

Not So Neutral Quiz **Answers**

1. What do the following terms mean to you? Write your ideas below each word below:

Acid	Base	Neutral
<p>A substance with a pH of less than 7</p>	<p>A substance with a pH of greater than 7</p>	<p>A substance with a pH equal to 7</p>

2. Provide an example of each of the following: **See the pH Values of Common Substances**

Acid **Lemon, grapefruit, dried apricots, molasses, vinegar, milk**

Base **Milk of Magnesia, ammonia, crackers**

Neutral **Distilled water**

3. In the space below, describe the pH scale and its characteristics in your own words. You may use pictures, diagrams and colors to help you. Hint: Think about the rainbow! Use additional paper if necessary.

The following are pH facts. Students will obviously describe pH in their own words or drawings.

- **The pH scale is a measure of the acidity or alkalinity of a solution.**
- **The pH scale is used to describe the hydrogen-ion (H⁺) concentration of an aqueous solution.**
- **The pH scale ranges between 0 and 14, with 7 being neutral. A solution with a pH below 7 is acidic, and a solution with a pH greater than 7 is basic (alkaline).**
- **Each one-unit change in pH is a tenfold increase (or decrease) in the strength of the acid or base. A change from pH 5 to pH 3, for example, would be a 100 times (10 x 10) increase in acidity.**
- **We use indicators, such as litmus paper or cabbage juice, to identify a substance's value on the pH scale.**

For litmus paper: bluer = more basic, redder = more acidic

For cabbage juice: blue, green and yellow = basic solutions, redder = more acidic

4. Imagine that you are an engineer designing a park for your neighborhood, and your community is in a part of the world that receives acid rain. Design your park carefully because of this fact. What special things must you consider in your design? Use additional paper if necessary.

Some things to consider are how different construction materials (plastic, metal, wood) react to acid rain. The junior engineers also may want to minimize water collection points so that acid rain cannot collect on top of the playground equipment.