

PS Chemistry Semester Test Review

Review Schedule:

- Wednesday, May 18: Assign Review Packet, Hand In Text Books, Clean out Binders
- Thursday, May 19: Work on Review Packet, Hand In Text Books, Clean out Binders, Watch Video Reviews
- Friday, May 20: Work on Review Packet, Hand In Text Books, Create Legal Cheat Sheet
- Monday, May 23: PS Chemistry Semester Test

The Test:

- The test is worth 14% of your semester grade.
- Test will be taken through BlackBoard Learn. Know your user name and password.
- 100 multiple choice questions.
- A basic calculator is recommended.
- I will provide a Periodic Table and an Oxidation Chart during the test.
- Your book must be returned to me prior to taking the test.
- Water bottle is optional.
- Bring a book to read or something to keep yourself occupied (just in case you complete the test early).
- You will not be allowed to leave the classroom during the testing period.

General Overview:

In order for the review to be most helpful, it is necessary for you to work through the review questions and come to class prepared to ask questions for clarification and review. In addition, you should look over chapter reviews and notes to help study! You can also make arrangements to look over your old tests and quizzes.

The Review:

The review is divided by chapters (or units). Below you will find a general list of terms/concepts from each unit followed by review questions. Also notice the number in the box...that is the number of test questions from the section.

<u>Chapter 1-The Nature of Science</u>	8		
scientific method	constant	variables	SI units
hypothesis	control	standards of measurement	metric conversion

1. What tools *and* units are used in science for measuring length, mass, volume, and density?
2. A bag of apples weighs 3249 grams. What is this weight in kilograms?
3. List the steps of the scientific method.
4. Krissy thinks that Skin-So-Soft by Avon will repel mosquitoes. She takes 100 mosquitoes and puts them in a container, half the container contains a cloth soaked in skin-so-soft. After one hour she made observations, she found that 90 mosquitoes were on the half of the container without the rag and 10 were found near the rag. Krissy also put 100 mosquitoes into another container, half of this container contained a rag soaked in water. She observed this container an hour later and found the mosquitoes were evenly distributed across the container.
 - a. Write a hypothesis for Krissy.
 - b. What was the control group?
 - c. What was the independent variable?
 - d. What was the dependent variable?
 - e. What should Krissy conclude?
5. Which axes are the independent and dependent variables found?

Chapter 15-Classification of Matter

8

element	pure substance	heterogeneous mixture	chemical change
compound	homogeneous mixture	physical change	solution
suspension	colloid	physical property	chemical property

1. List 2 physical property of an apple. List 2 chemical property of an apple.
2. What is the difference between a physical change and a chemical change?
3. What are 4 signs you look for to determine if a chemical reaction took place?
4. What is the difference between a compound and a mixture?
5. What is the difference between a homogeneous and a heterogeneous mixture? Provide an example.

Chapter 16-Solids, Liquids and Gases

8

plasma	viscosity	condensation	Pascal's Principle
kinetic theory	thermal energy	evaporation	Charles's Law
buoyancy	evaporation	freezing point	Boyle's Law
density	sublimation	boiling point	Bernoulli's principle
pressure	condensation	melting point	Archimedes Principle

1. What is the relationship between pressure, volume, temperature. If one goes up or down, what happens to the others?
2. Describe what happens to the molecules of a substance when it is heated.
3. Explain the shape and volume characteristics of solids, liquids, and gases.
4. What is the relationship between temperature and motion of particles?
5. List the 4 phases of matter and give at a property of each phase.
6. Explain Boyles' and Charles' gas laws and give an example of each law from every-day life.
7. Should a material have a higher or lower density in order to float in another substance?
8. Explain Pascal's, Archimedes' and Bernoulli's Principles and provide an example of each.

Chapter 17 & Chapter 19- Properties of Atoms and the Periodic Table/Elements and their Properties

17

atomic structure	neutron	valence electron	nonmetal
nucleus	electron	period	Lewis Dot diagram
proton	mass number	group	ductile
atomic number	atomic mass	metalloid	malleable
synthetic		metal	diatomic

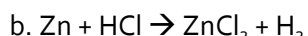
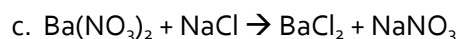
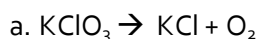
1. Draw a model of an atom showing the correct number of protons, neutrons, electrons, and placement in correct energy levels.
2. List the names and location of all the chemical families on the periodic table.
3. How many electrons are in one atom of xenon?
4. Which groups contain the most reactive elements? The least reactive?
5. Noble gases have how many valence electrons?
6. Chemical bonding involves what part of an atom?

decomposition reaction
single displacement

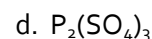
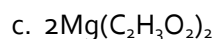
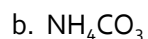
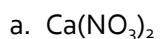
double displacement
inhibitor

catalyst
coefficient

1. What is the difference between an endothermic and an exothermic reaction?
2. Where are reactants and products located in a chemical equation?
3. One molecule of $C_6H_{12}O_6$ consists of how many atoms of C, H, and O?
4. What is changed or added to balance a chemical equation?
5. In the formula NH_3 , what does the 3 refer to?
6. What is the law of conservation of mass?
7. Balance the following equations, then identify the type of reaction.



8. How many atoms of each element are present in the following formulas?



Chapter 22- Solutions

10

alloy
dilute

concentrated
saturated

unsaturated
supersaturated

polar
nonpolar

solute
solvent

1. In a solution of salt water, what is the solvent? What is the solute?
2. How can you speed up how fast something dissolves?
3. Why is soap able to remove dirt and grease from your hand?
4. What does "like dissolves like" mean?
5. Analyze a "Solubility Curve" and answer questions
 - a. How many grams of NaCl are necessary to make a solution saturated at a temperature of $30^\circ C$?
 - b. At $50^\circ C$, is a solution with 100 grams of KNO_3 in 100 grams of water unsaturated or supersaturated?

Chapter 23- Acids, Bases, and Salts

9

acid
base

indicator

pH
titration

neutralization
salt

1. What are the differences between strong and weak acids?
 2. What are the differences between strong and weak bases?
 3. What does pH measure?
 4. The pH of 4 substances are listed below, describe them as a strong or weak acid/base or neutral.
 - a. pH = 2
 - b. pH = 6
 - c. pH = 7
 - d. pH = 13
 5. What does the pH scale measure?
 6. What are the two products formed during neutralization reaction?
 7. Complete the following neutralization reaction... $KOH + H_2SO_4 \longrightarrow$
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