

2.3 Most clouds form as air rises and cools.

Review:

1. Does wind move horizontally or vertically?
2. Does warm air rise or sink?
3. Does air move from low to high pressure areas or from high to low?
4. What does the Coriolis effect cause in relation to earth's weather?

Water is always _____ in the atmosphere. When temperature changes, water changes _____.

- _____: the process by which a liquid changes into a _____.
- _____: is the process by which a gas, such as water vapor changes into a _____.
- _____: Any type of liquid or solid water that _____ to Earth's surface.

Humidity and Relative Humidity

Humidity is the amount of _____ in the air. Humidity varies from place to place and from time to time. On hot sunny days with high humidity it is _____ to be outside because the water vapor does not evaporate from your skin because there is too much water _____ and not enough evaporating. _____ happens when the rate of evaporation and condensation are equal. The amount of water in the air at saturation depends on the _____ of the air. The warmer air is,

the more water vapor it takes to saturate it. Scientists describe the humidity of air in two different ways.

- Relative humidity:
 - compares the amount of water vapor in air with the _____ that can be present at that temperature. For example, air with 50 percent relative humidity has half the amount of water needed for saturation. If the amount of water vapor in air stays the same, relative humidity will decrease as the air heats up and increase as the air cools.
- Dew Point:
 - is the _____ at which air with a given amount of water vapor will reach _____. For example, air with a dew point of 79 degrees will become saturated if it cools to 78.8 degrees. The _____ the dew point of air, the more water vapor the air contains.

Clouds are caused by warm air _____ in the atmosphere as it _____. Location affects what clouds are made of. Clouds at _____ in the troposphere are made of _____ crystals. Clouds closer to earth's surface are made of _____ droplets.

Cirrus Clouds:

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Cumulus Clouds:

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Stratus Clouds:

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Fog:

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Types of Precipitation:

1. Rain: we know
2. Freezing Rain: (freezes when it hits the ground) can cover roads and sidewalks and cause trees to fall
3. Sleet: when rains freezes before it hits the ground.
4. Snow: we know
5. Hail: Lumps or balls of ice that fall from clouds. During a thunderstorm violent air currents hurl ice pellets around in clouds. Large hailstones can cause large amounts of property damage. The biggest hail stone in u.s. history was 1.7 pounds and as wide as a DVD.