

# I. Water Chemistry

- a. Sometimes water molecules will split apart and form ions.
- b. Scientist suggest that this happens to one in every 550 million water molecules.
- c. Ions are divided into positive hydrogen ions and negative hydroxide ions.
- d. The symbol for positive hydrogen is  $(\text{H}^+)$ .
- e. The symbol for negative hydroxide is  $(\text{OH}^-)$ .



# II. The pH Scale

a. The “p” in pH represents the German word potenz.

b. Potenz is German for power.

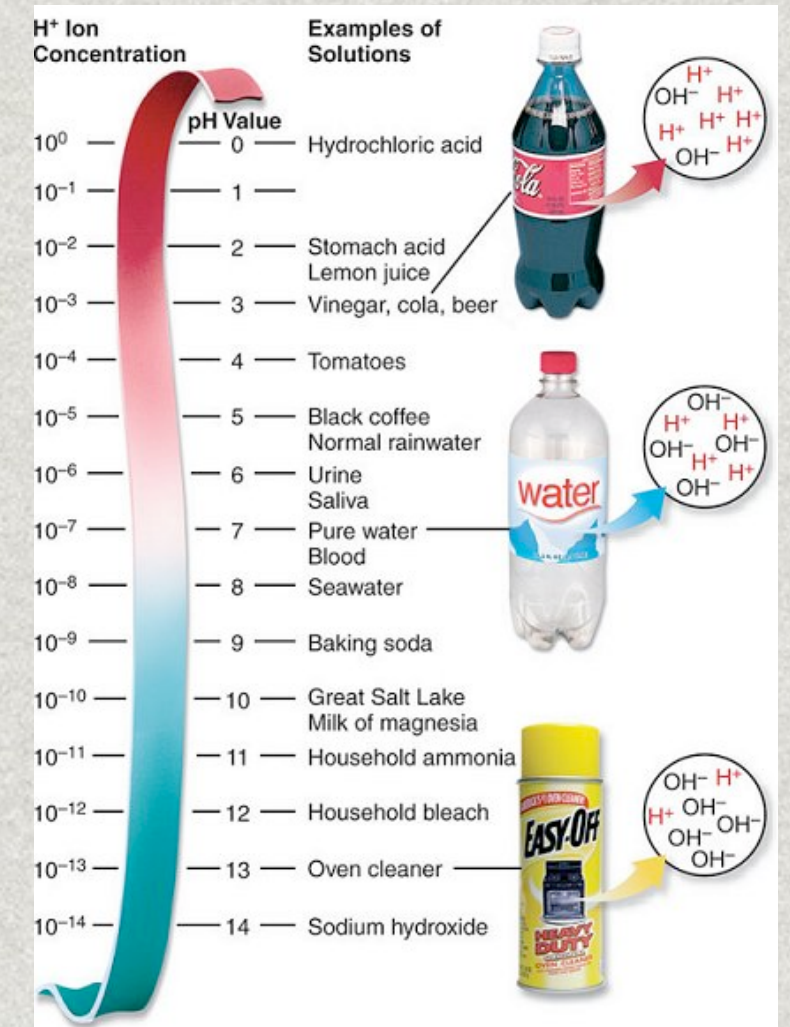
c. Therefore, pH stands for the power of hydrogen.

d. The pH scale ranges from 0 to 14.

e. At a range of seven there is an equal amount of positive and negative ions.

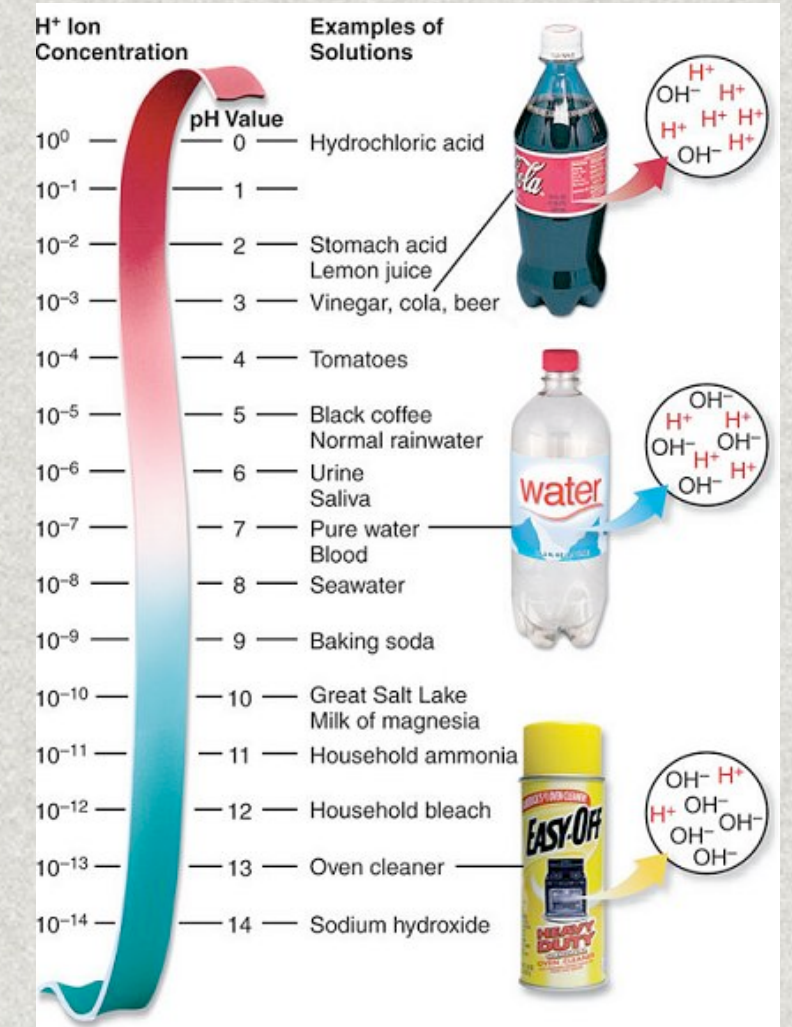
f. A range below seven is acidic because they have more positive ions.

g. A range above seven are called basic or alkaline because they have more negative ions.





# III. The pH Scale



a. Acidic pH can decrease the toxicity of ammonia.

b. Lower temperature can reduce the toxicity of ammonia.



## IV. Cohesion vs. Adhesion & The Meniscus

### a. Adhesion:

the attraction between molecules of different substances.

*adhesion creates a meniscus when placing water in a cylinder.*

### b. Cohesion:

the attraction between molecules of the same substance.