**Acids, Bases, and the pH Scale**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Complete the table below by filling in the blanks with suitable words.

|  |  |
| --- | --- |
| **Properties of Acids** | **Properties of Bases** |
| **hydrogen**   * Acids produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (H+) ions in solution.   **sour**   * Acids taste \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. * Acids turn litmus paper \_\_\_\_\_\_\_\_\_\_\_\_.   **red** | **hydroxide**   * Bases produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (OH-) ions in solution.   **bitter**   * Bases taste \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. * Bases turn litmus paper \_\_\_\_\_\_\_\_\_\_\_\_\_.   **blue** |

1. Fill in the blanks with suitable words.

**pH**

* 1. The \_\_\_\_\_\_\_\_scale measures how acidic or basic a substance is.
  2. The pH scale ranges from \_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_.

**neutral**

* 1. A solution with a pH of 7 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**lower**

**acid**

* 1. A pH less than 7 is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, with \_\_\_\_\_\_\_\_\_\_\_\_ numbers indicating stronger acids.

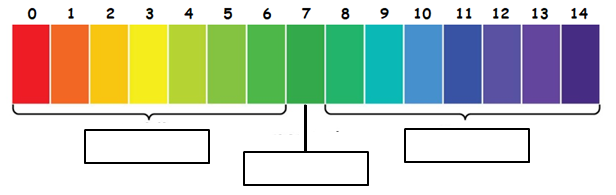
**higher**

**base**

* 1. A pH greater than 7 is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_, with \_\_\_\_\_\_\_\_\_\_\_\_ numbers indicating stronger bases.

1. Fill the blanks in the diagram below with following words to identify ranges of the pH scale.

|  |  |  |
| --- | --- | --- |
| neutral | acidic | basic |

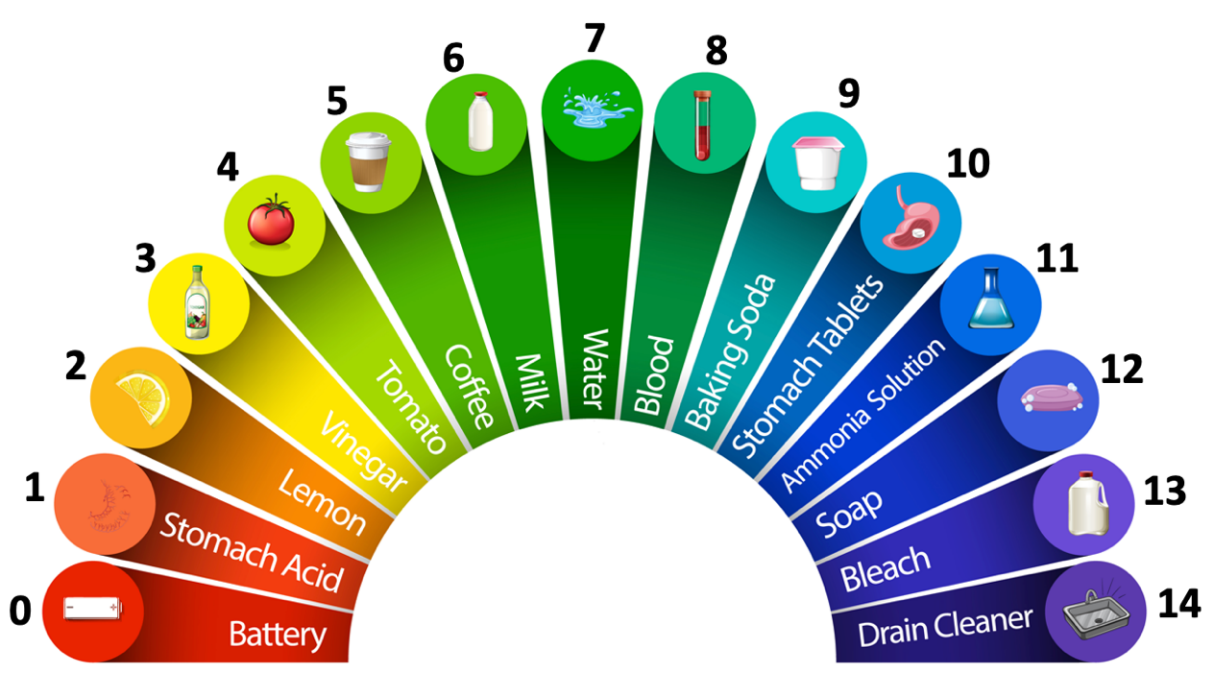


**basic**

**neutral**

**acidic**

Use the pH scale below to answer the next three questions.



1. Which of the following is an **acid**?

|  |  |
| --- | --- |
| a) Lemon | b) Water |
| c) Ammonia Solution | d) Bleach |

1. Which of the following items would turn red litmus paper blue?

|  |  |
| --- | --- |
| a) Milk | b) Vinegar |
| c) Baking Soda | d) Tomato |

1. Which of the following would be considered the **strongest base**?

|  |  |
| --- | --- |
| a) Blood | b) Soap |
| c) Baking Soda | d) Drain Cleaner |

1. Which pH value indicates the **most acidic solution**?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 7 | b) 2 | c) 5 | d) 11 |

1. Which of the following is a **base**?

|  |  |
| --- | --- |
| a) H2SO4 | b) HNO3 |
| c) HCl | d) NaOH |

1. Which of the following is an **acid**?

|  |  |
| --- | --- |
| a) Mg(OH)2 | b) Al(OH)3 |
| c) H2CO3 | d) NH4OH |

1. A solution with a pH of 8.0 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |
| --- | --- |
| a) weakly acidic | b) strongly acidic |
| c) weakly basic | d) strongly basic |