Measuring pH of Common Substances Data Sheet Answers

You have 10 cups with different substances. First, predict the pH value of each substance. Next, test each substance with litmus paper. *Remember: Acids turn the litmus paper red and bases turn the litmus paper blue.* Calculate the average pH. Indicate whether the substance is an acid or base.

Substance	Predict the pH	pH_1	pH_2	pH_3	Average pH	Acid or Base?
Vinegar					**2.4-3.4**	**acid**
Lemon Juice					**2.2-2.4**	**acid**
Tomato/Apple Juice					**3.0-4.2**	**acid**
Distilled Water					**7**	**neutral**
Salt Water					**8.0-8.4**	**base**

Calculating Averages Example: Turn over for more ➔

If $pH_1 = 5$, $pH_2 = 6$ and $pH_3 = 5$, then, the average pH $= (5 + 6 + 5) \div 3 = 16 \div 3 = 5.3$

Measuring pH of Common Substances Data Sheet, continued

Substance	Predict the pH	pH_1	pH_2	pH_3	Average pH	Acid or Base?
Bleach (ammonia)					**11.0**	**base**
Milk of Magnesia					**10.5**	**base**
Baking Soda					**8.0-9.0**	**base**
Alka-Seltzer in Distilled Water					**6.0**	**~neutral**
Alka-Seltzer in Vinegar					**6.0-7.0**	**neutral**

Calculating Averages Example:

If $pH_1 = 5$, $pH_2 = 6$ and $pH_3 = 5$, then, the average pH $= (5 + 6 + 5) \div 3 = 16 \div 3 = 5.3$