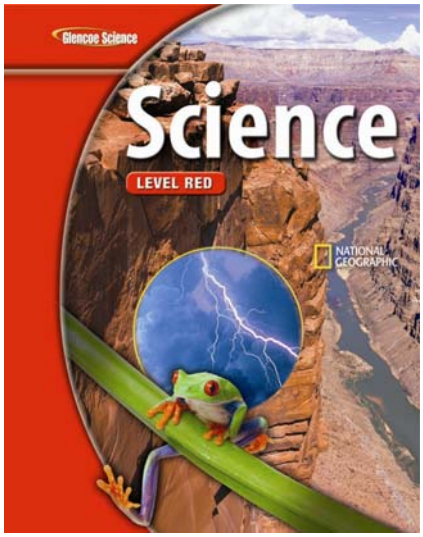
Glencoe

Voluntary State Curriculum for
Science Grade 6

Maryland



Science

LEVEL RED

STANDARDS	PAGE REFERENCES
Standard 1.0 Skills and Processes Students will demonstrate the thinking and acting inherent in the practice of science.	
Topic **A. Constructing Knowledge**	
Indicator **1.** Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided.	**Student Edition:** 12-20 *MiniLAB* 14 *Lab* 60-61, 88-89, 118-119, 184-185, 244-245, 278-279, 332-333, 488-489, 520-521, 580-581 **Teacher Wraparound Edition:** A 23, 489; IL 17
Topic **B. Applying Evidence and Reasoning**	
Indicator **1.** Review data from a simple experiment, summarize the data, and construct a logical argument about the cause-and-effect relationships in the experiment.	**Student Edition:** 12-20 *MiniLAB* 14 *Lab* 60-61, 88-89, 118-119, 184-185, 244-245, 332-333, 488-489, 520-521, 580-581, 636-637 **Teacher Wraparound Edition:** IL 17

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

STANDARDS	PAGE REFERENCES
Topic **C. Communicating Scientific Information**	
Indicator **1.** Develop explanations that explicitly link data from investigations conducted, selected readings and, when appropriate, contributions from historical discoveries.	**Student Edition:** 12-20 *Lab* 118-119, 184-185, 216-217, 278-279, 332-333, 364-365, 430-431, 488-489, 580-581, 606-607 **Teacher Wraparound Edition:** AIL 88, 489; IL 17
Topic **D. Technology**	
Indicator **1.** Explain that complex systems require control mechanisms.	**Student Edition:** 146-150, 208, 212-214 *Lab* 464-465 **Teacher Wraparound Edition:** IL 353; UP 127, 405
Indicator **2.** Analyze, design, assemble and troubleshoot complex systems.	**Student Edition:** 146-150, 157 #29, 213-214 *Lab* 216-217, 464-465 **Teacher Wraparound Edition:** A 215, 414; DI 147, 213; IL 353; MM 425; UP 127, 405
Indicator **3.** Analyze the value and the limitations of different types of models in explaining real things and processes.	**Student Edition:** 21-26 *Science Online* 22 *Lab* 55, 306-307, 396-397 *MiniLAB* 386, 421, 457, 480 **Teacher Wraparound Edition:** A 26; ACT 24; MM 25; SCB 4F; UP 127

STANDARDS	PAGE REFERENCES
Standard 2.0 Earth/Space Science Students will use scientific skills and processes to explain the chemical and physical interactions (i.e., natural forces and cycles, transfer of energy) of the environment, Earth, and the universe that occur over time.	
Topic **A. Materials and Processes That Shape A Planet**	
Indicator **2.** Cite evidence to demonstrate and explain that physical weathering and chemical weathering cause changes to Earth materials.	**Student Edition:** 316-321, 323-331 *Launch Lab* 315 *Get Ready to Read* 316A-316B *MiniLAB* 319 *National Geographic* 324 *Science Online* 326, 330 *Applying Science* 329 *Lab* 332-333 **Teacher Wraparound Edition:** ACT 317; IL 317; R 331; SCB 314 E; V 324
Indicator **4.** Differentiate among sedimentary, igneous, and metamorphic rocks based upon the processes by which they are formed.	**Student Edition:** 265-271, 272-276 *MiniLAB* 270 *Science Online* 274 *Lab* 277 **Teacher Wraparound Edition:** A 276; CFU 271, 276; DIS 266; LD 266; MM 269; QD 267; R 276; SCB 254F; SJ 267
Topic **C. Plate Tectonics**	
Indicator **1.** Recognize and describe the internal and external structure of the Earth.	**Student Edition:** 288-291, 311 #2, 313 #18, #23, 342-345 *Launch Lab* 287 *Integrate Chemistry* 290 **Teacher Wraparound Edition:** A 287; DI 291; IM 292; SCB 230E; TFYI 291; UAA 344; VL 291

