

Unit of Study—Fourth Six Weeks					
Chemistry					
TEKS #	Knowledge and Skill TEKS	Student Expectations	Vocabulary	Tools	Instructional/Assessment Resources
week 19-20 week 1 (1a 1b 2a 2b 2c 2d 2e 3a 3b 3c 3e 4a 8a 8b 8c 11a 11b 14a 14b 14c 14d) week 2 (1a 1b 2a 2b 2c 2d 2e 3a 3b 3c 3e 4a 8a 14a 14c 14d) week 21 – 22 week 1 (1a 1b 2a 2b 2c 2d 2e 4a 4b 8a 8b 10a 10b 11a 11b 14a) week 2 (1a 1b 2a 2b 2c 2d 3a 3c 3d 3e 4a 5a 5b 8a 8b 10a 10b 11a 11b 15a 15b) week 23 – 24 week 1 (1a 1b 2a 2b 2d 2e 3a 3b 3c 3e 4a 4b 4d 5a 5b 5c 8a 8b)	<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) describe physical properties of elements and identify how they are used to position an element on the periodic table; and</p> <p>(B) Recognize 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) Represent the natural world using models such as the Bohr atom or Lewis Dot diagram, and identify their limitations.</p> <p>(F) collect, analyze, and record 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) Collect and analyze information 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) Describe physical properties of elements and identify how they can be described as being part of a chemical family</p> <p>(J) be able to draw Bohr atom diagrams as well as Lewis Dot diagrams</p> <p>(K) Be able to determine valence numbers by using the Periodic Table</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>	Oxidation, Reduction, Oxidizing Agent, Reducing Agent, Ionic reaction Net ionic reaction Spectator ions Oxidation Reduction Oxidizing agent Reducing agent Half-reaction Reduction potential	Textbook, lab book, lab handouts, lecture handouts, practice handouts, short videos from Web, demonstrations, lab exercises (lab equipment)	Week nineteen and week twenty Chapter 15 reactions of acids and bases, buffering effect, predicting neutralization point Labs: choosing the right indicator, using the pH meter, characteristic reactions of acids and bases, buffers Test Chapter 15 Week twenty-one and week twenty-two Chapter 16 redox reactions Labs: oxidation-reduction reactions Test Chapters 16 Week twenty-three and week twenty-four Chapter 9 chemical bonding, bonding to form molecules, molecular shapes, crystalline structure Labs: crystalline structure Test Chapters 15, 16, and 9

<p>8c 8d 9d) week 2 (1a 1b 2a 2b 2c 2d 2e 3a 3b 3c 3e 4a 4b 5a 8a 8b 8c 8d)</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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