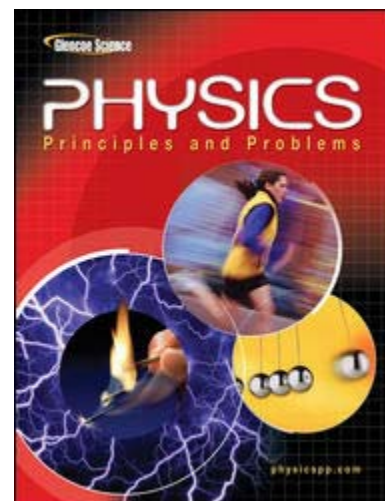
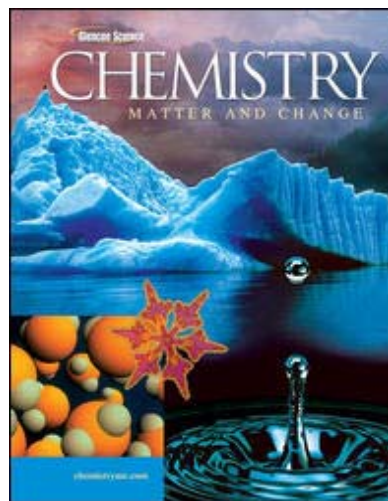




CHEMISTRY
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STANDARDS	PAGE REFERENCES	
	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
Advanced High School Nature of Science		
Indicator 1: Understand the nature and origin of scientific knowledge.		
Note: These skills are initially mastered in the high school core standards. Teachers and students should continue to apply them in advanced standards to the study of science content.		

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
Indicator 2: Apply the skills necessary to conduct scientific investigations.		
Bloom's Taxonomy Level: Synthesis		
9-12.N.2.1A. Students are able to manipulate multiple variables with repeated trials.		
<ul style="list-style-type: none"> Use a control and change one variable at a time. Examples: gas laws, seed germination and plant growth, Newton's Second Law 	<p>Student Edition: pages 11-12 (Chapter 1, Section 3) pages 421-427 (Chapter 14, Section 1) pages 429-433 (Chapter 14, Section 2) pages 434-438 (Chapter 14, Section 3) <i>CHEMLAB</i> pages 18-19 (Chapter 1) <i>CHEMLAB</i> pages 202-203 (Chapter 7) <i>miniLAB</i> page 473 (Chapter 15, Section 3) <i>miniLAB</i> page 539 (Chapter 17, Section 1) <i>problem-solving LAB</i> page 44 (Chapter 2, Section 4)</p> <p>Teacher Wraparound Edition: QD page 859 (Chapter 26, Section 4)</p>	<p>Student Edition: pages 15-17 (Chapter 1, Section 1.3) <i>Internet Physics Lab</i> pages 76-77 (Chapter 3, Section 3.3) <i>Design Your Own Physics Lab</i> pages 160-161 (Chapter 6, Section 6.3) <i>Physics Lab</i> pages 420-421 (Chapter 15, Section 15.2) <i>Physics Lab</i> pages 606-607 (Chapter 22, Section 2.2) <i>Physics Lab</i> pages 790-791 (Chapter 29, Section 29.2) <i>Math Handbook</i> page 845</p> <p>Teacher Wraparound Edition: CB page 39 (Chapter 2, Section 2.3) HSS page 98 (Chapter 4, Section 4.2)</p>

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Bloom's Taxonomy Level: Evaluation		
9-12.N.2.2A. Students are able to use statistical analysis of data to evaluate the validity of results.		
<ul style="list-style-type: none"> Use correlation coefficient with graphs. Examples: chi-squared value in genetics, determination of absolute zero, verify concentration of an unknown solution 	Student Edition: <i>CHEMLAB</i> 550-551 (Chapter 17, Section 4) <i>miniLAB</i> page 164 (Chapter 6, Section 3) <i>miniLAB</i> page 819 (Chapter 25, Section 3) <i>problem-solving LAB</i> page 830 (Chapter 25, Section 5)	Student Edition: pages 15-17 (Chapter 1, Section 1.3) <i>Math Handbook</i> pages 848-852 Linear correlation coefficients are often calculated during a regression analysis to find a best-fit line for a set of data. See Glencoe's <i>Algebra 2</i> © 2005 page 87.
Bloom's Taxonomy Level: Analysis		
9-12.N.2.3A. Students are able to demonstrate correct precision in measurements and calculations.		
<ul style="list-style-type: none"> Use significant digits to illustrate precision in measurement. 	Student Edition: pages 38-42 (Chapter 2, Section 5) <i>Chapter Assessment</i> questions 83-85, page 51 (Chapter 2) <i>Math Handbook</i> pages 893-896 Teacher Wraparound Edition: D page 39 (Chapter 2, Section 3) DI page 38 (Chapter 2, Section 3) IM page 38 (Chapter 2, Section 3) R page 40 (Chapter 2, Section 5)	Student Edition: page 7 (Chapter 1, Section 1.1) page 12 (Chapter 1, Section 1.2) page 97 (Chapter 4, Section 4.2) page 99 (Chapter 4, Section 4.2) page 209 (Chapter 8, Section 8.2) page 496 (Chapter 18, Section 18.2) <i>Math Handbook</i> pages 833-835 Teacher Wraparound Edition: CD page 7 (Chapter 1, Section 1.1) CB page 12 (Chapter 1, Section 1.2) R page 13 (Chapter 1, Section 1.2)

