Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour:\_\_\_\_\_

**Introduction to Acids and Bases**

Go to **pilarz.weebly.com** and under the tab **KH Physical Science** select **Unit 10 Acids and Bases**. On this page you will see links for a series of websites to complete the following activities. **Be sure to have this packet completed in time for the quiz Friday (even if you were absent)**. This will be your only resource for the quiz. Time in class should only be used for completing this packet. ***Points will be deducted for youtube usage, gaming and other non-related activities.***

**Website #1**

1. Complete the following chart.

|  |  |  |
| --- | --- | --- |
|  | **Acid** | **Base** |
| Arrhenius Definition |  |  |
| Bronstead Lowry Definition |  |  |
| pH range |  |  |
| What does it feel like? How does it taste? |  |  |
| What type of ions is it composed of (see dissociation)? |  |  |
| How will you know based on its chemical formula if it’s an acid or a base? (include the acid exception in your answer) |  |  |
| What does it do to litmus paper? |  |  |
| Examples |  |  |

1. Read on below the chart about properties of acids and bases.
   1. What pH would a really strong acid have?
   2. What pH would a really strong base have?

**Website #2**

1. Start by creating a chart below of a pH scale, include in your chart at least one example of each pH from 1-14 (you will need to google additional examples as this website does not list an example for each number), also be sure to designate on your chart how acidity and alkalinity (base) increase.
2. Next read the box next to the chart… What is important about a pH of 7?
3. pH is logarithmic, what does that mean?
4. How much more acidic is a pH of 2 compared to a pH of 4?
5. How much more alkaline is a pH of 11 compare to a pH of 10?
6. Pure water is neutral, why do **you** think our tap water we drink is not neutral?
7. At the bottom of this box it asks you to determine the products of two acid base reactions. Take a look at the answers… what do you notice happening when acids and bases combine? What did both of the reactions create?

**Website #3**

1. Go to this website and follow the directions below. Test out 12 DIFFERENT liquids and determine their correct pH. Record your results on the chart.
   1. Use the pH paper to test the first solution. Click and drag the paper into the test tube, then match its color on the scale of pH values. Use the up and down arrows on the pH value counter to indicate the pH of the solution.
   2. Use separate strips of pH paper to test each of the other solutions. Once you have determined the pH of all six samples hit the check button. If they are correct write your results in the chart below.
   3. After you have complete the first 6 hit “reset” and complete a pH test for 6 additional solutions. Keep in mind you want to determine the correct pH (by checking it) before you record your results below.

|  |  |
| --- | --- |
| Solution Name: | pH Value |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |
| 6 |  |
| Solution Name: | pH Value |
| 7. |  |
| 8. |  |
| 9. |  |
| 10. |  |
| 11. |  |
| 12. |  |

**Website #4**

1. What color hydrangeas don’t change color?
2. In general, how do you get pink hydrangeas? How about blue?
3. What does pH stand for?
4. How do they suggest testing the soil for pH?
5. What do they suggest adding to the soil to increase acidity? (they give several ideas in two different sections)
6. What do they suggest adding if you want to go in the pink direction?

**Website #5**

1. Read through the website then summarize what acid rain in, what affect it has on Michigan and what solutions there are (including what barriers there are to solutions).