***Chapter 2 Study Guide***

There are 33 multiple choice questions on Thursday’s test.

*Define the following terms:*

* Air Pressure – The force of air molecules pushing on an area
* Humidity – The amount of water vapor in the air
* Relative Humidity - how much water vapor is in the air compared to the maximum amount of water vapor could be in the air at the current temperature
* Dew Point - the temperature at which the air reaches saturation (or 100% relative humidity)
* Saturation -100% relative humidity
* Weather - the condition of Earth’s atmosphere at a particular time and place
* Condensation - gas changes to a liquid; when moist air cools and condenses into water droplets
* Evaporation - - liquid changes to a gas; Sun’s energy causes water to evaporate from a body of water and becomes water vapor in the air
* Fog - cloud that rests on the ground or over a body of water
* Wind - air that moves horizontally, or parallel to the ground
* Barometer - instrument that measures air pressure
* Cumulus – large white puffy cloud with a dark base, found in fair weather
* Cirrus - form at high altitudes, wispy and feathery, made of ice crystals
* Stratus - smooth layers that produce steady, light precipitation
* Cumulonimbus - tallest cumulus clouds that produce thunderstorms- heavy rainfall

*Answer the following questions:*

* What causes wind? Warm air rising creating low pressure and cold air sinking creating high pressure. High pressure moving to low pressure
* How is wind created? What happens to warm and cold air and in what direction does it flow?

Warm air rises, creating an area of low pressure, and cool air sinks, creating an area of high pressure. High pressure areas flow towards low pressure areas, creating wind.

* What happens to air pressure as altitude increases? Air Pressure decreases
* Why is the air at sea level more dense than air at higher altitudes? The air molecules are pushed closer together at sea level
* What causes air pressure? Warm air rising and cold air sinking.
* What is the Coriolis Effect? Earth’s rotating on its axis
* How does the Coriolis Effect influence global winds? Causes wind to shift to the right or left.
* When does air become saturated? The rate of condensation equals the rate of evaporation
* How does precipitation form? Water droplets combine and become heavy enough to fall
* What is the relative humidity of saturated air? 100%
* Explain what happens to create sea breezes and land breezes. A sea breeze forms during the day because of unequal heating and cooling of land and ocean. A land breeze occurs at night flows towards the ocean because of unequal heating and cooling of land and ocean.
* What are the two calm regions? Are they areas of high or low pressure? Doldrums/ low Horse Latitudes/High
* What are the three wind belts? **FROM** which direction do they flow? Westerlies- west, Easterlies – east and TradeWinds -east
* What weather do the doldrums cause? The westerlies? The jet stream? D- Storms, W & Jet Streams are responsible for weather in N. America

*Define, then diagram and label on the globe below, including arrows in the correct direction:*

* Doldrums
* Trade winds
* Easterlies
* Westerlies
* Horse latitudes



Trade Winds

Trade Winds

Easterlies

Westerlies

Horse Latitudes

Doldrums

Horse Latitudes

Westerlies

Easterlies