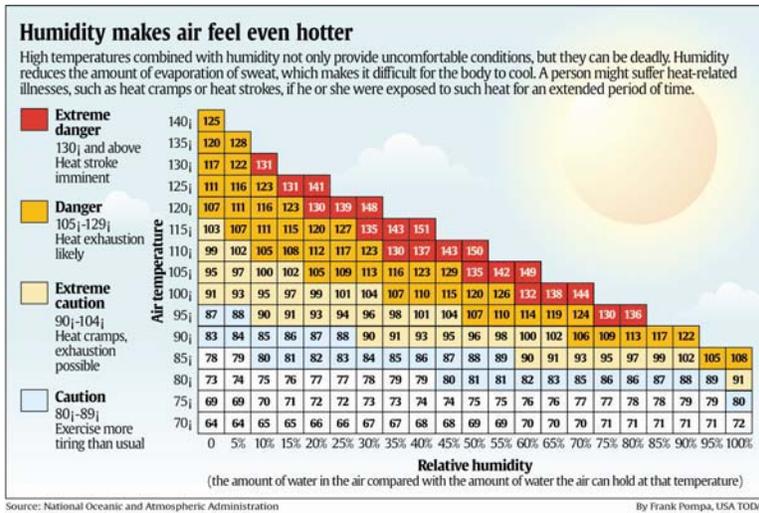


Activity 7:

Humidity makes air feel even hotter – Part II



Focus Questions:

- Q. What is the air temperature when the relative humidity is 50% and the heat index is 105°F? Which model did you choose to represent the data?
- Q. What is the minimum air temperature when the Extreme danger category is reached if the relative humidity is 50%?
- Q. If the relative humidity is 100% and the heat index is 105°F, what is the air temperature? Which model did you choose to represent the data?

Activity Overview:

The USA TODAY Infograph, “Humidity makes air feel even hotter” shows the relationships among humidity, air temperature, and heat index. The heat index (HI) is a measure used to describe how humidity and temperature interact to affect the way you feel on a hot day. You will create three scatter plots and determine the model for each scatter plot. Then you will describe the behavior of the dependent variable for each model as the independent variable increases. You will use the models to predict (interpolate) the heat index values for a given relative humidity at different temperatures.



For use with the TI-Navigator™ Classroom Learning System

**Weather agency looks into heat warnings**

NEWS SECTION - MONDAY - JUNE 17, 2002 - PAGE 3A

By Paul Leavitt

USA TODAY

The National Weather Service begins testing today on a system of heat-stress advisories to provide earlier warnings for people vulnerable to heat and humidity. The system has three categories:

- Heat watch, when heat-stress conditions are expected in the next 24 to 48 hours.
- Heat advisory, when higher levels of discomfort are expected within 24 hours.
- Excessive heat warning, when the danger requires such steps as seeking air-conditioned buildings, drinking extra water, and avoiding outdoor activities.

The tests are being conducted in Louisiana, Arkansas, Mississippi, and Tennessee. Officials said it could be expanded nationally. The weather service will continue to use the heat index, a number based on a combination of temperature and humidity. Alerts are triggered when the index is likely to reach 105 degrees by day and 80 at night over 48 hours.

