Name:	Date:

G H C

MIXTURES AND SOLUTIONS 2013 Review/Practice Test

1. Think about the gravel, powder, and salt mixture we made. How did you separate each one?

true/false- Write T or F on each line below.

2. _____ A **mixture** combines two or more materials, but they **don't** react chemically to each other.
3. _____ All mixtures are solutions, but not all solutions are mixtures.
4. _____ Salt water is an example of a solution.
5. _____ Trail mix is an example of a solution.
6. _____ Lucky Charms cereal is an example of a mixture.

Word Bank:	**crystal(s)**	**soluble**	**dissolving**	**evaporate**	**mixture**
saturated solution	**insoluble**	**property**	**solution**	**NaCl**	**H_2O**

7. _____ A special kind of mixture formed when one material dissolves in another.
8. _____ One material mixing evenly into another; seeming to *disappear* or *melt* into it.
9. _____ To turn into a gas, like water into vapor.
10. _____ Any characteristic that you can observe- like color, weight, size, etc.
11. _____ The solid form of a material that can be identified by its natural shape or pattern.
12. Chalk powder and gravel are _____, which means they won't dissolve.
13. Salt _____ look like little squares with x's on them.
14. A _____happens when a solution has dissolved as much solute as it possibly can.
15. _____ means capable of being dissolved, like table salt in water.
16. In a salt water solution, what is the **solute**? _____ What's the **solvent**? _____

ANSWERS: 1-We used a metal screen to get the gravel, then added water. We used a paper filter to get the (insoluble) powder, then let the water evaporate, leaving the salt crystals behind. 2.T 3.F 4.T 5.F 6.T 7-solution 8-dissolving 9-evaporate 10-property 11-crystal 12- insoluble 13-crystals 14-saturated solution 15-soluble 16-Salt is the solute; water is the solvent.

17. The opposite of **dilute** is _____

18. The _____ of a liquid is the three-dimensional space it occupies.

19. As you add more _____ to a solution, it becomes more **concentrated**.

20. As you add more _____ to a solution, it becomes more **dilute.**

21. Each milliliter of water weighs _____

22. _____is a number (fraction or decimal) that tells you how strong or weak a solution is.

23. The **original** substances in a chemical reaction are called _____

24. The **new** substances formed in a chemical reaction are called _____

25. During investigation #5, we mixed calcium chloride, baking soda and water in a cup. Chalk formed in the bottom of the cup. The new product formed in this chemical reaction is an example of a _____

26. During investigation #5, we mixed calcium chloride, citric acid and water in a cup.
What was the **solvent**? _____

27. a. We repeated investigation #5in zip-lock baggies in order to measure the _____.
b. We knew this gas could **not** be nitrogen because _____.

28. What is the name of the table that organizes all of the **elements**? _____

29. Some **chemical reactions**, like _____, are very slow.
Others, like _____ are very fast.

30. a. How does temperature affect chemical reactions?
_____
b. What else affects the speed of chemical reactions?
_____

ANSWERS: 17-concentrated 18-volume 19-solute 20-water/solvent 21- one gram 22-concentration 23-reactants 24-products 25-precipitate 26-water 27-a. volume of gas b. none of the reactants contain nitrogen therefore it neither can the products 28-The Periodic Table of Elements 29-rusting (slow) explosions/air-bags (fast) 30-a. heat speeds them up; cold slows them down b. concentration

31. You learned what **molecules** are. What is the chemical formula for a water molecule?_____

32. What **elements** are in a water molecule?_____

33. During the Mixtures and Solutions unit we worked with several **saturated solutions**. Think back to those investigations. How do you make a saturated solution? How can you tell when a solution is saturated?

34. You learned 4 ways to get more **solute** to dissolve. Name 3.

35. During the Mixtures and Solutions unit we investigated several **chemical reactions**. Think back to those investigations. Name three things that happened that told us a chemical reaction had taken place.

36. Name 3 elements by their **chemical symbols**

37. What units did we use to measure **mass?** _____

38. What's the main difference between an **element** and a **compound**?

39. You have learned what properties are. Name 2 **properties** of the chalk from investigation #5.

40. Draw some salt **crystals**.

ANSWERS: 31-H_2O 32-hydrogen and oxygen 33-keep adding solute until no more will dissolve 34- stir/shake, add heat, add more water, wait longer 35-gas(bubbles/fizzing/etc), temperature change, precipitate (new product) forming 36-hydrogen=H; oxygen=O; sodium=Na (answers will vary) 37-grams 38-an element contains only one substance from the Periodic Table; compounds are combinations of elements that are chemically bonded together. 39-white/insoluble/fine/reacts to vinegar/etc 40-squares with little x's on them

41. Draw and shade three cups to make it look like cup 1 is the most **concentrated** and cup 3 is the most **dilute**.

42. Make a sketch that explains the **LAW OF CONSERVATION OF MATTER** , which says that in any physical or chemical change, matter is neither created nor destroyed but merely rearranged, or changed from one form to another.

ANSWERS: 41. Cup #1 should be the darkest; cup #3 the lightest. 42. The sketch could show students with any of the cups of chemical reactions. The kids could be discussing why the gas produced could NOT be nitrogen because there was no nitrogen (N) in the chemical formulas of any of the reactants in the cup.