**Weather part III: Weather Patterns-Prevailing Winds, Air Masses and Fronts**

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Review of Drawing Isobars on a Map:**

Normal Pressure Range on Earth’s Surface:

**Air blows from \_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_ pressure.**

**The Coriolis Effect**

* Results from:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Causes a deflection (curve) of path in:

Wind is deflected to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the northern hemisphere, and the \_\_\_\_\_\_\_\_\_\_\_ in the southern hemisphere.

A High Pressure System “Anticyclone:” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A Low Pressure System “Cyclone”: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Cyclone:** a low pressure system “\_\_\_\_\_\_\_\_”on a synoptic map.
This is a zone of *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* at ground level because rising air at the center draws air \_\_\_\_\_\_\_\_\_\_\_\_

**Anticycone**: **“\_\_\_\_\_\_\_\_”** for high pressure system. These are areas of *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* at ground level where sinking air at the center causes winds to blow \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Planetary Wind and Pressure Belts**: **pg \_\_\_\_\_\_\_\_\_\_ of ESRT**

* Air rises at equator \_\_\_\_\_\_\_ ˚ and at \_\_\_\_\_\_\_\_\_˚N/S. These latitudes are characterized by \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_
* Air sinks at \_\_\_\_\_\_\_\_˚ and \_\_\_\_\_\_\_\_\_\_˚ N/S. these latitudes are characterized by \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Because air flows from high🡪low pressure, these belts create our typical wind patterns called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Our prevailing winds in the USA between 30 and 60 ˚ N are called the:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Monsoons:** a seasonal prevailing wind in the region of South and Southeast Asia, blowing from the southwest between May and September and bringing rain (the *wet monsoon* ), or from the northeast between October and April (the *dry monsoon*).

**What causes the difference in the monsoon seasons to occur as pictured below?**

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**Air Masses- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Source Region- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Formed over the ocean: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Formed over the land:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**There are 5 types of air masses:**

**mT:**

**cT:**

**mP:**

**cP:**

**cA:**

**Front System: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* Fronts are named after the air mass \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ them and bring about changes in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* There are 4 different types of fronts:

**The Cold Front**

-Advances \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Forces warmer air to rise, expand, cool & causes rapid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as to as the front passes, \_\_\_\_\_\_\_\_\_\_\_\_ air pressure

-Is followed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ weather and \_\_\_\_\_\_\_\_\_\_ air pressure once the front has passed

**The Warm Front**

-Moves \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Warm moist air rises over cooler air & cools by expansion, which leads to formation of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ which thicken over time. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ precipitation, but steady as the front \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)*

-Associated with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and sometimes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air followed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_ atmospheric pressure after front passes.

**The Occluded Front**

-Occurs when an advancing \_\_\_\_\_\_\_\_\_ air mass pushes a lighter \_\_\_\_\_\_\_\_\_\_ air mass \_\_\_\_\_\_\_\_\_\_\_\_\_ (above ground)

-Associated with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_ and unsettled weather

-Once it has passed, the conditions are similar to a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ front

**Stationary Front**

Occurs when winds blow in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ directions along a \_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ air boundary OR neither air mass is powerful enough to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the other

**-**little or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but dissipates over a few \_\_\_\_\_\_\_\_\_\_\_\_\_\_

-clouds, precipitation and possibility of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_can occur if the air is very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**A Look at the movement of a typical mid-latitude cyclonic storm system**

 **Where is precipitation occurring with respect to the fronts ?**

 **Where will temperatures warm? Where will they cool?**

**What happens to barometric pressure as a front approaches?**