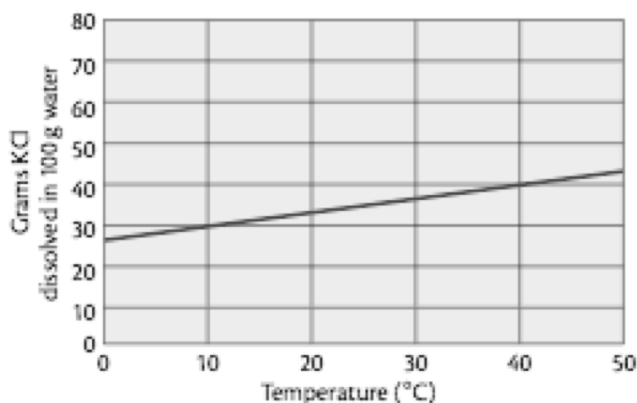


Modeling Matter: The Dissolving Process

Now that you have learned about solubility and the process of dissolving ionic compounds in water, you will use these ideas to draw pictures to help you visualize this process. The models that you draw will be similar to those that you drew in the first part of this unit.

Use the solubility curve for sodium chloride (KCl) to the right to answer the following questions.



- Suppose you dissolved 40 g of KCl in 100 grams of water at 50 °C. You then let the solution cool to room temperature, which is approximately 25 °C.
 - Will the 40 g of KCl completely dissolve in 50 °C water?
 - How much KCl will precipitate out at 25°C?
 - What changes would you see in the beaker as it cooled? Be specific.
 - KCl dissolves in water breaking into K^+ and Cl^- ions. Which end of the polar water molecule will the K^+ ion be attracted to? Which end of the polar water molecule will the Cl^- ion be attracted to?
- An unsaturated solution will become _____ if you add more solute. How else can you increase the concentration of the solution?
- Suppose you made a solution by dissolving 20 grams of KCl in 100 grams of water at 40°C.
 - Is the solution saturated? How do you know?
 - What would happen if one-quarter of the water evaporated at 40°C?
 - How much water would need to evaporate in order for this solution to be saturated?