STANDARDS	PAGE REFERENCES
Indicator **2.** Recognize and explain how major geologic events are a result of the movement of Earth's crustal plates.	**Student Edition:** 292-297, 299-305 *Science Online* 293 *National Geographic* 294 *MiniLAB* 301 **Teacher Wraparound Edition:** CFU 305; DI 295; DIS 296; IES 132; QD 300; SCB 286 E-286 F; SJ 296; TFYI 301; V 294; VL 293
Topic **D. Astronomy**	
Indicator **1.** Recognize that objects of our solar system are interrelated.	**Student Edition:** 387, 440-446, 448-455 *MiniLAB* 441, 450 *Science Online* 444 *Lab* 447 **Teacher Wraparound Edition:** A 441, 446; CFU 446; DI 449; IM 441; QD 387; R 446; VL 443
Standard 3.0 Life Science The 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.	
Topic **D. Evolution**	
Indicator **1.** Explain that in any particular environment, the growth and survival of organisms and species depend on the physical conditions.	**Student Edition:** 535, 539 *Science Online* 536 **Teacher Wraparound Edition:** ACT 538; CFU 505; DIS 552; TFYI 537; TPK 535, 618
Topi **F. Ecology**	
Indicator **1.** Give reasons supporting the fact that the number of organisms an environment can support depends on the physical conditions and resources available.	**Student Edition:** 618-625, 627-632, 643 #17 *MiniLAB* 628 *Applying Science* 631 **Teacher Wraparound Edition:** A 617, 628; CFU 632; DI 631; QD 631; SJ 629; V 621

STANDARDS	PAGE REFERENCES
Standard 4.0 Chemistry Students will use scientific skills and processes to explain the composition, structure, and interactions of matter in order to support the predictability of structure and energy transformations.	
Topic **C. States of Matter**	
Indicator **1.** Provide evidence and examples illustrating that many substances can exist as a solid, liquid, or gas depending on temperature.	**Student Edition:** 73-75, 95 #15, 265-267, 347, 352 *MiniLAB* 347 **Teacher Wraparound Edition:** A 79; CC 74; CD 75; IM 81; QD 75; TFYI 352
Topic **D. Physical and Chemical Changes**	
Indicator **1.** Cite evidence to support the fact that some substances can be separated into the original substances from which they were made.	**Student Edition:** 115-117, 125 #19 *Applying Science* 115 *Science Online* 116 *Section Review* 117 *Lab* 379 **Teacher Wraparound Edition:** A 117; CFU 117; DI 115, 116; QD 116; R 117
Standard 5.0 Physics Students will use scientific skills and processes to explain the interactions of matter and energy and the energy transformations that occur	
Topic **C. Electricity and Magnetism**	
Indicator **2.** Cite evidence supporting that electrical energy can be produced from a variety of energy sources and can itself be transformed into almost any other form of energy.	**Student Edition:** 194-200, 201-208, 213-214 *Launch Lab* 193 *MiniLAB* 197 *Integrate History* 198 *Science Online* 199 **Teacher Wraparound Edition:** A 161, 197; ACT 196; DI 196; LD 197; SCB 192E

STANDARDS	PAGE REFERENCES
Indicator **3.** Identify and describe magnetic fields and their relationship to electric current.	**Student Edition:** 209-214 *Launch Lab* 193 *Integrate Earth Science* 210 *MiniLAB* 212 *Lab* 216-217 *Science and History* 218 **Teacher Wraparound Edition:** AIL 216; CFU 214; DI 210; QD 210, 213; R 214; SCB 192F; TBI 192
Topic **D. Wave Interactions**	
Indicator **1.** Identify and describe the relationships among the various properties of waves.	**Student Edition:** 226-230, 231-235, 237-243 *Launch Lab* 224 *Lab* 236, 244-245 *Applying Science* 241 *National Geographic* 242 **Teacher Wraparound Edition:** A 243; ACT 228; CFU 235; DI 241; R 235; SCB 224E-224F; TBI 224
Indicator **2.** Provide evidence to demonstrate the relationship among the properties of waves using sound.	**Student Edition:** 234 *MiniLAB* 229 *Integrate Health* 234 **Teacher Wraparound Edition:** A 229, 235; CC 233; CD 238; DI 233, 234, 239; DIS 227, 233; QD 234; SJ 23
Indicator **3.** Investigate and cite the rules that govern behaviors of light.	**Student Edition:** 230, 237-243, 251 #17-#18, 251 #20, 408-409 *Science Online* 235 *MiniLAB* 238 **Teacher Wraparound Edition:** A 238; IL 409; LD 240; QD 241; TFYI 239; VL 239

STANDARDS	PAGE REFERENCES
Standard 6.0 Environmental Science Students will use scientific skills and processes to explain the interactions of environmental factors (living and non-living) and analyze their impact from a local to a global perspective.	
Topic **A. Natural Resources and Human Needs**	
Indicator **1.** Recognize and compare how different parts of the world have varying amounts and types of natural resources and how the use of those resources impacts environmental quality.	**Student Edition:** 646-653, 655-662, 663-667 *Applying Science* 665 *Science and Society* 670 **Teacher Wraparound Edition:** A 662; CC 652; CD 651, 658; R 662, 667; TFYI 649, 666; VL 647
Topic **B. Environmental Issues**	
Indicator **1.** Recognize and explain that human-caused changes have consequences for Maryland's environment as well as for other places and future times.	**Student Edition:** 646-653, 655-662, 663-667 *Applying Science* 329 *Science and History* 334 **Teacher Wraparound Edition:** AIL 668; CC 330, 332; SCB 644E; SJ 656; TFYI 660; WQ 614