

Chemistry 11: Course Review

Unit	Text Ref.		Do You Know...
	Hebden	Chem. Cons.	
Safety	pp. 1-7	pp. 14-17	<input type="checkbox"/> State the basic safety rules of the chemistry lab?
Units and Measurement	pp. 9-34	pp. 17-38	<input type="checkbox"/> The units used for measuring length, mass, and volume? <input type="checkbox"/> What the metric prefixes are and how they are used? <input type="checkbox"/> How to perform unit conversions? <input type="checkbox"/> What causes uncertainty in measurements? <input type="checkbox"/> What is the difference between accuracy and precision? <input type="checkbox"/> What are significant digits? <input type="checkbox"/> How are the significant digits in a measurement found? <input type="checkbox"/> What information is needed to calculate the density of an object?
Properties of Matter	pp. 41-64	pp. 65-77	<input type="checkbox"/> What is matter? <input type="checkbox"/> What is the Law of Conservation of Matter? <input type="checkbox"/> What is a property? What are some examples? <input type="checkbox"/> What are the two types of changes in matter? <input type="checkbox"/> What is different about chemical and physical changes? <input type="checkbox"/> What is an element? A compound? A pure substance? A homogeneous mixture? A heterogeneous mixture? A solution? A mechanical mixture? <input type="checkbox"/> What are some of the techniques used to separate the above?
Inorganic Naming	pp. 65-75	pp. 244-249	<input type="checkbox"/> Do you know how to name ionic compounds? Covalent compounds? (do you remember the prefixes)? Acids? Hydrates?
The Mole	pp. 77-99	pp. 311-332	<input type="checkbox"/> What is a mole? What is Avagadro's number? <input type="checkbox"/> What is molar mass? What is molecular mass? <input type="checkbox"/> How to use the "unit cancellation" method? <input type="checkbox"/> How to do mole~mole, mole~particle, and mole~mass conversions? <input type="checkbox"/> What is the molar volume of a gas? What is STP? <input type="checkbox"/> What is % composition? <input type="checkbox"/> What is an empirical formula? What is a molecular formula?
Chemical Reactions	pp. 105-119	pp. 279-291	<input type="checkbox"/> What is a chemical reaction? What are reactants? Products? <input type="checkbox"/> What is a chemical equation? <input type="checkbox"/> What are coefficients? <input type="checkbox"/> How to balance equations? <input type="checkbox"/> What are the phase subscripts? <input type="checkbox"/> How to identify a synthesis reaction? A decomposition reaction? A single replacement reaction? A double replacement reaction? A hydrocarbon combustion reaction?
Stoichiometry	pp. 123-134	pp. 347-365	<input type="checkbox"/> What is stoichiometry? <input type="checkbox"/> What does a chemical equation tell you about moles? <input type="checkbox"/> Do you <i>still</i> know how to use the unit cancellation method? <input type="checkbox"/> What are the many types of stoichiometry equations? <input type="checkbox"/> What do all stoichiometry equations have in common? <input type="checkbox"/> What is a limiting reactant? How do you determine the limiting reactant? <input type="checkbox"/> How do you determine the amount of excess reactant left over? <input type="checkbox"/> How do you calculate % yield?

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<u>Gas Laws</u>	-----	pp. 417-446	<input type="checkbox"/> Do you know the kinetic molecular theory? <input type="checkbox"/> Do you know the properties of gases? <input type="checkbox"/> Do you know what temperature is and how it is measured? <input type="checkbox"/> Do you know what the volume of a gas is? <input type="checkbox"/> Do you know what pressure is and how it is measured? <input type="checkbox"/> Do you know what atmospheric pressure is? <input type="checkbox"/> Do you know Boyle's Law? Charles's Law? Dalton's Law of Partial Pressures? The Ideal Gas Law? Read about "gas effusion", p.449
<u>Atomic Theory</u>	pp. 139-157	pp. 91-147	<input type="checkbox"/> What is an atom? What is Daltons Atomic Theory? <input type="checkbox"/> How is atomic structure related to electricity? <input type="checkbox"/> What did the cathode ray indicate about atoms? <input type="checkbox"/> What did Rutherford's experiment indicate? <input type="checkbox"/> What are atoms made of? What are their properties? <input type="checkbox"/> How can you tell the number of protons, neutrons, and electrons in an atom? In an ion? <input type="checkbox"/> What is an isotope? <input type="checkbox"/> What is radioactivity? What are the three types of radiation? What are their properties? <input type="checkbox"/> What is a nuclear reaction? What is a nuclear equation? What is a balanced nuclear equation? <input type="checkbox"/> What did Bohr's model of the atom explain? How? <input type="checkbox"/> What is an atomic orbital? What are the differences between an <i>s</i> , <i>p</i> , <i>d</i> , and <i>f</i> orbitals? <input type="checkbox"/> How do you determine the electron configuration of an atom? What principles are involved?
<u>The Periodic Table</u>	pp. 158-160	pp. 159-174	<input type="checkbox"/> What is the periodic law? <input type="checkbox"/> How did Dobereiner, Newlands, Mendeleev, and Moseley help to develop the modern periodic table? <input type="checkbox"/> Why do elements in groups share similar properties? <input type="checkbox"/> What are the four "orbital blocks" and where are they located? <input type="checkbox"/> What are some periodic trends? How do they change as you move around the periodic table? Why?
<u>Chemical Bonding</u>	pp. 165-183	pp. 225-244	<input type="checkbox"/> What is an ionic bond? <input type="checkbox"/> What is the octet rule? <input type="checkbox"/> What is a covalent bond? What is the difference between a nonpolar covalent and a polar covalent bond? <input type="checkbox"/> How do you draw a Lewis dot diagram of an atom? An ionic compound? A covalent molecule? <input type="checkbox"/> What is a double bond? A triple bond?
<u>Organic Chemistry</u>	pp. 213-242	pp. 805-858	<input type="checkbox"/> What is an organic compound? What is so special about carbon? <input type="checkbox"/> What is a hydrocarbon? What are some properties of hydrocarbons? <input type="checkbox"/> What is an alkane? An alkene? An alkyne? What is their general formula? How do you name them? <input type="checkbox"/> What is an allotrope? What is an isomer? <input type="checkbox"/> What is a halocarbon? An alcohol? An ether? What is their general formula? How are they named? <input type="checkbox"/> What is an aldehyde? A ketone? A carboxylic acid? An ester? What is their general formula? How are they named? <input type="checkbox"/> What is an amine? An amide? What is their general formula? How are they named?

Good Luck! (STUDY HARD, LUCK HAS NOTHING TO DO WITH IT!!!©)