

GLENCOE CORRELATION
CHEMISTRY: MATTER AND CHANGE
NEBRASKA
Science Standards Grades 9-12

STANDARDS	PAGE REFERENCES
12.1 Unifying Concepts and Processes	
12.1.1 By the end of twelfth grade, students will develop an understanding of systems, order, and organization.	SE: 10-13, 43-45, 58-63, 70-74, 87-97, 118-125, 127-138, 284-291, 666-670, 903-907
12.1.2 By the end of twelfth grade, students will develop an understanding of evidence, models, and explanation.	SE: 10-13, 36-41, 92-97, 127-134 <i>Chemlab</i> 46-47, 586-587, 832-833 <i>Everyday Chemistry</i> 234, 412, 798
12.1.3 By the end of twelfth grade, students will develop an understanding of change, constancy, and measurement.	SE: 25-45, 61-64, 92-97, 105-107, 127-132, 277-283, 821-823 <i>Chemlab</i> 142-143, 410-411, 654-655
12.1.4 By the end of twelfth grade, students will develop an understanding of form and function.	SE: 154-169, 215-220, 228-231, 241-247 <i>Everyday Chemistry</i> 412 <i>Problem-Solving Lab</i> 8, 130, 219, 720, 790
12.1.5 By the end of twelfth grade, students will develop an understanding of change over a period of time.	SE: 529-530, 536-544, 548-549, 810-814 <i>Chemlab</i> 410-411, 550-551, 862-863 <i>Earth Science Connection</i> 281, 600
12.2 Science as Inquiry	
12.2.1 By the end of twelfth grade, students will develop the abilities needed to do scientific inquiry.	SE: 10-13, 36-41 <i>Chemlab</i> 46-47, 268-269, 342-343, 520-521, 626-627, 728-729, 832-833, 862-863
12.3 Physical Science	
12.3.1 By the end of twelfth grade, students will develop an understanding of the structure of the atom.	SE: 86-97, 100-104, 118-124, 127-140, 154-158, 163-169, 806-818, 821-823 <i>Chemlab</i> 108-109, 142-143
12.3.2 By the end of twelfth grade, students will develop an understanding of the structure and properties of matter.	SE: 8-9, 55-59, 66-74, 154-158, 179-201, 217-218, 228-231, 252-262, 698-724, 775-780
12.3.3 By the end of twelfth grade, students will develop an understanding of chemical reactions.	SE: 62-63, 215-218, 277-299, 354-357, 364-373, 754-760, 762-764, 792-795 <i>Chemlab</i> 232-233, 300-301, 374-375
12.3.4 By the end of twelfth grade, students will develop an understanding of motions and forces.	SE: 127-132, 266, 385-387, 393-395, 419-424 <i>Physics Connection</i> 563 <i>Problem-Solving Lab</i> 44, 267, 533, 647
12.3.5 By the end of twelfth grade, students will develop an understanding of the conservation of energy and increase in disorder.	SE: 490, 498-500, 513-518, 821-822 <i>Everyday Chemistry</i> 730 TWE: CJ 64
12.3.6 By the end of twelfth grade, students will develop an understanding of the interactions of energy and matter.	SE: 61-63, 123-126, 286, 385-392, 404-408, 419-426, 489-495, 498-500, 506-512 <i>Chemlab</i> 142-143

