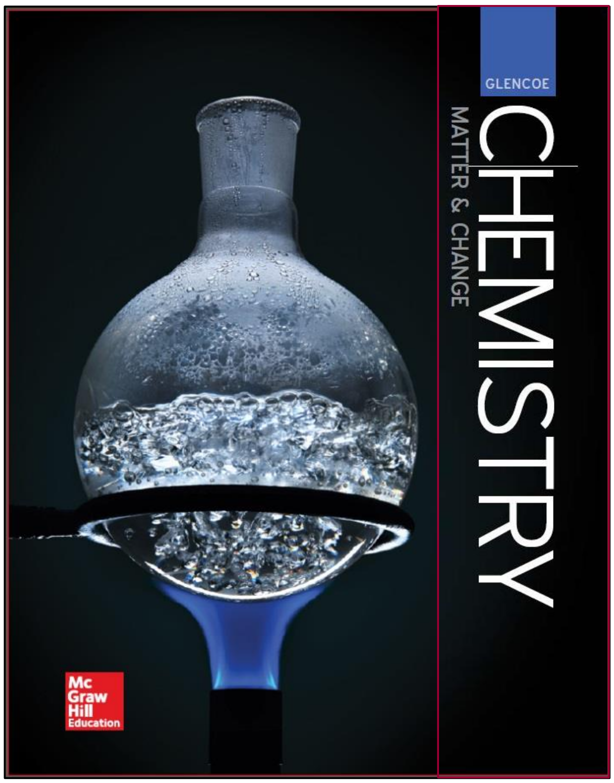
College- and Career-Readiness
Standards for Science
Chemistry



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STANDARDS	PAGE REFERENCES
CHE.1 Mathematical and Computational Analysis **Conceptual Understanding:** Mathematical and computational analysis is a key component of scientific investigation and prediction of outcomes. These components create a more student-centered classroom.	
CHE.1 Students will use mathematical and computational analysis to evaluate problems.	
CHE.1.1 *Use dimensional analysis (factor/label) and significant figures to convert units and solve stoichiometric problems.*	**Student Edition:** *Example Problems* 375, 376, 377 *Math Handbook* 956-959 *MiniLAB* 378

Codes used for Teacher Edition pages are the initial caps of headings on that page.

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Continued from previous cell… ***CHE.1.1*** *Use dimensional analysis (factor/label) and significant figures to convert units and solve stoichiometric problems.*	*Continued from previous cell…* *Problem-Solving Strategy* 374 *Practice Problems* 375, 376, 377**Teacher Wraparound Edition:** CJ 275; CU 377; ICE 375, 376, 377
CHE.1.2 *Design and conduct experiments using appropriate measurements, significant figures, graphical analysis to analyze data.*	Students will conduct the *ChemLAB* first then continue to design the next part of the experiment through the *Inquiry Extension.* The teacher will guide students through their designed experiment. **Student Edition:** *ChemLAB/Inquiry Extension* 466, 584, 670, 776, 850 This activity provides opportunity for students to design an experiment. **Teacher Wraparound Edition:** DI 415
CHE.1.3 ***Enrichment:*** *Research information from multiple appropriate sources and assess the credibility, accuracy, possible bias, and conclusions of each publication.*	The following page references can be used to discuss how to assess the credibility of researched information. **Student Edition:** *Writing in Chemistry* 389, 465, 505, 511, 555, 697 **Teacher Wraparound Edition:** CP 348

