**Calculating pH II**

**Since pH is based on negative logs, Scientific Notation and significant digits are often used.**

**Example: 2.5 x 10-3 M HCl pH?**

**-log (2.5 x 10-3) = 2.60206**

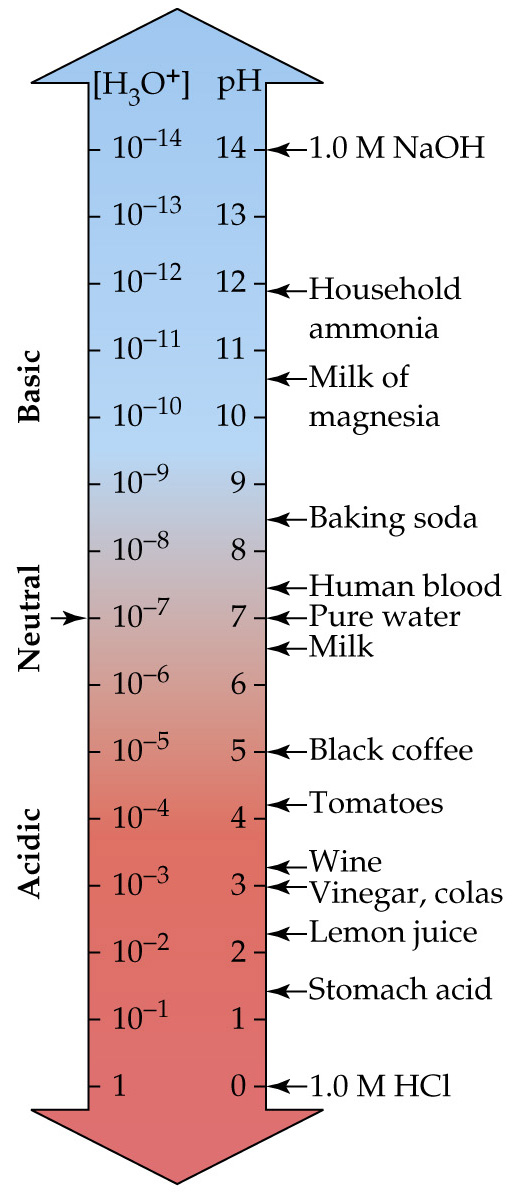
**2.6 (sig. digits).**

**To appreciate the extent to which the pH scale is a compression of the [H3O+] scale, compare the amounts of 12 M HCl required to change the pH of the water in a swimming pool:**

**100 ml of 12 M HCl is needed to change the pH from 7 to 6.**

**10,000 L truckload of 12 M HCl is needed to change the pH from 7 to 1.**

**The pH scale and values for some common substances are:**



**Because the pH is the negative log of [H3O+], the pH decreases as [H3O+] increases.**

**Thus, when [H3O+] increases from 10-7 to 10-6, the pH decreases from 7 to 6.**