

Cycle #	Cycle of	Standard/Benchmark	Concept & Knowledge	Skills	Resources
22-23	April 2 - 24	STUDENTS WILL DEMONSTRATE THE QUALITATIVE AND QUANTITATIVE RELATIONSHIPS OF MATTER IN CHEMICAL PROCESSES.	Stoichiometry <ul style="list-style-type: none"> • Mole concept and Avogadro's constant 	<ul style="list-style-type: none"> • Calculate the masses of reactants and products in a chemical reaction from the mass of one of the reactants or products and the relevant atomic masses. • Explain the impact of a limiting reactant on a chemical equation • Calculate the theoretical and percent yields of a chemical reactions • Explain the difference between actual yield, theoretical yield, and percent yield • Find the empirical formula of an unknown compound using stoichiometry 	<p><u>Chemistry: The Central Science</u></p> <p><u>Chapter 6 Chemical composition</u></p> <p>http://www.youtube.com/watch?v=uHBpftNquZQ</p> <p>http://www.ibchem.com/IB/ibnotes/full/sto_hm/1.1.htm</p> <p>https://ibstudyguide.wikispaces.com/1.1+The+Mole+Concept+and+Avogadro's+Constant</p> <p>http://quizlet.com/11395403/11-the-mole-concept-and-avogadros-constant-flash-cards/</p>
24-25	Apr 25 – May 10	STUDENTS WILL DEMONSTRATE THE QUALITATIVE AND QUANTITATIVE RELATIONSHIPS OF MATTER IN CHEMICAL PROCESSES.	Stoichiometry <ul style="list-style-type: none"> • Moles and gaseous volume relationships in chemical reactions 	<ul style="list-style-type: none"> • Determine the molar mass of a molecule from its chemical formula and a table of atomic masses and how to convert the mass of a molecular substance to moles, number of particles, or volume of gas at standard temperature and pressure. 	<p><u>Chapter 6 and chapter 11 Gases</u></p> <p>http://earjibchem.weebly.com/mass-and-gaseous-volume-relationships-in-chemical-reactions.html</p> <p>http://www.docstoc.com/docs/86232172/Mass-and-gaseous-</p>

				<ul style="list-style-type: none"> • Apply the as laws to stoichiometric calculations • Recognize why real gases do not behave like ideal gas laws 	volume-relationships-in-chemical-reactions# http://www.mikeblaber.org/oldwine/chm1045/notes/Gases/Volume/Gases07.htm
26 +	May 11 - 24	<p>STUDENTS WILL UNDERSTAND THE NATURE UF IONIC SUBSTANCES DISSOLVED IN WATER</p> <p>STUDENTS WILL UNDERSTAND THE SOLUTION PROCESS</p> <p>STUDENTS WILL UNDERSTAND THE COLLIGATIVE PROPERTIES OF SOLUTIONS</p>	<p>Stoichiometry</p> <ul style="list-style-type: none"> • Solutions 	<ul style="list-style-type: none"> • describe the dissolving process at the molecular level by using the concept of random molecular motion. • Calculate the concentration of a solute in terms of grams per liter, molarity, parts per million, and percent composition. • Write equations for reactions in aqueous solutions • Write net ionic equations • Predicts the products of acid-base reactions • Predict the solubility of ionic compounds in water • Calculate the concentration of a solute in a solution in units of moles per liter • Use concentrations in calculations • Prepare a solution of a given molarity form the solute and a solvent or by dilution 	<p><u>Chapter 13 Solutions</u></p> <p>http://www.mikeblaber.org/oldwine/chm1045/notes/Gases/Volume/Gases07.htm</p> <p>http://chemed.chem.wisc.edu/chempaths/GenChem-Textbook/Reactions-in-Aqueous-Solutions.html</p> <p>http://chemistry.bd.psu.edu/jircitano/aqueous.html</p>

				<ul style="list-style-type: none">• Define the terms solution, solvent, solute, and colligative properties• Describe the process of dissolving a solute in a solvent, including energy changes that may occur• Describe the effect of pressure and temperature on the solubility of solute	
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