

Standards Division Document School Year 2016-2017

Course : Chemistry

First Six Weeks Standards:

- Chm.1.1.1** Analyze the structure of atoms, isotopes, and ions.
- Chm.2.2.2** Analyze evidence of chemical change.
- Chm.1.3.1** Classify the components of the periodic table.
- Chm.1.3.2** Infer the physical properties of an element based on its position in the periodic table.
- Chm.1.1.2** Analyze an atom in terms of the location of electrons.
- Chm.1.1.3** Explain the emission of electromagnetic radiation in spectral form in terms of the Bohr model.
- Chm.1.3.3** Infer the atomic size, reactivity, electronegativity, and ionization energy of an element from its position in the Periodic Table.
- Chm.1.2.1** Compare the relative strengths of ionic, covalent, and metallic bonds.

Second Six Weeks Standards:

- Chm.2.2.5** Analyze quantitatively the composition of a substance (empirical formula, molecular formula, percent composition and hydrates).
- Chm.2.2.3** Analyze the law of conservation of matter and how it applies to various types of chemical equations.
- Chm.2.2.4** Analyze the stoichiometric relationships inherent in a chemical reaction.
- Chm.3.2.6** Explain the solution process.
- Chm.3.2.4** Summarize the properties of solutions.
- Chm.3.2.5** Interpret solubility diagrams.
- Chm.3.2.3** Infer the quantitative nature of a solution (molarity, dilution, and titration).
- Chm.3.2.2** Summarize the properties of acids and bases.
- Chm.3.2.1** Classify substances using the hydronium and hydroxide ion concentrations.

Third Six Weeks Standards:

- Chm.2.1.5** Explain the relationships between pressure, temperature, volume and quantity of gas.
- Chm.2.1.1** Explain the energetic nature of phase changes.
- Chm.2.1.2** Explain heating and cooling curves.
- Chm.2.1.3** Interpret data presented in phase diagrams.
- Chm.2.1.4** Infer simple calorimetric calculations based on the concepts of heat lost equals heat gained and specific heat
- Chm.2.2.1** Explain the energy content of a chemical reaction.
- Chm.3.1.1** Explain the factors that affect the rate of a reaction.
- Chm.3.1.2** Explain the conditions of a system at equilibrium.
- Chm.3.1.3** Infer the shift in equilibrium when a stress is applied to a chemical system (Le Chatlier's Principle).

<p>Chm.1.2.2 Infer the type of bond and chemical formula formed between atoms.</p> <p>Chm.1.2.3 Compare intra- and inter-particle forces.</p> <p>Chm.1.2.4 Interpret the name and formula of compounds using IUPAC convention.</p> <p>Chm.1.2.5 Compare the properties of ionic, covalent, and metallic compounds (include VSEPR).</p>		<p>Chm.1.1.4 Explain the process of radioactive decay the use of nuclear equations and half-life.</p>
<p>First Half-of-Course Standards (Objectives that take the first half of the course to teach) 1.1.1, 2.2.2, 1.3.1, 1.3.2, 1.1.2, 1.1.3, 1.3.3, 1.2.1, 2.2.5, 2.2.3, 2.2.4</p>	<p>Second Half-of-Course Standards (Objectives that take the second half of the course to teach) 3.2.6, 3.2.4, 3.2.5, 3.2.3, 3.2..2, 3.2.1, 2.1.5, 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.2.1, 3.1.1, 3.1.2, 3.1.3</p>	
<p>Year Long Standards (Objectives that may take the full year to teach): 1.3.3, 1.2.1, 3.1.3</p>		