

CHM1025 Review Topics Module 12

Module 12:

1. Know when you have a saturated, unsaturated or supersaturated solution.
2. Concentration units:
 - a. % by weight $t = (\text{g solute/g solution}) \times 100$
 - b. $M = \text{moles of solute/liters of solution}$
3. If asked for % by weight or Molarity use the formulas in 2.
4. If given % by weight assume you have 100 g of the solution and then the % is the grams of the solute. The difference between 100 and the grams of the solute is the grams of the solvent. Use the ratio of grams of either solute/solvent, solute/solution or solvent/solution or the inverses as conversion factors to convert between what is given and what is asked.
5. If given Molarity make a conversion factor: M is the grams/1 L solution or the inverse as a conversion factor between moles of solutes and liters of solution or the reverse.
6. Dilution formula: $c_1V_1 = c_2V_2$. The c can be in any concentration units including M or % by weight or any other. You always add solvent to the more concentrated solution to obtain the more diluted solution. The amount of solvent added is the difference between the initial and final volume of solution.