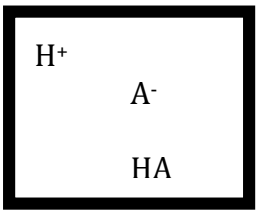
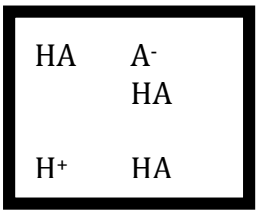
SCH 4C Unit 2 – Review

1. Define solute, solvent, solution, acids and bases.
2. What does corrosive mean?
3. Make a table comparing acids and bases.
4. Write dissociation equations for:
    a. HBr
    b. H_2SO_4
    c. $Al(OH)_3$
5. Name the following:
    a. HCl
    b. $HCl_{(aq)}$
    c. NaOH
    d. H_2SO_4
    e. H_2CO_2
    f. $Ca(OH)_2$
    g. HClO
    h. $HBr_{(aq)}$
    i. HNO_4
    j. LiOH
    k. H_3PO_2
    l. $HClO_4$
    m. $Na(OH)_2$
    n. HF
    o. $HF_{(aq)}$
6. Give the chemical formula for the following:
    a. hydroiodic acid
    b. rubidium hydroxide
    c. persulfuric acid
    d. ammonium hydroxide
    e. nitrous acid
    f. beryllium hydroxide
    g. hypocarbonic acid
    h. phosphoric acid
    i. hypochlorous acid
7. Define concentrated, dilute, strong and weak in terms of acids and bases.
8. Which is stronger? Which is concentrated?





9. What is the v/v concentrations of a solution of rubbing alcohol that contains 140mL of pure propanol in 200 mL of solution?
10. Define the mole.
11. Change 13.2 g of Sn(CO3)2 to moles.
12. How many atoms of sodium are in an 18g sample?
13. What is the mass of 2 mol of sodium fluoride?
14. If you had 200mL of a 1M solution, how many moles would you have?
15. What is the molar mass of calcium hydroxide?
16. What is the mass of 0.33 mol of magnesium?
17. Which has more particles 3 moles or 2 moles?
18. Defile molarity.
19. A NaOH solution contains 0.186 moles of NaOH in 0.25L of solution. What is the molar concentration?
20. How much water do you need to add to a 12M hydrochloric acid solution to form 500mL of 2.0M hydrochloric acid solution?
21. Why does the light glow more strongly with H_2SO_4 than with acetic acid?
22. How to you combine acids with water? Why?
23. If you have 1L of 10M $HCl_{(aq)}$, how much 2M $HCl_{(aq)}$ can you make?
24. What is pH? What does it measure?
25. pH 5 is _____ x stronger/weaker than pH 6
26. Calculate the pH of a 2.0×10^{-10} M solution of nitric acid.
27. What is acid precipitation?
28. What is smog?
29. Why does rainwater have a pH of 5.6?
30. What is an indicator? List 4.
31. When metals are burned, what is made? When the product is placed in water, what is produced? Same question with non-metals.
32. Define soft water, hard water, temporary hardness and permanent hardness.
33. Explain what a zeolite is and what it does.
34. What is the problem with soap and hard water?
35. Why is detergent used in hard water ok?
36. Define neutralization.
37. Complete the following word equations. Write the chemical equation underneath.
    a. carbonic acid + potassium hydroxide
    b. sulphuric acid + calcium hydroxide
    c. hyponitrous acid +aluminum hydroxide
38. Complete the following chemical equations and write the word equation underneath.
    a. $HCl_{(aq)} + LiOH_{(aq)}$
    b. $H_2S_{(aq)} + Mg(OH)_{2(aq)}$
    c. $H_2CO_3 + Al(OH)_{3(aq)}$
39. Define ground level ozone. What are its effects?
40. In which part of the atmosphere do we live?
41. What is UV radiation? Why is it a problem?
42. What are CFCs? Why are they a problem?
43. Define the Montreal Protocol and the Kyoto Accord.
44. Define global warming. Why is it a problem?
45. Define the greenhouse effect. What causes it?