Subject: Chemistry **Grade Level/Course:** 10-12 Chemistry **Unit Title:** The Mole and Stoichiometry	**Timeframe Needed for Completion:** 17 days **Grading Period:** 2nd six weeks
Big Idea/Theme: Conversions using the mole and balanced equations **Learning Targets: ("I can" or "I will" statements)** I can calculate molar mass I will make the following conversions: mole-<->grams<-->particles<--->Liters I can use a balanced equation and the factor label method to convert quantities of a given material to a quantity of another compound. I will determine the percent composition, empirical formula, hydrate and molecular formula of for compounds.	
Essential Questions: (3-5 questions per unit) – This is not a yes or no question; it must be broad, debatable, and thought-provoking. Explain why it is important for industrial chemists to understand how to use stoichiometry in their profession. Identify a situation when you or your parent/guardian have used the concept of "limiting reactants in daily life.	**Curriculum Goals/Objectives: (Common Core or Essential Standards)** Chem 2.2.4 Analyze the stoichiometric relationships inherent in a chemical reaction. Chem 2.2.5 Analyze quantitatively the composition of a substance(empirical formula, molecular formula, percent composition and hydrates.
Essential Concepts: balanced equations will be used to make the following conversions -mole<-->particles<-->grams<-->Liters -discerning between and calculating empirical and molecular formulas -working percent composition pblms	**Assessment Tasks: (examples of summative and/or formative assessments)** White board pblms Stoichiometry relay team competition Computer conversions Quizzes-6 Homework-5 Classwork 7 Labs – 2 1 lab paper will be written Tests - 2

Other Integration Opportunities: (literacy anchor standards, Information and Technology Essential Standards, 21st century content and skills, other disciplines)	**Resources:**
Literacy Determine central idea or conclusions of a text Follow precisely a complex, multistep procedure when carrying out experiments. Determine the meaning of symbols and key terms. Write informative/explanatory texts. ITES Evaluate resources for reliability. Evaluate content for relevance to the assigned task. Analyze ethical issues and practices related to copyright, not plagiarizing, and netiquette. 21st Century Skills Students can determine the verifiability of evidence in print and electronic resources to evaluate scientific claims. Students can provide of examples of how scientists use technology to expand their research. Students apply their scientific knowledge to a variety of situations. Students have a variety of opportunities to read/review and interpret scientific information through popular and professional media in areas that interest them, and are able to discuss their thoughts and questions on these topics informally with peers.	Worksheets, quizzes, tests – attached White boards Computer lab Lab materials -hydrated copper sulfate -lab equipment -iron fillings *Current Magazine* *Science Daily* Tabloids (non-reputable sources of information)