

FORMAT FOR CORRELATION TO THE GEORGIA PERFORMANCE STANDARDS

Subject Area: Biology/Grade 7 **State-Funded Course:** 26.01100 Science/Grade 7

Textbook Title: CPO Science Life Science

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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, 2, and throughout LM: Throughout the investigation manual
S7CS1.a	Understand the importance of—and keep—honest, clear, and accurate records in science.	ST: 18, 21, 256, 274 LM: 3, 5, 11, 14, 17, 23, 26, 43, 45-46, 49, 52-56, 58, 60, 64, 72, 75, 81, 84-85, 91, 94, 97, 100, 103, 105-106, 118, 122
S7CS1.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: 11, 12, 14, 332 LM: 3, 5, 6, 8, 11, 14, 26, 33, 36, 40, 49, 75, 90, 94, 106-107, 118
	Students will use standard safety practices for all classroom laboratory and field investigations.	LM: 124 - 129
S7CS2.a	Follow correct procedures for use of scientific apparatus.	ST: 6-8, 25, 84, 86, 156, 394-395 LM: 1, 10, 12-13, 24-25, 28-28, 37, 40, 42, 76-78, 80-81, 83, 85, 96-97, 100, 119-127, 129-132
S7CS2.b	Demonstrate appropriate techniques in all laboratory situations.	ST: 4-8, 10, 14, 16, 25, 110, 135, 139 LM: 69, 111-117, 119-122, 125-126, 128-132

S7CS2.c	Follow correct protocol for identifying and reporting safety problems and violations.	ST: Featured in investigation manual as indicated in the column to the right LM: 4, 29, 39, 93, 96, 110-111, 113-115
	Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations.	ST: Chapters 1 and 2 and throughout LM: Throughout investigation manual Ancillary Skillsheet: 1.1, SI System; 1.1, Converting; 1.2, Dimensional Analysis; 14.1, Scientific Notation
S7CS3.a	Analyze scientific data by using, interpreting, and comparing numbers in several equivalent forms, such as integers, fractions, decimals, and percents.	ST: 14, 17, 21, 64, 146, 216 LM: 1-2, 4, 17, 30, 33, 43, 49, 79, 81, 91, 94, 99, 106, 118, 121, 138, 140
S7CS3.b	Use the mean, median, and mode to analyze a set of scientific data.	LM: 49, 51 Ancillary Skillsheet: 14.3 - Averaging
S7CS3.c	Apply the metric system to a scientific investigation that includes metric to metric conversion. (i.e. centimeters to meters)	ST: 4-6, 8, 10, 25, 110, 135, 139 LM: 119-122, 125-126, 129-132
S7CS3.d	Draw conclusions based on analyzed data.	ST: 11,14, 146 LM: 3, 36, 59, 65-66, 68, 78, 106, 118
S7CS3.e	Decide what degree of precision is adequate, and round off appropriately.	ST: 14 LM: 1, 4, 121
S7CS3.f	Address the relationship between accuracy and precision and the importance of each.	ST: 14-15 LM: 1, 3, 4, 18, 91, 121
	Students will use tools and instruments for observing, measuring, and manipulating equipment and materials in scientific activities.	ST: Chapters 1, 2, and throughout LM: Throughout investigation manual

S7CS4.a	Use appropriate technology to store and retrieve scientific information in topical, alphabetical, numerical, and keyword files, and create simple files.	ST: 193 LM: Data from investigations can be recorded on spreadsheets
S7CS4.b	Use appropriate tools for measuring objects and/or substances.	ST: 6-8, 25, 84, 86, 156, 394-395 LM: 1, 10, 12-13, 23-25, 28-29, 37, 40, 42, 76-78, 80-81, 83, 85, 96-97, 100, 119-127, 129-132
S7CS4.c	Learn and use on a regular basis standard safety practices for scientific investigations.	LM: 4, 29, 39, 48, 93, 96, 110, 111, 113-115
	Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.	ST: Chapters 5, 6, 13 – 20 LM: Throughout investigation manual
S7CS5.a	Observe and explain how parts can be related to other parts in a system such as predator/prey relationships in a community/ecosystem.	ST: 13, 33, 48-54, 56-59, 61, 63, 65-67, 132, 138-139, 187, 226, 251, 269, 300, 302, 317 LM: 26-27, 43, 51
S7CS5.b	Understand that different models (such as physical replicas, pictures, and analogies) can be used to represent the same thing.	ST: 108, 126, 166, 362, 412 LM: 26, 43, 55, 62
	Students will communicate scientific ideas and activities clearly.	ST: Chapters 1, 2, and throughout LM: 130 – 132 and throughout
S7CS6.a	Write clear, step-by-step instructions for conducting scientific investigations, operating a piece of equipment, or following a procedure.	ST: 14, 16 LM: 69, 117
S7CS6.b	Understand and describe how writing for scientific purposes is different than writing for literary purposes.	ST: 14, 17-21, 24, 26, 44, 56, 67, 90, 110, 126, 128, 256, 302, 361 LM: 6, 36, 43, 46, 63, 65-66, 69-70, 91, 106, 116-118, 140-141

