

Name: \_\_\_\_\_

Chemistry

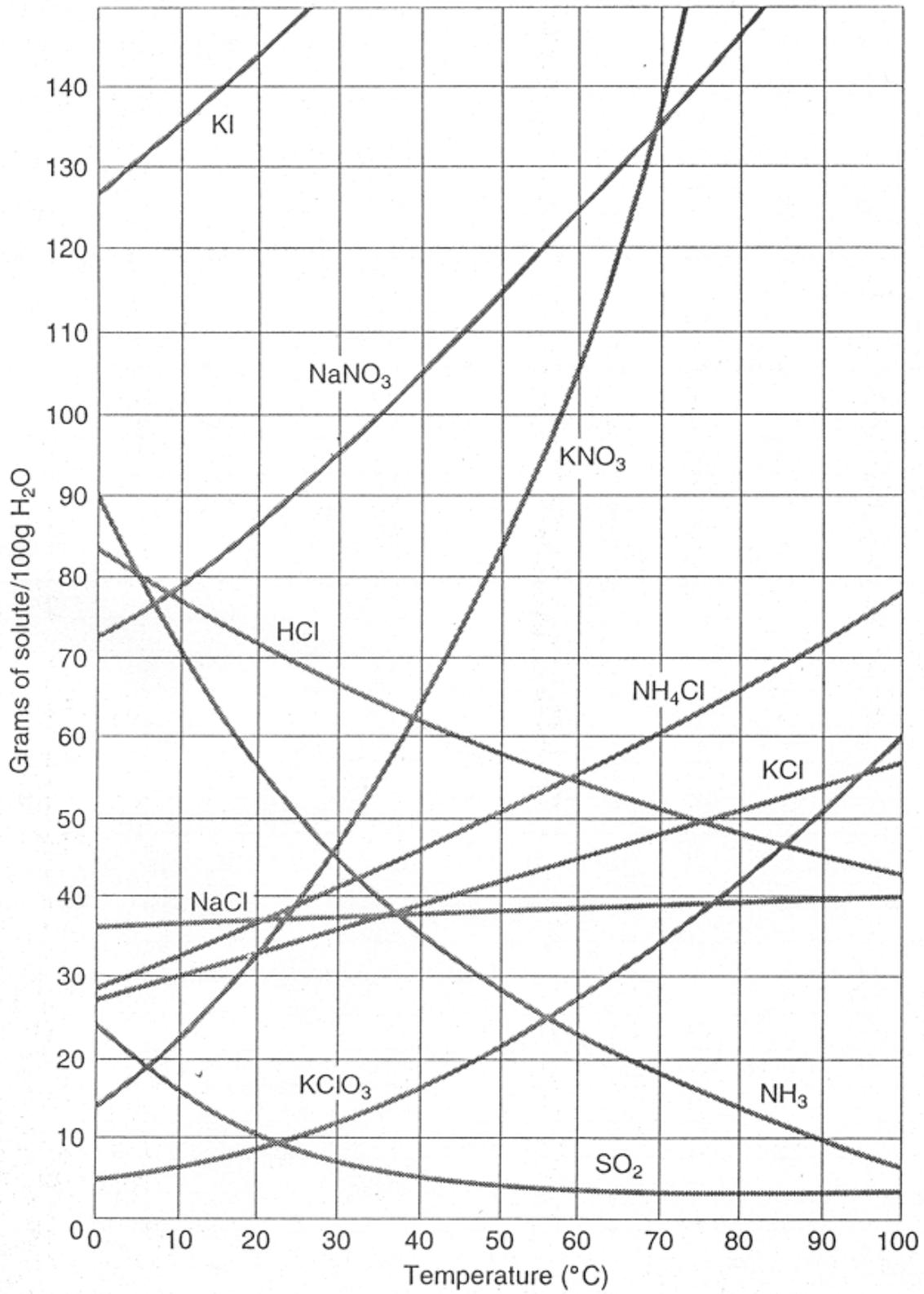
### Module 11 Lab: Solubility Curves

DIRECTIONS: Use the graph to solve the following problems.

1. What is the solubility of potassium nitrate in 100 grams of water at 60°C?
2. What is the solubility of potassium chloride in 100 grams of water at 60°C?
3. What is the solubility of sodium chloride in 100 grams of water at 90°C?
4. What is the minimum temperature needed to dissolve 65 grams of potassium nitrate in 100 grams of water?
5. What is the minimum temperature needed to dissolve 35 grams of potassium chloride in 100 grams of water?
6. At what temperature do potassium chloride and potassium nitrate have the same solubility?
7. At what temperature do potassium nitrate and sodium chloride have the same solubility?
8. If 20 grams of potassium chlorate are mixed with 100 grams of water at 40°C, how much will not dissolve?
9. If 200 grams of potassium nitrate are mixed with 100 grams of water at 70°C, how much will not dissolve?
10. If 50 grams of sodium chloride are mixed with 100 grams of water at 90°C, how much will not dissolve?
11. If 75 grams of sodium nitrate are added to 100 grams of water at 35°C, how much more must be added to saturate the solution?
12. If 120 grams of potassium iodide are added to 100 grams of water at 15°C, how much more must be added to saturate the solution?
13. If 10 grams of sodium chloride are added to 100 grams of water at 100°C, how much more must be added to saturate the solution?
14. 100 grams of water are saturated with sodium nitrate at 30°C. If this solution is heated to 60°C, how much more can be dissolved?
15. 100 grams of water are saturated with potassium nitrate at 0°C. If the solution is heated to 65°C, how much more can be dissolved?
16. Which two substances have the same solubility at 75°C?
17. 100 grams of water at 70°C are saturated with potassium chlorate. If this solution is cooled to 25°C, how much of the solid will precipitate (change, from the dissolved state to the solid state)?
18. At what temperature do sodium nitrate and potassium nitrate have the same solubility?

19. How much potassium nitrate will dissolve in 50 grams of water at 50°C?

20. How much potassium nitrate will dissolve in 10 grams of water at 50°C?



# Solubility Curves

