

FORMAT FOR CORRELATION TO THE GEORGIA PERFORMANCE STANDARDS

Subject Area: Science/Grade 6 **State-Funded Course:** Science/Grade 6 (Earth Science)

Textbook Title: CPO Science Earth Science

Publisher: CPO Science

The GPSs for grades K-12 Science and 9-12 Mathematics may be accessed on-line at: <http://www.georgiastandards.org/>.

<u>Standard</u> (Cite Number)	<u>Standard</u> (Cite specific standard)	<u>Where Taught</u> (If print component, cite page number; if non-print, cite appropriate location.) ST = student text page; LM = lab manual page
	Students will explore the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.	ST: Chapters 1 and 2 and throughout LM: Throughout the investigation manual
S6CS1.a	Understand the importance of—and keep—honest, clear, and accurate records in science.	ST: 11, 20, 31, 35, 42, 43, 48, 51, 110, 394 LM: 2, 4, 7 – 9, 12, 22, 24, 26, 36, 38, 39, 51, 59, 66, 69, 72, 74, 78, 85, 86, 90, 92, 95, 100, 108, 118, 122, 123, 131, 137, 151, 155, 167, 168
S6CS1.b	Understand that hypotheses are valuable if they lead to fruitful investigations, even if the hypotheses turn out not to be completely accurate descriptions.	ST: 4, 8, 13, 15, 21, 37, 52, 373 LM: 5, 6, 50, 64, 112, 113, 114, 129, 168,
	Students will use standard safety practices for all classroom laboratory and field investigations.	LM: 143 - 148
S6CS2.a	Follow correct procedures for use of scientific apparatus.	ST: 10, 23 – 29, 31 – 35, 40, 48, 49, 51, 60, 68, 135, 186, 188, 189, 191, 193, 195, 197, 198, 200, 201, 205, 345 LM: 1, 4, 10 – 13, 59, 66, 73, 77, 78, 82, 84, 96, 121, 124, 125, 129, 134, 136, 137, 138, 145 – 147, 150, 152 - 165
S6CS2.b	Demonstrate appropriate techniques in all	ST: 11, 15, 21, 25, 26 – 31, 50 – 52, 68, 77, 298

	laboratory situations.	LM: 14, 23, 32, 74, 120 – 122, 149, 152, 153, 159 - 166
S6CS2.c	Follow correct protocol for identifying and reporting safety problems and violations.	LM: 143 - 148
	Students will use computation and estimation skills necessary for analyzing data and following scientific explanations.	ST: Chapter 2 and throughout LM: Throughout the investigation manual Ancillary: Skillsheets – 1.2 Averaging, 2.1 Dimensional Analysis, 2.3 Calculating Area, 3.2 Understanding Math in Words
S6CS3.a	Analyze scientific data by using, interpreting, and comparing numbers in several equivalent forms, such as integers and decimals.	ST: 9, 22, 34, 39, 40, 48, 52, 378, 380, 412, 420, 444 LM: 9, 28, 29, 40, 50, 57, 66, 68, 85, 96, 116
S6CS3.b	Use metric input units (such as seconds, meters, or grams per milliliter) of scientific calculations to determine the proper unit for expressing the answer.	ST: 25 – 28, 30, 51, 449 LM: 14, 74, 120 – 122, 152 – 154, 164, 165
S6CS3.c	Address the relationship between accuracy and precision and the importance of each.	ST: 26, 34, 40 LM: 11 – 13, 34
S6CS3.d	Draw conclusions based on analyzed data.	ST: 15, 407 LM: 21, 34, 51, 87, 88, 90, 97, 100, 114, 123, 127, 129, 133, 168
	Students will use tools and instruments for observing, measuring, and manipulating equipment and materials in scientific activities.	ST: Chapter 2 and throughout LM: Throughout the investigation manual
S6CS4.a	Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files.	Ancillary Skillsheet: 6.1 – Using Computer Spreadsheets
S6CS4.b	Estimate the effect of making a change in one part of a system on the system as a whole.	ST: 36, 50, 52, 87, 99, 200, 208, 392 LM: 15, 19, 25, 31, 35, 46, 98, 102, 110, 120
S6CS4.c	Read analog and digital meters on instruments used to make direct measurements of length, volume, weight, elapsed time, rates, and	ST: 23 – 35, 51, 60, 68, 77 LM: 1, 10, 12, 23, 96, 124, 125, 150, 152 - 165

