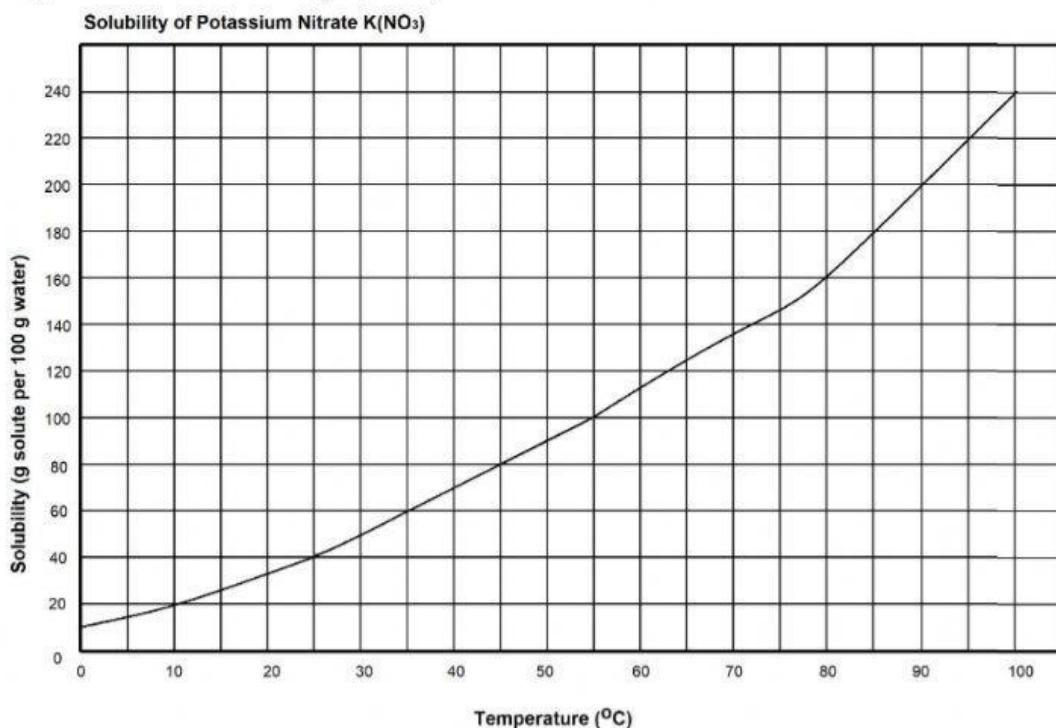


## Solubility of Potassium Nitrate K(NO<sub>3</sub>)

Temperature is one factor that affects how fast a substance dissolves. Temperature can also affect how much of a substance dissolves. The amount of a substance that will dissolve in a solvent is called its solubility. A graph that shows solubility is called a solubility curve. The graph below is a solubility curve for potassium nitrate K(NO<sub>3</sub>) in water. Refer to the graph as you answer.



1. What variable is plotted along the horizontal axis of the graph?
  - a. What are the units for this variable?
2. What variable is plotted along the vertical axis?
  - a. What are the units for this variable?
3. How much potassium nitrate will dissolve in 100 grams of water that is just at the freezing point of pure water?      grams  
That is just at the boiling point of pure water?      grams
4. In general, how does the temperature affect the amount of potassium nitrate that will dissolve in water? As the temperature of the solvent increases decreases the solubility of the potassium nitrate increases decreases.
5. Suppose you have 100 grams of water. How much potassium nitrate could you dissolve in the water at 80°C?      grams