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CHE.2 Atomic Theory **Conceptual Understanding: Atomic theory is the foundation of modern chemistry concepts. Students must be presented with a solid foundation of the atom and its components. These concepts lead to an understanding of the interactions of these components to explain macro-observations of the world.**	
CHE.2 Students will demonstrate an understanding of the atomic structure of atoms and the historical developments leading to modern atomic theory.	
CHE.2.1 *Investigate the historical progression leading to the modern atomic theory, including, but not limited to, work done by Dalton, Rutherford's gold foil experiment, Thomson's cathode ray experiment, Millikan's oil drop experiment, and Bohr's interpretation of bright line spectra.*	**Student Edition:** 102-104, 107-114, 146-152 *Figure 7* 108 *Figure 8* 109 *Figure 9* 110 *Figure 10* 110-111 *Figure 11* 111 *Figure 12* 112 *Figure 13* 112 *Figure 14* 114 *Figure 17* 154 *Table 1* 103 *Table 2* 104 *Table 3* 114 **Teacher Wraparound Edition:** As 147; CB 149; CD 110, 154; CJ 110; CP 103, 153; De 106-107; DI 109, 111; Ex 104, 112, 114; Re 114
CHE.2.2 *Construct models (e.g., ball and stick, online simulations, mathematical computations) of atomic nuclei to explain the abundance-weighted average (relative mass) of elements and isotopes on the published mass of elements.*	**Student Edition:** *ChemLAB* 126 *MiniLAB* 120 **Teacher Wraparound Edition:** As 117
CHE.2.3 *Investigate absorption and emission spectra to interpret explanations of electrons at discrete energy levels using tools such as online simulations, spectrometers, prisms, flame tests, and discharge tubes. Explore both laboratory experiments and real-world examples.*	**Student Edition:** *ChemLAB* 92, 164 *Document-Based Questions* 169 *Figure 9* 145 *MiniLAB* 144 *Problem-Solving LAB* 150 **Teacher Wraparound Edition:** As 147, 150, 157; De 156-157; QD 148

STANDARDS	PAGE REFERENCES
CHE.2.4 *Research appropriate sources to evaluate the way absorption and emission spectra are used to study astronomy and the formation of the universe.*	**Student Edition:** *Connection to Astronomy* 145
CHE.3 Periodic Table **Conceptual Understanding: Modern chemistry is based on the predictability of atomic behavior. Periodic patterns in elements led to the development of the periodic table. Electron configuration is a direct result of this periodic behavior. The predictable behavior of electrons has led to the discovery of new compounds, elements, and atomic interactions. Predictability of atom behavior is a key to understanding ionic and covalent bonding and production of compounds or molecules.**	
CHE.3 Students will demonstrate an understanding of the periodic table as a systematic representation to predict properties of elements.	
CHE.3.1 *Explore and communicate the organization of the periodic table, including history, groups, families, family names, metals, nonmetals, metalloids, and transition metals.*	**Student Edition:** 174-181 *Figure 1 & 2* 175 *Figure 3* 177 *Figure 5* 178-179 *Figure 9* 184-185 *Section 1 Review* 181 #1-#4 *Table 1* 174 *Table 2* 176 **Teacher Wraparound Edition:** As 179; CJ 192; CP 177; DI 175; Ex 175; MI 174

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CHE.3.2 *Analyze properties of atoms and ions (e.g., metal/nonmetal/metalloid behavior, electrical/heat conductivity, electronegativity and electron affinity, ionization energy, and atomic/ionic radii) using periodic trends of elements based on the periodic table.*	**Student Edition:** 187-194 *Applying Practices* 191 *ChemLAB* 196 *Example Problem* 189 *Figure 5* 178-179 *Figure 11 & 12* 188 *Figure 14* 190 *Figure 15 & 16* 191 *Figure 17* 193 *Figure 18* 194 *Practice Problems* 189 *Problem-Solving LAB* 180 *Section 1 Review* 181 #5-#7 *Section 3 Review* 194 **Teacher Wraparound Edition:** As 179, 182, 185, 188; CD 187; CJ 189; CP 188; CU 194; De 190-191; Ext 181; ICE 189; MC 191; QD 179; R 179; Re 181, 186, 194; VL 192
CHE.3.3 *Analyze the periodic table to identify quantum numbers (e.g., valence shell electrons, energy level, orbitals, sublevels, and oxidation numbers).*	**Student Edition:** 182-185 *Example Problem* 186 *Figure 7 & 8* 183 *Practice Problems* 186 *Section 2 Review* 186 *Table 3* 182 *Table 4* 184 **Teacher Wraparound Edition:** As 183; CU 186; DI 182; Re 186

