

Name: _____

Block: _____

Solubility Curves

1. How much ammonium chloride could you dissolve in 100 g of water at 70°C?
2. How much HCl could you dissolve in 25 g of water at 45°C?
3. If you made a saturated solution of ammonia in 40. g of water at 50.°C, how many grams of ammonia would it contain?
4. You want to dissolve 0.75 moles of KCl (F.W. = $74.55 \frac{\text{g}}{\text{mol}}$) in 150. mL of water. What is the minimum temperature to which you would have to heat the water to dissolve all of the KCl?

5. You have a solution that contains 43 g of an unknown compound dissolved in 100. g of H₂O at a temperature of 55°C. The unknown compound could be either KCl, Na₂SO₄, KNO₃, or NaNO₃. Describe how you could perform a series of heating or cooling experiments and use a solubility chart to identify the solute in the unknown solution.

6. If you had 95 g of a saturated solution of sodium nitrate at room temperature (25°C) and you cooled it to 10.°C, how much precipitate would form? (*Note: the 95 g of solution includes both the NaNO₃ and the water.*)

Solubility Curve

