

Chapter 4 Review: Moisture

- What do you call the direct transformation from ice to vapor? From vapor to ice?
- Explain why it would be very unusual if only evaporation were taking place without some condensation occurring at the same time and place.
- What is saturation?
- What is correct and what is incorrect about the statement: Warm air can hold more water vapor than cold air.
- What is vapor pressure? Saturation vapor pressure?
- What happens to the saturation vapor pressure as temperature increases?

Boiling, Dew Point Temperature

- The saturation vapor pressure equals what other pressure when water boils?
- What happens to the boiling temperature as you go to higher altitudes? Why does this happen?
- What is the definition of relative humidity?
- What is the definition of dew point temperature?
- Can the dew point temperature be lower than the air temperature? Equal to the air temperature? Greater than the air temperature?
- How much does the dew point temperature usually change during 24 hours?
- Describe how relative humidity changes during a day.

Dew Point and Relative Humidity

- How are the dew point and the air temperature related when the relative humidity is near 100%? When the relative humidity is low?
- What is true about the dew point when air has many water vapor molecules?
- Can air have:
 - ◆ a low relative humidity & a low dew point?
 - ◆ a low relative humidity & a high dew point?
 - ◆ a high relative humidity & a low dew point?
 - ◆ a high relative humidity & a high dew point?

Humidity in Different Places

- Why does Florida air usually have a higher dew point temperature than California air?
- Why does your skin get dry during winter, particularly up north?
- Why is it vague to say that the air in a certain place is humid? (dew point versus relative humidity)
- What fraction of evaporation occurs over oceans?
- If all the water vapor in the atmosphere, would rain out (an impossibility), how deep would it be over the surface of the Earth?
- What region of the continental US typically has the highest dew point temperatures?

Relative Humidity and Measurement

- Describe situations in which you could find the following relative humidities outside & inside a house:
 - ◆ Low outside and low inside
 - ◆ Low outside and high inside
 - ◆ High outside and low inside
 - ◆ High outside and high inside
- How could you measure the dew point temperature?
- How does a psychrometer (2 thermometers, one covered by a wet cotton sock) measure humidity?