Glenco: Solubility lab

go to the link provided and answer the following

http://www.glencoe.com/sites/common_assets/science/virtual_labs/PS15/PS15.html

1. What are the two (factors) variables, in this experiment, that affect the solubility of a solid in a liquid?

Read the directions to the right: Experiment and fill in the data table

Temp °C	NH_4Cl	$Ba(OH)_2$	CuSO4	KCl	$NaNO_3$
0°C					
20°C					
60°C					
100 °C					

2. What is the effect of temperature on the solubility of a solid ionic compound in water?

Is this a direct or indirect relationship?

3. Which is the most soluble at 100 °C ? Which is the least soluble at 100°C?

4. Which is the most soluble at 0°C? The least soluble?

5. If I put in 123 grams of $NaNO_3$ at 60°C and cool the mixture, what happens? Use your data table. Explain why.

6. How many grams of $NaNO_3$ could be dissolved in 200 grams of water at 0°C? Show your work.

7. What happens to the kinetic energy (the energy of motion of the molecules) as the temperature increases?

8. What happens to the number of collisions between the solvent (water molecules) and the solute (solid) as the kinetic energy increases?

9. Explain why most solids will dissolve faster when the temperature is higher .

10. If I put 246 grams of $NaNO_3$ into 200 grams of water at 60 °C, Would the mixture be saturated, unsaturated or supersaturated?