Name \_\_\_\_\_\_**KEY**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour \_\_\_\_\_\_\_\_\_

Unit 2 Assessment Review

1. What are the layers of the atmosphere in order, starting at the surface of the Earth?

**Troposphere, Stratosphere, Mesosphere, Thermosphere, Exosphere**

1. Where is the ozone layer located?

**Stratosphere**

1. What happens to the temperature as you go up in the troposphere? WHY does this happen?

**The temperature decreases because you are moving away from the surface of the Earth, which is the heat source for the troposphere (the surface of the Earth warms up from the UV rays of the sun and this heats the air above it)**

1. How did scientists decide where to divide the layers?

**Based on differences in temperature (when the temperature changes from increasing to decreasing or from decreasing to increasing)**

1. Tell me everything you know about “climate”.

**Climate is the average long-term pattern of weather for a particular region. It is determined by averaging a 30-year time period for that area.**

1. Tell me everything you know about “weather”.

**Weather is the short-term state of the atmosphere (the state of the atmosphere at any given time), including things like temperature, precipitation, cloud cover, visibility, air pressure, humidity and wind. Short term changes that could change over minutes, hours or days.**

1. What happens to air as it is heated? (Include density, rising or sinking)

**As air is heated, it becomes less dense and rises, pulling in more air behind it. Remember the hand-twist model – the low pressure system rises below your palm.**

1. What happens to air as it is cooled? (Include density, rising or sinking)

**As air is cooled, it becomes more dense (heavier) and sinks, pushing out the air below it. Remember the hand-twist model – the high pressure sinks under your palm.**

1. What is an air mass?

**A large body of air with generally uniform temperature and humidity.**

1. What is air pressure?

**Air pressure is created when air molecules moving in random directions collide with each other. These collisions create a small force, but all of these forces together can make up a considerable force. This force is air pressure.**

1. What are some ways that I can increase air pressure?

**Air pressure can be increased by heating a container of gas or by adding more molecules to the container.**

1. What type of air pressure is associated with nice weather?

**High pressure (“High pressure, happy weather”)**

1. What type of air pressure is associated with rainy and stormy weather?

**Low pressure (“Low pressure, lousy weather”)**

1. What is the difference in density between high and low pressure?

**High pressure is high density, low pressure is low density**

1. Practice your hand twist model on the examples below, then use it to answer #16 & #17.

 H L

Out, clockwise In, counterclockwise

1. Which way does air move vertically in a high pressure system AND a low pressure system? (Think of your palm in the hand-twist model)

**High pressure – air sinks in the center of the high pressure system (remember your hand starts “high” in “high pressure” and your palm SINKS as you rotate)**

**Low pressure – air rises in the center of the low pressure system (remember your hand starts “low” in a “low pressure” system and your palm RISES as you rotate)**

1. Which way do the winds flow around a high pressure system AND a low pressure system? (Think of your fingers in the hand-twist model: inward/outward, clockwise/counterclockwise)

**High pressure – flow outward and clockwise**

**Low pressure – flow inward and counterclockwise**

1. Why is it difficult to compare air pressure between different locations on Earth?

**Different locations are at different elevations so there are a different number of air molecules due to the elevation. Scientists use conversion calculations so that it is as if they are comparing all locations at sea level.**

1. Explain what the following instruments measure: barometer, anemometer, wind vane.

**Barometer – air pressure**

**Anemometer – wind speed**

**Wind vane – wind direction**

1. What 3 forces influence wind movement?

**Pressure gradient, Coriolis Force and friction**

1. What is pressure gradient?

**Pressure gradient causes air to flow from areas of high pressure to areas of low pressure until the pressure is equal.**

1. What happens when the pressure gradient is greater (stronger)?

**The winds will be stronger.**

1. How are a low pressure system AND a high pressure system represented on a surface map?

**Low pressure is represented by a red “L” and high pressure is represented by a blue “H”.**

1. What are isobars?

**Lines connecting areas of equal pressure.**

1. Which direction does air move when it is more dense? When it is less dense?

**More dense air will sink while less dense air will rise.**