

# Solution and Acid-Base Unit Review Sheet

## Solution Chemistry

Units of concentration  
mol/L = molarity = mol/dm<sup>3</sup>  
mass /mass %  
volume / volume %  
parts per million (ppm)  
parts per billion (ppb)

1. What affects solubility
2. Definition of solubility
3. How to make a solution or dilution
4. Concentration of ions, total number of ions
5. Dissociation and ionization (definition, equation and diagram)
  - a. lattice and hydration energy, be able to draw diagram of an ionic compound dissolved in water
6. Dilution from stock solution; what is the concentration
7. Solubility rules
8. Writing a double displacement equation with states
9. TIE and NIE equations
10. Stoichiometry solution questions with LR
11. Percent yield

## Acid-Base Chemistry

### Definitions:

- 3 acid-base definitions (for Bronsted Lowry: show conjugate acid-base pairs, and for Lewis you must show the lone pair of electrons and movement of electrons, co-ordinate covalent bond)
  - weak and strong acid, base (and which ones are strong/weak)
    - ex. weak acid and water (must be reversible, conjugate acid and base and show donation of proton)
  - electrolyte (which is better conductor)
  - monoprotic, diprotic, etc
  - titration, end point, equivalence point, burette, pipette, indicator
1. The 4 experiment evidence to measure the strength of an acid, (thermometric, electric conductivity, rate of reaction with metal or carbonate, indicators).
    - a. - not titration; equivalence point: moles of acid required to neutralize base is always the same
  2. Lewis label and the relationship between acid and base

3. Reactions of acids (with metal, metal carbonate, etc)
4. Sketch a pH curve and how to do calculations to determine the pH after the addition of a quantity of base added to an acid.
5. Any calculations with pH, pOH or concentration of hydrogen or hydroxide ions
6. Titration calculations