

## SOLUBILITY CURVE WORKSHEET

Use your solubility curve graph provided to answer the following questions.

1. What are the customary units of solubility on solubility curves? \_\_\_\_\_
2. Define solubility. \_\_\_\_\_
3. According to the graph, the solubility of any substance changes as \_\_\_\_\_ changes.
4. List the substances whose solubility decreases as temperature increases. \_\_\_\_\_  
\_\_\_\_\_
5. Which substance is least affected by temperature changes? \_\_\_\_\_
6. Saturated solution and Solubility means the same? \_\_\_\_\_
7. \_\_\_\_\_ and \_\_\_\_\_ have the same solubility at approximately 85°C.
8. Which compound is least soluble in water at 10°C? \_\_\_\_\_
9. How many grams of  $\text{NH}_3$  can be dissolved at 50°C? \_\_\_\_\_
10. Are the following solutions unsaturated, saturated, or supersaturated?
  - a. 45g of  $\text{NaNO}_3$  in 100 g of water at 30°C. \_\_\_\_\_
  - b. 60g of  $\text{KClO}_3$  in 100 g of water at 60°C. \_\_\_\_\_
11. How many grams of sodium chloride,  $\text{NaCl}$  are required to saturate 100 grams of water at 100°C? \_\_\_\_\_
12. How many grams of  $\text{NaNO}_3$  are required to saturate 100 grams of water at 80°C? \_\_\_\_\_
13. How many grams of  $\text{KI}$  will saturate water at 20°C? \_\_\_\_\_
14. At what temperature would 20g of potassium chlorate ( $\text{KClO}_3$ ) dissolve? \_\_\_\_\_
15. At what temperature would 50g of  $\text{NH}_4\text{Cl}$  dissolve? \_\_\_\_\_
16. 89 g  $\text{NaNO}_3$  is prepared at 30°C.
  - a) Will all of the salt dissolve? \_\_\_\_\_
17. If 25 grams of  $\text{NH}_4\text{Cl}$  are dissolved at 50°C, how many additional grams  $\text{NH}_4\text{Cl}$  would be needed to make the solution saturated at 80°C? \_\_\_\_\_
18. At 50°C, how many grams of  $\text{KNO}_3$  will dissolve? \_\_\_\_\_
19. Which two substances are gases? (remember they behave the opposite to solids) \_\_\_\_\_
20. Determine if each of the following is unsaturated, saturated, or supersaturated.
 

a. 55g of $\text{NH}_3$ at 20°C. _____	f. 80g of $\text{NaNO}_3$ at 10°C. _____
b. 10g of $\text{HCl}$ at 10°C. _____	g. 145g of $\text{NaNO}_3$ at 80°C. _____
c. 125g of $\text{KNO}_3$ at 60°C. _____	h. 35g of $\text{NaCl}$ at 100°C. _____
d. 65g of $\text{NH}_4\text{Cl}$ at 80°C. _____	
e. 12g of $\text{NH}_3$ at 90°C. _____	