STANDARDS	PAGE REFERENCES
CHE.4 Bonding **Conceptual Understanding: A firm understanding of bonding is necessary to further development of the basic chemical concepts of compounds and chemical interactions.**	
CHE.4 Students will demonstrate an understanding of the types of bonds and resulting atomic structures for the classification of chemical compounds.	
CHE.4.1 *Develop and use models (e.g., Lewis dot, 3-D ball-stick, 3-D printing, or simulation programs such as PhET) to predict the type of bonding between atoms and the shape of simple compounds.*	**Student Edition:** *ChemLAB* 272 *Example Problem* 255, 256, 257, 260, 264 *Figure 13* 253 *Figure 14* 258 *Figure 23* 268 *Practice Problem* 255, 256, 257, 260, 264 *Problem-Solving Strategy* 254 *Section 3 Review* 260 *Section 5 Review* 270 #72-#77 *Table 6* 263 **Teacher Wraparound Edition:** As 263, 267; CD 254, 257; CJ 263, 267; CP 263; CU 259; DI 258; ICE 255, 256, 257, 264; QD 253; Re 259, 263; VL 253
CHE.4.2 *Use models such as Lewis structures and ball and stick models to depict the valence electrons and their role in the formation of ionic and covalent bonds.*	**Student Edition:** *ChemLAB* 272 *Example Problem* 244 *Figure 3* 241 *Practice Problem* 212, 244 **Teacher Wraparound Edition:** As 245; BM 243; CJ 214; CU 247; DI 211, 243; ICE 244; QD 261; R 241; VL 259
CHE.4.3 *Predict the ionic or covalent nature of different atoms based on electronegativity trends and/or position on the periodic table.*	**Student Edition:** *Figure 22* 267 *Section 5 Review* 270 #72-#77 *Table 7* 266 **Teacher Wraparound Edition:** CJ 267
CHE.4.4 *Use models and oxidation numbers to predict the type of bond, shape of the compound, and the polarity of the compound.*	**Student Edition:** *Example Problem* 345, 349 *Practice Problem* 346 *Section 4 Review* 350 #68-#69 **Teacher Wraparound Edition:** CU 349; ICE 345, 349

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CHE.4.5 *Use models of simple hydrocarbons to exemplify structural isomerism.*	**Teacher Wraparound Edition:** As 769; BM 766; QD 767
CHE.4.6 *Use mathematical and computational analysis to determine the empirical formula and the percent composition of compounds.*	**Student Edition:** *Example Problem* 345, 349 *Practice Problem* 346 *Section 4 Review* 350 #68-#69 **Teacher Wraparound Edition:** CU 349; ICE 345, 349
CHE.4.7 *Use scientific investigation to determine the percentage of composition for a substance (e.g., sugar in gum, water and/or unpopped kernels in popcorn, percent water in a hydrate). Compare results to justify conclusions based on experimental evidence.*	**Student Edition:** *ChemLAB* 356 *MiniLAB* 342
CHE.4.8 *Plan and conduct controlled scientific investigations to produce mathematical evidence of the empirical composition of a compound and its uses in the real world.*	**Teacher Wraparound Edition:** As 345
CHE.5 Naming Compounds **Conceptual Understanding:** Polyatomic ions (radicals) and oxidation numbers are used to predict how metallic ions, nonmetals, and transition metals are used in naming compounds.	
CHE.5 Students will investigate and understand the accepted nomenclature used to identify the name and chemical formulas of compounds.	
CHE.5.1 *Use the periodic table and a list of common polyatomic ions as a model to derive chemical compound formulas from compound names and compound names from chemical formulas.*	**Student Edition:** *Chapter 7 Assessment* 233 #83 *ChemLAB* 230 *Example Problem* 222 *Practice Problem* 222, 223 *Problem-Solving Strategy* 224 **Teacher Wraparound Edition:** As 223, 224; ICE 222
CHE.5.2 *Generate formulas of ionic and covalent compounds from compound names. Discuss compounds in everyday life and compile lists and uses of these chemicals.*	**Student Edition:** *Chapter 7 Assessment* 233 #81, 234 #102 *Chapter 8 Assessment* 274 #95, #96; 277 #139 *Practice Problems* 251 *Section 2 Review* 252 #35, #36 *Standardized Test Practice* 236 #5 **Teacher Wraparound Edition:** CJ 222; CU 224

