Relative Humidity: Wet-Bulb Thermometers or Hygrometers

In order to determine the likelihood of heat disorders, a heat index chart should be used to determine if outside practices or events should be cancelled. Heat index charts require the user to know both the temperature and relative humidity.

HEAT INDEX CHART: http://www.weather.gov/om/heat/index.shtml
To determine relative humidity, you can use either a wet-bulb thermometer or a hygrometer.

Hygrometers: Any of several instruments that measure humidity. The most common type of hygrometer consists of two, side-by-side mercury or electronic thermometers, one of which has a dry bulb, and one of which has a bulb wrapped with a wet cotton or linen wick. As water evaporates from the wet bulb, it absorbs heat from the thermometer, driving down its temperature reading. The difference in temperature between the two thermometers is then used to calculate the relative humidity. This type of hygrometer is also called a *psychrometer*. Other hygrometers make use of the temperatures at which dew forms and disappears to calculate the relative humidity. Older hygrometers used the length of a strand of hair, which stretches when it absorbs moisture, to measure relative humidity.

Psychrometer: a type of hygrometer consisting of two thermometers, one of which has a dry bulb and the other a bulb that is kept moist and ventilated. The difference between the readings of the thermometers gives an indication of atmospheric humidity

Wet-Bulb Thermometer: a thermometer the bulb of which is covered by a moist muslin bag, used together with a dry-bulb thermometer to measure relative humidity and dew point, which are the amount of water there is in the air, and the temperature at which the air reaches 100 percent relative humidity, when precipitation will occur.

LEARN MORE:
http://www.usatoday.com/weather/wsling.htm
http://en.wikipedia.org/wiki/Wet-bulb_temperature
http://www.wrh.noaa.gov/slc/projects/wxcalc/formulas/wetBulbTdFromRh.pdf