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<ul style="list-style-type: none"> Factor label conversion, scientific notation. 	<p>Student Edition: pages 31-35 (Chapter 2, Section 2) <i>Math Handbook</i> pages 891-892</p> <p>Teacher Wraparound Edition: A page 32 (Chapter 2, Section 2) DI page 31 (Chapter 2, Section 2) En page 89 (Chapter 4, Section 1) QD page 31 (Chapter 2, Section 2)</p>	<p>Student Edition: pages 6-7 (Chapter 1, Section 1.1) page 151 (Chapter 6, Section 6.1) page 215 (Chapter 8, Section 8.3) page 496 (Chapter 18, Section 18.2) page 594 (Chapter 22, Section 22.1) page 728 (Chapter 27, Section 27.1) page 780 (Chapter 29, Section 29.1) page 782 (Chapter 29, Section 29.1) <i>Math Handbook</i> pages 841-843 <i>Math Handbook</i> pages 846-847</p> <p>Teacher Wraparound Edition: CU page 10 (Chapter 1, Section 1.2) HSS page 756 (Chapter 28, Section 28.1)</p>

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Advanced High School Physical Science		
Indicator 1: Describe structures and properties of, and changes in, matter.		
Bloom's Taxonomy Level: Analysis		
9-12.P.1.1A. Students are able to distinguish between the changing models of the atom using the historical experimental evidence.		
Examples: Dalton, Thompson, Rutherford, Bohr, wave-mechanical models	Student Edition: pages 87-91 (Chapter 4, Section 1) pages 92-107 (Chapter 4, Sections 2-4) pages 117-118 (Chapter 5, Section 1) pages 127-134 (Chapter 5, Sections 2 and 3) <i>History CONNECTION</i> page 90 (Chapter 4, Section 1) <i>problem-solving LAB</i> page 96 (Chapter 4, Section 2) <i>problem-solving LAB</i> page 130 (Chapter 5, Section 2) Teacher Wraparound Edition: D pages 92-93 (Chapter 4, Section 2) DI page 89 (Chapter 4, Section 1) En page 88 (Chapter 4, Section 1) En page 89 (Chapter 4, Section 1) QD page 88 (Chapter 4, Section 1) QD page 90 (Chapter 4, Section 1) QD page 129 (Chapter 5, Section 1)	Student Edition: page 731 (Chapter 27, Section 27.1) pages 747-749 (Chapter 27, Section 27.1) pages 752-759 (Chapter 28, Section 28.1) pages 760-761 (Chapter 28, Section 28.2) pages 799-805 (Chapter 30, Section 30.1) pages 818-823 (Chapter 30, Section 30.3) Teacher Wraparound Edition: IM page 729 (Chapter 28, Section 28.1) TPK page 747 (Chapter 28, Section 28.1) HSS page 748 (Chapter 28, Section 28.1) CB page 749 (Chapter 28, Section 28.1) R page 751 (Chapter 28, Section 28.1) HSS page 754 (Chapter 28, Section 28.1) CB page 757 (Chapter 28, Section 28.1) PP page 762 (Chapter 28, Section 28.2) CB page 801 (Chapter 30, Section 30.1)

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Bloom's Taxonomy Level: Synthesis		
9-12.P.1.2A. Students are able to predict electron configuration, ion formation, reactivity, compound formation, periodic trends, and types of compounds formed based on location on the Periodic Table.		
Examples: periodic trends including ionization, energy, electronegativity, atomic and ionic size, and shielding effect.	Student Edition: pages 150-158 (Chapter 6, Section 1) pages 159-169 (Chapter 6, Sections 2 and 3) pages 179-196 (Chapter 7, Sections 2 and 3) <i>CHEMLAB</i> pages 170-171 <i>MiniLab</i> page 164 (Chapter 6, Section 3) Teacher Wraparound Edition: A page 185 (Chapter 7, Section 1) D pages 166-167 (Chapter 6, Section 3) IM page 152 (Chapter 6, Section 1) QD page 153 (Chapter 6, Section 1) QD page 161 (Chapter 6, Section 2)	Student Edition: <i>Appendix D</i> page 916 Also see Glencoe's <i>Chemistry: Matter and Change</i> © 2005.