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CHE.5.3 *Generate names of ionic and covalent compounds from their formulas. Name binary compounds, binary acids, stock compounds, ternary compounds, and ternary acids.*	**Student Edition:** *Chapter 7 Assessment* 233 #82 *Chapter 8 Assessment* 274 #93, #94; 277 #140 *Example Problem* 249 *Personal Tutor* 222 *Practice Problems* 223, 249, 251 *Section 2 Review* 252 #34 **Teacher Wraparound Edition:** CJ 251; ICE 249; Re 224
CHE.6 Chemical Reactions **Conceptual Understanding:** Understanding chemical reactions and predicting products of these reactions is essential to student success.	
CHE.6 Students will demonstrate an understanding of the types, causes, and effects of chemical reactions.	
CHE.6.1 *Develop and use models to predict the products of chemical reactions (e.g., synthesis reactions; single replacement; double displacement; and decomposition, including exceptions such as decomposition of hydroxides, chlorates, carbonates, and acids). Discuss and/or compile lists of reactions used in everyday life.*	**Teacher Wraparound Edition:** AC 304; BM 297; CJ 302; CP 282; DI 368; Ext 303; IM 286
CHE.6.2 *Plan, conduct, and communicate the results of investigations to demonstrate different types of simple chemical reactions.*	**Student Edition:** *ChemLAB* 310 *Inquiry Extension* 310 **Teacher Wraparound Edition:** DI 294, 300
CHE.6.3 *Use mathematics and computational analysis to represent the ratio of reactants and products in terms of masses, molecules, and moles (stoichiometry).*	**Student Edition:** *ChemLAB* 390 *Example Problem* 375, 376, 377 *Personal Tutor* 371 *Practice Problems* 372, 375, 376, 377 *Problem-Solving Strategy* 374 *Section 11 Review* 372 #8-#9 **Teacher Wraparound Edition:** As 371; CJ 375; CP 373; CU 371, 377; DI 374; Ext 371; ICE 375, 376, 377; Re 371, 377

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CHE.6.4 *Use mathematics and computational analysis to support the claim that atoms, and therefore mass, are conserved during a chemical reaction. Give real-world examples (e.g., burning wood).*	**Student Edition:** *ChemLAB* 390 *Example Problem* 370 *MiniLAB* 378 *Practice Problems* 371 *Table 1* 369 **Teacher Wraparound Edition:** As 374; CJ 369; DI 286; ICE 370; QD 285, 374
CHE.6.5 *Plan and conduct a controlled scientific investigation to produce mathematical evidence that mass is conserved. Use percent error to analyze the accuracy of results.*	**Student Edition:** *ChemLAB* 390 *MiniLAB* 378
CHE.6.6 *Use mathematics and computational analysis to support the concept of percent yield and limiting reagent.*	**Student Edition:** *Chapter 11 Assessment* 394-395 *Data Analysis LAB* 387 *Example Problem* 382-383, 386 *Practice Problem* 383, 387 **Teacher Wraparound Edition:** As 383; CU 388; DI 381; ICE 382, 386; IM 380; QD 386; Re 388
CHE.6.7 *Plan and conduct a controlled scientific investigation to produce mathematical evidence to predict and confirm the limiting reagent and percent yield in the reaction. Analyze quantitative data, draw conclusions, and communicate findings. Compare and analyze class data for validity.*	**Teacher Wraparound Edition:** CP 380; De 382-383; Ext 384

