

**Chemistry**  
**Unit #11—Solutions**  
**Homework Part I**

**Electrolytes and Nonelectrolytes**

Identify if the compound is an electrolyte or nonelectrolyte

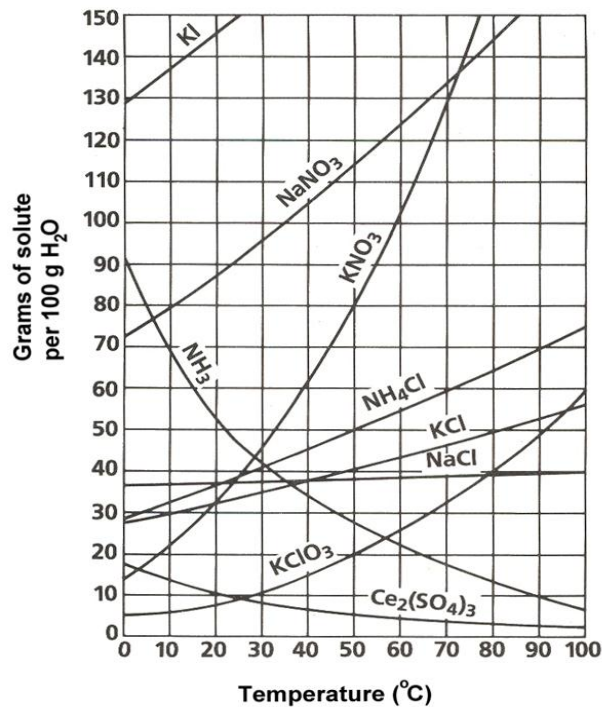
1.  $C_6H_{12}O_6$
2. NaCl
3. LiF
4.  $CH_4$
5.  $C_3H_8$
6.  $CaCO_3$
7.  $SiO_2$
8.  $CO_2$

**Solubility**

Using the Solubility Rules, determine if the compound is soluble or insoluble and state the rule.

1. Barium Nitrate,  $Ba(NO_3)_2$
2. Barium Carbonate  $BaCO_3$
3. Aluminum Hydroxide,  $Al(OH)_3$
4. Sodium Sulfate,  $Na_2SO_4$
5. Manganese (V) Carbonate,  $Mn_2(CO_3)_5$
6. Silver Bromide, AgBr
7. Lead (IV) Iodide,  $PbBr_4$
8. Potassium Sulfide,  $K_2S$

**Solubility Curve**



Using the Solubility Curve, ask the following questions

1. At 30 °C, which solution is the least soluble?
2. At 30 °C, which solution is the most soluble?
3. How many grams of solute will dissolve in 100 mL at the following temperatures:
  - A. Potassium Nitrate at 70 °C.
  - B. Sodium Chloride at 100 °C.
  - C. Ammonium Chloride at 90 °C.
4. At 60 °C and 60 grams of solute, determine which solutions are unsaturated, saturated, or supersaturated:
  - A. Cesium Sulfate
  - B. Potassium Chlorate
  - C. Sodium Chloride
  - D. Potassium Chloride
  - E. Ammonium Chloride
  - F. Potassium Nitrate
  - G. Sodium Nitrate
  - H. Ammonia