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Bloom's Taxonomy Level: Synthesis		
9-12.P.1.3A. Students are able to identify five basic types of chemical reactions and predict the products.		
<ul style="list-style-type: none"> Single replacement, double replacement, synthesis, decomposition, and combustion reactions 	<p>Student Edition: pages 284-291 (Chapter 10, Sections 1 and 2) <i>CHEMLAB</i> pages 300-301 (Chapter 10) <i>problem-solving LAB</i> page 288 (Chapter 10, Section 1)</p> <p>Teacher Wraparound Edition: CB page 286 (Chapter 10, Section 1) CJ page 287 (Chapter 10, Section 1) QD page 287 (Chapter 10, Section 1)</p>	See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> Describe the properties and interactions of acids, bases, and salts. 	<p>Student Edition: pages 594-601 (Chapter 19, Section 1) pages 602-607 (Chapter 19, Section 2) pages 617-625 (Chapter 19, Section 4) <i>Earth Science CONNECTION</i> page 600 (Chapter 19, Section 1) <i>miniLAB</i> page 604 (Chapter 19, Section 2) <i>problem-solving LAB</i> page 624 (Chapter 19, Section 4)</p> <p>Teacher Wraparound Edition: AC page 600 (Chapter 19, Section 1) CJ page 596 (Chapter 19, Section 1) Ex page 601 (Chapter 19, Section 1) IM page 603 (Chapter 19, Section 2) QD page 597 (Chapter 19, Section 1)</p>	<p>See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.</p>
<ul style="list-style-type: none"> Calculate pH, pOH, [H₃O⁺], [OH⁻]. 	<p>Student Edition: pages 608-616 (Chapter 19, Section 3) pages 617-625 (Chapter 19, Section 4)</p> <p>Teacher Wraparound Edition: CJ page 609 (Chapter 19, Section 3) DI page 608 (Chapter 19, Section 3) Ex page 611 (Chapter 19, Section 3) MC page 610 (Chapter 19, Section 3) MC page 614 (Chapter 19, Section 3) QD page 613 (Chapter 19, Section 3)</p>	<p>See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.</p>

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> Distinguish between Arrhenius, Bronsted-Lowry, and Lewis definitions of acids and bases. 	Student Edition: page 255 (Chapter 9, Section 3) pages 597-600 (Chapter 19, Section 1) pages 602-607 (Chapter 19, Section 2) Teacher Wraparound Edition: A page 599 (Chapter 19, Section 1)	See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.
Bloom's Taxonomy Level: Synthesis		
9-12.P.1.4A. Students are able to describe factors that affect solution interactions.		
<ul style="list-style-type: none"> Calculate concentration of solutions. 	Student Edition: pages 462-470 (Chapter 15, Section 2) page 607 (Chapter 19, Section 2) pages 608-616 (Chapter 19, Section 3) Teacher Wraparound Edition: A page 476 (Chapter 15, Section 2) CJ page 464 (Chapter 15, Section 2) CJ page 466 (Chapter 15, Section 2) QD page 464 (Chapter 15, Section 2) QD page 466 (Chapter 15, Section 2)	See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> “Like dissolves like” 	<p>Student Edition: page 266 (Chapter 9, Section 5) pages 453–461 (Chapter 15, Section 1)</p> <p>Teacher Wraparound Edition: AC page 456 (Chapter 15, Section 1) IM page 455 (Chapter 15, Section 1) QD page 454 (Chapter 15, Section 1)</p>	<p>See Glencoe’s <i>Chemistry: Matter and Change</i> © 2005.</p>
<ul style="list-style-type: none"> Vander Waal’s forces 	<p>Student Edition: page 266 (Chapter 9, Section 5) <i>problem-solving LAB</i> page 267 (Chapter 9, Section 5)</p>	<p>See Glencoe’s <i>Chemistry: Matter and Change</i> © 2005.</p>

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Bloom's Taxonomy Level: Application		
9-12.P.1.5A. Students are able to examine energy transfer as matter changes. Examples: Determine ΔH, ΔG, ΔS for thermo-chemical equations. Calculate energy involved in phase changes. Compare the specific heats of various substances.		
<ul style="list-style-type: none"> Describe physical and chemical processes that result in endothermic and exothermic changes. 	Student Edition: pages 54-60 (Chapter 3, Section 1) pages 61-65 (Chapter 3, Section 2) page 219 (Chapter 8, Section 2) pages 246-247 (Chapter 9, Section 1) pages 496-500 (Chapter 16, Section 2) pages 506-512 (Chapter 16, Section 4) page 534 (Chapter 17, Section 1) <i>miniLAB</i> page 505 (Chapter 16, Section 3) <i>problem-solving LAB</i> page 503 (Chapter 16, Section 3) Teacher Wraparound Edition: CJ page 496 (Chapter 16, Section 2) QD page 498 (Chapter 16, Section 2)	Student Edition: pages 323-324 (Chapter 12, Section 12.2) pages 326-328 (Chapter 12, Section 12.2) <i>Physics Lab</i> pages 332-333 (Chapter 12, Section 12.2) Teacher Wraparound Edition: CD page 327 (Chapter 12, Section 12.2)