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CHE.7 Gas Laws **Conceptual Understanding: The comparison and development of the molecular states of matter are an integral part of understanding matter. Pressure, volume, and temperature are imperative to understanding the states of matter.**	
CHE.7 Students will demonstrate an understanding of the structure and behavior of gases.	
CHE.7.1 *Analyze the behavior of ideal and real gases in terms of pressure, volume, temperature, and number of particles.*	**Student Edition:** 442-445, 447, 449, 451, 452, 454, 457-459 *Concepts in Motion* 447 *Figure 1* 442 *Figure 2* 445 *Figure 3* 447 *Table 1* 451 *Virtual Investigations* 449 **Teacher Wraparound Edition:** As 453; De 442-443; DI 455; IM 447; QD 454, 455; R 452
CHE.7.2 Enrichment: *Use an engineering design process to develop models (e.g., online simulations or student interactive activities) to explain and predict the behavior of each state of matter using the movement of particles and intermolecular forces to explain the behavior of matter.**	The following lessons can be used to introduce the design process. **Student Edition:** Chapter 12 Lessons 1-3 Students build models of phases/kinetic motion and crystalline structures. **Teacher Wraparound Edition:** BM 415; DI 421
CHE.7.3 *Analyze and interpret heating curve graphs to explain the energy relationship between states of matter (e.g., thermochemistry-water heating from -20ºC to 120ºC).*	**Student Edition:** *Problem-Solving LAB* 531
CHE.7.4 *Use mathematical computations to describe the relationships comparing pressure, temperature, volume, and number of particles, including Boyle's law, Charles's law, Dalton's law, combined gas laws, and ideal gas laws.*	**Student Edition:** *Example Problem* 409, 443, 446, 448, 450, 453, 455 *Personal Tutor* 409, 449 *Practice Problems* 409, 443, 446, 448, 450, 453, 455 *Problem-Solving Strategies* 458 *Table 1* 451 **Teacher Wraparound Edition:** As 448, 451, 454, 456; DI 445, 449, 455; ICE 409, 443, 446, 448, 450, 453, 455

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CHE.7.5 Enrichment: *Use an engineering design process and online simulations or lab investigations to design and model the results of controlled scientific investigations to produce mathematical evidence that confirms the gas-laws relationships.**	**Teacher Wraparound Edition:** As 442; BM 448; DI 450
CHE.7.6 *Use the ideal gas law to support the prediction of volume, mass, and number of particles produced in chemical reactions (i.e., gas stoichiometry).*	**Student Edition:** 460-461, 464 *Example Problem* 461, 462-463 *Figure 10* 460 *Practice Problems* 463 **Teacher Wraparound Edition:** CD 461; CU 464; DI 460; Ext 464; ICE 461, 463; Re 464
CHE.7.7 *Plan and conduct controlled scientific investigations to produce mathematical evidence that confirms that reactions involving gases conform to the law of conservation of mass.*	**Student Edition:** *ChemLAB* 466 *Inquiry Extension* 466 **Teacher Wraparound Edition:** QD 462
CHE.7.8 Enrichment: *Using gas stoichiometry, calculate the volume of carbon dioxide needed to inflate a balloon to occupy a specific volume. Use the engineering design process to design, construct, evaluate, and improve a simulated air bag.**	The following lesson can be used to introduce the design process. **Student Edition:** Chapter 12 Lesson 3
CHE.8 Solutions **Conceptual Understanding:** Solutions exist as solids, liquids, or gases. Solution concentration is expressed by specifying relative amounts of solute to solvent.	
CHE.8 Students will demonstrate an understanding of the nature of properties of various types of chemical solutions.	
CHE.8.1 *Use mathematical and computational analysis to quantitatively express the concentration of solutions using the concepts such as molarity, percent by mass, and dilution.*	**Student Edition:** *Chapter 14 Assessment* 508-509 #67-#85 *Example Problem* 481, 483, 486 *Practice Problems* 481, 483, 486 *Section 2 Review* 488 #33 **Teacher Wraparound Edition:** ICE 481, 483, 486
CHE.8.2 *Develop and use models (e.g., online simulations, games, or video representations) to explain the dissolving process in solvents on the molecular level.*	This standard can be met using the following page reference to introduce models. **Student Edition:** *Concepts in Motion* 490