	temperature, and choose appropriate units for reporting various quantities.	
	Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.	ST: Chapter 2 and throughout LM: Throughout the investigation manual
S6CS5.a	Observe and explain how parts are related to other parts in systems such as weather systems, solar systems, and ocean systems including how the output from one part of a system (in the form of material, energy, or information) can become the input to other parts. (For example: El Nino's effect on weather)	ST: 36, 50, 52, 87, 99, 200, 208, 392 LM: 15, 19, 25, 31, 35, 46, 98, 102, 110, 120
S6CS5.b	Identify several different models (such as physical replicas, pictures, and analogies) that could be used to represent the same thing, and evaluate their usefulness, taking into account such things as the model's purpose and complexity.	ST: 39, 52, 54, 114, 225, 228 – 242, 268, 282, 285, 287, 289, 293, 404, 423, 424, 426, 428, 430 – 437, 445, 470 LM: 69, 70, 117, 119, 124, 127, 131, 132, 133, 137, 138
	Students will communicate scientific ideas and activities clearly.	ST: Chapters 1 and 2 and throughout LM: Throughout the investigation manual
S6CS6.a	Write clear, step-by-step instructions for conducting scientific investigations, operating a piece of equipment, or following a procedure.	ST: 11, 15, 21, 298 LM: 32, 149, 166
S6CS6.b	Understand and describe how writing for scientific purposes is different than writing for literary purposes.	ST: 15, 19, 22, 30, 35, 266, 281, 429, 471 LM: 20, 69, 149, 150, 151, 167, 168
S6CS6.c	Organize scientific information using appropriate tables, charts, and graphs, and identify relationships they reveal.	ST: 11, 20, 31, 35, 39, 41 – 48, 51, 52, 74, 110, 276, 378, 380, 394, 412, 420, 444 LM: 2 – 9, 12, 22, 24, 26, 29, 33, 36, 38 – 43, 51, 57, 59, 66 – 69, 72, 74, 78, 85, 86, 90, 92, 95, 100, 108, 113, 116, 118, 122, 123, 127, 131, 136, 137, 151, 155, 166 - 168

	Students will question scientific claims and arguments effectively.	ST: Throughout the student text LM: Throughout the investigation manual
S6CS7.a	Question claims based on vague attributions (such as “Leading doctors say...”) or on statements made by people outside the area of their particular expertise.	ST: 96, 120, 239, 397
S6CS7.b	Recognize that there may be more than one way to interpret a given set of findings.	ST: 9, 10, 15, 20, 22, 50, 114, 150, 180, 209, 211, 213, 218 – 220, 372, 407, 444 LM: 20, 21, 34, 36, 51, 53, 63, 64, 67, 68, 78, 81, 84, 87, 88, 95, 97, 99, 100, 114, 116, 123, 127, 129, 133, 168
	Students will investigate the characteristics of scientific knowledge and how it is achieved.	ST: Chapters 1 and 2 and throughout LM: 1 – 9 and throughout
S6CS8.a	When similar investigations give different results, the scientific challenge is to judge whether the differences are trivial or significant, which often requires further study. Even with similar results, scientists may wait until an investigation has been repeated many times before accepting the results as meaningful.	ST: 9 LM: 11
S6CS8.b	When new experimental results are inconsistent with an existing, well-established theory, scientists may require further experimentation to decide whether the results are flawed or the theory requires modification.	ST: 16 LM: 5, 7, 125
S6CS8.c	As prevailing theories are challenged by new information, scientific knowledge may change and grow.	ST: 4, 6, 11, 18, 19, 25, 72, 81, 195, 200, 201, 218, 221, 224, 251, 298, 400, 430
	Students will investigate the features of the process of scientific inquiry.	ST: Chapters 1, 2, and throughout LM: Throughout the investigation manual