STANDARDS	PAGE REFERENCES
12.4 Life Science	
12.4.1 By the end of twelfth grade, students will develop an understanding of the cell.	SE: 778-780, 792-795 <i>Biology Connection</i> 366, 851 <i>Chemistry and Society</i> 20, 482 <i>Chemlab</i> 796-797 <i>Problem-Solving Lab</i> 790
12.4.2 By the end of twelfth grade, students will develop an understanding of the molecular basis of heredity.	SE: 791 <i>Chemistry and Society</i> 20, 482 <i>Problem-Solving Lab</i> 790
12.4.3 By the end of twelfth grade, students will develop an understanding of the theory of biological evolution.	This objective can be met during teacher/class discussion.
12.4.4 By the end of twelfth grade, students will develop an understanding of the interdependence of organisms.	SE: 793, 858-861
12.4.5 By the end of twelfth grade, students will develop an understanding of matter, energy, and organization in living systems.	SE: <i>Biology Connection</i> 366, 637, 785, 851 <i>Chemistry and Society</i> 20 <i>Problem-Solving Lab</i> 583, 624, 790
12.4.6 By the end of twelfth grade, students will develop an understanding of the behavior of organisms.	SE: 792-795 <i>Biology Connection</i> 637, 785 <i>Everyday Chemistry</i> 798
12.5 Earth and Space Science	
12.5.1 By the end of twelfth grade, students will develop an understanding of energy in the earth system.	SE: 843-844, 850-851, 858-861 <i>Chemlab</i> 862-863 <i>Everyday Chemistry</i> 730
12.5.2 By the end of twelfth grade, students will develop an understanding of geochemical cycles.	SE: 850-851, 858-861 <i>Everyday Chemistry</i> 730
12.5.3 By the end of twelfth grade, students will develop a scientific understanding of the origin of the earth system.	SE: 855 TWE: EN 841
12.5.4 By the end of twelfth grade, students will develop a scientific understanding of the origin of the universe.	See Glencoe's <i>Earth Science: Geology, the Environment, and the Universe</i> .
12.6 Science and Technology	
12.6.1 By the end of twelfth grade, students will develop an understanding of technological design.	SE: <i>Chemistry and Technology</i> 446, 690, 768 <i>How It Works</i> 144, 204, 270, 376 <i>Problem-Solving Lab</i> 424, 647, 679
12.6.2 By the end of twelfth grade, students will develop an understanding about science and technology.	SE: 14, 673-682, 684-687, 725-727, 761-765 <i>Chemistry and Technology</i> 446, 588, 690 <i>Everyday Chemistry</i> 412, 730
12.7 Science in Personal and Social Perspectives	
12.7.1 By the end of twelfth grade, students will develop an understanding of personal and community health.	SE: 5-6, 824-825, 829-830 <i>Chemistry and Society</i> 482, 834 <i>Problem-Solving Lab</i> 583, 624, 860
12.7.2 By the end of twelfth grade, students will develop an understanding of the effects of population change.	See Glencoe's <i>Earth Science: Geology, the Environment, and the Universe</i> .

STANDARDS	PAGE REFERENCES
12.7.3 By the end of twelfth grade, students will develop an understanding of natural resources.	SE: 181-201, 725-727, 824-825, 850-857 <i>Chemistry and Technology</i> 344, 588, 690 <i>Earth Science Connection</i> 226, 457, 847
12.7.4 By the end of twelfth grade, students will develop an understanding of environmental quality.	SE: 3-6, 824-825, 842-849, 852-854 <i>Chemistry and Society</i> 80, 834 <i>Earth Science Connection</i> 457, 847
12.7.5 By the end of twelfth grade, students will develop an understanding of natural and human-induced hazards.	SE: 3-6, 824-825, 829-830, 846-849, 858-860 <i>Biology Connection</i> 366, 785, 851 <i>Chemistry and Society</i> 482, 834
12.7.6 By the end of twelfth grade, students will develop an understanding of the role of science and technology in local, national, and global challenges.	SE: 3-6, 725-727, 824-825, 844-849, 853-854 <i>Chemistry and Society</i> 80, 482, 834 <i>Problem-Solving Lab</i> 679, 860
12.8 History and Nature of Science	
12.8.1 By the end of twelfth grade, students will develop an understanding of science as a human endeavor.	SE: 63-64, 87-97, 122-124, 127-132, 151-154 <i>Careers Using Chemistry</i> 136, 250, 400 <i>History Connection</i> 75, 190, 311
12.8.2 By the end of twelfth grade, students will develop an understanding of the nature of scientific knowledge.	SE: 10-14, 36-42, 90-97, 117-124, 127-134, 151-158, 418-426, 792-793, 806, 858-861
12.8.3 By the end of twelfth grade, students will develop an understanding of the history of science.	SE: 14, 63-64, 87-97, 122-124, 127-132, 151-154, 806 <i>History Connection</i> 75, 190, 311

Codes Used for TWE Pages

CJ Chemistry Journal
EN Enrichment