Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_

**pHET Lab: Acid/Base Solutions**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Solutions** | **View**  **(draw ions)** | **Equation** | **Color of pH paper** | **pH** | **Strength of Conductivity** |
| Water |  |  |  |  |  |
| Strong acid |  |  |  |  |  |
| Weak acid |  |  |  |  |  |
| Strong base |  |  |  |  |  |
| Weak base |  |  |  |  |  |

**Discussion Questions:**

1. Which ions are most abundant in an acid? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Which ions are most abundant in a base? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Which ions are most abundant in water? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. How does the concentration of ions in a strong acid differ from a weak acid?
5. How does the concentration of ions in a strong base differ from a weak base?
6. Explain to someone in 3-4 steps how to use pH paper to determine the pH of a substance:

Step 1 –

Step 2-

Step 3-

**Custom Solution**

1. Set Strength to a strong acid. Adjust the concentrations and record the pH of the solutions.

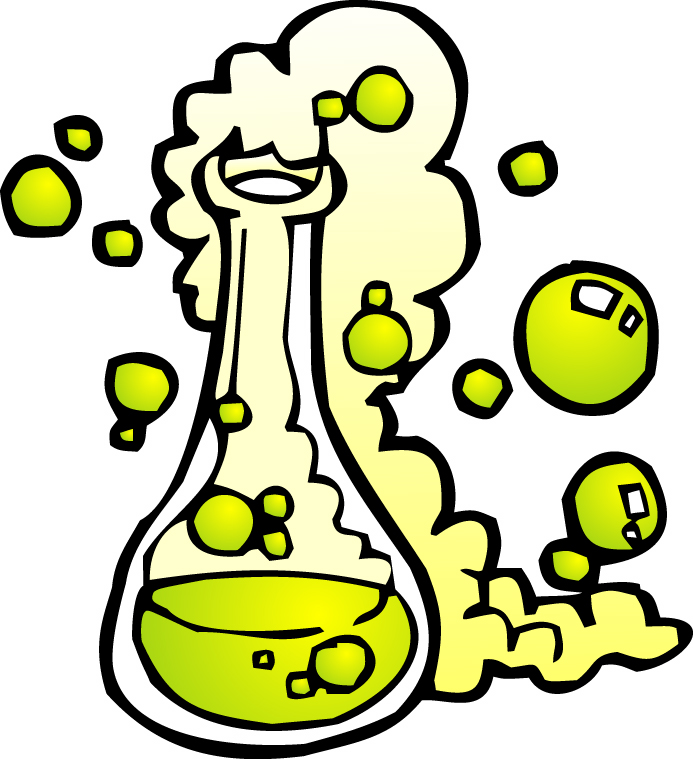
|  |  |
| --- | --- |
| Concentration | pH meter |
| 0.001 |  |
| 0.01 |  |
| 0.1 |  |
| 1 |  |

1. Set Strength to a strong base. Adjust the concentrations and record the pH of the solutions.

|  |  |
| --- | --- |
| Concentration | pH meter |
| 0.001 |  |
| 0.01 |  |
| 0.1 |  |
| 1 |  |

1. As concentration increases by a tenth, what happens to the pH?
2. As concentration increases, what happens to the number of ions in the solution?

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**Acid/Base – 3, 2, 1 Exit Ticket**

|  |  |
| --- | --- |
| 3 | Describe the activity! Give a brief description of the activity that you completed |
| 2 | Things I found interesting when I was playing the game… |
| 1 | Question I have…. |

What do you think we should do next?