

10. A solution has a volume of 2.0L and contains 36.0 g of glucose ( $C_6H_{12}O_6$ ). If the molar mass of glucose is 180g/mol, what is the molarity of the solution?
11. A solution has a volume of 250mL and contains 0.70 mol NaCl. What is its molarity?
12. How many moles of ammonium nitrate are in 335 mL of 0.425M  $NH_4NO_3$ ?
13. How many moles of solute are in 250 mL of 2.0M  $CaCl_2$ ? How many grams of  $CaCl_2$  is this?
14. How many milliliters of a solution of 4.00M KI are needed to prepare 250.0 mL of 0.760M KI?
15. How could you prepare 250 mL of 0.20M NaCl using only a solution of 1.0M NaCl and water?
16. If 10 mL of propanone ( $C_3H_6O$ ) is diluted with water in a total solution volume of 200 mL, what is the percent by volume of propanone in the solution?
17. A bottle of hydrogen peroxide ( $H_2O_2$ ) is labeled 3.0% (v/v). How many mL  $H_2O_2$  are in a 400.0 mL bottle of the solution?
18. Calculate the grams of solute required to make 250 g of 0.10%  $MgSO_4$  (m/v)?
19. How do you calculate the molarity of a solution?
20. How does the number of moles of a solute before a dilution compare with the number of moles of solute after a dilution?
21. What are two ways of expressing the concentration of a solution as a percent?
22. What is the molarity of a solution containing 400 g  $CuSO_4$  in 4.00 L of solution?
23. How many milliliters of a stock solution of 2.00 M  $KNO_3$  would you need to prepare 100.0 mL of 0.150 M  $KNO_3$ ?
24. How many moles of solute are present in 50.0 mL of 0.20 M  $KNO_3$ ?
25. What is the concentration, in percent (v/v) of a solution containing 50 mL of  $C_4H_{10}O$  in 2.5 L solution?
26. What mass of  $K_2SO_4$  would you need to prepare 1500 g of 5.0%  $K_2SO_4$  (m/m) solution?