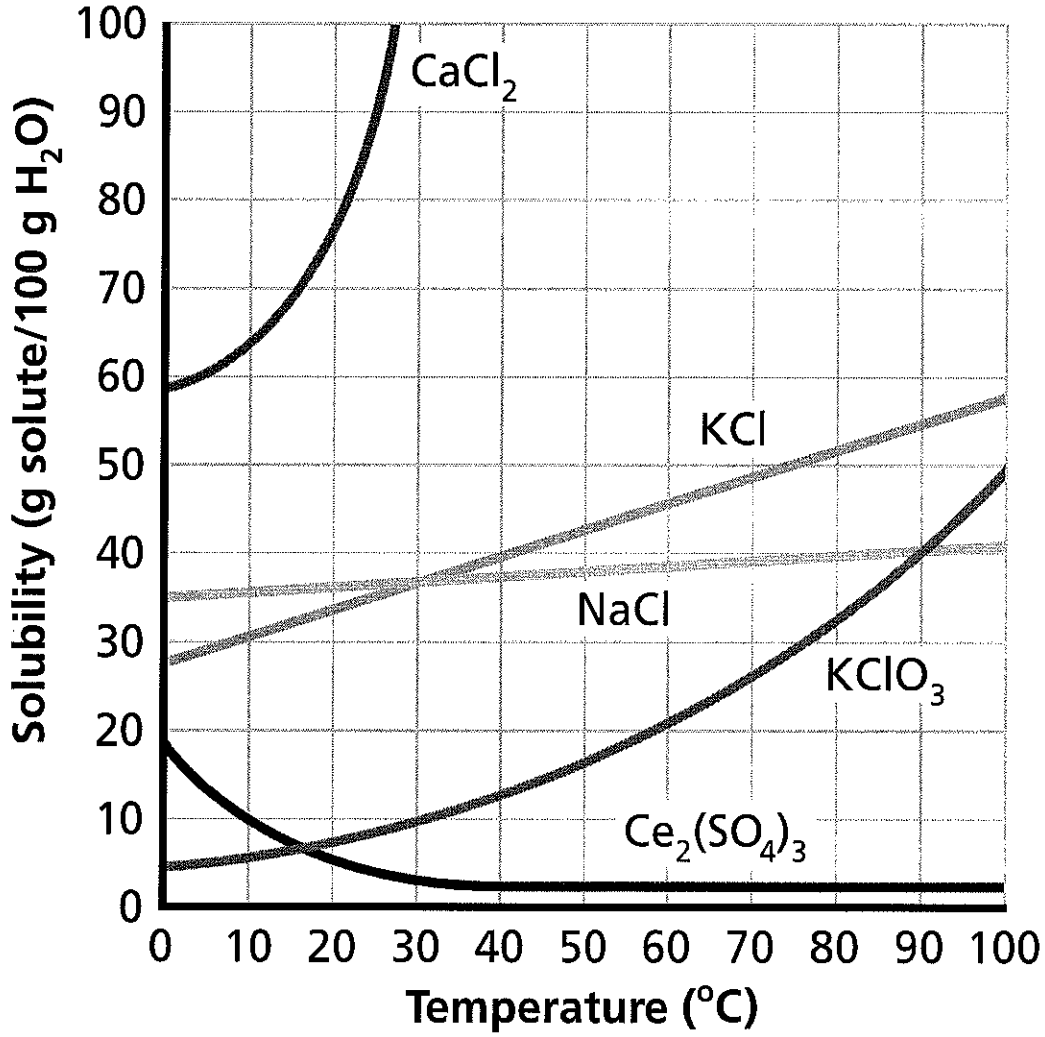
Name _____ Date _____ Class _____

TEACHING TRANSPARENCY MASTER 42

Solubility–Temperature Graphs

Use with Chapter 14, Section 14.3

Solubilities as a Function of Temperature



Name _____ Date _____ Class _____

TEACHING TRANSPARENCY WORKSHEET 42

Solubility–Temperature Graphs

Use with Chapter 14, Section 14.3

1. What variables are plotted on the graph? _____

2. What is the unit of each variable?

_____

3. Use the graph to complete the table below.

Substance	Solubility at 10°C
Calcium chloride ($CaCl_2$)	
Cerium(III) sulfate ($Ce_2(SO_4)_3$	
Potassium chloride (KCl)	
Potassium chlorate ($KClO_3$)	
Sodium chloride (NaCl)	

4. At what temperature are sodium chloride and potassium chloride equally soluble in water? _____

5. How does the solubility of cerium(III) sulfate differ from the solubility of potassium chlorate over the temperature range 0°C–100°C?

_____

_____

_____

6. How many grams of sodium chloride will dissolve in 1.0 kg of water at 20°C?

_____

7. Explain whether increasing temperature has a greater effect on the solubility of KCl or on the solubility of NaCl.

_____

_____

_____

8. Explain how you might make a solution containing 42 g KCl dissolved in 100 g H_2O at a temperature of 40°C. What term describes this type of solution?

_____

_____

_____