

Ch. 13 Test Review (Solutions)

Name _____ Period ____ Date ____

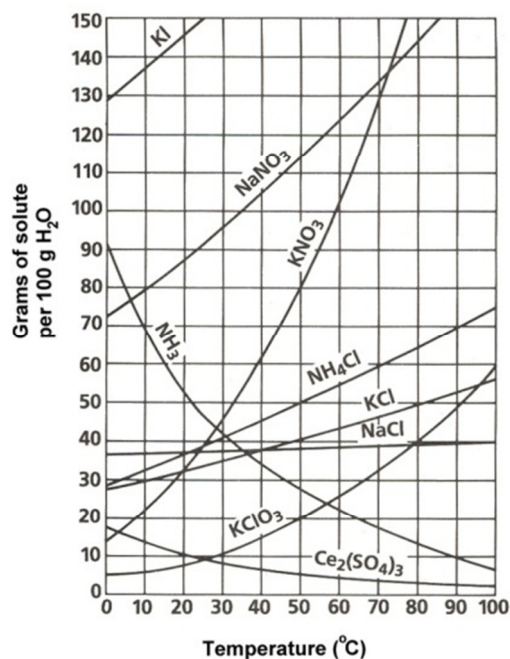
Most of this information will come from Ch13 – The test is 25 multiple choice questions.

Study: 1) Make sure you have watched all the Flip lecture videos, 2) Review Flashcards, 3) Look over completed assignments (Answer keys available), 4) Review quizzes from this chapter (and look at the ones you missed). Look over graded labs.

1. How do you increase the rate of a solid dissolving in a liquid solvent? (3 ways)
2. How do you increase the solubility of a gas? (2 ways)
3. Difference between saturated, supersaturated and unsaturated (example –which one can dissolve more?)
4. Give an example of each type of solution:
solid –liquid: _____ Liquid-liquid: _____ Gas-liquid _____
5. What does “like dissolve like” refer to?
6. Difference between a colloid, suspension and a solution.
7. What is the most common solvent and what makes it such a good solvent?
8. What does immiscible mean? And list 2 substances that might be immiscible.

Using the solubility curve (on the right) to answer the following questions -->

9. What solution increases solubility with temperature at the fastest rate (from 0-50 °C)?
10. What solute solubility in the curve above actually decreases with temperature?
11. A 70°C KNO₃ solution has 80 grams dissolved, is it saturated, unsaturated, or supersaturated?
12. A 40°C KNO₃ solution has 60 grams dissolved, is it saturated, unsaturated, or supersaturated?
13. A 20°C KNO₃ solution has 50 grams dissolved, is it saturated, unsaturated, or supersaturated?



14. What type of solution conducts electricity (or a current) in solution?
15. What type of change (chemical or physical) is a phase change? Ex Liquid water to ice.
16. Draw a water molecule and label the + and negative sides....as it interacts w/ another solute that is charged....what molecules attract (opposite charges or the same?)
17. Water is a very polar covalently bonded molecule – but it can also dissolve what other type of substances? (ionic or nonpolar –hint both are charged)
18. What is the ratio of hydrogen to oxygen in water? Does this EVER change?
19. Tap water and distilled water do not have the exact same properties – why?

Calculations:

20. Calculate the molarity of a solution that contains 0.3 moles of NaCl in 8.0 L of solution?
21. What is the molarity of 150.0 g of NaCl in 5.0 L of solution. (Hint-find moles first.)
22. How many moles of HCl are present in 1.2 L of a 0.5M HCl solution
23. A KOH solution contains 2.0 moles of KOH and its concentration is 0.5M? What is it's volume?
24. What volume of 2.0 M HCl (hydrochloric acid) must be diluted with water to prepare 500 mL of 0.25M HCl?
25. If 250 mL of 5M H₂SO₄ is diluted to 400.0 mL, what is its new molarity?