Atoms and Molecules

Lap synopsis (part 2)

**Purpose:** The purpose of this lab was to determine if a certain type of a solution was an acid or a base, to test the pH level of a solution, and to test chemical reactants.

**Acids**: Molecules that release hydrogen ions when dissolved in water.

**Bases:** Substances that remove hydrogen ions from solutions.

**Chemical reactions:** Occurs when atoms or molecules react with one another in such a way that chemical bonds are broken and new molecular combinations are mad as new bonds are formed.

**Observation**: Firstly, we dipped pHydrion paper in each solution using a pair of forceps and once we got the results we recorded the number of the pH that it changed to. Then we used each of the solutions that was used before and put 5 drops of each in a test tube. In each of those test tubes we mixed 2 drops of Bromthymol Blue in each and recorded the color change of each. To get the accurate numbers of all the solutions pH levels above, we used the pH meter. The last part of the lab was to test the pH levels of apple juice, soda, soap, and bleach.

**Materials Used:**

* Test tube
* Beaker
* pHydrion paper
* pH Meter
* Bromthymol blue indicator solution
* Phenolphthalein indicator solution
* Apple Juice
* Soda
* Soap
* Bleach
* Forceps

**Table 2.2- Unknowns**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Solution** | **pHydrion Paper** | **Colour After Adding Bromthymol Blue** | **Color After Adding Phenophthalein** | **pH Meter Readings** |
| A | 5 | Yellow | White | 5.19 |
| B | 9/8 | Blue | Pink | 9.25 |
| C | 6 | Blue | Clear/cloudy | 8.21 |
| D | 3 | Yellow/green | Cloudy/white | 3.08 |
| E | 10 | Blue | Pink | 9.60 |

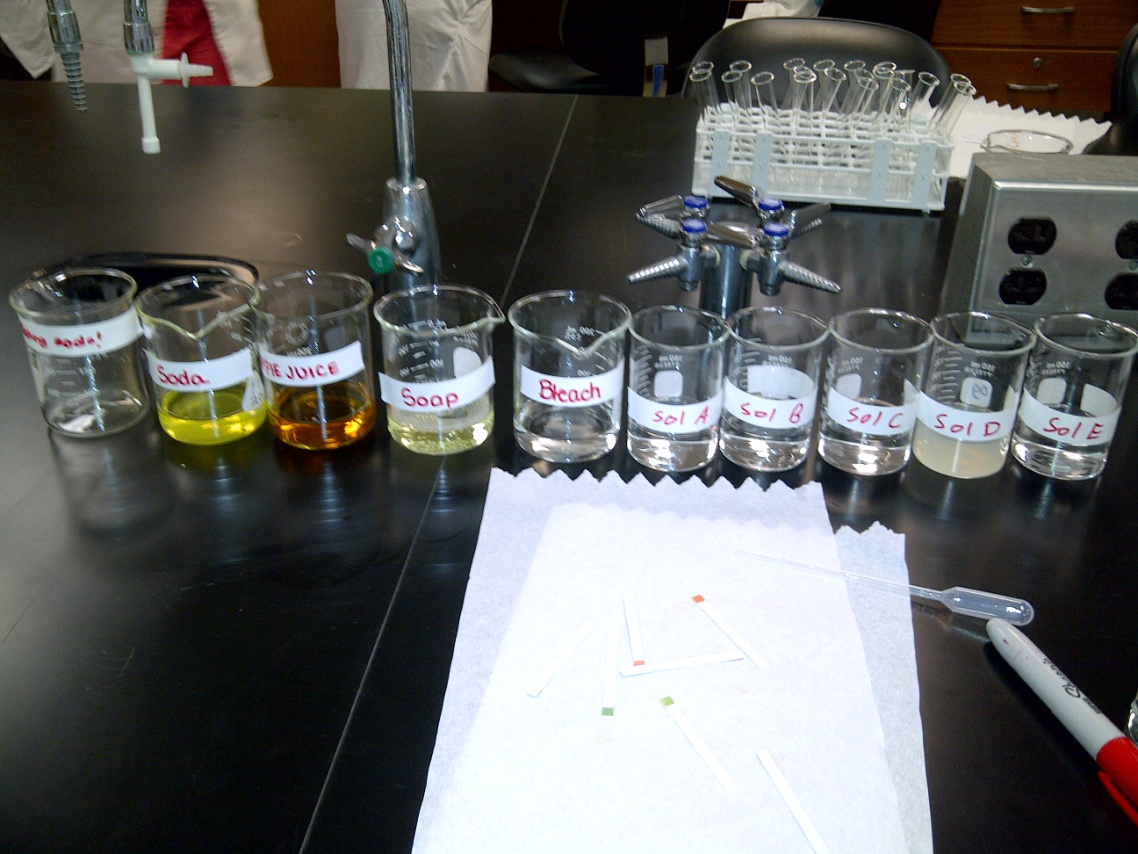
**Table 2.3 pH of Common Solutions**

|  |  |
| --- | --- |
| **Common Solutions** | **pH Meter Readings** |
| Apple Juice | 4.15 |
| Soda | 3.57 |
| Soap | 8.78 |
| Bleach | 9.89 |

**Chemical Reactions**

|  |  |
| --- | --- |
| **Solution** | **Reaction** |
| Sodium Chloride + Silver Nitrate | White and clumpy/ cloudy water |
| Sodium Iodide + Lead Nitrate | Yellow with particles |
| Sodium bicarbonate + Hydrochloric Acid | Fizzed up and went cloudy |

**Conclusion:**  After we completed this lab we realized that Apple Juice and Soda were considered as acids because the pH level was low. On the other hand, bleach and soap are bases because the ph level was high. Also when you add Bromthymol blue to an acid, it changes color, but if you were to add it to a base it does not change.



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