) Runoff
  - D) Infiltration
2. What is the term for water vapor cooling and forming clouds?
  - A) Condensation
  - B) Transpiration
  - C) Precipitation
  - D) Evaporation
3. A region gets 100 mm of precipitation and has 65 mm of evapotranspiration. What is the runoff?
  - A) 165 mm
  - B) 35 mm
  - C) 65 mm
  - D) 100 mm
4. How do plants contribute to the water cycle?
  - A) By absorbing all precipitation permanently
  - B) Through transpiration, releasing water vapor from their leaves
  - C) By blocking condensation
  - D) By causing precipitation to stop
5. A river basin receives 150 mm of precipitation in a month, and evapotranspiration is 90 mm. Find the runoff.
6. A region gets 220 mm of rain, and evapotranspiration is estimated at 180 mm. How much water is left to become runoff or groundwater?
7. A dry season has only 30 mm of precipitation, but evapotranspiration demand is 70 mm. What does this imply?
8. Define: What is evaporation?
9. Define: What is transpiration?
10. Define: What is condensation in the water cycle?

## Answer Key

1. B) Evaporation - Evaporation is driven by heat from the sun, turning surface water into water vapor.
2. A) Condensation - Condensation occurs when rising water vapor cools and clumps into droplets, forming clouds.
3. B) 35 mm -  $Q = P - ET = 100 - 65 = 35$  mm.
4. B) Through transpiration, releasing water vapor from their leaves - Transpiration releases water vapor from plant leaves, adding to atmospheric moisture.
5.  $Q = P - ET = 150 - 90 = 60$  mm of runoff
6.  $Q = P - ET = 220 - 180 = 40$  mm
7.  $Q = P - ET = 30 - 70 = -40$  mm A negative value means there is a water deficit - more water is lost to evapotranspiration than falls as rain, so soil moisture and groundwater reserves are drawn down.
8. The process by which liquid water at the surface (oceans, lakes, rivers) turns into water vapor due to solar heating.
9. The release of water vapor from plant leaves into the atmosphere.
10. Water vapor cooling and turning into tiny liquid droplets, forming clouds.

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