



- Are most of the beverages you drink each day acids, neutral, or bases? _____
- Before testing, complete the table. Write *acid*, *neutral*, or *base* to categorize each beverage. Use your current knowledge of pH to predict the rank of each in order of pH (1 = most acidic = lowest pH value).

Beverage	Predicted pH Description (acid, neutral, or base)	Rank (1 = most acidic)

- After you test the beverages, use the displayed scatter plot to fill in the pH values on the table below. Then, label each beverage as an *acid*, a *neutral*, or a *base* and rank them in order of pH (1 = most acidic). (Round all numbers to the nearest hundredth.)

Sample Number	Beverage	Actual pH	Actual pH Description (acid, neutral, or base)	Rank (1 = most acidic)
1				
2				
3				
4				
5				
6				
7				

- Set up a scatter plot on Plot1 to display the pH data. Press $\boxed{Y=}$ and graph a horizontal line at 7. Press $\boxed{\text{GRAPH}}$ and sketch it to the right. Discuss the meaning of the location of the points relative to the horizontal line at pH = 7.





Beverage Tests

5. Press $\boxed{Y=}$ and clear the horizontal line. Draw a boxplot to display the pH data and sketch it to the right.



Use your data and graphs to answer the following questions.

6. Compare the actual pH rankings to your predictions. Discuss any surprises or differences you find.

7. Match each description to a tested beverage.

Most Acidic _____

Most Basic _____

Closest to Neutral _____

Median Beverage _____

8. What is the range in the pH readings? _____

9. Find the mean pH. _____

10. Find the median pH. _____

11. How does the mean compare to the median?

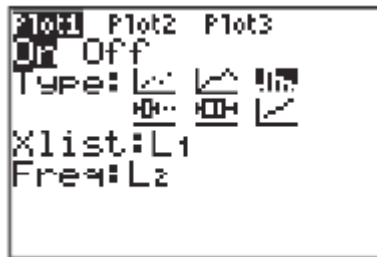
12. Which measure would best describe the average beverage:

13. Where do most of the beverages cluster on the graph?

14. What does this reveal about most of the beverages you drink?

Exploration

1. Set up a histogram in Plot1 to display the pH data with the settings as shown at the right. Follow your teacher's directions to adjust the window settings so the histogram will display a bar graph where each bar represents one of the liquids measured. Record your window settings here:



Xmin: _____ Ymin: _____
 Xmax: _____ Ymax: _____
 Xscl: _____ Yscl: _____

2. Press **[GRAPH]** and sketch your bar graph at the right.
3. Follow your teacher's directions to label your graph and save it as a picture. Add these labels to the sketch here.



4. What is/are the advantages(s) of being able to write on the graph and save it as a picture?

5. What is/are the disadvantage(s) of saving the graph as a picture.
