LESSON 67 CLASSWORK

Hurricane! Extreme Physical Change

Name _____

Date _____ Period _____

Purpose

To learn about hurricanes and the variables that affect their formation and intensity.

Part 1: Hurricanes

The handout contains some data for the 2005 hurricane season. Use the handout to answer the questions.

1. What do you think is the difference between a tropical storm, a hurricane, and a tropical depression?

2. Which hurricanes were the least intense in 2005? What is your evidence?

3. Which hurricanes were the most intense in 2005? What is your evidence?

4. What approximate air pressure range is associated with hurricanes?

5. What wind speed range is associated with hurricanes?

6. How do you think the category number of a hurricane is determined?

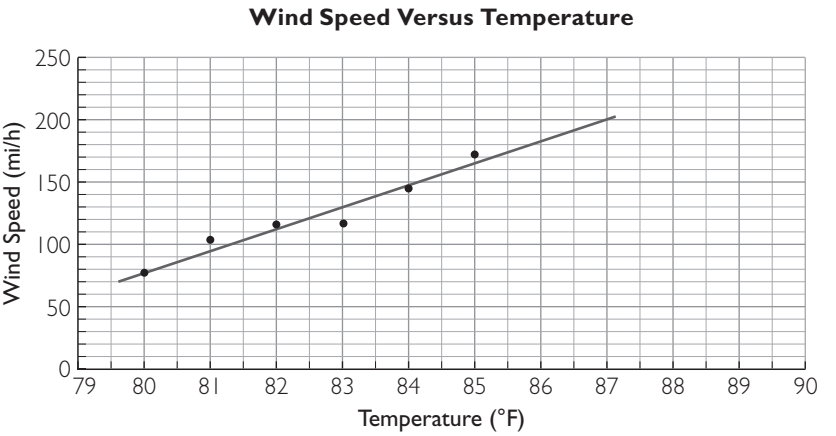
7. If a storm system has an air pressure of 980 mb, do you think it will be classified as a hurricane? What is your reasoning?

8. Hurricanes form only in places where the ocean water is at least 80 °F. What effect does high temperature have on the water vapor density of the air over the ocean?

9. When do you think hurricane season is for the East Coast of North America?

Part 2: Hurricanes and Temperature

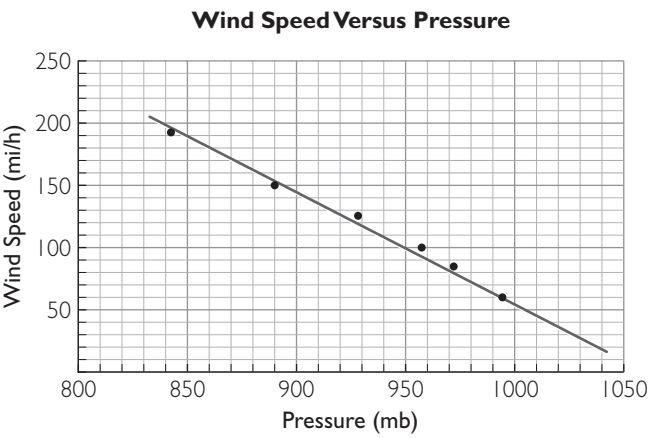
1. As a hurricane travels across the surface of the ocean, its wind speed changes with the temperature of the water. This graph shows wind speed versus ocean temperature for a hurricane.



2. How does the wind speed change with ocean surface temperature?

3. If the planet warms 2 °F in the next 30 years, what wind speeds can you predict for the most severe hurricanes at that time?

4. This graph shows wind speed versus pressure for six hurricanes. What pressure corresponds to the wind speed you determined in Question 3?



5. Making Sense What factors affect the severity of a hurricane?