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

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

|  |  |
| --- | --- |
| ***Key Point*** | ***Notes*** |
| **Acids** | **Acids:**   * Taste \_\_\_\_\_\_\_ * pH \_\_\_\_\_ than 7 * Corrode metals * Produce \_\_\_\_ (as H3O+/hydronium) ions in water (the hydronium ion is a hydrogen ion attached to a water molecule) * React with metals to give off hydrogen gas * Conduct \_\_\_\_ * Turn litmus paper RED   **Examples of acids:** |
| **Bases** | **Bases:**   * Soapy/\_\_\_\_\_\_\_\_\_ feel * Bitter, chalky taste * Produce \_\_\_\_ (hydroxide) ions in water * pH \_\_\_\_\_\_\_\_ than 7 * Conduct Electricity * Turn Litmus Paper BLUE “Basic Blue”   **Examples of bases:** |
| **pH scale** | The **pH scale** is used to express the strength of acids and bases solutions. It ranges from \_\_\_\_\_\_\_\_\_   * + **Acids** have a pH \_\_\_\_\_ than 7   + **Bases** have a pH more than \_\_\_\_   + **Neutral** solutions have a pH of \_\_\_\_\_\_\_\_\_ 7 |
| **pH** | **pH** is a measure of how many hydronium (H30+) and hydroxide (OH-) \_\_\_\_ are in a solution   * Remember, an \_\_\_\_\_\_\_ produces hydronium (\_\_\_\_\_) ions when it dissolves in water * A **base** produces hydroxide ions (\_\_\_\_\_) when dissolved in water |
| **Weak vs. Strong Acids/Bases** | * The stronger a \_\_\_\_\_\_ is, the \_\_\_\_\_\_\_\_\_\_ the pH * The stronger an \_\_\_\_\_\_ is, the \_\_\_\_\_\_\_\_\_\_ the pH * As we move closer to 7 from either direction, acids and bases become weaker and more neutral |
| **So What?!** |  |

**“We Own This” (Guided Practice):**

*Fill in the following Venn diagram with the characteristics that we decide upon as a class below:*

**BASES**

**ACIDS**

**“I Own This” (Independent Practice):**

1.Fill in the following table to differentiate between acids and bases:

|  |  |  |
| --- | --- | --- |
|  | **Acids** | **Bases** |
| pH |  | Greater than seven |
| Taste |  |  |
| Feel | Varies |  |
| Produce what ions? |  |  |
| Produce electricity? |  |  |
| What color do they turn litmus paper? |  |  |
| Examples |  |  |

2. Is an acid with a pH of 6 strong or weak? Why?

3. Is a base with a pH of 13 strong or weak? Why?