The pH scale

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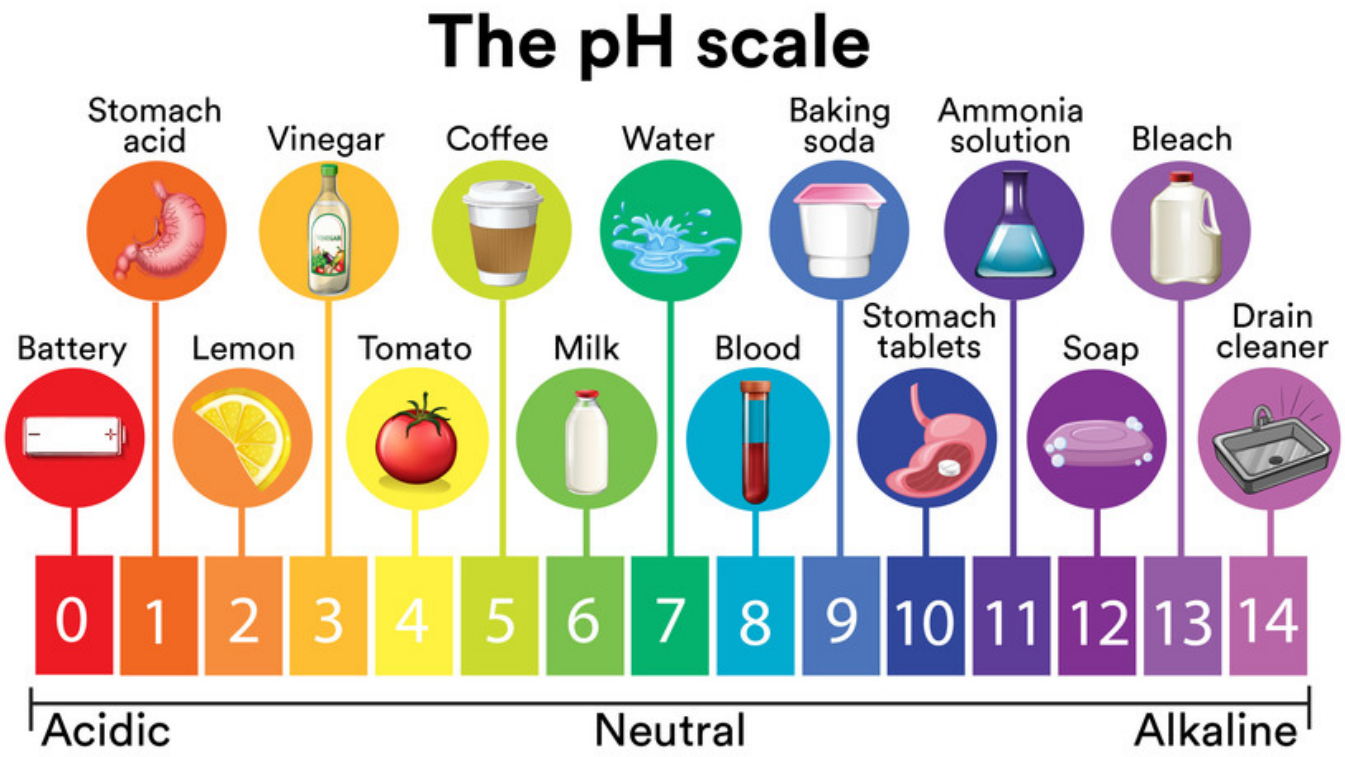

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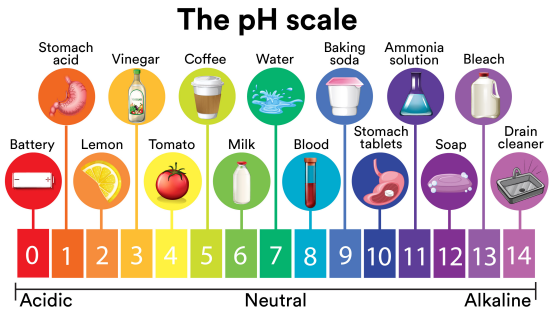
In chemistry, the pH scale is used to measure how acidic or alkaline (basic) a solution is. This scale measures how many H^+ atoms are free in a solution, which is a mixture of two or more substances.



Acids and bases are two types of chemicals. Acids can taste sour or tart, such as the citric acid in lemon juice. They donate a positively charged hydrogen atom (H^+). Bases are slippery like soap, which is made from one base called lye. They accept H^+.

Pure water has a pH of 7. A pH lower than 7 is more acidic. A pH greater than 7 is more alkaline or basic.

When acids and bases react together, they usually make water. For example, hydrochloric acid (HCl) is an acid in our stomach that breaks down food. This solution has a pH of 1, meaning it is a very strong acid.

Antacids are used to calm heartburn and react with stomach acid. The pH of antacids are around 10, which means antacids are basic.

One chemical used in antacids is a base called magnesium hydroxide ($Mg(OH)_2$). When HCl and $Mg(OH)_2$ react, they neutralize each other and make a salt ($MgCl_2$) and water (H_2O).