

STUDY GUIDE - EXAM 1

BRING TO CLASS ON EXAM DAY: Scan-Tron Form **883**, #2 pencil and good eraser, calculator.

Material Covered on Exam:

Chemistry: assigned reading for Unit 1

Lab Manual: Experiments A, 1, 2

Exercises 1, 2, 3

1. Metric System:

a. Know the basic units of mass, length and volume and their abbreviations.

b. Know the metric prefixes and their abbreviations.

3 c. Be able to draw a Metric-Metric conversion table and use it to make conversions from one Metric unit to another.

1 d. Given the conversion factors, be able to make Metric-English conversions.

4 e. Know the relative sizes (which is larger) of selected English and Metric units. *Include °C, °F*

2. Density

1 a. Given the mass and volume of a substance, calculate its density.

b. Given the mass and density of a substance, calculate its volume.

1 c. Given the volume and density of a substance, calculate its mass.

2 3. Temperature Conversions: convert temperature from °C to K and vice versa.

1 4. Periodic Table:

a. Locate a period on the periodic table.

2 b. Locate a family (group) of elements on the table. Know the common names for groups IA, IIA, VIIA, VIII, and the B groups.

c. Given the name of an element, be able to tell whether it is a metal or a nonmetal.

d. Be able to read the atomic number and atomic mass (weight) from the table.

e. Know which elements are diatomic.

2 5. Given a list of symbols, be able to give the corresponding name of the element and vice versa.

6. Given the formula of a compound, be able to:

1 a. Tell which elements and how many of each are present.

1 b. Determine the total number of atoms present.

2 c. Calculate the molecular mass (weight).

2 7. Given a symbol, formula, or name, be able to identify whether the substance is an element, compound, heterogeneous mixture, or homogeneous mixture.

2 8. Be able to distinguish between a physical property and a chemical property; a physical change and a chemical change. *Distinguish the types of change that can separate compounds, and mixtures*

4 9. Recognize statements of Laws of: Conservation of Mass, Definite Composition, and Conservation of Energy.

10. States of Matter: *d. Know the major points of a heating curve.*

a. Know the basic characteristics and physical properties of solids, liquids and gases.

b. Know the major points of the kinetic-molecular theory of gases.

3 c. Be able to express the relationships of Boyle's Law, Charles' Law, Gay-Lussac's Law, and Avogadro's Law. *e. Understand the relationship between evaporation, boiling and vapor pressure*

3 11. Vocabulary - Know the meanings of the following:

boiling	calorie	chemical change	chemical property
compound	condensation	crystallization	density
element	evaporation	filtrate	formula
freezing	heat	heterogeneous	homogeneous
kinetic energy	matter	melting	meniscus
mixture	molecule	physical change	physical property
potential energy	precipitate	reagent	specific gravity
sublimation	surface tension	symbol	temperature

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vapor pressure	viscosity		
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