

GLENCOE CORRELATION
LIFE SCIENCE
MARYLAND
 Science Content Standards
 Grade Eight

CONTENT STANDARDS	PAGE REFERENCES
1.0 Skills and Processes – Students will demonstrate the thinking and acting inherent in the practice of science.	
Scientific Inquiry	
By the end of grade 8 , students know and are able to do everything required at earlier grades and:	
1.8.1 access and process information from readings, investigations, and/or oral communications. (MLO 1.1.1)	SE: <i>TIME: Science and History</i> 58-59 <i>Activity</i> 133, 648-649 <i>Activity: Design Your Own Experiment</i> 174-175, 422-423, 618-619 TWE: Dis 118 AE 119
1.8.2 formulate questions, which lead to the development of a testable hypothesis . (MLO 1.1.2)	SE: <i>Activity: Design Your Own Experiment</i> 294-295, 710-711
1.8.3 use observations, research, and select appropriate scientific information to form predictions and hypotheses . (MLO 1.1.3)	SE: <i>Activity: Design Your Own Experiment</i> 28-29, 144-145, 174-175 <i>Activity</i> 202-203, 282, 475, 536-537, 760
1.8.4 recognize/develop well-designed procedures that identify the independent and dependent variables , the need for control when testing a factor, the importance of multiple trials, the selection of appropriate materials/equipment, and the development of clear, logical directions within an investigation . (MLO 1.1.4)	SE: <i>Activity: Design Your Own Experiment</i> 28-29, 144-145, 294-295, 422-423, 678-679, 710-711 <i>TIME: Science and Society</i> 58-59 <i>Activity</i> 671 TWE: A 71
1.8.5 demonstrate safety when conducting an investigation.	SE: <i>Activity: Design Your Own Experiment</i> 294-295, 354-355, 589, 618-619, 710-711 <i>Activity</i> 320-321, 671, 709
1.8.6 use appropriate instruments and metric units when making measurements and collecting data. (MLO 1.1.5)	SE: <i>Activity</i> 27, 80, 507, 536-537, 609, 738-739 <i>Activity: Design Your Own Experiment</i> 422-423, 618-619
1.8.7 collect, organize, and display data in ways others can verify (i.e., numbers, statistics, tables, graphs, drawings, charts, diagrams) using appropriate instruments (e.g., <i>calculators, spreadsheets, databases, and graphing programs</i>). (MLO 1.1.6)	SE: <i>Activity</i> 27, 133, 347, 388-389, 648-649 <i>Activity: Design Your Own Experiment</i> 144-145, 174-175, 294-295, 422-423, 618-619
1.8.8 analyze and summarize data to identify trends and form a logical argument about a cause and effect relationship or a sequence of events. (MLO 1.1.7)	SE: <i>Activity: Design Your Own Experiment</i> 28-29, 294-295, 422-423, 618-619 <i>Try at Home MiniLAB</i> 75 <i>Activity</i> 80, 133, 312, 320-321, 475, 760

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1.8.9 interpret and communicate findings (i.e., <i>speaking</i> , writing, and drawing) in a form suited to the purpose and audience, using developmentally appropriate methods including technology tools and telecommunications. (MLO 1.1.8)	SE: <i>Communicating Your Data</i> 29, 46, 87, 103, 175, 263, 295, 389, 619, 649 <i>TIME: Science and Society</i> 30-31
Critical Thinking	
1.8.10 describe similarities and differences of objects, materials, concepts, and actions. (MLO 1.2.1)	SE: <i>Activity 27</i> , 46, 223, 282 <i>Activity: Design Your Own Experiment</i> 56-57, 174-175, 354-355 <i>Try at Home MiniLAB</i> 159 <i>MiniLAB</i> 159 <i>Activity: Use the Internet</i> 508-509 TWE: Act 235
1.8.11 construct and use classification systems for grouping objects, materials, concepts, and actions, organisms, etc. (MLO 1.2.2)	SE: <i>Activity 27</i> <i>Activity: Model and Invent</i> 232-233 TWE: A 27
<i>1.8.12 critique scientific information and identify possible sources of bias.</i>	SE: <i>TIME: Science and Society</i> 58-59, 296-297
1.8.13 analyze the adequacy of the supporting evidence used to form conclusions, devise a plan, or solve a practical problem. (MLO 1.2.3)	SE: <i>Activity</i> 133, 548-549 <i>Activity: Model and Invent</i> 800-801
1.8.14 provide supporting evidence when forming conclusions, devising a plan or solving a practical problem. (MLO 1.2.4)	SE: <i>Activity: Design Your Own Experiment</i> 144-145, 294-295, 422-423 <i>Activity</i> 536-537 <i>Activity: Model and Invent</i> 800-801
1.8.15 analyze and extend patterns. (MLO 1.2.5)	SE: <i>Activity: Design Your Own Experiment</i> 144-145, 294-295, 422-423 <i>Activity</i> 536-537, 648-649
1.8.16 modify ideas based on new information from developmentally appropriate readings, data, and the ideas of others. (MLO 1.2.6)	SE: <i>TIME: Science and Society</i> 296-297 <i>Activity: Design Your Own Experiment</i> 618-619 <i>Activity: Model and Invent</i> 800-801
1.8.17 describe to others how scientific information was used. (MLO 1.2.7)	SE: <i>Communicating Your Data</i> 295, 389, 537, 591, 619, 671, 679
Applications of Science	
1.8.18 apply scientific principles and/or concepts to understand a new situation. (MLO 1.3.1)	SE: 141-143 <i>TIME: Science and Society</i> 296-297 <i>Oops! Accidents in Science</i> 510-511 TWE: SJ 101
1.8.20 apply concepts and processes of science to take and defend a position relative to an issue. (MLO 1.3.2)	SE: <i>TIME: Science and Society</i> 296-297 TWE: SJ 101 Ch 143

