

Name: _____ Date: _____ Class Period: _____

Hurricane Katrina

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Analysis Questions

1. Look at the picture on the front of this lab. In what direction was this storm system rotating?
Based on what you have learned in meteorology, how could you still know the direction the system is rotating even if you didn't have the picture?

Counterclockwise

Low pressure systems in northern hemisphere rotate counterclockwise

2. Using your chart, in which state did Katrina make landfall first? **Florida**
3. If the coordinates are 24 hours apart, at what latitude/longitude was a Hurricane Warning issued?
4. Using the data table, what is the difference between the highest and lowest air pressure readings on the data table? **Show your work.**

$$1007-902=105$$

5. Identify the wind speed and air pressure on August 28th at 18:00UTC. Be sure to include the correct units.

a) wind speed = 150 knots b) air pressure = 902 mb

6. *In general*, how was wind speed changing (a) before August 28th at 18:00UTC and (b) after August 28th at 18:00UTC?

a) slowly increasing b) rapidly increasing

7. *In general*, how was the air pressure changing (a) before August 28th at 18:00UTC and (b) after August 28th at 18:00UTC.

a) slowly dropping b) rapidly dropping

8. Based upon your answers to questions 6 and 7, what is the general relationship between changes in air pressure and wind speed in a hurricane?

As air pressure drops, wind speeds increase

9. From 00:00UTC on August 26th to 18:00UTC on August 28th, Hurricane Katrina strengthened significantly. According to the map, where was Katrina located at these times? What did this area provide to the storm to help strengthen it so much?

Gulf Mexico

Provided moisture and very warm water temperatures

10. What caused Hurricane Katrina to slow down to a tropical depression on August 30th?

Made landfall

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11. According to this lab and lecture, which region of the United States is the most vulnerable to hurricanes? **The Gulf area and the East coast**
12. What are the two main conditions that would cause a hurricane to die out? **Land (no moisture) and higher latitudes (no warmth)**
13. Describe two things that you and your family can do to prepare for a hurricane.
 - **Watch/listen to the weather on the television or radio**
 - **make sure vehicles have fuel**
 - **check food (nonperishable) and water supplies (have two weeks worth of drinking water)**
 - **have cash**
 - **get a well-stocked first-aid kit**
 - **get batteries for flashlights and radios**