

1. Define solvent and solute.
2. Is the solvent always a liquid? Is the solute always a solid?
3. A solution with mass of 70.0g is made by combining 13.2g of NH_3 (ammonia) with water. What is the percent concentration (m/m) of the solution?
4. If the above solution has a volume of 71.6 mL, what is its molarity?
5. Give an example of a solid solution.

11. During the manufacture of maple syrup sap from maple trees is distilled. The sap is heated so that the solvent (water) boils away, but the sugar does not. As the water is removed, the concentration of the sugar increases. What volume must 5L of sap be distilled down to in order to increase the sugar concentration from 3% to 20%?

12. Define osmosis.

13. What are the differences between solutions, colloids and suspensions? Give an example of each.

14. How many mL of a 3.01 M solution of HCl are needed to react completely with 22.6g of zinc to form ZnCl₂? How many liters of H₂ will be formed if the reaction is at STP?