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1.8.21 use the knowledge of science and available scientific equipment to devise a plan to solve a global problem. (MLO 1.3.3)	SE: <i>Oops! Accidents in Science</i> 510-511 <i>Activity: Model and Invent</i> 800-801 TWE: Ext 297
Technology	
1.8.22 explain that a model has advantages and disadvantages and may need to be changed for different purposes. (MLO 1.4.1)	SE: <i>Activity: Model and Invent</i> 590-591, 800-801 TWE: CDiv 42 Dis 160
1.8.23 demonstrate and explain that tools are essential to scientific investigation for such purposes as to observe , estimate, measure, compute, collect, and communicate scientific data and information (i.e., size, distance, motion). (MLO 1.4.2)	SE: <i>Activity</i> 282, 507, 536-537, 648-649, 727, 738-739, 760, 795 <i>Activity: Model and Invent</i> 800-801
1.8.24 <i>design, plan, and construct things in response to a particular need or problem (e.g., instruments, machines, structures, and systems).</i>	SE: <i>Activity: Model and Invent</i> 476-477, 800-801 <i>Oops! Accidents in Science</i> 510-511 TWE: Act 785
1.8.25 <i>evaluate and modify designs and products, when demonstrating that a solution to one problem can result in other problems and taking into account various constraints (e.g., gravity, property of materials, economic, political, social, ethical, and aesthetic issues).</i>	SE: <i>Oops! Accidents in Science</i> 266-267 <i>TIME: Science and Society</i> 296-297 <i>Activity: Model and Invent</i> 800-801 TWE: SJ 101 II 297
1.8.26 <i>explain that science and technology have strongly influenced life under different technological circumstances in the past and continue to do so today.</i>	SE: 141-145, 676 <i>TIME: Science and History</i> 58-59 <i>Oops! Accidents in Science</i> 118-119 <i>TIME: Science and Society</i> 296-297
History of Science	
1.8.27 <i>explain how people from different cultures and times have made important contributions to the advancement of science, mathematics, and technology in different cultures at different times.</i>	SE: <i>TIME: Science and History</i> 58-59, 566-567, 592-593 TWE: CDiv 42, 77, 289, 309 Act 119 CC 159
1.8.28 <i>explain that scientists are employed in various fields that are located in diverse places ranging from laboratories to natural field settings and their findings become available to everyone in the world.</i>	SE: <i>TIME: Science and History</i> 58-59, 712-713 <i>Career Connection</i> 89 <i>Oops! Accidents in Science</i> 510-511 TWE: SJ 112
3.0 Life Science – Students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.	
Cellular	
3.8.1 cite evidence to explain that living organisms , including humans, are composed of cells (single-celled to multi-cellular) of which details can usually be seen through a microscope (i.e., cell walls, membranes, nucleus, chloroplasts, chromosomes, mitochondria). (MLO 3.1)	SE: 45 <i>Activity</i> 46 TWE: A 46

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3.8.2 analyze the structure and function of cells, tissues, organs , and systems, and their interactions in living organisms including the human body. (MLO 3.2)	SE: 574-578, 583, 600-608, 633-637, 658-662
3.8.3 analyze concepts (i.e., diseases, deficiencies, toxins, and other factors) that promote or disrupt the structure and function of living organisms. (MLO 3.3)	SE: 561, 563, 580-582, 608, 668-670, 672-676
Genetics	
3.8.4 use evidence to support the idea that through reproduction (sexual and asexual i.e., cuttings, selective breeding) genetic traits are passed from one generation to the next. (MLO 3.4)	SE: 96-115, 126-140 <i>Activity</i> 103 <i>Activity: Use the Internet</i> 116-117 TWE: LD 100 Act 102
Evolution	
3.8.6 <i>analyze the changes that occur (e.g., adaptations of plants and animals) in species of organisms as a result of the changes in Earth's physical environment over time.</i>	SE: 155-161 <i>Activity: Design Your Own Experiment</i> 174-175 TWE: IS 156
3.8.7. <i>analyze factors that influence the size and stability of populations.</i>	SE: 159-161, 696-708 <i>Try at Home MiniLAB</i> 697 <i>Activity: Design Your Own Experiment</i> 710-711 TWE: Act 699 IS 700 SJ 707
Biochemistry	
3.8.8 explain that food, water, and air provide molecules that serve as building materials and supply energy for all organisms. (MLO 3.5)	SE: 66-72, 730-737 TWE: MM 736
3.8.10 <i>explain that energy entering the ecosystem as sunlight is transferred by producers into chemical energy through photosynthesis.</i>	SE: 82, 306-309, 704, 722
Ecology	
3.8.12 <i>analyze evidence that within ecosystems organisms have different functions (niches) that enable the ecosystem to survive.</i>	SE: <i>Activity</i> 727, 760 <i>Activity: Use the Internet</i> 768-769 TWE: Act 706 IS 706 SJ 707
3.8.13 <i>analyze changes that occur due to interactions in the environment and determine if they are beneficial or detrimental from different perspectives (e.g., producer/consumer, predator/prey, or parasite/host).</i>	SE: <i>Try at Home MiniLAB</i> 697 <i>Activity: Design Your Own Experiment</i> 710-711 <i>Activity</i> 795 TWE: Ext 702 A 760

Codes Used for TWE Pages

A	Assessment
Act	Activity
AE	Analyze the Event
CC	Curriculum Connection
CDiv	Cultural Diversity
Ch	Challenge
Dis	Discussion
Ext	Extension
II	Investigate the Issue
IS	Inclusion Strategies
LD	Lab Demonstration
MM	Make a Model
SJ	Science Journal