Introduction to Acids & Bases: A WebQuest


   The word acid comes from the Latin word ________________, meaning ________________.

   Boyle stated that acids taste ________________, are corrosive to ________________, change the color of litmus to ________________, and become less acidic when mixed with ________________.

   He described bases as feeling ________________, changing litmus to the color ________________, and becoming less basic when mixed with an ________________.

   About 200 years later, Arrhenius proposed that water can dissolve many compounds by separating them into their individual ________________. He suggested that acids contain ________________ and can dissolve in water to release ________________.

   Bases dissolve in water to release ________________ ions into the solution.


   Every liquid has ________________ & ________________ traits. ________________ can be both an acid and a base, depending on how you look at it. It can be considered an acid in some reactions and a base in others. Water can even react with itself to form acids and bases.

   Most of the time, the positive and negative ________________ in distilled water are in equal amounts and cancel each other out. Most water you drink from the ________________ has other ions in it. Those special ions in solution make something acidic or basic. In your body there are small compounds called ________________. The name tells you those are acids. In fruits there is something called ________________.

   A chemist named ________________ came up with a way to define acids and bases in 1887. He saw that when you put molecules into water, sometimes they break down and release an ________________. At other times, you find the release of an ________________. When a hydrogen ion is released, the solution becomes ________________. When a hydroxide ion is released, the solution becomes ________________.

3. [http://chemistry.about.com/od/acidsbases/a/acidbaseformula.htm](http://chemistry.about.com/od/acidsbases/a/acidbaseformula.htm)

   Give the formula for the following acids:
   - Hydrofluoric Acid- ________________
   - Hydrochloric Acid- ________________
   - Hydrosulfuric Acid- ________________
   - Nitric Acid- ________________
   - Sulfuric Acid- ________________
   - Acetic Acid- ________________
Boric Acid-

Give the formula for the following bases:
- Sodium Hydroxide-
- Potassium Hydroxide-
- Calcium Hydroxide-
- Iron (II) Hydroxide-

4. [http://chemistry.about.com/od/acidsbases/a/acidsbasesterms.htm](http://chemistry.about.com/od/acidsbases/a/acidsbasesterms.htm)

Scroll down to Properties of Acids.

Complete the following sentences for **Acids**
- Tastes ____________________
- Changes litmus from blue to _____________.
- Solutions are ___________________________ (conduct electricity).
- React with bases to form ___________________ + ___________________.

**Neutralization**
- Create _______________ gas when reacting with an active metal.
- Five (5) Common acids (scroll down):

Properties of **Bases**
- Tastes ________________
- Feels ____________________________
- Don’t change the color of __________________________
- Solutions are ___________________________ (conduct electricity).
- React with acids to form ___________________ + __________________

**Neutralization**
- Four (4) Common Bases:

5. [http://chemistry.about.com/od/acidsbases/a/phtable.htm](http://chemistry.about.com/od/acidsbases/a/phtable.htm) and

Scroll down on the site above until you get to the pH scale

Using the sites above, answer the questions below:
- A. pH range of acids _________________________
- B. pH of a neutral substance ________________
- C. pH of a basic (alkaline) substance ________________

Use information from the sites above and list the following substances according to pH. The lowest pH should be listed first and the highest base listed last. HCl and NaOH are given as examples.

Substances: Correct Acid-Base pH list
Pure water
Apples
Ammonia
Lime (Calcium Hydroxide)
Milk
HCl
Vinegar
Baking Soda
NaOH
Human Blood
Lemon juice
Battery Acid
Milk of Magnesia
Rain water
Egg whites
Drano

1 HCl
14 NaOH

6. [http://chemistry.about.com/library/weekly/blacidquiz.htm](http://chemistry.about.com/library/weekly/blacidquiz.htm)

Take the quiz.
Place score here______________.

7. [http://chemistry.about.com/library/weekly/bl060603a.htm](http://chemistry.about.com/library/weekly/bl060603a.htm)

Take the quiz.
Place score here______________.