S6CS9.a	Scientific investigations are conducted for different reasons. They usually involve collecting evidence, reasoning, devising hypotheses, and formulating explanations.	ST: 4, 8, 11, 14, 18, 40, 52, 247 LM: 6, 47
S6CS9.b	Scientists often collaborate to design research. To prevent bias, scientists conduct independent studies of the same questions.	ST: 9, 10, 13, 16 LM: 5, 7, 9, 125
S6CS9.c	Accurate record keeping, data sharing, and replication of results are essential for maintaining an investigator's credibility with other scientists and society.	ST: 9, 10, 13, 16, 146, 389 LM: 5, 7, 9, 125
S6CS9.d	Scientists use technology and mathematics to enhance the process of scientific inquiry.	ST: 34, 39, 52, 73, 378, 380, 412, 420, 444 LM: 2, 9, 11 – 13, 29, 34, 40, 57, 68
S6CS9.e	The ethics of science require that special care must be taken and used for human subjects and animals in scientific research. Scientists must adhere to the appropriate rules and guidelines when conducting research.	ST: 146, 389 LM: 27, 143 - 148
	Students will explore current scientific views of the universe and how those views evolved.	ST: Chapters 17 - 19 LM: 117 - 142
S6E1.a	Relate the Nature of Science to the progression of basic historical scientific models (geocentric, heliocentric) as they describe our solar system, and the Big Bang as it describes the formation of the universe.	ST: 399, 401, 405, 424, 427, 447, 461, 466 - 469 LM: 117 - 121
S6E1.b	Describe the position of the solar system in the Milky Way galaxy and the universe.	ST: 399, 401, 405, 424, 427, 442, 464, 465, 469, 474 LM: 117 - 121
S6E1.c	Compare and contrast the planets in terms of • Size relative to the earth	ST: 99, 100, 113, 399 - 430 LM: 117 – 121, 138

	<ul style="list-style-type: none"> • Surface and atmospheric features • Relative distance from the sun • Ability to support life 	
S6E1.d	Explain the motion of objects in the day/night sky in terms of relative position.	ST: 114, 404, 423 – 437, 445, 447, 455 LM: 117, 119, 124, 127, 131 – 133, 137, 138
S6E1.e	Explain that gravity is the force that governs the motion in the solar system.	ST: 16, 17, 22, 27, 113, 324, 353, 374, 402, 403, 411, 415 – 418, 423 - 430 LM: 117 – 119, 138
S6E1.f	Describe the characteristics of comets, asteroids, and meteors.	ST: 113, 403, 411, 415 – 418, 423 – 425, 430 LM: 117 – 119, 138
	Students will understand the effects of the relative positions of the earth, moon and sun.	ST: Chapters 17, 18 LM: 117 - 133
S6E2.a	Demonstrate the phases of the moon by showing the alignment of the earth, moon, and sun.	ST: 423, 426, 428, 432, 433 - 435 LM: 127, 137, 138
S6E2.b	Explain the alignment of the earth, moon, and sun during solar and lunar eclipses.	ST: 114, 404, 423 – 437, 445 LM: 117, 119, 124, 127, 131 – 133, 137, 138
S6E2.c	Relate the tilt of the earth to the distribution of sunlight throughout the year and its effect on climate.	ST: 114, 404, 423, 424, 430, 435, 436, 437, 445 LM: 117, 119, 124, 131 - 133
	Students will recognize the significant role of water in earth processes.	ST: Chapters 4, 7, 14, 15 LM: 25 – 29, 45 – 51, 98 - 111
S6E3.a	Explain that a large portion of the Earth’s surface is water, consisting of oceans, rivers, lakes, underground water, and ice.	ST: 46, 82, 83, 86 – 92, 130 – 132, 156, 337, 364 – 366, 388 LM: 25, 26, 45, 116
S6E3.b	Relate various atmospheric conditions to stages of the water cycle.	ST: 46, 82, 83, 86 – 92, 99, 126, 130 – 132, 137, 141 – 143, 156, 158, 365, 366, 388 LM: 25, 26, 116