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CHE.8.3 *Analyze and interpret data to predict the effect of temperature and pressure on solids and gases dissolved in water.*	**Teacher Wraparound Edition:** As 496; De 492-493; Ext 496; VL 494
CHE.8.4 *Design, conduct, and communicate the results of experiments to test the conductivity of common ionic and covalent compounds in solution.*	**Student Edition:** *Inquiry Extension* 230
CHE.8.5 *Use mathematical and computational analysis to analyze molarity, molality, dilution, and percentage dilution problems.*	**Student Edition:** *Chapter 14 Assessment* 508 #67-#77 *Example Problem* 483, 486, 487 *Personal Tutor* 487 *Practice Problems* 483, 486, 487 **Teacher Wraparound Edition:** As 485; ICE 483, 487; R 487
CHE.8.6 *Design, conduct, and communicate the results of experiments to produce a specified volume of a solution of a specific molarity, and dilute a solution of a known molarity.*	**Teacher Wraparound Edition:** As 485; QD 484
CHE.8.7 *Use mathematical and computational analysis to predict the results of reactions using the concentration of solutions (i.e., solution stoichiometry).*	This standard can be introduced with classroom discussion and information on stoichiometry.
CHE.8.8 Enrichment: *Investigate parts per million and/or parts per billion as it applies to environmental concerns in your geographic region, and reference laws that govern these factors.*	**Teacher Wraparound Edition:** CD 486-487; CP 485; Ext 488
CHE.9 Acids and Bases (Enrichment)	
CHE.9 Enrichment: Students will understand the nature and properties of acids, bases, and salt solutions.	
CHE.9.1 Enrichment: *Analyze and interpret data to describe the properties of acids, bases, and salts.*	**Student Edition:** *Section 1 Review* 643 #6 *Virtual Investigations* 616 **Teacher Wraparound Edition:** CU 643; Ext 637; MI 634; QD 634, 635, 638
CHE.9.2 Enrichment: *Analyze and interpret data to identify differences between strong and weak acids and bases (i.e., dissociation).*	**Student Edition:** *MiniLAB* 648 **Teacher Wraparound Edition:** CB 644; CP 647; CU 649; DI 645; MI 644; Re 649
CHE.9.3 Enrichment: *Plan and conduct investigations using the pH scale to classify acid and base solutions.*	**Student Edition:** *ChemLAB* 670

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CHE.9.4 Enrichment: *Analyze and evaluate the Arrhenius, Bronsted-Lowry, and Lewis acid-base definitions.*	**Student Edition:** 637-643 *Figure 7* 639 *Figure 9* 640 **Teacher Wraparound Edition:** As 639; De 640-641; DI 639, 642; Re 643
CHE.9.5 Enrichment: *Use mathematical and computational thinking to calculate pH from the hydrogen-ion concentration.*	**Student Edition:** *Example Problem* 653, 654 *Practice Problems* 653, 654 *Section 3 Review* 658 #42 **Teacher Wraparound Edition:** ICE 653, 654
CHE.9.6 Enrichment: *Obtain, evaluate, and communicate information about how buffers stabilize pH in acid-base reactions.*	**Student Edition:** *Problem-Solving LAB* 668 **Teacher Wraparound Edition:** As 667; De 666-667; QD 666
CHE.10 Thermochemistry (Enrichment)	
CHE.10 Enrichment: Students will understand that energy is exchanged or transformed in all chemical reactions.	
CHE.10.1 Enrichment: *Construct explanations to explain how temperature and heat flow in terms of the motion of molecules (or atoms).*	**Student Edition:** 526-528, 530-531 *Concepts in Motion* 530 *Figure 8* 527 *Figure 9* 528 *Figure 10* 530 **Teacher Wraparound Edition:** CP 526; CU 528; DI 525; Ext 533; MC 527; QD 530

