

MAST @ FIU

Biscayne Bay Campus

SUMMER ASSIGNMENT FOR AP CHEMISTRY

Overview

Miami-Dade County Public Schools recognizes the importance of ensuring that students continue to strengthen scientific and problem solving skills and develop a passion for science beyond instructional requirements. Experience and current research support the idea that students who are actively engaged in scientific inquiry throughout the summer demonstrate improved academic performance during the following school year. Cultivating scientific inquiry helps build problem solving skills and enriches students' knowledge base. In addition, increased independent scientific inquiry helps prepare students to be successful in meeting more rigorous academic standards as schools transition to Science Florida Standards.

Summer scientific inquiry provides students with an opportunity for personal exploration and continued intellectual growth. It serves as an essential component of the instructional process in schools. As stated above, research has shown that students who engage in scientific activities throughout the summer improve academically during the following school year. However, school summer science activities are not intended to be excessive or curtail students' participation in recreational and/or family activities.

Assignment

Summer Review will unfold, topic by topic, in Edmodo working group (code: b2zv28). Worksheets, videos, and puzzles etc. will be included.

Category	Review	Student: Make Bullets of Learning Outcomes
Honors Chemistry – Topics Covered	Lab Safety, basic lab equipment GHS symbols Matter & Properties Mixtures, Separating Techniques Density and calculations The Periodic Table-Family & Trends Atomic Structure and Configuration Quantum Theory	

	Chemical bonding Lewis Structures Inter and Intra molecular bonds Nomenclature and formulas Polyatomic ions, Ionic and Covalent bonds Kinetic Molecular Theory Phase changes, phase diagrams Exothermic and Endothermic Energy Diagrams Types of Chemical Reactions incl. REDOX and Neutralization Stoichiometry The mole and Dimensional Analysis Empirical and Molecular Formula Calculations Theoretical and Percent Yield Acids and Bases pH and pOH calculations Titrimetry Electrochemical Cells	
Category	Review	Student: Make Bullets of Learning Outcomes
Honors Chemistry – Topics NOT Covered	Electromagnetic Radiation (EMR), Frequency, Wavelength and Energy calculations Properties of Water Polarity (Pauling Scale - Like dissolves like) Concentration and Dilution Collision Theory Reversible Reaction, Equilibrium Reaction Rates Factors affecting reaction rates Nuclear Reactions Decay and half-life Fusion/Fission Organic Chemistry – Structure, Functional Groups First and Second Laws of Thermodynamics	
AP Chemistry - Introduction	Schematic/Pictorial representation of specific topics Multi-topic Worksheets	<i>(Upon return to school)</i>