

Unit of Study—Fifth Six Weeks Chemistry					
TEKS #	Knowledge and Skill TEKS	Student Expectations	Vocabulary	Tools	Instructional/Assessment Resources
<p>week 25 – 26 week 1 (1a 1b 2a 2b 2c 2d 2e 3c 3d 3e 4a 4b 7a 8c) week 2 (1a 1b 2a 2b 2c 2d 2e 3a 3b 3c 3e 4a 4b 4c 5a 5b 5c 7a)</p> <p>week 27 – 28 week 1 (1a 1b 2a 2b 2d 2e 4a 4b 7a) week 2 (1a 1b 2a 2b 2c 2d 2e 3a 3b 3c 3e 4a 4b 4c 7a 7b)</p> <p>week 29 – 30 week 1 (1a 1b 2a 2b 2d 2e 3a 3e 7a 11a 11b) week 2 (1a 1b 2a 2b 2c 2d 2e 3a 3c 3d 3e 4a 5a 7a 7b 11a 11b)</p>	<p>(1) Scientific processes. The student, for at least 40% of instructional time, conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:</p> <p>(A) demonstrate safe practices during field and laboratory investigations; and</p> <p>(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.</p> <p>(2) Scientific processes. The student uses scientific methods during field and laboratory investigations. The student is expected to:</p> <p>(A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology;</p> <p>(B) collect data and make measurements with precision;</p> <p>(C) express and manipulate chemical quantities using scientific conventions and mathematical procedures such as dimensional analysis, scientific notation, and significant figures;</p> <p>(D) organize, analyze, evaluate, make inferences, and predict trends from data; and</p> <p>(E) communicate valid conclusions.</p> <p>(3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:</p> <p>(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;</p> <p>(B) make responsible choices in selecting everyday products and services using scientific information;</p> <p>(C) evaluate the impact of research on scientific thought, society, and the environment;</p> <p>(D) describe the connection between chemistry and future careers; and</p> <p>(E) research and describe the history of chemistry and contributions of scientists.</p> <p>(4) Science concepts. The student knows the characteristics of matter. The student is expected to:</p> <p>(A) differentiate between physical and chemical properties of matter;</p> <p>(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume;</p> <p>(C) investigate and identify properties of mixtures and pure substances; and</p> <p>(D) describe the physical and chemical characteristics of an element using the periodic table and make inferences about its chemical behavior.</p> <p>(8) Science concepts. The student knows how atoms form bonds to acquire a stable arrangement of electrons. The student is expected to:</p>	<p>(A) <b>describe</b> physical properties of elements and identify how they are used to position an element on the periodic table; and</p> <p>(B) <b>Recognize</b> that compounds are composed of elements.</p> <p>(C) understand the difference between a compound and a mixture</p> <p>(D) Explain density and be able to calculate it.</p> <p>(E) <b>Represent</b> the natural world using models such as the Bohr atom or Lewis Dot diagram, and identify their limitations.</p> <p>(F) <b>collect, analyze, and record</b> information in a laboratory setting to explain a chemical activity using tools including beakers, flasks, Petri dishes, graduated cylinders, hot plates, test tubes, safety goggles, triple beam, digital, and analytical scales, thermometers, pH meters, Colorimeters, and calculators</p> <p>(G) <b>Collect and analyze information</b> to recognize patterns such as reactivity and displacement.</p> <p>(H) Be able to use laboratory techniques to identify an unknown substance.</p> <p>(I) <b>Describe</b> physical properties of elements and identify how they can be described as being part of a chemical family</p> <p>(J) <b>be able to draw Bohr atom diagrams as well as Lewis Dot diagrams</b></p> <p>(K) <b>Be able to determine valence numbers by using the Periodic Table</b></p> <p>(L) Write the correct formula of a compound from its name and be able to write the correct name of a compound from its formula</p> <p>(M) Be able to provide the common characteristics of elements within the following families: Alkali Metals, Alkaline Earth Metals, Transition Metals, Non-Metals, Metalloids, Halogens, and Noble Gases.</p>	<p>Oxidation Reduction Oxidizing agent Reducing agent Half-reaction Reduction potential Electron potential Conductivity Electrolyte Cathode Anode electrolysis Reduction potential Electron potential Conductivity Electrolyte Cathode Anode Electrolysis Cation Anion</p>	<p>Textbook, lab book, lab handouts, lecture handouts, practice handouts, short videos from Web, demonstrations, lab exercises (lab equipment)</p>	<p>Week twenty-five and week twenty-six Chapter 10 kinetic energy, physical behavior of matter, changes of state Labs: changes of state, factors influencing reaction rates, freezing point reduction Test Chapter 10</p> <p>Week twenty-seven and week twenty-eight Chapter 11 gas pressure, gas laws, Boyle's Law, Charles' Law, Graham's Law Labs: Boyle's Law, Charles' Law Test Chapters 11</p> <p>Week twenty-nine and week thirty Chapter 12 chemical quantities, counting particles, using Moles in chemical reactions Labs: preparation of standard solutions, titration Test Chapters 10, 11, and 12</p>

	<p>(B) investigate and compare the physical and chemical properties of ionic and covalent compounds;</p> <p>(11) Science concepts. The student knows that balanced chemical equations are used to interpret and describe the interactions of matter. The student is expected to:</p> <p>(A) identify common elements and compounds using scientific nomenclature;</p> <p>(5) Science concepts. The student knows that energy transformations occur during physical or chemical changes in matter. The student is expected to:</p> <p>(A) identify changes in matter, determine the nature of the change, and examine the forms of energy involved;</p> <p>(B) identify and measure energy transformations and exchanges involved in chemical reactions; and</p> <p>(C) measure the effects of the gain or loss of heat energy on the properties of solids, liquids, and gases.</p> <p>(6) Science concepts. The student knows that atomic structure is determined by nuclear composition, allowable electron cloud, and subatomic particles. The student is expected to:</p> <p>(A) describe the existence and properties of subatomic particles;</p> <p>(B) analyze stable and unstable isotopes of an element to determine the relationship between the isotope's stability and its application</p> <p>(11) Science concepts. The student knows that balanced chemical equations are used to interpret and describe the interactions of matter. The student is expected to:</p> <p>(B) demonstrate the use of symbols, formulas, and equations in describing interactions of matter such as chemical and nuclear reactions</p>				
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