**Molarity – Inquiry Activity**

Use the PhET simulation for Molarity to answer the questions below on separate sheets of paper.

<https://phet.colorado.edu/sims/html/molarity/latest/molarity_en.html>

1.) Describe the mathematical relationship between the moles of solute, the volume of solvent, and the molarity of an aqueous solution.

2.) Explain what happens when a salt solution dissolves in water. Draw pictures to explain your answer.

3.) You have a salt solution in water. What happens to the salt concentration as the solution boils? Draw pictures to explain your answer.

4.) You have a salt solution in water. What happens to the salt concentration as the solution becomes diluted? Draw pictures to explain your answer.

5.) Graph exercise.

a.) Choose the drink mix. Hold the volume at ~0.5 L. Identify which will be the independent variable and which will the dependent variable. Add increments of the salt. Record the amounts of your independent and dependent variables every time you move the bar. Graph your data.

b.) Choose one of the salts. Hold the volume at ~0.5 L. Identify which will be the independent variable and which will the dependent variable. Add increments of the salt. Record the amounts of your independent and dependent variables every time you move the bar. Graph your data.

c.) What ideas do you have that might explain why the solubility of salt is not the same as sugar?