

HOMWORK ASSIGNMENTS

GENERAL CHEMISTRY I

Spring 2012

The following sections of the Chemskill Builder must be completed in order to get credit for homework. **You must do them as many times as you like; only your highest score for each section are counted. A score of 80 or better will be counted as full credit.** Remember that all these assignments are worth a maximum of 100 points. There are many practice problems in your text at the end of the chapters with answers to the even-numbered problems at that end of the book. You are welcome and encouraged to do as many of these as you have time for, but there is no credit for these. **CREDIT WILL BE GIVEN ONLY FOR THE CHEMSKILL BUILDER ONLINE.** Chemskill Builder is available for online use at <http://www.chemskillbuilder.com>.

BE CERTAIN TO GET DETAILS FOR ACCESS TO THE SITE IN CLASS DURING THE FIRST TWO WEEKS OF CLASS.

1.2	Chemical Reactions/ Physical Processes
1.3	Three Phases of Matter
1.4	Names/Symbols of Elements I
1.5	Chemical Compounds
1.6	Temperature conversion
2.1	Significant Notation
2.2	Scientific Figures
2.3	Measurement and Interpolation
2.4	Metric Prefixes
2.5	Dimensional Analysis/Unit Conversions
2.6	Density and Volume Problems
8.1	Heat Capacity Problems
3.1	Names/Symbols of Elements II
3.2	Molecules and Ions
3.3	Cations and Anions
3.4	Ionic compounds
3.5	Acids, Bases, and Salts
3.6	Elements, Compounds and Mixtures
5.2	Products of Metathesis Reactions
5.4	Balancing Equations
4.1	The Mole Concept
4.2	Mole/Mass calculations
4.4	Limiting Reactants and Yield
4.5	Percent Composition
4.6	Empirical Formulas

It is recommended that these be completed by the first hour exam

5.1	Solubility Rules
5.3	Ionic and Net Ionic Equations

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- 6.1 Molar Concentration
- 6.2 Titrations
- 6.3 Volumetric Analysis
- 6.4 Molarity of Ions

- 7.1 Intuitive Behavior of Gases
- 7.2 Gas Law Problems
- 7.3 Ideal Gas Law
- 7.4 Gas Mixtures and Partial Pressures
- 7.5 Kinetic-Molecular Theory

- 8.5 Endothermic and Exothermic Processes
- 8.6 Enthalpy Change Problems

- 9.1 Elementary particles and Isotopes
- 9.3 Orbital Box Model of Electrons
- 9.4 Electron Configuration I
- 9.6 Quantum Numbers

- 11.1 Size of Atoms and Ions
- 11.2 Ionization Energy and Electron Affinity
- 11.3 Valence Electrons and Charge of Ions
- 11.4 Valence Electrons and Charge of Ions
- 11.5 Acidity and Basicity

It is recommended that these be completed by the date of the second hour exam

- 12.1 Electronegativity and Bond Polarity
- 12.2 Lewis Dot Diagrams
- 12.3 Shapes of Ions and Molecules
- 12.4 Resonance and Formal Charges
- 12.5 Review of Molecular Shapes

- 13.1 Orbital Shapes in Molecules
- 13.2 Orbital Hybridization
- 13.4 Polarity of Molecules

- 14.1 Change of Physical State
- 14.2 Types of Bonding in Solids
- 14.4 Intermolecular Forces in Liquids
- 14.6 Phase Diagrams

- 15.1 Solvents and Solutions
- 15.2 Concentration Calculations
- 15.3 Pressure and Temperature Effects
- 15.5 Freezing Point Lowering and Boiling Point Elevation

All Sections must be done by the date of the third hour exam