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> Describe energy transfer as matter changes from one phase to another. 	<p>Student Edition: pages 61-65 (Chapter 3, Section 2) pages 404-409 (Chapter 13, Section 4) pages 502-503 (Chapter 16, Section 3) <i>CHEMLAB</i> pages 410-411 (Chapter 13) <i>miniLAB</i> page 505 (Chapter 16, Section 3) <i>problem-solving LAB</i> page 503 (Chapter 16, Section 3)</p> <p>Teacher Wraparound Edition: CJ page 404 (Chapter 13, Section 4) IM page 405 (Chapter 13, Section 4) QD page 406 (Chapter 13, Section 4)</p>	<p>Student Edition: pages 323-324 (Chapter 12, Section 12.2) <i>How It Works</i> page 334 (Chapter 12, Section 12.2) <i>Physics Lab</i> pages 364-365 (Chapter 13, Section 13.4) <i>Extreme Physics</i> page 366 (Chapter 13, Section 13.4)</p> <p>Teacher Wraparound Edition: UM page 324 (Chapter 12, Section 12.2) CT page 326 (Chapter 12, Section 12.2)</p>

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Bloom's Taxonomy Level: Application		
9-12.P.1.6A. Students are able to perform stoichiometric calculations.		
<ul style="list-style-type: none"> Convert between moles, mass, particles, volume. 	<p>Student Edition: pages 353-357 (Chapter 12, Section 1) pages 358-363 (Chapter 12, Section 2) pages 370-373 (Chapter 12, Section 4) <i>CHEMLAB</i> pages 374-375 (Chapter 12) <i>How It Works</i> page 376 (Chapter 12) <i>miniLAB</i> page 362 (Chapter 12, Section 2)</p> <p>Teacher Wraparound Edition: DI page 354 (Chapter 12, Section 1) QD page 354 (Chapter 12, Section 1) QD page 359 (Chapter 12, Section 2) QD page 360 (Chapter 12, Section 2)</p>	See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.
<ul style="list-style-type: none"> Calculate empirical and molecular formulas from mass percents. 	<p>Student Edition: pages 353-357 (Chapter 12, Section 1) pages 358-363 (Chapter 12, Section 2) pages 364-369 (Chapter 12, Section 3) pages 370-373 (Chapter 12, Section 4) <i>miniLAB</i> page 362 (Chapter 12, Section 2)</p> <p>Teacher Wraparound Edition: AC page 361 (Chapter 12, Section 2) QD page 360 (Chapter 12, Section 2)</p>	See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.

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<ul style="list-style-type: none"> Determine limiting and excess reactants and percent yield in chemical reactions. 	<p>Student Edition: pages 364-369 (Chapter 12, Section 3) pages 370-373 (Chapter 12, Section 4) <i>Biology CONNECTION</i> page 366 (Chapter 12, Section 3)</p> <p>Teacher Wraparound Edition: A page 365 (Chapter 12, Section 3) A page 367 (Chapter 12, Section 3) DI page 365 (Chapter 12, Section 3) P page 364 (Chapter 12, Section 3)</p>	<p>See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.</p>

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Bloom's Taxonomy Level: Application		
9-12.P.1.7A. Students are able to apply the kinetic molecular theory to solve quantitative problems involving pressure, volume, temperature, and number of moles of gas.		
<ul style="list-style-type: none"> Apply Boyle's Law, Charles' Law, Gay-Lussac's Law, Combined Gas Law, and Ideal Gas Law. 	<p>Student Edition: pages 419-427 (Chapter 14, Section 1) pages 428-433 (Chapter 14, Section 2) pages 434-439 (Chapter 14, Section 3) <i>History CONNECTION</i> page 423 (Chapter 14, Section 1) <i>miniLAB</i> page 439 (Chapter 14, Section 3) <i>problem-solving LAB</i> page 424 (Chapter 14, Section 1)</p> <p>Teacher Wraparound Edition: AC page 420 (Chapter 14, Section 1) D pages 420-421 (Chapter 14, Section 1) DI page 424 (Chapter 14, Section 1) DL pages 418-419 (Chapter 14, Section 1) QD page 425 (Chapter 14, Section 1) QD page 429 (Chapter 14, Section 2)</p>	<p>Student Edition: pages 344-346 (Chapter 13, Section 13.1)</p> <p>Teacher Wraparound Edition: QD page 344 (Chapter 13, Section 13.1) R page 345 (Chapter 13, Section 13.1) ICE page 346 (Chapter 13, Section 13.1)</p>

