

Review Topics Chapter 14

1. What is an acid or base-
Using the Arrhenius concept
Using Bronsted-Lowry Model
Using the Lewis model
2. Given a chemical equation, identify the acid, base, conjugate acid and conjugate base
3. What is an acid dissociation constant (K_a), a base dissociation constant (K_b)?
4. What is meant by a strong acid, a weak acid, a strong base, a weak base?
5. Can you list 1 or 2 weak acids and bases? Can you list 2 or 3 strong acids or bases?
6. What is an oxyacid, an oxide, a monoprotic acid, a polyprotic acid, an amphoteric substance?
7. Given K_a 's be able to rank acids in term of strength. Do the same for K_b 's and bases
8. What is the value of K_w , what is the ion-product for water?
9. What does it mean when we say a solution is acidic, basic or neutral -
in terms of $[H^+]$, $[OH^-]$?
in terms of pH and pOH?
10. How do you calculate pH, pOH
11. Given $[H^+]$ calculate pH, pOH, $[OH^-]$ and vice versa
12. Be able to calculate the pH of a strong acid solution
13. Be able to calculate the pH of a weak acid solution
14. Given a solution made with a weak acid and the K_a of that acid, be able to calculate the percent dissociation of that acid and vice-versa
15. Be able to calculate the pH of a strong base solution
16. Be able to calculate the pH of a weak base solution
17. Be able to roughly predict the pH of various salts and ionic compounds, and explain how you got that answer
18. Given various sets of acids, be able to predict the strength of the acid, based on properties discussed in 14.9

Review Topic for Chapter 15

1. What is the common ion effect?
2. What is a buffer?
3. What is the Henderson-Hasselbalch equation? Be able to use it to calculate the pH of a buffered solution.
4. What is a titration, and what should the titration curve of a weak acid or base look like.