

1. Define solute and solvent.
2. Salt is dissolved in a glass of water. Which is the solute? Which is the solvent?
3. What effect would increasing temperature have on the dissolving process? Lowering temperature?
Explain.
4. What effect would increasing concentration (adding more solute) have on the dissolving process? Lowering concentration?
Explain.
5. What effect would increasing surface area (i.e. breaking up a sugar cube) have on the dissolving process? Lowering surface area? Explain.
6. Explain what you would do to quickly dissolve sugar in a cup of coffee.
7. Calculate the number of grams of solute needed to prepare each of the following solutions:
 - a) 4500.0 mL of a 2.0M solution of potassium hydroxide.
 - b) 2.0 liters of 3.0M nitric acid solution.
8. Calculate the molarity of each of the following solutions:
 - a) 0.60 mol of NaCl dissolved in 1.6 L of solution.
 - b) 25.2 g of potassium nitrate in enough water to make 150.0 mL of solution.
9. You must prepare 500.0 mL of 0.750M NaBr solution using a 3.00M NaBr stock solution. How many milliliters of stock solution should you use? (Hint: use the dilution equation)
10. What is the concentration of the following solutions (in percent composition)?
 - a) 40.0 mL of H₂O₂ in a 500.0 mL bottle of solution
 - b) 60.0 g of NaCl in a 1.0 L bottle of solution
11. What is the concentration (in grams per liter) of the following solution: 40.0 g of KClO₃ in 650.0 mL of solution?