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Bloom's Taxonomy Level: Synthesis		
9-12.P.1.8A. Students are able to use models to make predictions about molecular structure, chemical bonds, chemical reactivity, and polarity of molecules.		
<ul style="list-style-type: none"> Create Lewis structures for molecules and polyatomic ions. 	<p>Student Edition: pages 243-247 (Chapter 9, Section 1) pages 252-258 (Chapter 9, Section 3)</p> <p>Teacher Wraparound Edition: AC page 253 (Chapter 9, Section 3) AC page 255 (Chapter 9, Section 3) CB page 246 (Chapter 9, Section 1) CB page 257 (Chapter 9, Section 3) CD page 243 (Chapter 9, Section 1) CJ page 254 (Chapter 9, Section 3) R page 253 (Chapter 9, Section 3)</p>	See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.
<ul style="list-style-type: none"> Determine molecular shape using VSEPR theory. 	<p>Student Edition: pages 259-262 <i>miniLAB</i> page 261 (Chapter 9, Section 4)</p> <p>Teacher Wraparound Edition: CJ page 261 (Chapter 9, Section 4) DI page 260 (Chapter 9, Section 4) MC page 260 (Chapter 9, Section 4) QD page 259 (Chapter 9, Section 4)</p>	See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> Determine the polarity of a molecule. 	<p>Student Edition: pages 263-267 (Chapter 9, Section 5) <i>CHEMLAB</i> pages 268-269 (Chapter 9) <i>How It Works</i> page 270 (Chapter 9) <i>miniLAB</i> page 267 (Chapter 9, Section 5)</p> <p>Teacher Wraparound Edition: DI page 264 (Chapter 9, Section 5) IM page 264 (Chapter 9, Section 5) QD page 263 (Chapter 9, Section 5) QD page 265 (Chapter 9, Section 5)</p>	<p>See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.</p>
<p>Bloom's Taxonomy Level: Analysis</p>		
<p>9-12.P.1.9A. Students are able to describe the characteristics of equilibria.</p>		
<ul style="list-style-type: none"> Apply LeChatelier's principle to equilibrium reactions. 	<p>Student Edition: pages 569-574 (Chapter 18, Section 2) <i>CHEMLAB</i> pages 586-587 (Chapter 18) <i>miniLAB</i> page 573 (Chapter 18, Section 2)</p> <p>Teacher Wraparound Edition: A page 571 (Chapter 18, Section 2) AC page 572 (Chapter 18, Section 2) CJ page 572 (Chapter 18, Section 2) D pages 570-571 (Chapter 18, Section 2) QD page 570 (Chapter 18, Section 2) R page 577 (Chapter 18, Section 3)</p>	<p>See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.</p>

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<ul style="list-style-type: none"> Identify factors that drive reactions toward completion. 	<p>Student Edition: pages 569-574 (Chapter 18, Section 2) pages 575-584 (Chapter 18, Section 3) <i>CHEMLAB</i> pages 586-587 (Chapter 18) <i>miniLAB</i> page 573 (Chapter 18, Section 2)</p> <p>Teacher Wraparound Edition: A page 571 (Chapter 18, Section 2) AC page 572 (Chapter 18, Section 2) CJ page 572 (Chapter 18, Section 2) D pages 570-571 (Chapter 18, Section 2) QD page 570 (Chapter 18, Section 2)</p>	<p>See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.</p>
<ul style="list-style-type: none"> Calculate K_{eq} values for equilibrium reactions. 	<p>Student Edition: pages 575-585 (Chapter 18, Section 3) <i>CHEMLAB</i> pages 586-587 (Chapter 18) <i>problem-solving LAB</i> page 583 (Chapter 18, Section 3)</p> <p>Teacher Wraparound Edition: CD page 578 (Chapter 18, Section 3) MC page 576 (Chapter 18, Section 3) R page 577 (Chapter 18, Section 3) R page 578 (Chapter 18, Section 3)</p>	<p>See Glencoe's <i>Chemistry: Matter and Change</i> © 2005.</p>

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Indicator 2: Analyze forces, their forms, and their effects on motions.		
Bloom's Taxonomy Level: Synthesis		
9-12.P.2.1A. Students are able to solve vector problems graphically and analytically.		
<ul style="list-style-type: none"> Define and manipulate vectors and scalars. 	Student Edition: <i>Physics CONNECTION</i> page 563 (Chapter 18, Section 1)	Student Edition: pages 35-37 (Chapter 2, Section 2.2) pages 120-124 (Chapter 5, Section 5.1) pages 131-135 (Chapter 5, Section 5.3) <i>Launch Lab</i> page 119 (Chapter 5, Section 5.1) <i>Mini Lab</i> page 135 (Chapter 5, Section 5.3) <i>Physics Lab</i> pages 136-137 (Chapter 5, Section 5.3) Teacher Wraparound Edition: AML page 35 (Chapter 2, Section 2.2) UA page 36 (Chapter 2, Section 2.2) CU page 37 (Chapter 2, Section 2.2) RE page 64 (Chapter 3, Section 3.2) ICE page 121 (Chapter 5, Section 5.1) CH page 122 (Chapter 5, Section 5.1) CT page 123 (Chapter 5, Section 5.1) ICE page 124 (Chapter 5, Section 5.1) CU page 135 (Chapter 5, Section 5.3)

