**Solutions Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Go to :** [**http://www.mhhe.com/physsci/chemistry/essentialchemistry/flash/molvie1.swf**](http://www.mhhe.com/physsci/chemistry/essentialchemistry/flash/molvie1.swf)

**Place all drawings on a separate paper please**

1. Draw a water molecule labeling negative and positive poles with the partial delta sign.
2. Draw 3 water molecules showing hydrogen bonds, color covalent bonds blue or green and hydrogen bonds yellow or orange.
3. Draw sodium ion surrounded by water molecules and the Chloride ion surrounded by water molecules – labeling charges and partial polarity.

: Go to: <http://www.mhhe.com/physsci/chemistry/essentialchemistry/flash/vaporv3.swf>

1. Draw before and after in the closed container, include the manometer pressure readings before and after also.
2. Draw graph as it reaches dynamic equilibrium vapor pressure.

Go to: <http://group.chem.iastate.edu/Greenbowe/sections/projectfolder/flashfiles/propOfSoln/vp3.html>

1. **Vapor pressure:** Compare the 2 different solvents: \_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. In a closed system: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Which one has more kinetic energy? \_\_\_\_\_\_\_\_\_ Which one has higher vapor pressure?\_\_\_\_\_
4. How does the pressure vary with the liquid? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Explain based on Intermolecular Forces. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. **Vapor Pressure versus Temperature**
7. Select the different temperatures and decide the temperature affects the vapor pressure by observing the pressure in the manometer. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. **What happens when a non-volatile solute is added to a solvent?** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Select 60 grams of water (green) Observe vapor pressure. \_\_\_\_\_\_\_\_\_\_\_\_\_
10. Select 60 grams of water (green) and 25 grams of sucrose (yellow). Observe vapor pressure \_\_\_\_\_\_\_\_\_
11. Select 60 grams of water (green) and 25 grams of salt (yellow). Observe vapor pressure \_\_\_\_\_\_\_\_\_\_\_
12. Conclusion comparing sucrose to salt effect on vapor pressure of water. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Repeat with 60 grams of alcohol. Observe vapor pressure. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Repeat with 60 grams of alcohol and 25 grams of sucrose (yellow). Observe vapor pressure. \_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. Repeat with 60 grams of alcohol and 25 grams of salt (yellow). Observe vapor pressure. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
16. Try adding sucrose, then salt with the same amount of solvent. Observe vapor pressure. \_\_\_\_\_
17. What is your conclusion about the different solutes and solvents and vapor pressure. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_