**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ HO # \_\_\_\_\_\_\_**

**Review Sheet for Weather Quiz # 2 –Layers of the Atmosphere, Transferring Heat, Wind and Water Cycle**

**The sun**

Energy from the sun is the driving force behind all weather. The uneven heating of the surface of the earth causes temperature differences, which cause differences in air pressure, which causes wind.

**There are three ways that heat is transferred:**

Conduction: Heat energy is transferred through direct contact (moving particles make affect other moving particles)

Convection: Heat energy is transferred through liquids or gases. Hot air rises, cold air falls

Radiation: Heat energy is transferred by waves through empty space (like the rays of the sun)

**Layers of the Atmosphere**

The troposphere is where all of our weather occurs. As you increase elevation in the troposphere, the air temperature gets colder. As temperature increase, the molecules in a substance move faster (increase their motion). The stratosphere is where the ozone layer is located. The ozone layer protects us from the sun’s radiation (which can cause skin cancer).

As you increase elevation through all the layers of the atmosphere, air pressure decreases



**The water cycle has 5 components (processes) :**

Evaporation – liquid to gas – water rises from surface of the earth

Condensation – Gas to liquid – CLOUDS form

Precipitation – water is returned to earth from the clouds

Run-off – due to gravity, water flows downhill

Transpiration – trees release water during respiration

**Wind**

Local winds are characterized by WHERE they come from. Land breezes blow from the land and sea breezes blow from the ocean. Global winds such as the Jet Stream blow for thousands of miles. The Jet stream blows from the west coast to the east coast of the United States. The Earth rotates and causes wind to NOT go in straight lines. The circular motion of the wind is called the Coriolus Effect.

**Review - Weather Quiz**

**Troposphere** – all **WEATHER** occurs in this layer of the atmosphere

**Stratosphere** = Location of **OZONE** layer – the **Ozone layer** protects Earth from UV radiation

**Motion** of molecules **INCREASES** as **temperature INCREASES**

Temperature at **TOP** of mountain is **COLDER** – High Altitude

As **Altitude Increases** – AIR pressure **DECREASES**

Breeze **FROM Ocean** = **SEA** BREEZE

**Wind always blows** from **High** Pressure **to LOW** pressure

All **WEATHER** in US moves **towards the NORTHEAST** (where WE Live!!)

Fast Moving **BELT** of air = **JET Stream** – West Coast to East Coast

**CORIOLUS** effect – Because the Earth is **Spinning,** the earth goes in a **circular pattern** called C E

**SUN** = Source of **ENERGY** for atmosphere

**CONVECTION** = hot RISES and Cold SINKS

**RADIATION** – Transfer of Heat Energy through **Empty Space**

**Clouds = condensation**

**Trees = Transpiration**

**DRAW WATER CYCLE BELOW AND LABEL:**