Weather Web Quest Name_____

Block_____ Date_____

To access the web quest web page go to www.lex2.org then click on "schools" at the top of the page. Next click on "Northside Middle School." From our school page click on "student links" at the top of the page. There you will see the link to the Weather Web Quest page.

Air Masses 1 http://www.srh.noaa.gov/jetstream/synoptic/airmass.htm

What is an air mass? _____

_____

Air Masses 2 http://www.usatoday.com/weather/tg/wamsorce/wamsorce.htm

Use the map to find the name of the air mass (#6) that affects us the most in SC: _____

Scroll down to the descriptions. What type of weather does this air mass bring us? _____

_____

Fronts 1 http://research.utep.edu/Default.aspx?tabid=45023

Where _____ _____ meet, there are well-marked boundary zones called _____. This is where most _____ and _____ occurs.

Warm Front - when a warm moist air mass _____ above a _____ air mass, a warm front forms. The gradient of the front is very _____. Warm fronts occur at the forward edge of a _____ (a _____-_____ system).

Cold front - a cold front marks the advance of colder air _____ warm air. The gradient of the cold front is _____ than that of a warm front, and the _____ is usually heavier. _____ sometimes form along a cold front.

Occluded Front - These occur when a _____ moving _____ front overtakes a warm front and lifts the warm air away from the surface. Occluded fronts contain the worst features of both warm and cold fronts: turbulent flying conditions, _____ and/or continuous _____, poor visibility and broad geographic extent.

Stationary Fronts - If air masses maintain their warm/cold identity but don't move.

Fronts 2 http://www.classzone.com/books/earth_science/terc/content/visualizations/es2002/es2002page01.cfm?chapter_no=visualization

Click on the cold front and warm front animations. Answer the questions to fill in the table below:

	Cold Front	Warm Front
What type of air mass moves forward?		
Which air mass ends up on top?		
What type of clouds form?		

Warm and Cold Fronts http://www.climateandweather.net/world_weather/weather_fronts.htm

Draw warm and cold fronts in the boxes below. Label air temperatures and use arrows to show movement.

warm front **cold front**

For each of the following facts, write "*cold*" or "*warm*" to indicate which type of front it is.

_____ 1. The air behind the front is drier than the air in front.

_____ 2. On a weather map this front is represented by red semicircles pointing toward colder air.

_____ 3. Temperatures can drop more than 15 degrees per hour.

_____ 4. Warm air is pushed almost straight up.

Occluded Front http://www.geog.ucsb.edu/~joel/g110_w08/lecture_notes/midlat_surface/agburt09_10c.jpg

Draw an occluded front in the box below. Label air temperatures and include arrows to show air movement.

Current Isotherms - http://www.atmos.uiuc.edu/weather/tree/viewer.pl?launch/sfctmp

The black lines on the map are Isotherms. They connect areas on a map that all have the same temperature. These are the current temperatures in the United States right now. How many other states have the same temperature as South Carolina?_____ (follow the black lines or colors from SC)

Click on *Animate,*  at the bottom of the screen. Choose 24 frames. It will take a little while to load the temperatures from the last 24 hours. After it loads, watch South Carolina as you slowly click the forward, , 24 times. Circle the statement that describes what happened to the temperature in the last 24 hours?

The temperature stayed the same — The temperature got colder every hour

The temperature got hotter every hour — The temperature went up and down

Explain why you think this happened: _____