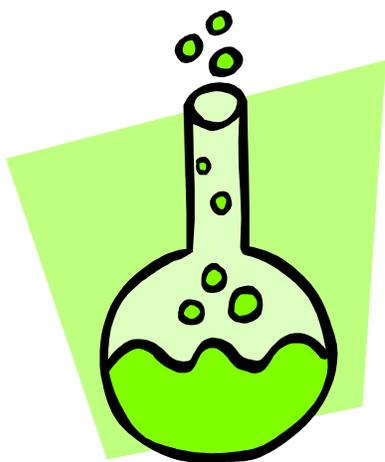


Activity
Solubility and Concentration

Using the molarity equation, determine the following. Use a separate sheet of paper for your work.



1. The molarity of 2.35 L of solution containing 3.56 moles of solute
2. The volume of a 3.05 M solution containing 1.68 moles of solute
3. The number of moles of solute present in 4.38 L of a 2.13 M solution
4. The molarity of 7.81 L of solution containing 4.16 moles of solute
5. The volume of a 8.11 M solution containing 2.24 moles of solute
6. The number of moles of solute present in 7.89 L of a 5.00 M solution
7. The molarity of 5.60 L of solution containing 2.23 mol of lead(II) chlorate
8. The volume of a 2.00 M solution containing 3.33 of $C_{12}H_{22}O_{11}$
9. The number of moles of chromic acid present in 2.50 L of a 2.33 M solution

Solve the following problems. Some are challenging. Use your brain and your notes.

10. Levar Burton (Figure 1) dissolves 435.6 g of solute into 8.00 L of solvent. What is the solubility (in g/100 mL) of the solute?

11. What would be the volume of water of an acetic acid solution containing 0.90 moles in a 2.5 M sampled of acetic acid solution?

12. The solubility of sodium chloride is 0.68 moles per 100 mL of water at 20 degrees Celcius. If you make one liter of solution, what is it's molarity?

13. Levar decides to dilute the solution from question 12. He takes 300 mL of the solution and increases its volume to 750 mL. What is the molarity of the new solution?

14. If Levar wanted to use 100 mL of the solution from question 12 and dilute it to a molarity of 0.100 M, how much water would he have to add?

15. If the Levar performed another dilution on the solution resulting from question 14 by adding the same amount of water to the total, what would be the concentration of that new solution?

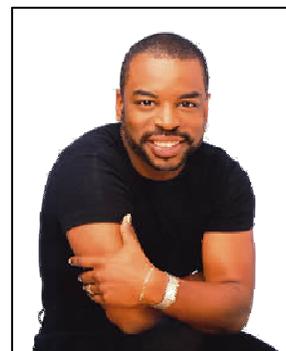


Figure 1 - Levar Burton