

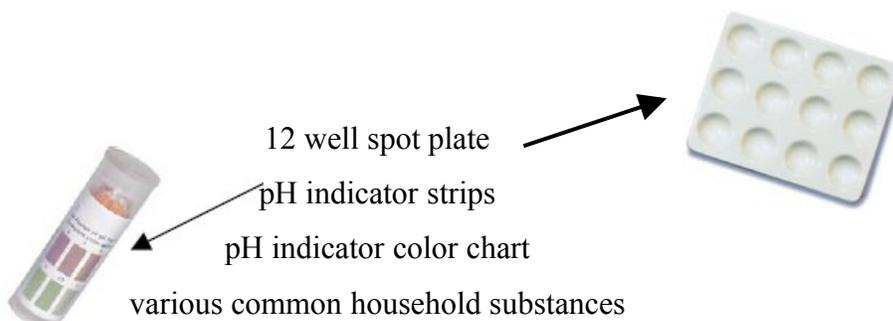
Name _____ Date _____ Block _____

Acid & Base Lab

Objective:

Acids and bases are very common. For example, limestone is made of a substance that is a base when it is dissolved in water. In this investigation you will use what you have learned about solutions, acids, and bases to test various household substances and place them in categories according to their pH values investigate the properties of common acids and bases.

Materials:



Procedure:

1. In your spot plate there are twelve known solutions.
2. Read the data table and predict the pH given what you know about acids & bases.
3. Read the four pre lab questions & answer them in complete sentences.
4. Take turns testing the solutions in the numbered plastic wells by dipping a pH strip into the liquid for about 2 secs. Take the strip out and "read" the pH within 10 sec. by comparing the color of the strip to the pH color chart.
5. **Record the pH on your data chart for each of the numbered solutions.**
6. Now determine if the solutions were **acids** (pH from 0 - 6), **neutral** (pH 7) or **bases** (pH from 8 - 14) **Record this information on your data chart beside each solution.**
7. Clean up your lab area completely.

Pre-Lab Questions:

1. What pH range would you expect food/drink products to be in? _____
2. What pH range would you expect cleaning products to be in? _____
3. Which of the 12 substances do you think will have the lowest pH? _____
Why? _____

4. Which of the 15 substances do you think will have the highest pH? _____
Why? _____

Data Table:

Solution #	Predicted ph	pH from test	Acid or Base?
#1 Mountain Dew			
#2 Shampoo			
#3 Salt Water			
#4 Sugar Water			
#5 Dish Soap			
#6 Vinegar			
#7 Baking Powder			
#8 Alka-Seltzer			
#9 Ketchup			
#10 Borax			
#11 Tap Water			
#12 Sour Candy			

Post Lab Questions:

1. To be an acid, the range of pH must be: _____

2. To be a base, the range of pH must be: _____

3. To be neutral, the pH must be: _____

4. List the names of the substances you tested that are acids.

5. List the names of the substances you tested that are bases.

6. List the names of the substances you tested that are neutral (neither acids nor bases).

7. List the substance/s that appear to be the strongest acids. _____

8. List the substance/s that appear to be the strongest bases. _____

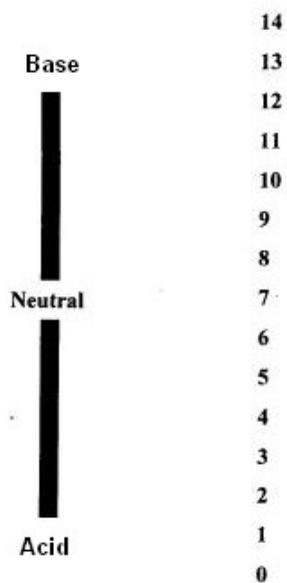
9. Which of the results surprised you the most? Why?

10. **Analyze** What general conclusions can you draw about the hydrogen ion concentration in many acids and bases found in the home? Are the hydrogen ion concentrations very high or very low? How do you know?

11. Antacid tablets react with stomach acid containing hydrochloric acid. What is this type of reaction called? What are the products of this type of reaction?

12. Place each of the 12 substances tested on the pH scale below.

the pH scale



13. Complete the Venn Diagram

