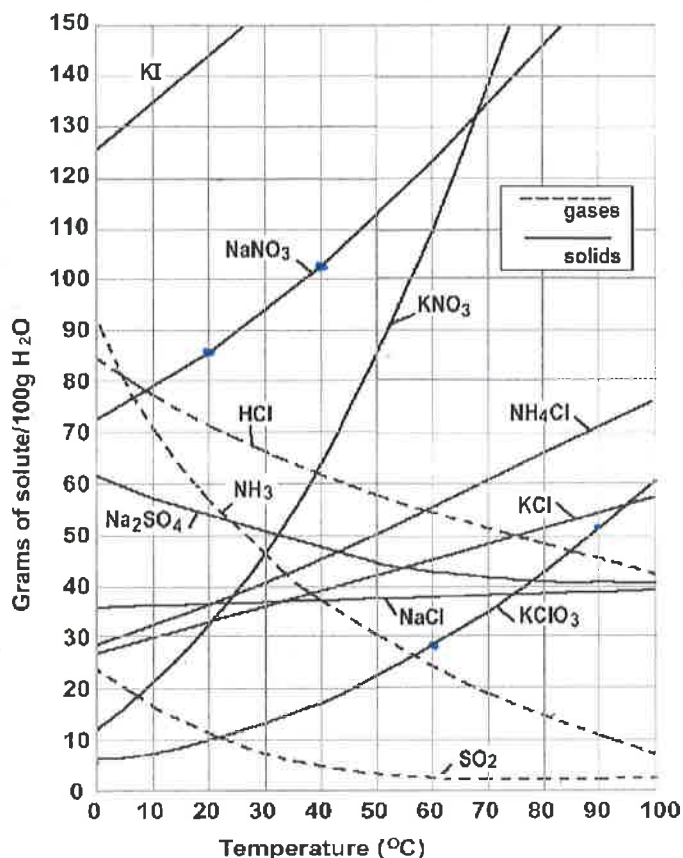


Name: _____

KEY

Date: _____

Solubility Curve Practice Problems

Directions: Use the graph to answer the questions below. If the question requires a calculation, SHOW ALL WORK TO RECEIVE CREDIT FOR THE ANSWER!

1. What is the solubility of potassium chloride at 10°C?

30g

2. What is the solubility of potassium chloride at 80°C?

52g

3. Is potassium chloride a solid or a gas? solid
What happens to the solubility of solids as temperature increases?

Tend to increase

4. What is the solubility of NH₃ at 10°C?

70g

5. What is the solubility of NH₃ at 50°C?

30g

6. Is ammonia a solid or gas? gas What happens to the solubility of gases as temperature increases?

Tend to decrease

7. What is the mass of potassium chlorate that will dissolve in 50 g of water at 20°C?

10g KClO₃ in 100g ⇒ 5g

8. What is the mass of sodium sulfate that will dissolve in 250 g of water at 30°C?

51g Na₂SO₄ in 100g ⇒ 127.5g

9. At 90°C, 10 g of potassium chlorate is dissolved in 100 g of water. Is this solution saturated, unsaturated, or supersaturated?

unsaturated

10. A saturated solution of potassium chlorate is dissolved in 100 g of water. If the saturated solution is cooled from 90°C to 60°C, how many grams of precipitate will be formed?

51g > 29g = 22g

11. Which substance below is **least** soluble at 10°C?

KClO₃

12. Which substance below shows the **least** change in solubility from 0°C to 100°C?

NaCl

13. A saturated solution of sodium nitrate is dissolved in 100 g of water. If the saturated solution is cooled from 40°C to 20°C, how many grams of precipitate will be formed?

86g

16g

102g