

TEAM ASSIGNMENT

DUE DATE: FEBRUARY 14, 2011

Please investigate the CO₂-pH-kH relationship presented below in Table 1 and write a one-page summary on how the relationship was derived. Show equations for the reactions that occur in water related to CO₂ dissolution and describe the chemistry of the carbonate system. Comment on the reliability of the table.

Indicate references used for your assignment.

Table 1: The relationship of Carbon Dioxide, pH and KH [1]

\ pH KH\	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	8.0
0.5	15	9.3	5.9	3.7	2.4	1.5	0.9	0.6	0.2
1.0	30	19	12	7	5	3	1.9	1.2	0.3
1.5	44	28	18	11	7	4	2.8	1.8	0.4
2.0	59	37	24	15	9	6	4	2.4	0.6
2.5	73	46	30	19	12	7	5	3	0.7
3.0	87	56	35	22	14	9	6	4	0.9
3.5	103	65	41	26	16	10	7	4	1.0
4.0	118	75	47	30	19	12	6	5	1.2
5.0	147	93	59	37	23	15	9	6	1.5
6.0	177	112	71	45	28	18	11	7	1.8
8.0	240	149	94	59	37	24	15	9	2.4
10	300	186	118	74	47	30	19	12	3
15	440	280	176	111	70	44	28	18	4
	CO ₂ mg/liter								

Reference:

[1] <http://www.thekrib.com/Plants/CO2/kh-ph-co2-chart.html>, Accessed 2 Feb, 2011