

Solubility Curve Worksheet

- 1) Define solubility.

- 2) Look at the graph below: In general, how does temperature affect solubility?

- 3) Which compound is LEAST soluble at 10 °C? _____
- 4) How many grams of KCl can be dissolved in 100g of water at 80°C? _____
- 5) How many grams of NaCl can be dissolved in 100g of water at 90°C? _____
- 6) At 40°C, how much KNO₃ can be dissolved in 100g of water? _____
- 7) Which compound shows the least amount of change in solubility from 0°C-100°C?

- 8) At 30°C, 90g of NaNO₃ is dissolved in 100g of water. Is this solution saturated or unsaturated?

- 9) At 60°C, 72g of NH₄Cl is dissolved in 100g of water. Is this solution saturated or unsaturated?

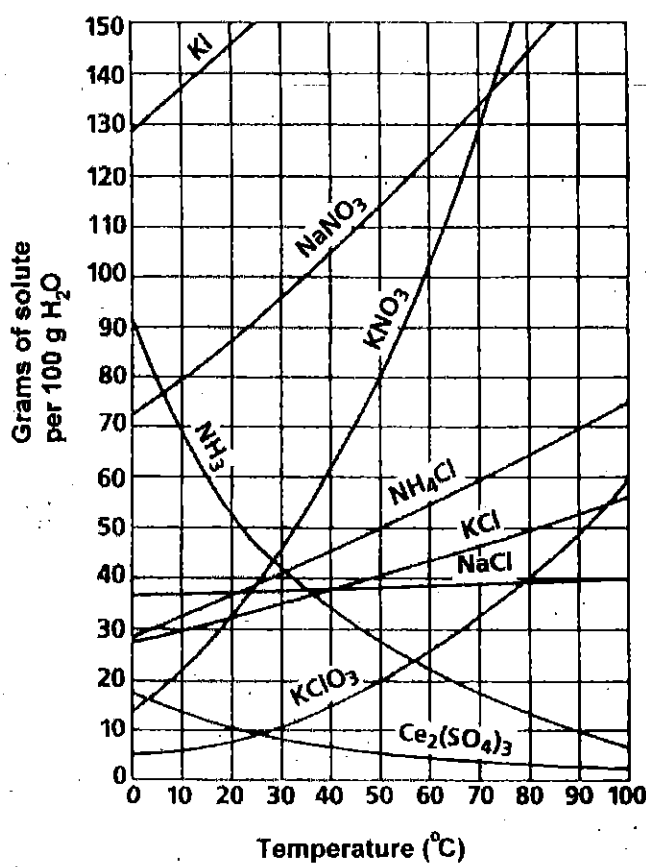
- 10) A saturated solution of KClO₃ is formed from one hundred grams of water. If the saturated solution is cooled from 90°C to 50°C, how many grams of precipitate are formed? _____

- 11) A saturated solution of NH₄Cl is formed from one hundred grams of water. If the saturated solution is cooled from 80°C to 40°C, how many grams of precipitate are formed? _____
- 12) Which compounds show a *decrease* in solubility from 0°C-100°C?

- 13) Which compound is the most soluble at 10°C?

- 14) Which compound (besides Ce₂(SO₄)₃) is the least soluble at 50°C? _____
- 15) For each of the following solutions, explain how much of the solute will dissolve and how much will remain undissolved at the bottom of the test tube?
 - a) 120 g of KCl in 100 g of water at 80°C

 - b) 130 g of NaNO₃ in 100 g of water at 50°C



SOLUBILITY CURVES

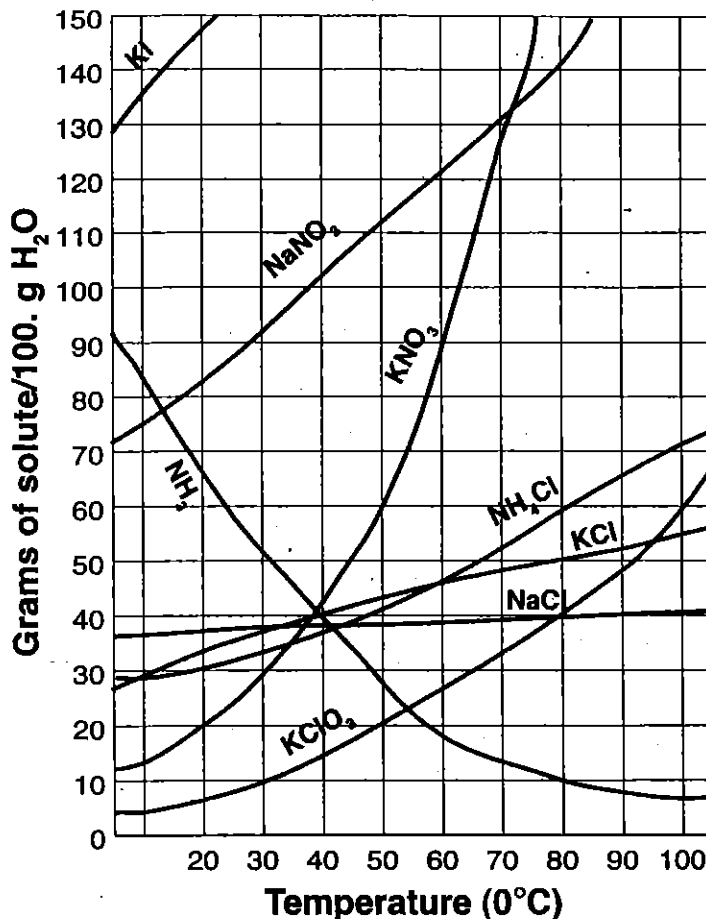
Name _____

Answer the following questions based on the solubility curve below.

- Which salt is least soluble in water at 20° C? _____
- How many grams of potassium chloride can be dissolved in 200 g of water at 80° C?

- At 40° C, how much potassium nitrate can be dissolved in 300 g of water? _____
- Which salt shows the least change in solubility from 0° – 100° C?

- At 30° C, 90 g of sodium nitrate is dissolved in 100 g of water. Is this solution saturated, unsaturated or supersaturated?



- A saturated solution of potassium chlorate is formed from one hundred grams of water. If the saturated solution is cooled from 80° C to 50° C, how many grams of precipitate are formed? _____
- What compound shows a decrease in solubility from 0° to 100° C? _____
- Which salt is most soluble at 10° C? _____
- Which salt is least soluble at 50° C? _____
- Which salt is least soluble at 90° C? _____