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<ul style="list-style-type: none"> Determine if an object is in equilibrium and distinguish among stable, neutral, and unstable equilibria. Examples: center of mass, torque 	<p>Student Edition: <i>Physics CONNECTION</i> page 563 (Chapter 18, Section 1)</p>	<p>Student Edition: page 89 (Chapter 4, Section 4.1) page 95 (Chapter 4, Section 4.1) page 105 (Chapter 4, Section 4.3) page 131 (Chapter 5, Section 5.3) pages 211-215 (Chapter 8, Section 8.3) <i>Physics Lab</i> pages 218-219 (Chapter 8, Section 8.3)</p> <p>Teacher Wraparound Edition: HSS page 89 (Chapter 4, Section 4.1) CB page 92 (Chapter 4, Section 4.1) CU page 95 (Chapter 4, Section 4.1) TPK page 102 (Chapter 4, Section 4.3) CD page 131 (Chapter 5, Section 5.3) AML page 132 (Chapter 5, Section 5.3) CD page 211 (Chapter 8, Section 8.3) CT page 214 (Chapter 8, Section 8.3) CT page 215 (Chapter 8, Section 8.3) CU page 217 (Chapter 8, Section 8.3)</p>

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Bloom's Taxonomy Level: Analysis		
9-12.P.2.2A. Students are able to relate gravitational or centripetal force to projectile or uniform circular motion.		
<ul style="list-style-type: none"> Analyze and graph projectile motion. 	Student Edition: pages 43-45 (Chapter 2, Section 4) <i>Math Handbook</i> pages 903-904 <i>problem-solving LAB</i> page 44 (Chapter 2, Section 4)	Student Edition: pages 147-152 (Chapter 6, Section 6.1) <i>Launch Lab</i> page 147 (Chapter 6, Section 6.1) Teacher Wraparound Edition: CD page 148 (Chapter 6, Section 6.1) CB page 149 (Chapter 6, Section 6.1) IM page 150 (Chapter 6, Section 6.1) R page 151 (Chapter 6, Section 6.1) RE page 152 (Chapter 6, Section 6.1)

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Indicator 3: Analyze interactions of energy and matter.		
Bloom's Taxonomy Level: Synthesis		
9-12.P.3.1A. Students are able to explain wave behavior in the fundamental processes of reflection, refraction, diffraction, interference, resonance, and image formation.		
<ul style="list-style-type: none"> Construct ray diagrams to show the relationship between image and focal point. 	See Glencoe's <i>Physics: Principles and Problems</i> © 2005.	Student Edition: pages 464-469 (Chapter 17, Section 17.2) pages 471-473 (Chapter 17, Section 17.2) pages 493-496 (Chapter 18, Section 18.2) <i>Physics Lab</i> pages 474-475 (Chapter 17, Section 17.2) <i>Physics Lab</i> pages 504-505 (Chapter 18, Section 18.3) Teacher Wraparound Edition: R page 464 (Chapter 17, Section 17.2) UA page 465 (Chapter 17, Section 17.2) IM page 466 (Chapter 17, Section 17.2) CD page 468 (Chapter 17, Section 17.2) CD page 469 (Chapter 17, Section 17.2) AML page 471 (Chapter 17, Section 17.2) BA page 493 (Chapter 18, Section 18.2) IM page 494 (Chapter 18, Section 18.2) CT page 495 (Chapter 18, Section 18.2)

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> Compare properties of images (real vs virtual). 	<p>See Glencoe's <i>Physics: Principles and Problems</i> © 2005.</p>	<p>Student Edition: pages 461-463 (Chapter 17, Section 17.1) page 470 (Chapter 17, Section 17.2) pages 497-498 (Chapter 18, Section 18.2) <i>Physics Lab</i> pages 474-475 (Chapter 17, Section 17.2) <i>Physics Lab</i> pages 504-505 (Chapter 18, Section 18.3)</p> <p>Teacher Wraparound Edition: R page 462 (Chapter 17, Section 17.1) CU page 473 (Chapter 17, Section 17.2) CT page 495 (Chapter 18, Section 18.2)</p>
<ul style="list-style-type: none"> Identify situations when diffraction occurs. 	<p>Student Edition: <i>How It Works</i> page 48 (Chapter 2) Also see Glencoe's <i>Physics: Principles and Problems</i> © 2005.</p>	<p>Student Edition: page 439 (Chapter 16, Section 16.2) pages 524-531 (Chapter 19, Section 19.2)</p> <p>Teacher Wraparound Edition: BA page 439 (Chapter 16, Section 16.2) TPK page 524 (Chapter 19, Section 19.2) R page 525 (Chapter 19, Section 19.2) HSS page 526 (Chapter 19, Section 19.2) AML page 527 (Chapter 19, Section 19.2) CT page 528 (Chapter 19, Section 19.2) D page 529 (Chapter 19, Section 19.2) CU page 531 (Chapter 19, Section 19.2)</p>