S7CS6.c	Organize scientific information using appropriate tables, charts, and graphs, and identify relationships they reveal.	ST: 17-19, 21, 256, 274 LM: 3, 5-6, 11, 14, 17, 20, 23, 26, 36, 43, 45-46, 49, 52-56, 58, 60, 64, 72, 75, 81, 84-85, 91, 94, 100, 103, 105-106, 118, 122, 140
	Students will question scientific claims and arguments effectively.	ST: Throughout the student text LM: Throughout the investigation manual
S7CS7.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: 22, 43, 207
S7CS7.b	Identify the flaws of reasoning that are based on poorly designed research (i.e., facts intermingled with opinion, conclusions based on insufficient evidence).	ST: 22, 43, 207 LM: 138
S7CS7.c	Question the value of arguments based on small samples of data, biased samples, or samples for which there was no control.	ST: 13, 26 LM: 4-5, 7-8, 11, 13-14, 17, 36, 79, 90, 94, 98, 99
S7CS7.d	Recognize that there may be more than one way to interpret a given set of findings.	ST: 8, 11-12, 14-15, 30, 55, 105, 146, 256, 394 LM: 3, 12 18, 28, 31, 33, 36, 38, 41, 52, 54, 59, 65-66, 71, 74, 78, 82, 95, 102, 106, 108, 118
	Students will investigate the characteristics of scientific knowledge and how it is achieved.	ST: Chapters 1, 2, and throughout LM: Throughout the investigation experiences

S7CS8.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: 15 LM: 3, 18, 91
S7CS8.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: 14-15 LM: 3, 138-139
S7CS8.c	As prevailing theories are challenged by new information, scientific knowledge may change and grow.	ST: 15, 97, 107 LM: 44, 57
	Students will investigate the features of the process of scientific inquiry. Students will apply the following to inquiry learning practices:	ST: Chapters 1, 2, and throughout LM: Throughout the investigation experiences
S7CS9.a	Investigations are conducted for different reasons, which include exploring new phenomena, confirming previous results, testing how well a theory predicts, and comparing competing theories.	ST: 11-16, 24, 107, 117 LM: 3-4, 34, 44, 85, 138-139
S7CS9.b	Scientific investigations usually involve collecting evidence, reasoning, devising hypotheses, and formulating explanations to make sense of collected evidence.	ST: 13-15, 22, 26, 332 LM: 5, 15

S7CS9.c	Scientific experiments investigate the effect of one variable on another. All other variables are kept constant.	ST: 13, 26 LM: 4-5, 7-18, 11, 13-14, 17, 36, 90, 94, 98-99
S7CS9.d	Scientists often collaborate to design research. To prevent this bias, scientists conduct independent studies of the same questions.	ST: 14-15 LM: 3, 138-139
S7CS9.e	Accurate record keeping, data sharing, and replication of results are essential for maintaining an investigator's credibility with other scientists and society.	ST: 14-15, 207 LM: 3, 138-139
S7CS9.f	Scientists use technology and mathematics to enhance the process of scientific inquiry.	ST: 17, 21, 23, 64, 146, 216, 362 LM: 3, 18, 83, 91, 99, 118, 140
S7CS9.g	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: 207 LM: 4, 29, 39, 48, 93, 96, 110-111, 113-115
	Students will investigate the diversity of living organisms and how they can be compared scientifically.	ST: Chapters 2, 3, 5, 6, 15, and throughout LM: 10 – 37, 88 - 90
S7L1.a	Demonstrate the process for the development of a dichotomous key.	ST: 215-216, 218, 220-221, 223-224, 232, 262-266, 274, 279-280, 308, 314-322, 325-326, 328-331, 334 LM: 72-73, 83

