Name
Date **Period**

Grade:

EXPERIMENT 31
SOLUBILITY CURVES

PRELAB QUESTIONS:

1. What are three ways to increase rate of a solid dissolving in a liquid?

2. Define these terms: solution, solvent, solute, saturated solution, solubility, equilibrium

3. How does the solubility of a gas change with increasing temperature?

4. What is the general trend in terms of solubility for ionic solids as the temperature increases?

Name **Period**

Date **Lab Partners**

EXPERIMENT 31
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DATA TABLE:

g KNO_3/5.0 mL H_2O	**g KNO_3/100.0 mL H_2O**	**crystallization temperature**
2.0g/5mL		
4.0 g/5mL		
6.0 g/5mL		
8.0 g/5mL		

CONCLUSION QUESTIONS:

1. Construct a graph using your data. Show Temperature on the x-axis and Solubility of KNO_3 in grams per 100.0 mL of water on the y-axis.

2. From your solubility curve, decide if the reaction is exothermic or endothermic. What evidence did you use to support your conclusion?

3. Using your solubility curve, how many grams of KNO_3 can be dissolved in 100 mL of H_2O at the following temperatures? (a) 30°C (b) 60°C (a) 70°C

4. Use reference table D to answer the same question as was asked in question #3: how many grams of KNO_3 can be dissolved in 100 mL of H_2O at the following temperatures?

(a) 30°C (b) 60°C (a) 70°C

How close are your values to those on reference table D?

5. Using reference table D, classify the following KNO_3 solutions as saturated, unsaturated, or supersaturated. Explain your answers.

(a) 75 g KNO_3/l00 mL at 40°C (b) 60 g KNO_3/l00 mL at 50°C

Discussion
Conclusion