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> Identify conditions necessary for refraction to occur. 	<p>Student Edition: page 859 (Chapter 26, Section 4) <i>How It Works</i> page 48 (Chapter 2) Also see Glencoe's <i>Physics: Principles and Problems</i> © 2005.</p>	<p>Student Edition: page 391 (Chapter 14, Section 14.3) pages 485-489 (Chapter 18, Section 18.1) pages 493-499 (Chapter 18, Section 18.2) pages 500-503 (Chapter 18, Section 18.2) <i>Launch Lab</i> page 485 (Chapter 18, Section 18.1)</p> <p>Teacher Wraparound Edition: CU page 391 (Chapter 14, Section 14.3) BA page 485 (Chapter 18, Section 18.1) IM page 486 (Chapter 18, Section 18.1) ICE page 487 (Chapter 18, Section 18.1) CD page 488 (Chapter 18, Section 18.1) QD page 489 (Chapter 18, Section 18.1) RE page 492 (Chapter 18, Section 18.1) TPK page 493 (Chapter 18, Section 18.2) UM page 498 (Chapter 18, Section 18.2)</p>

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
Bloom's Taxonomy Level: Application		
9-12.P.3.2A. Students are able to describe the relationship between charged particles, static electricity, and electric fields.		
<ul style="list-style-type: none"> Use Coulomb's Law to calculate forces. 	Student Edition: <i>Physics CONNECTION</i> page 563 (Chapter 18, Section 1) Also see Glencoe's <i>Physics: Principles and Problems</i> © 2005.	Student Edition: pages 549-553 (Chapter 20, Section 20.2) pages 564-566 (Chapter 21, Section 21.1) Teacher Wraparound Edition: R page 550 (Chapter 20, Section 20.2) ICE page 551 (Chapter 20, Section 20.2) IM page 552 (Chapter 20, Section 20.2) ICE page 566 (Chapter 21, Section 21.1)

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	CHEMISTRY <i>Matter and Change</i> © 2005	PHYSICS <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> Explain methods of transferring charge. Examples: induction, conduction, friction, electron guns 	<p>Student Edition: pages 92-93 (Chapter 4, Section 2) <i>DISCOVERY LAB</i> page 87 (Chapter 4, Section 1)</p> <p>Teacher Wraparound Edition: D pages 92-93 (Chapter 4, Section 2) QD page 92 (Chapter 4, Section 2)</p>	<p>Student Edition: pages 542-543 (Chapter 20, Section 20.1) pages 547-548 (Chapter 20, Section 20.2) pages 567-568 (Chapter 21, Section 21.1) <i>Design Your Own Physics Lab</i> pages 554-555 (Chapter 20, Section 20.2) <i>Physics Lab</i> pages 580-581 (Chapter 21, Section 21.2) <i>How It Works</i> page 582 (Chapter 21, Section 21.2) <i>Extreme Physics</i> page 662 (Chapter 24, Section 24.2) <i>Launch Lab</i> page 775 (Chapter 29, Section 29.1)</p> <p>Teacher Wraparound Edition: IM page 542 (Chapter 20, Section 20.1) CB page 548 (Chapter 20, Section 20.2) ML page 549 (Chapter 20, Section 20.2) AML page 552 (Chapter 20, Section 20.2)</p>
<ul style="list-style-type: none"> Describe the direction and general shape of electric fields. 	<p>Student Edition: page 807 (Chapter 25, Section 1) Also see Glencoe's <i>Physics: Principles and Problems</i> © 2005.</p>	<p>Student Edition: pages 564-568 (Chapter 21, Section 21.1) pages 571-572 (Chapter 21, Section 21.2) pages 575-579 (Chapter 21, Section 21.2)</p> <p>Teacher Wraparound Edition: HSS page 567 (Chapter 21, Section 21.1) CU page 568 (Chapter 21, Section 21.1)</p>

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
Bloom's Taxonomy Level: Analysis		
9-12.P.3.3A. Students are able to describe the relationship between changing magnetic and electric fields.		
<ul style="list-style-type: none"> Explain the properties of magnetic fields. 	Student Edition: pages 118-121 (Chapter 5, Section 1) Also see Glencoe's <i>Physics: Principles and Problems</i> © 2005.	Student Edition: pages 644-647 (Chapter 24, Section 24.1) pages 648-651 (Chapter 24, Section 24.1) pages 652-659 (Chapter 24, Section 24.1) <i>Launch Lab</i> page 643 (Chapter 24, Section 24.1) <i>Extreme Physics</i> page 662 (Chapter 24, Section 24.2) Teacher Wraparound Edition: <i>QD Lab</i> page 644 (Chapter 24, Section 24.1) <i>UA Lab</i> page 645 (Chapter 24, Section 24.1) <i>QD Lab</i> page 646 (Chapter 24, Section 24.1) <i>BA</i> page 652 (Chapter 24, Section 24.2) <i>CD</i> page 653 (Chapter 24, Section 24.2)

