Name: KEY pds 1, 5, & 6.

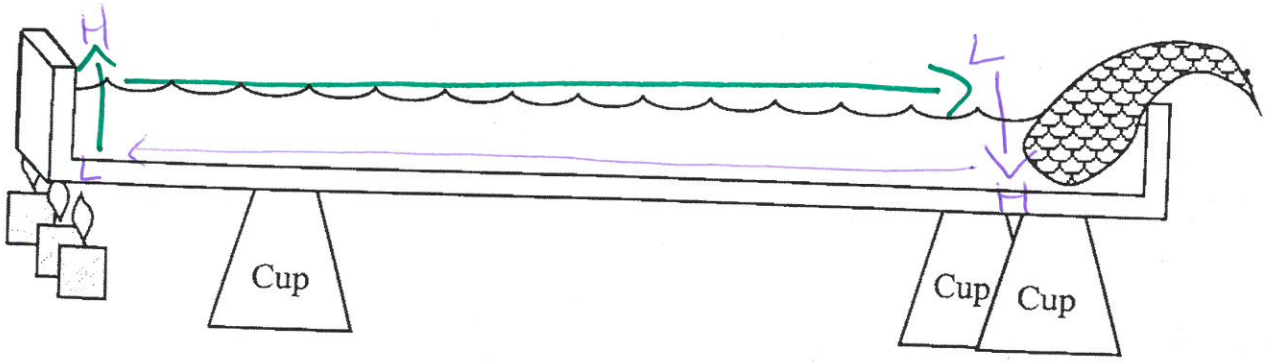
Global Winds Review

Earth Science Mini Unit

1. Complete the following table about pressure systems:

System	Does Air Rise or Sink?	Usual weather	Explain WHY that type of weather is found here	Direction of Rotation
Low-Pressure on surface	RISE	cloudy, rainy	Air is rising, hitting its dew point to allow clouds to form.	
High-Pressure on surface	SINK	sunny skies/ clear	Air is sinking so no clouds and little precipitation	

2. In the diagram below, draw arrows to show the convection process that is occurring:



3. Complete the following chart regarding the wind patterns at the POLE and the EQUATOR:
(Hint: Use your arrows from question #~~4~~ 2 to help you answer these questions.)

Location	Pressure at Surface	Pressure Aloft	Wind felt at Surface	Wind felt Aloft
Poles	HIGH Explain why: All the air is being forced to sink to one spot.	LOW Explain why: All the air is leaving this spot.	NONE Explain why: This is where the wind starts.	LOTS Explain why: WIND IS blowing towards this spot.
Equator	LOW Explain why: All the air is rising and leaving this spot.	HIGH Explain why: All the air is being forced to rise to this spot	LOTS Explain why: WIND is coming towards this spot.	NONE Explain why: This is where the wind starts.

4. What is the Coriolis Effect? A deflection of wind caused by Earth's rotation.

   a. What does it do to wind in the Northern hemisphere?

