Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Homeroom: \_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_ **3.11**

**Acids and Bases Homework (SPI.9.12)**

**Part I: Acids vs. Bases**

1. Full in the following table to correctly characterize acids and bases:

|  |  |  |
| --- | --- | --- |
|  | **Acids** | **Bases** |
| *pH* | Less than 7 |  |
| *Conducts electricity?* |  |  |
| *What color does it turn litmus paper?* |  |  |
| *How does it feel?* | Varies |  |
| *How does it taste?* |  |  |
| *What ions does it produce in solution?* |  |  |

1. For the following, choose *acid* or *base*.
2. tomato juice; pH = 5
3. pH > 7
4. Turns blue litmus paper red
5. Lemon juice
6. Corrodes a nail
7. Releases hydronium ions in solution
8. pH of 7.6

**Part II: pH and pH Scale**

1. Create a pH scale indicating *pH, acids, bases, and neutral substances. Give examples of each.*
2. Describe the following substances as *acids or bases* and *strong or weak* based on their pH.

|  |  |  |  |
| --- | --- | --- | --- |
| **Substance** | **pH** | **Acids or Base?** | **Strong of Weak?** |
| *Sea water* | 7.8 |  |  |
| *Detergent* | 10.1 |  |  |
| *Lemon juice* | 2.1 |  |  |
| *Stomach acid* | 1.7 |  |  |
| *Ammonia* | 12.3 |  |  |
| *Milk* | 6.8 |  |  |
| *Drain cleaner* | 13.5 |  |  |
| *Battery acid* | 1.0 |  |  |
| *Oven cleaner* | 13 |  |  |

**Part III: Expressing Your Scientific Understanding in Writing**

*Write a power paragraph explains the similarities and differences between acids and bases. This must be an entire paragraph. Your writing should be thorough, logical, well organized, clear and precise.*