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
<ul style="list-style-type: none"> Describe how electric and magnetic fields can induce each other. 	<p>Student Edition: page 807 (Chapter 25, Section 1)</p> <p>Teacher Wraparound Edition: QD page 118 (Chapter 5, Section 1) QD page 119 (Chapter 5, Section 1)</p>	<p>Student Edition: pages 648-649 (Chapter 24, Section 24.1) pages 650-651 (Chapter 24, Section 24.1) pages 671-678 (Chapter 25, Section 25.1) pages 679-685 (Chapter 25, Section 25.2) <i>Physics Lab</i> pages 660-661 (Chapter 24, Section 24.2) <i>Extreme Physics</i> page 662 (Chapter 24, Section 24.2) <i>Launch Lab</i> page 671 (Chapter 25, Section 25.1) <i>Physics Lab</i> pages 686-687 (Chapter 25, Section 25.2)</p> <p>Teacher Wraparound Edition: D page 648 (Chapter 24, Section 24.1) CB page 671 (Chapter 25, Section 25.1) IM page 674 (Chapter 25, Section 25.1) CB page 675 (Chapter 25, Section 25.1) ICE page 684 (Chapter 25, Section 25.2) CU page 685 (Chapter 25, Section 25.2)</p>

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
Advanced High School Science, Technology, Environment, and Society		
Note: All high school students are expected to master the indicators for this goal stated in the Core Standards above. Students will continue to apply them in advanced and elective coursework described for Physical, Life, and Earth/Space Science.		
Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.	Student Edition: <i>Biology CONNECTION</i> page 14 (Chapter 1, Section 4) <i>History CONNECTION</i> page 190 (Chapter 7, Section 2) <i>History CONNECTION</i> page 264 (Chapter 9, Section 5) <i>How It Works</i> page 48 (Chapter 2) <i>How It Works</i> page 172 (Chapter 6) <i>How It Works</i> page 270 (Chapter 9) <i>How It Works</i> page 552 (Chapter 17) <i>problem-solving LAB</i> page 860 (Chapter 26, Section 4)	Student Edition: pages 179-180 (Chapter 7, Section 7.2) page 363 (Chapter 13, Section 28.2) pages 761-765 (Chapter 28, Section 13.1) pages 787-789 (Chapter 29, Section 29.2) <i>Future Technology</i> page 22 (Chapter 1, Section 1.3) <i>Technology and Society</i> page 608 (Chapter 22, Section 22.2) <i>How It Works</i> page 688 (Chapter 25, Section 25.2) <i>Technology and Society</i> page 716 (Chapter 26, Section 26.2) <i>Extreme Physics</i> page 792 (Chapter 29, Section 29.2) Teacher Wraparound Edition: E page 358 (Chapter 13, Section 13.3) PP page 764 (Chapter 28, Section 28.2)

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	<i>CHEMISTRY</i> <i>Matter and Change</i> © 2005	<i>PHYSICS</i> <i>Principles and Problems</i> © 2005
Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.	<p>Student Edition:</p> <p><i>Biology CONNECTION</i> page 14 (Chapter 1, Section 4)</p> <p><i>Careers Using Chemistry</i> page 106 (Chapter 4, Section 4)</p> <p><i>Careers Using Chemistry</i> page 354 (Chapter 12, Section 1)</p> <p><i>Careers Using Chemistry</i> page 475 (Chapter 15, Section 3)</p> <p><i>History CONNECTION</i> page 190 (Chapter 7, Section 2)</p> <p><i>History CONNECTION</i> page 264 (Chapter 9, Section 5)</p> <p><i>How It Works</i> page 48 (Chapter 2)</p> <p><i>How It Works</i> page 172 (Chapter 6)</p> <p><i>How It Works</i> page 270 (Chapter 9)</p> <p><i>How It Works</i> page 552 (Chapter 17)</p> <p><i>problem-solving LAB</i> page 860 (Chapter 26, Section 4)</p> <p>Teacher Wraparound Edition: CJ page 474 (Chapter 15, Section 3)</p>	<p>Student Edition:</p> <p>page 331 (Chapter 12, Section 12.2)</p> <p>pages 812-814 (Chapter 30, Section 30.2)</p> <p><i>Technology and Society</i> page 220 (Chapter 8, Section 8.3)</p> <p><i>Technology and Society</i> page 394 (Chapter 14, Section 14.3)</p> <p><i>How It Works</i> page 582 (Chapter 21, Section 21.2)</p> <p>Teacher Wraparound Edition: CT page 602 (Chapter 22, Section 22.2) E page 605 (Chapter 22, Section 22.2) RLC page 811 (Chapter 30, Section 30.2) E page 814 (Chapter 30, Section 30.2)</p>