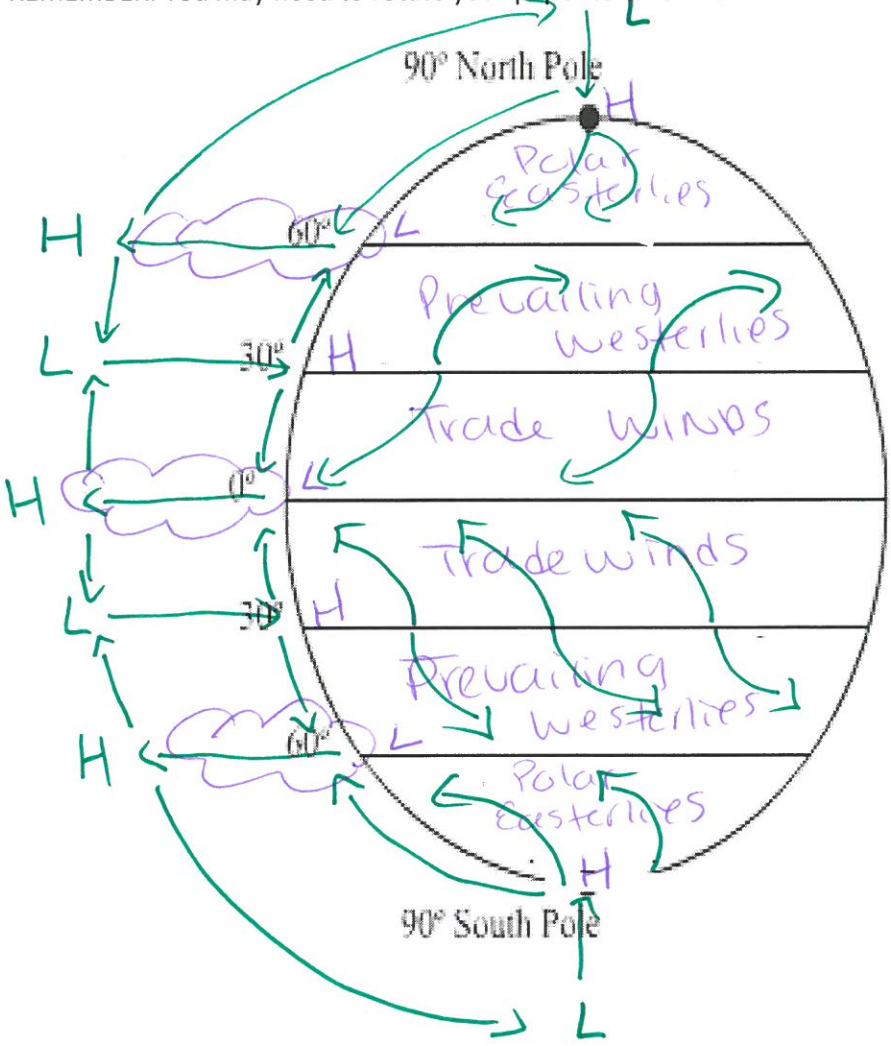
      Curves RIGHT

   b. What does it do it wind in the Southern hemisphere?

      Curves Left

5. Fill in the globe below with the winds. Make sure to include:
   a. convection cells
      b. clouds (where they are present)
      c. location of high & low pressure on the ground
      d. location of high & low pressure aloft
      d. names of the wind systems
      e. arrows to show specific direction of wind movement

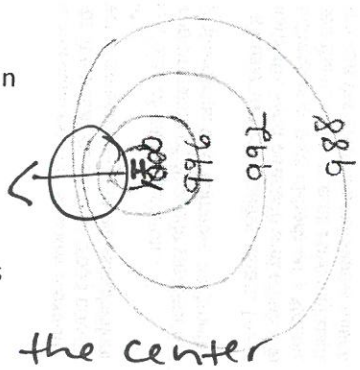
   REMEMBER: You may need to rotate your paper to take into account which way the wind is coming from!!



6. Fill in the table below.

Type of Wind	Latitude it Starts (Blows From)	Latitude it Ends (Blows Towards)	*Direction* it blows from	*Regions/Events* Affected
Trade Winds	30°	0°	East	equator / tropics
Prevailing Westerlies	30°	60°	west	U.S.
Polar Easterlies	90°	60°	east	Poles
SKIP Jet Stream	30° / 60°	30° / 60°	west	U.S.

7. On the isobar diagram to the right, circle the area with the greatest wind speed. Then explain how you know the wind speed is greatest there.



Isobars are very close together.
Bigger changes in pressure occurring faster produce high/strong wind.

8. Is the center of the isobar diagram a high or low pressure center? Put an H or an L, as appropriate in the center.

HIGH, the numbers in the center are larger than those on the ~~outside~~ outside.

9. In the isobar diagram, based on the isobar values, draw an arrow showing the direction the wind is blowing.

wind leaves ~~low~~ high pressure zones.

10. Compare **and** contrast an **isotherm** and an **isobar**. (May use a Venn diagram or table if you want). Must include a similarity and for the difference describe both.

Isotherm
- lines of equal temp.

BOTH
- isopleths

Isobar
- lines of equal pressure
- determine wind speed