

Topics/concepts covered on quiz:

solute	molarity	reliable source	molar mass
solvent	aqueous	molarity formula ( $M = \text{mol/L}$ )	
solution	conversion from mL to L	conversion from mg to g	

Practice questions (**YOU MUST SHOW WORK FOR CALCULATIONS TO RECEIVE CREDIT**):

- In salt water, what is the solute? \_\_\_\_\_
  - In salt water, what is the solvent? \_\_\_\_\_
- What does it mean for a solution to be aqueous? \_\_\_\_\_
- What is the formula for molarity?
  
- What is the molarity of 0.150 L of a solution made with 2.10 moles of NaBr? [14.0 M]
  
  
  
  
  
  
  
  
  
  
- Calculate the molarity of 500.0 mL of a solution that contains 82.0 g of  $\text{CuSO}_3$ .  
(1 L = 1000 mL,  $\text{CuSO}_3$  has a molar mass of 143.62 g) [1.14 M]
  
  
  
  
  
  
  
  
  
  
- What is the molarity of 750.0 mL of solution containing 0.450 moles of potassium nitrate,  $\text{KNO}_3$ ? (1 L = 1000 mL) [0.600 M]

- 7) What is the molarity of 250.0 mL of solution containing 9.01 g of dextrose?  
(1 L = 1000 mL, molar mass of 180.156 g) [0.200 M]
- 8) What is the molarity of 0.500 L of solution containing 2.25 g of sodium sulfate,  $\text{Na}_2\text{SO}_4$ ?  
[0.0317 M]
- 9) (a) A 240.0 mL can of Jolt cola contains 27.0 g of sugar (with a molar mass of 180.16 g). What is the molarity of the sugar in a can of Jolt? (1 L = 1000 mL)  
[0.624 M]
- (b) The same 240.0 mL can of Jolt cola contains 72 mg of caffeine. Caffeine has a molar mass of 194.19 g. What is the molarity of caffeine in a can of Jolt? (1 L = 1000 mL, 1 g = 1000 mg)  
[0.0015 M]
- (c) A Grande Cappucino (coffee drink) made with 2% milk at Starbucks has a sugar molarity of 0.12 M and a caffeine molarity of 0.0016 M. Which is the healthier beverage, the Jolt cola or the Cappucino? Why do you think so? Explain your choice.
- 10) What are some ways to tell if an online source is reliable? \_\_\_\_\_  
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