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CHE.10.2 Enrichment: *Classify chemical reactions and phase changes as exothermic or endothermic based on enthalpy values. Use a graphical representation to illustrate the energy changes involved.*	**Student Edition:** 530-531 *Chapter 15 Assessment* 553 #90-#91 *ChemLAB* 550 *Example Problem* 536 *Figure 8* 527 *Figure 9* 528 *Figure 10* 530 *Figure 13* 535 *Practice Problem* 537 *Section 2 Review* 528 #17 **Teacher Wraparound Edition:** CD 527; DI 525; MC 527
CHE.10.3 Enrichment: Analyze and interpret data from energy diagrams and investigations to support claims that the amount of energy released or absorbed during a chemical reaction depends on changes in total bond energy.	**Student Edition:** 540 *ChemLAB* 550 *Example Problem* 540 *Practice Problem* 541 **Teacher Wraparound Edition:** ICE 540
CHE.10.4 Enrichment: *Use mathematical and computational thinking to solve problems involving heat flow and temperature changes, using known values of specific heat and latent heat of phase change.*	**Student Edition:** *Example Problem* 525 *MiniLAB* 526 *Practice Problems* 525 *Section 2 Review* 528 #21

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CHE.11 Equilibrium (Enrichment)	
CHE.11 Enrichment: Students will understand that chemical equilibrium is a dynamic process at the molecular level.	
CHE.11.1 Enrichment: *Construct explanations to explain how to use Le Chatelier's principle to predict the effect of changes in concentration, temperature, and pressure.*	**Student Edition:** 607-610 *Chapter 17 Assessment* 626 #54-#57 *Concepts in Motion* 610 *Figure 12* 608 *Figure 13* 609 *Figure 14 & 15* 610 *MiniLAB* 611 *Section 1 Review* 605 #12 *Section 2 Review* 611 **Teacher Wraparound Edition:** AC 609; As 609; CB 612; Ext 610; QD 607; Re 610
CHE.11.2 Enrichment: *Predict when equilibrium is established in a chemical reaction.*	**Student Edition:** *Extended Response* 631 #13-#14 *Figure 2* 595 *Figure 3* 596 **Teacher Wraparound Edition:** VL 595, 596
CHE.11.3 Enrichment: *Use mathematical and computational thinking to calculate an equilibrium constant expression for a reaction.*	**Student Edition:** *Example Problem* 603, 605 *Practice Problem* 603, 605 *Section 1 Review* 605 #11 **Teacher Wraparound Edition:** As 605; ICE 603, 604; QD 603

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CHE.12 Organic Nomenclature (Enrichment)	
CHE.12 Enrichment: Students will understand that the bonding characteristics of carbon allow the formation of many different organic molecules with various sizes, shapes, and chemical properties.	
CHE.12.1 Enrichment: *Construct explanations to explain the bonding characteristics of carbon that result in the formation of basic organic molecules.*	**Student Edition:** *Chapter 21 Assessment* 778 #40 *Concepts in Motion* 765 *Figure 4 & 5* 746 *Figure 9* 752 *Figure 10* 755 *Figure 17* 765 *Figure 18 & 19* 766 *Launch Lab* 742 *Section 1 Review* 749 #4 *Table 1* 750 **Teacher Wraparound Edition:** BM 766; CU 749; DI 751, 765; LL 742; MI 744, 765; VL 752
CHE.12.2 Enrichment: *Obtain information to communicate the system used for naming the basic linear hydrocarbons and isomers that contain single bonds, simple hydrocarbons with double and triple bonds, and simple molecules that contain a benzene ring.*	**Student Edition:** 751-753 *Chapter 21 Assessment* 778-780 *Example Problem* 754-755, 756-757, 761, 773 *Figure 5* 746 *Figure 10* 755 *Figure 12 & 13* 760 *Practice Problems* 755, 757, 761, 773 *Section 2 Review* 758 #13 *Section 3 Review* 764 #21 *Table 2* 751 *Table 3* 753 *Table 5* 759 *Table 6* 763 **Teacher Wraparound Edition:** As 751; DI 756; ICE 755, 757, 761, 773; IM 754; MI 759; R 753; VL 752
CHE.12.3 Enrichment: *Develop and use models to identify the functional groups that form the basis of alcohols, ketones, ethers, amines, esters, aldehydes, and organic acids.*	**Teacher Wraparound Edition:** As 801; DI 797