**Vocabulary:** **pH Analysis: Quad Color Indicator**

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**Vocabulary**

* Acid – a water-soluble compound that donates protons (H+ ions) to a base.
  + Acids are often sour in taste, can burn the skin and eyes, and react with a base to produce a salt and water.
  + Concentrated acids are corrosive to metals.
  + The chemical formulae of acids usually begin with H. Examples are HCl (hydrochloric acid, found in your stomach), H2SO4 (sulfuric acid, found in car batteries) and H2CO3 (carbonic acid, found in soft drinks).
* Acidic – being or containing an acid.
  + Acidic substances have a pH value less than 7.
* Alkaline – being or containing a base.
  + Alkaline substances have a pH value greater than 7.
* Base – a water-soluble chemical compound that accepts protons from an acid.
  + Bases are often bitter in taste, have a slippery texture, and react with acids to product a salt and water.
  + Concentrated bases are corrosive to organic matter.
  + The chemical formulae of bases usually end with OH. Examples are NaOH (sodium hydroxide, found in drain cleaners), KOH (potassium hydroxide, used to make soap) and Ca(OH)2 (calcium hydroxide, found in plaster).
* Indicator – a substance that changes color when in contact with an acid or base.
  + Examples of indicators include litmus, bromthymol blue, methyl yellow, phenol red, red cabbage juice, curry powder, and many others.
* Neutral – neither *acidic* nor *basic*.
  + Neutral substances do not yield excess H+ or OH- ions when dissolved in water.
  + Pure water is neutral and has a pH value of 7.0.
* pH – a measure of how many hydrogen ions there are in a solution. The greater the number of hydrogen ions, the more acidic the solution.
  + The symbol “pH” stands for “potential of hydrogen” or “power of hydrogen.”
  + The pH scale is a *negative logarithmic* scale:
    - The lower the pH, the greater the concentration of hydrogen ions, and the more acidic the solution.
    - Because the scale is logarithmic, a substance with a pH of 4 is 10 times more acidic than a substance with a pH of 5.