Hesperia Community Schools

Course: Chemistry B
Grade Level: 11th Grade

Timeline	HSCE's/ GLCE's and CCSS	Content—the "WHAT" of teaching. Specific themes, units & topics.	Essential Skills: the "Important Details/Essential Questions" you are teaching (How & essential of What)	Content Vocabulary	Assessment: the products & performances of learning	Resources
Unit: Chemical Quantities (The Mole) **Weeks**: 1 – 6 ***Chemistry*, Prentice Hall © 2005 Reference**: CH 10		CH 10: Chemical Quantities • Section 1: The Mole: A Measurement of Matter • Section 2: Mole – Mass and Mole – Volume Relationships • Section 3: Percent Composition and Chemical Formulas	• What are three methods for measuring the amount of something? • How is Avogadro's number related to a mole of any substance? • How is the atomic mass of an element related to the molar mass of an element? • How is the mass of a mole of a compound calculated? • How do you convert the mass of a substance to the number of moles of the substance? • What is the volume of a gas at STP? • How do you calculate the percent by mass of an element in a compound? • What does the empirical formula of a compound show? • How does the molecular formula of a compound compare with the empirical formula?		Chemical Smorgasbord Lab (Experiments # 1 – 10) "Counting by Measuring Mass" Lab "Letter to a Friend" – Molar Cube (Quiz) Moles of Metals Lab "What the Representative Particle?" WS CH 10 (Section 1 & 2) Test % Composition (Water in Popcorn) Lab % Composition Quiz CH 10 (Cumulative) Test Hydrates (Salts) Lab	Gram Formula Mass WS Demo: How much is a mole? Representative Particles and the Mole Notes BrainPoP: Moles Moles, Mass & Volume Notes Mole & Mass WS Mole & Volume WS Gas & Balloon STP Activity Molar Cube Activity CH 10 Review Problems Mole Search & Rescue Activity Moleasses Cookie Recipe Activity Mrs. Sherburn's "In Plain English" Mole Youtube.com video Percent Composition

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						Notes Demo: Scale/% Composition Ernie WS Determining Empirical Formulas WS Molecular (True) Formulas WS Around-the-Room Problems
Unit: Chemical Reactions, Reaction Rates & Equilibrium **Weeks**: 7 – 9 ***Chemistry*, Prentice Hall © 2005 Reference**: CH 11 & 18		CH 11: Chemical Reactions • Section 1: Describing Chemical Reactions • Section 2: Types of Chemical Reactions • Section 3: Reactions in Aqueous Solutions CH 18: Reaction Rates & Equilibrium • Section 1: Rates of Reaction	• How do you write a word equation? • How do you write a skeleton equation? • What are the steps in writing a balanced chemical equation? • What are the five general types of reactions? • How can you predict the products of the five general types of reactions? • What does a net ionic equation show? • How can you predict the formation of a precipitate in a double-replacement reaction? • How is the rate of a chemical change expressed? • What four factors influence the rate of a chemical reaction		Cartoon Chemistry Project Chemical & Mathematical Challenge Activity Balancing Equations Quiz Activity Series of Metals Lab Double Replacement Lab Reaction Rate & Equilibrium Quiz CH 11 (Chemical Reaction) Test "Sweet 16" Ion	Demo: Balancing Equations Demo (with colored magnets) Balancing Chemical Equations WS Demo: Whoosh Bottle (Combustion) Demo: Floating Tin Sponge (Single Replacement Reaction) Demo: M.O.M. (Double Replacement Reaction) Demo: Elephant Toothpaste (Decomposition Reaction) Demo: Mrs. Simpson's

					Tournament	Fried Egg Demo Chemical Word Equations WS#1 & 2 Demo: Money Catalyst Demo: Surface Area vs. Reaction Rate (Steel Wool) Demo: Dueling Aquariums (Equilibrium) Chemistry Dice Game Reaction Rates & Equilibrium PowerPoint Presentation CH 11 Practice Problems WS Demo: Can Ripper Jeopardy Review Game
Unit: Stoichiometry **Weeks**: 10 – 13 ***Chemistry*, Prentice Hall © 2005 Reference**: CH 12		CH 12: Stoichiometry • Section 1: The Arithmetic of Equations • Section 2: Chemical Calculations • Section 3: Limiting Reagent and Percent Yield	• How is a balanced equation like a recipe? • How do chemists use balanced chemical equations? • In terms of what quantities can you interpret a balanced chemical equation? • What quantities are converted in every chemical reaction? • How are mole ratios used in chemical calculations? • What is the general procedure for solving a stoichiometry problem? • How is the amount of product in a reaction affected by an		Decomposition of Baking Soda Lab Stoichiometry A/B Problems Stoichiometry (CH 12) Test	Mole – Mole WS Volume – Volume WS CO_2 Soda Bottle Boat Lab

			insufficient quantity of any of the reactants? • What does the percent yield of a reaction measure?			
Unit: The Behavior of Gases **Weeks**: 14 – 15 ***Chemistry*, Prentice Hall © 2005 Reference**: CH 14	**C1.2C**:	CH 14: The Behavior of Gases • Section 1: Properties of Gases • Section 2: The Gas Laws • Section 3: Ideal Gases	• Why gases are easier to compress than solids or liquids are? • What are the three factors that affect gas pressure? • How are the pressure, volume and temperature of a gas related? • When is the combined gas law used to solve problems? • What is needed to calculate the amount of gas in a sample at given conditions of volume, temperature and pressure? • Under what conditions are real gases most likely to differ from ideal gases?			
Unit: Acids & Bases **Weeks**: 16 – 17 ***Physical Science*, Holt © 2008 Reference**: CH 9	**C5.7A**: Recognize formulas for common inorganic acids, carboxylic acids, and bases formed from families I and II. **C5.7B**: Predict products of an acid-based neutralization. **C5.7C**: Describe tests that can be used to distinguish an acid from a base. **C5.7D**: Classify various solutions as acidic or basic, given their pH.	• Acids, Bases & pH (Section 1) • Reactions of Acids & Bases (Section 2)	• What are the properties of acids? • What are the properties of bases? • How is the pH related to the concentration of hydronium ions and hydroxide ions in solution? • What is a neutralization reaction? • To a chemist, what exactly is a salt? • Why are cleaning products added to water? • What are some household products that contain acids, bases and salts?	Acid Base pH Electrolyte Indicator Neutralization	Crayola Color Change Marker Lab Acids & Bases Quiz	Magic Coloring Book Demo Acids, Bases & Salts Notes Acids & Bases WS BrainPoP: 1. Acids & Bases, 2. pH