S7L1.b	Classify organisms based on physical characteristics using a dichotomous key of the six kingdom system (archaebacteria, eubacteria, protists, fungi, plants, and animals).	ST: 37-39, 41, 46, 133,-134, 213, 221-222, 229, 232, 261-267, 271, 308, 315-322, 325-326, 328-330 LM: 37, 41, 72-73, 83
	Students will describe the structure and function of cells, tissues, organs, and organ systems.	ST: Chapters 7 – 9 and 18 – 20 LM: 38 – 58, 106 - 122
S7L2.a	Explain that cells take in nutrients in order to grow and divide and to make needed materials.	ST: 28-29, 32, 45, 94, 113-117, 121-123, 128, 130-132, 136-137, 139, 148, 152, 154-155, 342 LM: 32, 34, 37-38
S7L2.b	Relate cell structures (cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria) to basic cell functions.	ST: 87, 95-96, 98-104, 109-110, 112, 115, 120-121, 123, 127-128, 131-132, 134, 137, 141, 154, 156, 204-205, 270, 278, 309, 352, 372 LM: 28, 30-31, 38-39
S7L2.c	Explain that cells are organized into tissues, tissues into organs, organs into systems, and systems into organisms.	ST: 106, 279, 286-290, 292, 312-314, 317-319, 322-232, 330-331
S7L2.d	Explain that tissues, organs, and organ systems serve the needs cells have for oxygen, food, and waste removal.	ST: 23, 48, 77, 106, 124, 142-143, 199, 202, 279, 286-290, 292, 312-314, 317-319, 322-323, 330-331, 342-351, 353-360, 362, 368-373, 382-384, 390-391, 393-395, 400, 408-409, 412 LM: 90-91, 93, 94-95, 100-101, 107
S7L2.e	Explain the purpose of the major organ systems in the human body (i.e., digestion, respiration, reproduction, circulation, excretion, movement, control, and coordination, and for protection from disease).	ST: 23, 77, 106, 124, 142-143, 199, 202, 313, 322-323, 330-331, 342-351, 353-360, 362, 368, 370-372, 382-383, 390-391, 393-395, 400, 408-409, 412 LM: 90, 95, 107

	Students will recognize how biological traits are passed on to successive generations.	ST: Chapters 11, 12 LM: 59 – 70
S7L3.a	Explain the role of genes and chromosomes in the process of inheriting a specific trait.	ST: 78-79, 95-96, 100, 106, 124, 141, 144, 152-153, 157-158, 160, 164, 167, 170, 172, 174-178, 181, 183-186, 189, 190-191, 193-200, 202-208, 215, 218, 221, 224-229, 231, 267, 352, 360-361, 399, 400 LM: 43, 48, 50-52, 55-58, 61-63, 65
S7L3.b	Compare and contrast that organisms reproduce asexually and sexually (bacteria, protists, fungi, plants & animals).	ST: 94, 152, 155-157, 161, 163, 166, 168, 178, 195, 198, 200, 268, 271, 310 LM: 42, 44-47
S7L3.c	Recognize that selective breeding can produce plants or animals with desired traits.	ST: 173, 175-176, 179-182, 185, 188, 190-192
	Students will examine the dependence of organisms on one another and their environments.	ST: Chapters 5, 6 LM: 26 – 37
S7L4.a	Demonstrate in a food web that matter is transferred from one organism to another and can recycle between organisms and their environments.	SM: 57-61, 65-66, 138-139, 187, 233-234, 269, 300, 302, 317 LM: 26-27
S7L4.b	Explain in a food web that sunlight is the source of energy and that this energy moves from organism to organism.	ST: 58-60, 65, 233-234, 317 LM: 26
S7L4.c	Recognize that changes in environmental conditions can affect the survival of both individuals and entire species.	SM: 35-36, 46-47, 53-55, 60, 62, 92, 165, 184, 198, 214, 218, 225-231, 270-273, 293, 355, 357-359 LM: 60, 62

S7L4.d	Categorize relationships between organisms that are competitive or mutually beneficial.	ST: 94-95
S7L4.e	Describe the characteristics of Earth's major terrestrial biomes (i.e. tropical rain forest, savannah, temperate, desert, taiga, tundra, and mountain) and aquatic communities (i.e. freshwater, estuaries, and marine).	SM: 50-52, 272 LM: 31-32, 35-36
	Students will examine the evolution of living organisms through inherited characteristics that promote survival of organisms and the survival of successive generations of their offspring.	ST: Chapters 13 – 15 LM: 71 - 92
S7L5.a	Explain that physical characteristics of organisms have changed over successive generations (e.g. Darwin's finches and peppered moths of Manchester).	ST: 40, 63, 96, 137, 139, 187, 199, 213-229, 2331, 247, 249, 254, 264, 267, 274, 280, 285, 309, 312, 318-319, 321, 227, 329, 332-333 LM: 63, 70
S7L5.b	Describe ways in which species on earth have evolved due to natural selection.	ST: 96, 187, 213, 222-229, 231, 247, 267, 319, 321 LM: 63, 70
S7L5.c	Trace evidence that the fossil record found in sedimentary rock provides evidence for the long history of changing life forms.	ST: 40, 63, 137, 139, 214-223, 226, 238-240, 242-243, 249, 253-254, 253-254, 264, 274, 280, 285, 309, 312, 318, 327, 328, 332-333 LM: 63, 66-68, 70-71