S6E3.c	Describe the composition, location, and subsurface topography of the world's oceans.	ST: 92, 157, 167, 168, 171 – 178, 198, 333, 344, 347 LM: 57, 98, 100
S6E3.d	Explain the causes of waves, currents, and tides.	ST: 17, 139, 141, 142, 145, 158 – 160, 178, 179, 423, 426, 428, 432 - 435 LM: 45, 50, 127, 137, 138
	Students will understand how the distribution of land and oceans affects climate and weather.	ST: Chapters 4 - 7 LM: 25 - 51
S6E4.a	Demonstrate that land and water absorb and lose heat at different rates and explain the resulting effects on weather patterns.	ST: 105, 111, 157, 424 LM: 35, 36
S6E4.b	Relate unequal heating of land and water surfaces to form large global wind systems and weather events such as tornados and thunderstorms.	ST: 74, 107, 108, 111, 112, 116, 117, 122 – 126, 130 – 142, 158 – 160, 178, 179, 436 LM: 30, 40, 42, 44, 45, 48, 50
S6E4.c	Relate how moisture evaporating from the oceans affects the weather patterns and weather events such as hurricanes.	ST: 117, 126, 132, 137, 139, 141, 143, 158 – 160, 178, 179 LM: 45, 50
	Students will investigate the scientific view of how the earth's surface is formed.	ST: Chapters 8 - 14 LM: 52 - 106
S6E5.a	Compare and contrast the Earth's crust, mantle, and core including temperature, density, and composition.	ST: 54, 225, 228 – 234, 237 – 242, 293, 312, 392, 393 LM: 69, 70
S6E5.b	Investigate the contribution of minerals to rock composition.	ST: 199, 234, 257, 286, 295, 304 – 321, 327, 336, 358 LM: 90 – 92, 94, 100
S6E5.c	Classify rocks by their process of formation.	ST: 199, 295, 307 – 318, 327, 336, 358 LM: 90, 94, 100
S6E5.d	Describe processes that change rocks and the surface of the earth.	ST: 118, 169, 170, 171, 210, 252, 258, 308, 326, 327, 329, 332, 337, 339 – 342, 356 - 363 LM: 74, 102, 104, 105

S6E5.e	Recognize that lithospheric plates constantly move and cause major geological events on the earth's surface.	ST: 16, 118, 165, 235, 239, 246 – 281, 287 – 297, 310, 317, 318, 326, 339, 342, 359, 362, 384 LM: 70 – 90, 102, 104, 105
S6E5.f	Explain the effects of physical processes (plate tectonics, erosion, deposition, volcanic eruption, gravity) on geological features including oceans (composition, currents, and tides).	ST: 5, 16, 18, 92, 93, 118, 165, 168, 172, 175, 209, 235, 246, 247, 248, 253 – 297, 304, 308, 312, 318, 326 – 345, 358, 359, 362, 364, 384, 392 LM: 61, 74, 78 – 82, 87, 90, 98, 100, 102, 104, 105
S6E5.g	Describe how fossils show evidence of the changing surface and climate of the Earth.	ST: 6, 208 – 213, 217, 223, 307, 310, 315, 359 LM: 81
S6E5.h	Describe soil as consisting weathered rocks and decomposed organic material.	ST: 169 – 171, 210, 252, 308, 327, 329, 332, 337, 340, 356 - 363 LM: 61 – 63, 102 – 106,
S6E5.i	Explain the effects of human activity on the erosion of the earth's surface.	ST: 334, 341, 343, 362 LM: 100, 101
S6E5.j	Describe methods for conserving natural resources such as water, soil, and air.	ST: 47, 108, 322, 340, 341, 349, 350, 356, 361, 362, 364 – 368, 371, 375 – 379, 386 – 390, 472 LM: 104 - 112
	Students will describe various sources of energy and their uses and conservation.	ST: Chapters 15, 16 LM: 107 - 116
S6E6.a	Explain the role of the sun as the major source of energy and its relationship to wind and water energy.	ST: 74, 87, 99, 107, 108, 111, 112, 142, 156, 158, 436, LM: 25, 26
S6E6.b	Identify renewable and nonrenewable resources.	ST: 108, 322, 341, 349, 350, 356, 361, 362, 365, 371, 375, 376, 379 – 383, 387, 472 LM: 104, 105, 109, 112, 115