CHEMISTRY MATTERS
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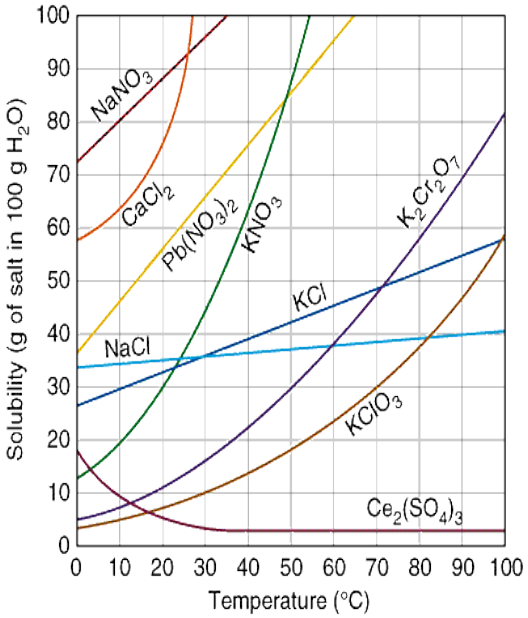
Unit 7B Practice Problems VII
Reading a Solubility Graph

Name:

Date:

Use the provided solubility graph to answer the following questions:



For questions 1 – 4 an amount of solute is given, and a temperature is stated. *If all of the solute could be dissolved* in 100 g of water at the given temperature, would the resulting solution be *unsaturated*, *saturated*, or *supersaturated*?

1. 60 g KCl at 70 °C _____
2. 10 g $KClO_3$ at 60 °C _____
3. 80 g $NaNO_3$ at 10 °C _____
4. 70 g $CaCl_2$ at 20 °C _____

For questions 5 – 8, a solute and temperature are given.
Tell how many grams of each solute must be added to 100 g of water to form a saturated solution at the given temperature.

5. $Pb(NO_3)_2$ at 10 °C _____
6. $Ce_2(SO_4)_3$ at 50 °C _____
7. NaCl at 20 °C _____
8. $K_2Cr_2O_7$ at 50 °C _____

For questions 9 and 10 underline the solution that is more concentrated.

9. At 10 °C: a saturated solution of KNO_3 or $CaCl_2$.

10. At 50 °C: a saturated solution of KNO_3 or an unsaturated solution of $NaNO_3$ consisting of 90 g of the solute dissolved in 100 g of water.

For questions 11 – 12, show your work and circle your final answer.

11. If 115 g KNO_3 are added to 100 g of water at 35 °C, how many grams do not dissolve?

12. What mass of KCl would be needed to form a saturated solution if the KCl was dissolved in 200 g of water at 80 °C?